Bilkent University

Undergraduate and Graduate Programs
2014-2015

06800 Bilkent, Ankara, Turkey
Phone: +90-312-266-4125
Fax: +90-312-266-4545
E-mail: bilinfo@bilkent.edu.tr
bilkent.edu.tr

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- **4 - 6 September 2014**: Registration of graduate students admitted in 2014
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HISTORICAL BACKGROUND

Bilkent University was founded on October 20, 1984 by İhsan Doğramaci (1915 - 2010) through the joint resolution of the İhsan Doğramaci Education Foundation, the İhsan Doğramaci Science and Research Foundation, and the İhsan Doğramaci Health Foundation. The aim was to create a center of excellence in higher education and research. The name "Bilkent" exemplifies the founder's aim, since it is an acronym of bilim kenti, Turkish for "city of science and knowledge." The university is located in Turkey's capital city of Ankara.

The founder, himself an academic, had earlier contributed to the establishment of numerous public institutions of higher learning and served as rector of Ankara University, as chairman of the Board of Trustees of Middle East Technical University and as founder and first rector of Hacettepe University. It had long been his objective to establish a private, non-profit university distinguished by its high quality education and research. During the time he spent at Harvard and Washington universities in the United States he had observed the advantages of independently endowed non-profit research universities that serve the public through higher education. With these in mind he advocated for decades for the Turkish legal system to allow such institutions, and when this dream finally materialized, he established Bilkent University along the same lines.

Preparations for Bilkent University had begun as early as 1967, with the purchase of a large tract of land to the west of Ankara. In the late 1970s and early 1980s the above-mentioned foundations began construction of the buildings which now house administrative offices, the Faculty of Engineering, and the library. Bilkent University Library is now the most extensive academic library in the country, visited by 860,000 researchers and students every year. Construction of residences for academic staff, cafeterias, student dormitories, the Student Union building, and various academic buildings followed in rapid succession.

Bilkent University admitted its first students in 1986. That year there were 386 undergraduate and graduate students. Currently there are over 13,000 students in nine faculties, two four-year applied schools, three two-year vocational schools, including the School of English Language, and three graduate schools. Among them are international students from 58 countries. Around 45% of the student body benefit from a variety of scholarships.

From the outset, the design of the university structure provided for student union representatives to be voting members of the administrative committees of various schools, as well as of the University Senate. The practice of student evaluation of courses and instructors, at the time not a common practice in Turkey, was instituted.

In an effort to promote the enrichment of teaching and research programs, Bilkent University has entered into collaborative projects and exchange programs with many universities; the complete list being provided at: http://exchange.bilkent.edu.tr/exchange_partners.html

To meet the expanding needs of the university, construction has continued throughout the years since the admission of the first students. Buildings and facilities today include the faculties and the departments, research centers, modern classrooms, state-of-the-art science and engineering laboratories, art studios, the Computer Center, the Health Center, gymnasiums and a semi-olympic indoor swimming pool, dormitories, faculty housing, cafeterias and restaurants, the Bilkent Concert Hall for Bilkent Symphony Orchestra, the Odeon outdoor auditorium which hosts 4,000 people, an elementary school, a secondary school, a preschool and nursery.

The faculty is comprised of academic staff from 40 different countries. Most of them were working in prominent universities in North America and Europe when they received offers from Bilkent University. According to ISI Citation Indexes, Bilkent ranks high among universities in Turkey in the number of published papers per faculty member.

With world-renowned scholars among its faculty and top-notch facilities throughout its campus, Bilkent continues to attract many of Turkey’s brightest students and is proud of its 37,000 alumni pursuing successful careers in five continents.

MISSION

Bilkent University was founded to provide an environment for learning and intellectual growth encompassing the sciences, technology, humanities and the arts, to serve human welfare and foster peace on earth. Education at Bilkent is not simply a means to obtain a vocation, a career. Instead, it endeavors to nurture students in the way of thinking and of learning to learn.

With its diverse educational programs, scientific and scholarly research endeavors, and artistic and cultural activities, Bilkent University aims to help students/individuals develop themselves as critical, analytical and independent thinkers and life-long learners, so that they may become the competent, creative, broad-minded, ethical and socially responsible leaders of tomorrow, who will contribute to the advancement of humanity.

The educational philosophy rests on the premise that those who produce new knowledge also have the best potential to impart it. Scholarly research at Bilkent extends across a wide spectrum. From nanoscience and nanotechnology to political science, from electronics to economics, from fine arts to management and industrial engineering, from philosophy to computer engineering, and in many other areas of science, letters and the performing arts, our academic staff and resources provide a uniquely integrated environment.

NON-DISCRIMINATION STATEMENT

Bilkent University hires academic and administrative staff and admits students without regard to gender identity, race, color, age, national or ethnic origin or sexual orientation, to all the rights, privileges, programs, and activities generally accorded or made available to staff and students at the university. It does not discriminate on the basis of gender identity, race, color, age, national or ethnic origin in administration of its educational policies, admissions policies, scholarship and loan programs, or athletic and other university-administered programs.

DEGREE PROGRAMS

Academic Year
Each academic year consists of two 16-week semesters, Fall and Spring, including the final examination period. In addition, an eight-week summer semester is offered each year. The academic calendar for 2014-2015 is given at the beginning of this catalog.

Undergraduate Programs
The bachelor’s degree is awarded to students who successfully complete an eight-semester course of study (approximately 120 credit units or at least 240 ECTS).

Students must fulfill all the degree requirements determined by their departments; at graduation their cumulative grade point average must be 2.00 or higher on a scale of 4.00.

The undergraduate programs are organized in departments within nine faculties, two schools and two vocational schools offering two-year programs. These faculties and schools are as follows:

- Faculty of Art, Design, and Architecture
- Faculty of Business Administration
- Faculty of Economics, Administrative, and Social Sciences
- Faculty of Education
- Faculty of Engineering
• Faculty of Humanities and Letters
• Faculty of Law
• Faculty of Music and Performing Arts
• Faculty of Science
• School of Applied Languages
• School of Applied Technology and Management
• Vocational School of Computer Technology and Office Management
• Vocational School of Tourism and Hotel Services

Study in the vocational schools leads to an Associate of Arts or Associate of Science vocational degree.

Graduate Schools
Students who have obtained a B.A. or B.S., an M.A. or M.S., or an equivalent degree from an accredited university are eligible to commence studies in the master or doctoral programs.

Graduate programs are administered through the:

• Graduate School of Economics and Social Sciences
• Graduate School of Education
• Graduate School of Engineering and Science

Each graduate school coordinates the curricula for its respective programs. Information on the graduate programs is provided in this catalog under the headings of the related departments.

ADMISSION, FEES, AND ACADEMIC REQUIREMENTS

ADMISSION, TRANSFER STUDENTS, AND REGISTRATION

Language Proficiency
English is the language of teaching at Bilkent University. Applicants are required to provide proof of their proficiency in English. Students whose level of English is insufficient to follow courses are required to enroll in the School of English Language. Those accepted to the Translation and Interpretation department must take, in addition, a Proficiency Examination in French, and those whose level of French is insufficient are required to follow the language program in the Basic French Section of the School of Applied Languages.

Undergraduate Admissions
To begin undergraduate studies at Bilkent, all Turkish citizens must take the entrance examinations YGS or YGS and LYS, administered by the national Student Selection and Placement Center (ÖSYM). Applicants to the School of Applied Languages and the School of Tourism and Hotel Management take the YGS only. Applicants to the Graphic Design, Fine Arts, and Music and Performing Arts departments must pass the YGS examination. Admission is then granted on the basis of aptitude tests administered by the respective faculty in August. Applicants to all other departments take YGS and LYS. Based on the results of these exams, ÖSYM places students according to their preferences.
All international students who want to apply to Bilkent University for an undergraduate program have to go through an admission procedure. Various national exams and diplomas are used in evaluating the candidates.

In absence of these documents, the high school graduation score can also be evaluated for admission. The high school diploma and transcript along with an explanation of the high school's grading system will be needed.

Bilkent University admission requirements can be found at http://bilkent.edu.tr/bilkent/academic/international/apply.html

An online application form can be found at: https://stars.bilkent.edu.tr/intapp

Graduate Admissions
The following are some of the general graduate admission requirements for all departments:

- All Turkish applicants are required to take the ALES (Akademik Personel ve Lisansüstü Eğitim-Öğretim Girişi Sınavı - Academic Personnel and Postgraduate Education Entrance Exam) given by ÖSYM every year.
- Submission of GRE (Graduate Record Examination) or GMAT (Graduate Management Admission Test) scores is required of international applicants and may be required for domestic applicants in some programs.
- Fluency in written and oral English.

In addition, each department establishes its own criteria for admission; departmental listings include more detailed information. Applications are accepted via the internet at https://stars.bilkent.edu.tr/gradapp

Transfer Students
Applicants may transfer to Bilkent University from an accredited university under the following conditions:

- Transfer applications submitted to the Registrar's Office must be completed by July. Each department individually determines the number of transfer students it will accept.
- Credits earned at another university are taken into consideration when determining a transfer student's requirements for graduation from Bilkent. However, in order to graduate from Bilkent, the student must have completed at least his/her final two semesters at Bilkent.

As English is the language of teaching at Bilkent University, applicants are required to provide proof of their proficiency in English. Students whose level of English is insufficient are required to enroll in the School of English Language.

Application forms and the list of required documents can be obtained either from the Registrar's Office or through the Internet at http://bilkent.edu.tr/bilkent/admission/transfer.html

Exchange Programs
Bilkent University has exchange programs with several major universities in Europe and around the world. The Student Exchange Program gives Turkish students the opportunity to study abroad while experiencing a different culture. It also exposes visiting students to the culture, art, and history of Turkey.

The principle of reciprocity inherent in the exchange programs makes it possible to send Bilkent University students to the partner universities provided that students from those universities come to Bilkent. Program participants pay the regular tuition fees to their home institution for the semester,
and are responsible for additional travel, housing, food, and incidental costs as well as insurance expenses and other minor fees while at the host university. A number of outgoing Erasmus students are granted a monthly stipend from EU funds. Detailed information about Erasmus and other exchange programs may be found at exchange.bilkent.edu.tr

**Semester Registration**

Students are required to register for courses at the beginning of each semester within the time limits announced by the University. Tuition must be paid prior to registration by the deadline announced by the University.

**FEES**

**Fees and Expenses**

Fees and expenses for the 2014-2015 academic year are as follows:

- **Tuition**:
  - Turkish citizens 24,080 TL (8% VAT included)
  - International Students 13,950 USD (8% VAT included)

  Tuition fees are payable in two installments, before the registration dates of the fall and spring semesters. All fees are subject to adjustment each year according to changes in the cost of living.

- **Campus Housing**:
  - There are Quadruple, Triple, Double, Single and Special (single room with private bath and shared kitchen) rooms available within the dormitories each having different rates. More information about the accommodation alternatives, application process, and prices can be found at [http://bilkent.edu.tr/dormitory](http://bilkent.edu.tr/dormitory)

**GRADING AND GRADE POINT AVERAGE**

**Academic Advisor**

At Bilkent University each student is assigned to an academic advisor. The advisor offers counseling services to the student on academic matters, takes an interest in the student's selection of courses and academic progress, and may assist him/her towards satisfactory job placement.

**Course Load**

For each associate and undergraduate program, there exists a semester "normal course load interval" defined by the relevant department and approved by the Faculty or School Board. The normal course load interval consists of a lower and an upper limit. Upon recommendation of the academic advisor and with the approval of the department chair, the maximum course load of a student in one semester can be at most two more courses over the upper limit of the normal course load of the program. More information can be found in Article 4.2 of the "Academic Regulations for Undergraduate and Associate Degree Programs".

**Attendance**

Students must attend all lecture, laboratory, and practical sessions, take all examinations, and participate in any activities that the teaching staff may consider appropriate.

**Examinations and Assessment**

Apart from work conducted throughout the semester, students are usually asked to take a final examination and at least one midterm examination for a course. If a staff member considers it appropriate, practical laboratory work or other such assignments may be assessed as midterm examinations or as a final examination.
Grades are finalized when they are announced via the internet on the date specified in the Academic Calendar. Semester grades for practical studies and other non-lecture courses are determined by an evaluation of the student’s overall work and performance throughout the semester.

Grades

Bilkent University’s official grading system uses letter grades with pluses and minuses. Passing grades range from A+ to D; F, FX, and FZ are failing. The quality-point equivalents of the grades are:

<table>
<thead>
<tr>
<th>Grade</th>
<th>Quality Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>4.00</td>
</tr>
<tr>
<td>A</td>
<td>4.00</td>
</tr>
<tr>
<td>A-</td>
<td>3.70</td>
</tr>
<tr>
<td>B+</td>
<td>3.30</td>
</tr>
<tr>
<td>B</td>
<td>3.00</td>
</tr>
<tr>
<td>B-</td>
<td>2.70</td>
</tr>
<tr>
<td>C+</td>
<td>2.30</td>
</tr>
<tr>
<td>C</td>
<td>2.00</td>
</tr>
<tr>
<td>C-</td>
<td>1.70</td>
</tr>
<tr>
<td>D+</td>
<td>1.30</td>
</tr>
<tr>
<td>D</td>
<td>1.00</td>
</tr>
<tr>
<td>F</td>
<td>0.00</td>
</tr>
<tr>
<td>FX</td>
<td>0.00</td>
</tr>
<tr>
<td>FZ</td>
<td>0.00</td>
</tr>
</tbody>
</table>

Other grades used are S (Satisfactory), U (Unsatisfactory), I (Incomplete), P (In Progress), T (Transfer), and W (Withdraw). These grades do not have quality-point equivalents.

S: accorded to students who are successful in non-credit courses.
U: accorded to students who are unsuccessful in non-credit courses.
I: accorded to students who, although otherwise successful, have failed to complete the required assignments for a course due to illness or some other valid reason. Proof of illness or other reason for non-completion must be submitted to the department chair within three days of the date of the final exam. A student receiving an incomplete grade for any course must make up for the deficiencies within 15 days after the final exam in order to obtain a grade. Otherwise, the grade I automatically becomes FX. At the discretion of the department chair, the period specified above may be extended until the beginning of the following semester.
P: progress.
T: reflects approved transferred courses from other universities or from an exchange program. A student with a grade of T is exempted from an equivalent number of credits on the condition that the courses are accepted by the department on the recommendation of the department chair and with the approval of the board of the faculty/school. This grade may provide an exemption for a particular course at the program.
W: student has withdrawn from the course before the end of the semester.

A student with extraordinary performance in a course may be granted an A+ grade. However, the number of A+ grades in a given course is limited based on class size: If the class size is less than 25 students, no A+ grades may be given; if the class size is between 25 and 74 students, only one A+ grade may be given; if the class size is between 75 and 124 students, two A+ grades may be given; if the class size is between 125 and 174 students, three A+ grades may be given; if the class size is between 175 and 225 students, four A+ grades may be given; if the class size is more than 225 students, five A+ grades may be given. (The letter grade A+ was instituted beginning with the 2010-2011 academic year.)

An undergraduate student who receives a grade of C or higher in a course (or S in a non-credit course) is considered to have satisfactorily completed that course.

A student who receives a grade of C-, D+, or D in a course can only be considered to have completed that course if his/her Cumulative Grade Point Average (CGPA) is 2.00 or higher.

A student receiving either F, FX, FZ or U in a course is considered to be unsuccessful in that course. See Articles 2.8 and 2.9 of the "Regulations Related to Teaching, Examinations and Assessment."
A graduate student is considered to have satisfactorily completed a course when he/she receives a grade of C or higher in an M.A. or M.S. program, and a B or higher in a Ph.D. program. A graduate student receiving any other grade (except for S, T, P, or I) is considered to have been unsuccessful in completing that course.

**Grade Point Average (GPA) and Cumulative Grade Point Average (CGPA)**

A student's academic performance is determined at the end of each semester by computing an average of the grades he/she has received during that semester. For each course, the grade point equivalent of the letter grade received by the student is multiplied by the credit units for that course; the sum of these products is then divided by the total credit units taken in that semester to yield the Grade Point Average (GPA) for that semester. The Cumulative Grade Point Average (CGPA) is calculated by multiplying the grade point equivalent of the letter grade by the credit units for each course and then dividing the total sum by the total credit units taken in the program.

**ACADEMIC STANDING**

(applicable to undergraduate students only)

Please see Article 2.8 of the "Regulations Related to Teaching, Examinations and Assessment".

**Honor and High Honor**

Students achieving distinction by obtaining a semester GPA of 3.00 to 3.49 while carrying a course load no less than one course below the lower limit of the normal course load and having a CGPA of 2.00 or higher are designated "Honor" students on the transcript for that semester. Those achieving a GPA of 3.50 or above under the same conditions are designated "High Honor" students.

**Satisfactory**

Students maintaining a CGPA of 2.00 or higher at the end of a semester are considered to have "Satisfactory" academic standing.

**Probation**

Students having a CGPA of 1.80 to 1.99 at the end of a semester are placed on academic "Probation." Students on probation are required to retake courses of their choice from among the courses in which they previously received a grade of C-, D+, D, F, FX, FZ, or U.

**Unsatisfactory**

A student having a CGPA of below 1.80 at the end of a semester is considered to have an "Unsatisfactory" academic standing. These students are required to retake courses of their choice from among the courses in which they previously received a grade of C-, D+, D, F, FX, FZ, or U.

Article 2.9 and its clauses of the "Regulations Related to Teaching, Examinations and Assessment" are applicable to students who are considered to have a "Probation" and "Unsatisfactory" academic standing such as:

During course registrations at the beginning of each semester, all courses not taken by a student in previous semesters are considered to be "new courses" for that student.

Students on probation are required to take courses in which they received any of the grades F, FX, FZ, U, and W in previous semesters. They can also register for new courses with a maximum total number of credit hours that does not exceed 60% of the Nominal Credit Load. Such students can retake courses that they will select among those courses in which they received C-, D+, or D for the purpose of improving their CGPA. If a student on probation is registering for courses in the second semester of the curriculum of a program, he/she may register for new courses with a maximum total number of credit hours that does not exceed 85% of the Nominal Credit Load.

Unsatisfactory students can not register for any new courses except for non-credit courses. Such students must retake courses for which they have received F, FX, FZ, U or W grades, and are also
expected to retake any of the courses they wish for which they have previously received C, D+, or D, for the purpose of improving their CGPA. If an Unsatisfactory student is registering for courses in the second semester of the curriculum of a program, he/she may register for new courses with a maximum total number of credit hours that does not exceed 70% of the Nominal Credit Load.

Repeating a Course

Students receiving a grade of F, FX, FZ, W or U in a course must repeat that course within two semesters. Students receiving a grade below a C in ENG 101 or ELS 104, or an F, FX in ENG 102 must repeat the course the next time it is offered. To improve their CGPA, students with an academic standing of “Satisfactory” may choose to repeat any course previously taken in which they received a grade of C- or lower within two semesters.

When a course is repeated, the new letter grade replaces the previous letter grade in the CGPA calculation. If a course to be repeated is an elective course or has been discontinued, an equivalent course approved by the department may be taken; in this case, only the replacing course is included in the CGPA calculation. All grades, whether included in the CGPA calculation or not, will appear on the transcript.

Duration of Study

The normal period for completion of undergraduate studies at Bilkent University is four academic years. Students in four-year programs must complete the requirements of their programs within at most seven academic years (excluding studies in the School of English Language). Students who fail to graduate within that period or who will be unable to qualify for such graduation are considered to be extended-study students. Students in two-year vocational schools must complete the requirements of their programs within four academic years (excluding studies in the School of English Language). Students who fail to graduate within that period or who will be unable to qualify for such graduation are considered to be extended-study students.

DIPLOMAS AND AWARDS

The bachelor’s degree is awarded to students completing an eight-semester course of study which complies with the Section "Course Programs" of this catalog. To be eligible for a bachelor’s degree, students must have a cumulative GPA of 2.00 or higher on completion of all the degree requirements. The diploma indicates the department from which the student has graduated.

Students transferring to Bilkent University from another institution of higher education must study at Bilkent University for at least their final three semesters to be eligible for graduation. Additionally, at least 50% of the courses listed in the curriculum must be taken and successfully completed at Bilkent University.

The vocational schools award associate degrees upon the completion of their requirements.

For the criteria regarding graduate degrees, please refer to the graduate programs listed in this catalog under the respective departments.

LEAVE AND WITHDRAWAL

Leave of Absence

Students may be granted permission to leave the University temporarily. Applications detailing valid and reasonable grounds for request of such permission are made to the Registrar’s Office. If a decision to grant leave is taken by the Executive Board of the related Faculty or School, notice is given to the Registrar’s Office. Leave may not exceed two consecutive semesters at a time, or a total of four semesters for a student’s entire study period. Periods that elapse during the course of such leave are not counted as part of the study period. Applications for leave should be submitted in
writing at the beginning of the semester. Applications for leave for health reasons must be properly authenticated by medical certificates.

Withdrawal from the University
Students may withdraw from the University by applying to the Registrar’s Office.
Computing and Information Services

The Bilkent University Computer Center (BCC) provides a variety of computing resources and services to meet the administrative, educational and research computing requirements of the university community. These services include providing computational, networking, and inter-networking equipment, their hardware and software maintenance. Additionally, BCC develops in-house application software for the university itself including the academic information system, student information system and others.

Hardware Resources

Workstation and PC Laboratories

There are approximately 4,500 personal computers distributed in offices and laboratories throughout the campus; all connected to the campus network. BCC maintains 23 general purpose computer labs, populated with around 900 computers in total, for student and staff use. All users have access to laser printers and to the Internet. In addition to the BCC labs, many departments, schools and institutes maintain their individual educational and research labs.

Networking Capabilities

The campus network is built on a Gigabit Ethernet backbone. This star topology backbone connects all the faculties and buildings to the central switch via fiber-optic cables. Wireless network access points are scattered around the campus providing hot spots for mobile users. All students and faculty are authorized to have accounts for their e-mail and access to the network and lab resources.

Dorm Net

Bilkent University’s networking facilities are extended to the dormitories as well. All campus dormitory rooms are wired for the Ethernet and students living in the dormitories can connect their own computers to the campus and the Internet.

Software Resources

BCC provides and maintains a wide variety of scientific tools at the users’ disposal. These include statistical, mathematical, simulation libraries and packages together with various VLSI and graphics design tools and imaging tools. All modern and classical programming languages and development tools are available in various hardware platforms. State-of-the-art word processors, spreadsheets, database application software and presentation graphics software are available in most of the labs. Some software developed in-house are also available to faculty, students and staff. The most widely used ones being AIRS (Academic Information Review System), SRS (Student Review System), and DAIS (Department Academic Information System). These are the most important tools to help the faculty and students in planning their course loads and academic preferences. ORS (Online Registration System) enables students to see and register to offered courses.
UNIVERSITY LIBRARY

David E. Thornton, Ph.D., Library Director

Ebru Kaya, Associate Director

Bilkent University Library is a lending and research library where open stacks permit free access to the entire collection, except the rare book collections. The main library, housed in its own four-storey building at the center of the Main Campus, is open from 8:30 to 23:30 weekdays; from 9:00 to 23:30 weekends. The East Campus branch library is open from 8:30 to 17:00 weekdays. Summer hours are announced.

Bilkent Library was the first Turkish university library to offer its readers automated services through an integrated computer system. It provides the use of an online public access catalog to all readers with access to computer terminals both in the libraries and elsewhere on campus as well as to researchers, anywhere in the world, with access to the internet. There are also 32 computers with internet access in the Reference and Current Periodical Rooms for the purpose of searching e-resources and browsing the internet. Circulation of the collection is also automated. Wireless Internet access is available in both libraries.

The collection contains over one million items. The book collection, of over 468,000 printed books and 271,300 electronic books, increases by approximately 20,000 volumes annually. The library subscribes to 1,324 print journals from the USA and Europe and provides electronic access to over 374,200 e-journals. Over $3 million is spent each year on databases, books, journals and other resources, including video and audio cassettes, DVDs and VCDs, maps, microforms, CD-ROMs, music scores and sound recordings. The library makes over 150 databases available on-line, which provide access to both citations and the full texts of journal articles, conference proceedings and papers and research material. Working papers and technical reports are received from leading research centers in Europe, the USA and Japan.

The Turkish Plastic Arts Archive makes available a file of over 50,000 newspaper clippings, magazine articles and exhibition materials (invitations, posters, catalogs). The collection has been catalogued and is accessible on the Internet.

Bilkent University Library has been designated by the Library of Congress to receive U.S. Government documents and makes them available in the Official Publications Room. The Bilkent University European Union Information Center opened in 2001 with the status of a full EUI serving as a depository for European Commission publications and World Bank regional publications.

Materials of special interest to students include the "easy reading" section. The newspaper collection includes leading foreign newspapers. Daily newspapers and popular magazines can be read in the "Newspaper and Magazine Reading Room". Photocopying is available in the library.

Reciprocal lending-borrowing agreements with a number of Ankara area universities make it possible for Bilkent graduate students and faculty to borrow books from those libraries as well. Orientation tours of the Bilkent University Library are conducted on request in English and Turkish. The Main Library also houses an Art Gallery, with exhibitions running throughout the semester, and where regular musical performances and academic lectures are held. In order to make studying and research pleasant there are two cafes in Main Library.

Further information about the Library and its collection can be found at: www.library.bilkent.edu.tr.
OFFICE OF THE DEAN OF STUDENTS

Kamer Rodoplu, Dean

Office of the Dean of Students intends to help and support students throughout their college life, assisting their development from their first to the very last day of their time in Bilkent. The Office coordinates a wide spectrum of activities performed in collaboration with students. From orientation to post-graduate career advancement, the Office is actively engaged in all steps of the personal development of Bilkent students. In this capacity, the primary objective is to develop Bilkenters into agents of change and progress in their lives and the communities they belong to and it is in fulfilling this task that the Office’s work gets its form and meaning.

Student Union
Elected by the student body; student representatives are responsible for managing the Student Union and creating a program of activities. Located in the center of the Main Campus, the Student Union Building houses cafeteria, multifunctional rooms, offices and a small conference hall. The Student Union organizes students’ social and cultural activities in coordination with the Student Activities Center.

Student Activities Center (Esra Korad, Coordinator)
The variety of activities offered on campus adds a social component to students’ academic life. The Student Activities Center coordinates all student related activities including those within the Student Clubs and Societies as well as social responsibility projects.

All the clubs are established to cater to students’ interests and needs in a very wide range that lies from aviation to diving, from engineering to history, and many more. For a complete list of clubs and societies: http://www.bilkent.edu.tr/bilkent/admin-unit/dos/okk/kulupler.html

Meetings, seminars, debates and trips are regularly organized by these clubs and societies allowing students to participate in various activities with many facets.

The Student Activities Center also provides the necessary liaison between the university administration and the Student Union. In addition, the Center offers students advisory services about their personal or institutional representation in domestic or international activities. The Center’s office is located in the Student Union building for a better accessibility. Working closely with the Student Union, the Center also provides guidance when needed for clubs and extracurricular activities.

Social Responsibility Projects are created, organized, led and completed on a volunteer basis by the students of the University. Ongoing projects are:

Center for Students with Special Needs www.bilkent.edu.tr/bilkent/admin-unit/dos/ssm/engelli.html
Aid Campaigns www.bilkent.edu.tr/bilkent/admin-unit/dos/ssm/yardim.html

Another important component of the Student Activities Center is "Radio Bilkent", a voluntary student radio station that is broadcasting on FM frequency 96.6 to the campus and citywide. Radio Bilkent provides an opportunity for Bilkent University students to gain social and professional experiences and adds value to the social and cultural life of Ankara with its organizations and programs. Radio may be listened live through Internet at www.radyobilkent.com. Bilkent University students can follow the recent news about the station from the university newspaper, Bilkent News, and also from the radio’s web site. Radio Bilkent’s main studio is located in the Engineering Building top floor, and the second studio "Radio Bilkent Oruç Gül", is located in the food court on main campus.

Career Center (Yıldız Öztürk Balamir, Coordinator)
The Career Center provides career related services for Bilkent students throughout their university years. To prepare them for entering the business world, the Center offers workshop and seminars that focus on employment-seeking skills such as résumé writing, interviewing techniques, and career activities. Various companies, international organizations and government agencies refer to the Center to recruit graduates. In order to reunite students/graduates with the business world, the
Career Center administers a CV Database where students and graduates upload their CVs and directly apply for positions; and companies release their job postings and poll amongst the current recorded CVs.

**Psychological Counseling and Development Center** (Nilgün Güler, Coordinator)

Psychological Counseling and Development Center guides Bilkent students through their self-development journey. Helping them to develop awareness about their potential and how to apply this information into their academic, professional, social and intimate lives is the main focus of the center. In other words, the attending students are professionally supported in developing their unique personalities and creating a satisfactory lifestyle.

The services offered by the center are individual and group counseling for the immediate purposes and seminars, workshops and self-help materials for preventive purposes. Stress management; examination and performance anxiety; interpersonal communication; concentration and study skills; time management; realistic self-evaluation; intimate relations; problem solving; effective presentation skills, enhancing cognitive skills in learning; developmental stages of life and importance of identity in personality development are some of the topics covered in the preventive facilities.

The center also conducts survey type studies to explore the expectations and needs of the students. The outcome of these studies contributes to the ongoing program flow and the future planning processes.

**Alumni Center** (Aysê Tuğçu, Coordinator)

The Bilkent Alumni Center was established to provide the highest level of service to all Bilkent University graduates. The Alumni Center’s database includes a total of more than 37,000 graduates.

The primary objective of the Alumni Center is to facilitate communication among Bilkent graduates while strengthening their ties with the University. The Center organizes various activities for the alumni including the Annual Alumni Homecoming Weekend and the Graduation Party. In partnership with the Career Center, the Alumni Center keep graduates informed about career opportunities.

**HEALTH CENTER**

Ülker Türksoy, M.D., Director (Main Campus)

Jale Erten, M.D., Director (East Campus)

The Health Centers, located on the Main and East Campuses, provide health services to students and personnel. The services are provided for all Bilkent University students. The Health Centers offer the services of a public health specialist, a pediatrician, a neurologist, five general practitioners, two gynecologists, two ophthalmologists, two psychiatrists, a dermatologist, an orthopedist, a dentist, a radiologist, an ENT specialist, and six nurses, three emergency medical technicians and one paramedic. The Centers have two in-house laboratories for immediate medical analysis such as blood count, urine analysis, blood chemistry and a unit for X-Ray and ultrasonographic examinations. Medicines are available on prescription at the Main Campus pharmacy and the pharmacies at Bilkent 2, in Ankuva Bilkent Center, on Tunus street. A physician and a nurse are both on duty at the Health Centers in the Main and East Campuses 24 hours a day, including weekends. In case of emergencies, there is an ambulance accompanied by Health Center’s doctors, on duty 24 hours a day to take patients, to hospitals in Ankara.

**Services Provided**

- Prevention against contagious diseases
- Medical examinations and first aid treatment
- Supervision of patients’ recovery in certain cases and provision of relevant medical services
• Conducting research into the environmental health conditions on campus and reporting the results to the university administration

• Health education programs to students and staff on general medical and health issues and first aid (providing certificates for the first aid education by the government health authorities)

Applying to the Health Center
The Health Center is the first place that students get in contact in the event of illness or injury. Initial treatment or first aid would be carried out at the Health Center and, if necessary, the patient may be referred to a specialist or hospital which has an agreement with the University.

PHYSICAL EDUCATION AND SPORTS CENTER

Hayri Özkan, Ed.D., Director

The sports programs, activities and facilities of the University are expanding constantly to keep pace with the growing needs of the large student body. The facilities include three gymnasiurms, three outdoor tennis courts, two indoor tennis courts, several outdoor volleyball and basketball courts, four mini football fields, several aerobic/step studios, fitness/conditioning room and multi-purpose rooms, a regulation size grass football field on Main Campus. In addition, a modern seven thousand square meter multi-purpose sports complex (with a large state of the art fitness center, basketball, volleyball, three squash courts, aerobic/step and program studios and an indoor running/walking track) on Main Campus is used by hundreds of students every day. Furthermore, a semi-olympic indoor swimming pool was added to the facilities in Fall 2014.

On-campus activities like courses, training sessions, tournaments and competitions are available in the following sports: Aerobic/step, aikido, American football, badminton, ballroom dancing, basketball, fencing, fitboxing, fitness/conditioning, football (soccer), horse riding, ice hokey, kendo, orienteering, squash, table tennis, taekwondo, tennis, Turkish folk dancing, ultimate frisbee, volleyball, wing tsun, yoga, and others. The students can also take many of the sports courses mentioned above as elective-credit courses every semester (see page 468 for details).

STUDENT HOUSING

Zeki Samatyalı, Manager

Bilkent University offers graduate and undergraduate student housing on campus, in twenty-six dormitory buildings accommodating more than 4,000 students. Advice and information about accommodation in dormitories can be obtained from the Dormitories Administration Office. Admission to the university does not automatically guarantee a space in the dormitories. Applications for housing must be submitted to the Dormitories Administration Office according to the time table announced each year.

To be considered for a space in the dormitories, or other Bilkent University identified housing after the dormitories are filled, students must meet all payment commitments (tuition and housing) on time. Dormitory openings will be assigned as they occur.

The dormitories are within walking distance of academic buildings and provide a good environment where friendships can be made and social needs met. Students learn the value of collective living and the need to develop self-discipline. They are ultimately responsible for their individual conduct, but on-hand support is continuously provided to students by employees in each dormitory building.

Rooms are arranged for single, double, triple and quadruple occupancies. Facilities within the dormitory complexes include central heating, social and study areas, laundry and ironing rooms, kitchens and bathing facilities.

All rooms are furnished and equipped with telephones and ethernet connection. General cleaning service is provided in each dormitory, but students are responsible for keeping their rooms tidy.
Lavatories and showers are located on each floor. Students are required to provide their own towels. Food may be purchased from campus grocery stores or meals may be purchased at any of the restaurants or cafeterias on campus. There are parking lots at the dormitories.

Students who bring in their own computers are able to attach their hardware directly into the university campus network from their dormitory rooms and have access to all network facilities.

Students may as well take advantage of wireless internet connection either in at least one study room in each dormitory building or in their rooms, by means of free routers obtainable from dormitory receptions, upon request.
ORGANIZATION OF THE UNIVERSITY

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Ergün Toğrol
Ergül Tunçbilek

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Yahya Lalali Ahmet Naibur Şencan Özme Muhsin Saraçlar Z. Boğaç Üner
Abdullah Atalar (ex-officio)

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Phyllis L. Erdoğan

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FACULTY OF ART, DESIGN, AND ARCHITECTURE

Dean: Bülent Ö zgüç, Ph.D. 266 4471 - 290 1486 ozguc@bilkent.edu.tr

Architecture
Chair: Meltem Gürel, Ph.D. 290 3463 mogurel@bilkent.edu.tr

Communication and Design
Chair: Ahmet Gürata, Ph.D. 290 1749 gurata@bilkent.edu.tr

Fine Arts
Acting Chair: Bülent Ö zgüç, Ph.D. 266 4471 - 290 1486 ozguc@bilkent.edu.tr

Graphic Design
Acting Chair: Bülent Ö zgüç, Ph.D. 266 4471 - 290 1486 ozguc@bilkent.edu.tr

Interior Architecture and Environmental Design
Acting Chair: Nilgün Olguntürk, Ph.D. 290 1465 - 290 1742 onilgun@bilkent.edu.tr

Urban Design and Landscape Architecture
Chair: Bülent Batuman, Ph.D. 290 1828 - 290 1839 batuman@bilkent.edu.tr

FACULTY OF BUSINESS ADMINISTRATION

Dean: Erdal Erel, Ph.D. 266 4164 - 290 1276 erel@bilkent.edu.tr

Assoc. Dean: Aydın Ö rsan Örge, Ph.D. 290 1507 orsan@bilkent.edu.tr

Assoc. Dean: Aslıhan Salih, Ph.D. 290 2047 asalih@bilkent.edu.tr

Management
Chair: Erdal Erel, Ph.D. 266 4164 - 290 1276 erel@bilkent.edu.tr

FACULTY OF ECONOMICS, ADMINISTRATIVE, AND SOCIAL SCIENCES

Acting Dean: Alp Erinc Yeldan, Ph.D. 266 4137 - 290 1251 yeldane@bilkent.edu.tr

Assoc. Dean: Ali Bilgiç, Ph.D. 290 2212 abilgic@bilkent.edu.tr

Assoc. Dean: Tank Kara, Ph.D. 290 1458 ktarik@bilkent.edu.tr
Economics  
Chair: Refet Soykan Gürkaynak, Ph.D.  
290 1891 - 290 1643 - 290 1479  
refet@bilkent.edu.tr

History  
Acting Chair: Mehmet Kalpakli, Ph.D.  
266 5102 - 290 2206 - 290 2317  
kalpakli@bilkent.edu.tr

International Relations  
Acting Chair: Dimitri Tsarouhas, Ph.D.  
290 2677 - 290 1067 - 290 1249  
dimitris@bilkent.edu.tr

Political Science and Public Administration  
Chair: Alev Çınar, Ph.D.  
266 4563 - 290 1339 - 290 1787  
alevc@bilkent.edu.tr

Psychology  
Acting Chair: Carnot E. Nelson, Ph.D.  
290 3415  
carnot@bilkent.edu.tr

FACULTY OF EDUCATION

Dean: Mehmet Baray, Ph.D.  
290 1894  
baray@bilkent.edu.tr

Assoc. Dean: Margaret K. Sands, Ph.D.  
290 2951  
msands@bilkent.edu.tr

Assoc. Dean: Halis Necmi Aksit, Ph.D.  
290 2977  
necmi@bilkent.edu.tr

Computer and Instructional Technology Teacher Education  
Chair: Seyit Koçberber, Ph.D.  
266 4473 - 290 1217  
seyit@bilkent.edu.tr

Curriculum and Instruction  
Head: Margaret K. Sands, Ph.D.  
290 2951  
msands@bilkent.edu.tr

FACULTY OF ENGINEERING

Dean: Levent Onural, Ph.D.  
266 4133 - 290 1208  
onural@bilkent.edu.tr

Assoc. Dean: Mustafa Çelebi Pınar, Ph.D.  
290 2603  
mustatap@bilkent.edu.tr

Assoc. Dean: Ezhan Karaslan, Ph.D.  
290 1308 - 290 1261  
ezhan@ee.bilkent.edu.tr

Computer Engineering  
Chair: H. Altay Güvenir, Ph.D.  
290 1218  
guvenir@cs.bilkent.edu.tr

Electrical and Electronics Engineering  
Chair: Orhan Arkan, Ph.D.  
266 4307 - 290 1219  
olarcan@ee.bilkent.edu.tr
### Industrial Engineering
Chair: Mehmet Selim Aktürk, Ph.D.  
266 4477 - 290 1210 - 290 1262  
akturk@bilkent.edu.tr

### Mechanical Engineering
Chair: Adnan Akay, Ph.D.  
266 4004 - 290 2289 - 290 1045  
akay@bilkent.edu.tr

### FACULTY OF HUMANITIES AND LETTERS

<table>
<thead>
<tr>
<th>Department</th>
<th>Acting Chair</th>
<th>Phone Numbers</th>
<th>Email Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Culture and Literature</td>
<td>Edward Kohn, Ph.D.</td>
<td>290 1930 - 290 1931 - 290 1646</td>
<td><a href="mailto:kohn@bilkent.edu.tr">kohn@bilkent.edu.tr</a></td>
</tr>
<tr>
<td>Archaeology</td>
<td>Thomas Zimmermann, Ph.D.</td>
<td>290 1934 - 290 2477</td>
<td><a href="mailto:zimmer@bilkent.edu.tr">zimmer@bilkent.edu.tr</a></td>
</tr>
<tr>
<td>English Language and Literature</td>
<td>Edward Kohn, Ph.D.</td>
<td>290 1930 - 290 1931 - 290 1646</td>
<td><a href="mailto:kohn@bilkent.edu.tr">kohn@bilkent.edu.tr</a></td>
</tr>
<tr>
<td>Philosophy</td>
<td>Varol Akman, Ph.D.</td>
<td>290 1457 - 290 3349 - 290 1537</td>
<td><a href="mailto:akman@bilkent.edu.tr">akman@bilkent.edu.tr</a></td>
</tr>
<tr>
<td>Translation and Interpretation</td>
<td>Tanju Inal, Ph.D.</td>
<td>290 1277 - 290 1278</td>
<td><a href="mailto:inal@bilkent.edu.tr">inal@bilkent.edu.tr</a></td>
</tr>
<tr>
<td>Turkish Literature</td>
<td>Mehmet Kalpakli, Ph.D.</td>
<td>266 5102 - 290 2206 - 290 2317</td>
<td><a href="mailto:kalpakli@bilkent.edu.tr">kalpakli@bilkent.edu.tr</a></td>
</tr>
</tbody>
</table>

### FACULTY OF LAW

<table>
<thead>
<tr>
<th>Role</th>
<th>Name</th>
<th>Phone Numbers</th>
<th>Email Address</th>
</tr>
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<tbody>
<tr>
<td>Dean</td>
<td>Turgut Tan, Ph.D.</td>
<td>290 3300 - 290 3301</td>
<td><a href="mailto:ttan@bilkent.edu.tr">ttan@bilkent.edu.tr</a></td>
</tr>
<tr>
<td>Assoc. Dean</td>
<td>Elvin Evrim Dalkılıç, Ph.D.</td>
<td>290 3317</td>
<td><a href="mailto:elvin@bilkent.edu.tr">elvin@bilkent.edu.tr</a></td>
</tr>
<tr>
<td>Assoc. Dean</td>
<td>Şemsie Barış Özçelik, Ph.D.</td>
<td>290 2864</td>
<td><a href="mailto:bozcelik@bilkent.edu.tr">bozcelik@bilkent.edu.tr</a></td>
</tr>
</tbody>
</table>

### FACULTY OF MUSIC AND PERFORMING ARTS

<table>
<thead>
<tr>
<th>Role</th>
<th>Name</th>
<th>Phone Numbers</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Assoc. Dean</td>
<td>Kağan Korad</td>
<td>266 4230 - 290 1620</td>
<td><a href="mailto:korad@bilkent.edu.tr">korad@bilkent.edu.tr</a></td>
</tr>
</tbody>
</table>
Music
Chair: Kağan Korad
266 4230 - 290 1620
korad@bilkent.edu.tr

Performing Arts
Chair: Jason Edward Hale
290 1103
jason.hale@bilkent.edu.tr

FACULTY OF SCIENCE

Dean: Tayfun Özçelik
266 5081 - 290 2139
tozcelik@fen.bilkent.edu.tr

Chemistry
Chair: Zeki Cemal Kuruoğlu, Ph.D.
266 4946 - 290 2089 - 290 1788
kuruoglu@bilkent.edu.tr

Mathematics
Chair: Mehtaharet Kocatepe, Ph.D.
266 4377 - 290 1586 - 290 1255
kocatepe@fen.bilkent.edu.tr

Molecular Biology and Genetics
Chair: İskı Yuluğ, Ph.D.
266 5081 - 290 2506 - 290 2240
yulug@fen.bilkent.edu.tr

Physics
Chair: Metin Gürses, Ph.D.
290 1207 - 290 1924
gurses@fen.bilkent.edu.tr

INTERDISCIPLINARY PROGRAMS

Materials Science and Nanotechnology
Director: Mehmet Bayındır, Ph.D.
290 3500 - 290 3501
mb@fen.bilkent.edu.tr

Neuroscience
Director: Michelle Marie Adams, Ph.D.
290 3415
michelle@bilkent.edu.tr

GRADUATE SCHOOLS

Graduate School of Economics and Social Sciences
Director: Erdal Erel, Ph.D.
266 4164 - 290 1276
erel@bilkent.edu.tr

Graduate School of Education
Director: Margaret K. Sands, Ph.D.
290 2951
msands@bilkent.edu.tr

Graduate School of Engineering and Science
Director: Levent Onural, Ph.D.
266 4133 - 290 1208
onural@bilkent.edu.tr
SCHOOL OF APPLIED LANGUAGES

Director: Tanju İnal, Ph.D. 290 1277 - 290 1278
inal@bilkent.edu.tr

Accounting Information Systems
Chair: Orhan Güvenen, Ph.D. 290 2496 - 290 3161
gorhan@bilkent.edu.tr

Banking and Finance
Chair: Nazmi Demir, Ph.D. 290 1640
nazmi@bilkent.edu.tr

SCHOOL OF APPLIED TECHNOLOGY AND MANAGEMENT

Director: Kamer Rodoplu 290 5035
rodroplu@bilkent.edu.tr

Assoc. Director: Erkan Uçar, Ph.D. 290 5058
eucar@bilkent.edu.tr

Business Information Management
Chair: Nur Sağlam 290 5025
nsaglam@bilkent.edu.tr

Computer Technology and Information Systems
Chair: Erkan Uçar, Ph.D. 290 5058
eucar@bilkent.edu.tr

Tourism and Hotel Management
Acting Chair: Aykut Pekcan, Ph.D. 290 5035
pekcan@bilkent.edu.tr

SCHOOL OF ENGLISH LANGUAGE

Acting Director: Firdevs Tijen Akşit, Ph.D. 290 1461 - 290 2474
aksit@bilkent.edu.tr

Assoc. Director: Hande İşıl Mengü, Ph.D. 290 1802 - 290 2442
hmengu@bilkent.edu.tr

English Language Preparatory Program
Director: Elif Kantarcioğlu, Ph.D. 290 5079 - 290 5076
kutevu@bilkent.edu.tr

Faculty Academic English Program
Director: Firdevs Tijen Akşit, Ph.D. 290 1461 - 290 2474
aksit@bilkent.edu.tr

VOCATIONAL SCHOOL OF COMPUTER TECHNOLOGY AND OFFICE MANAGEMENT

Director: Kamer Rodoplu 290 5035
rodroplu@bilkent.edu.tr
UNIVERSITY ADMINISTRATION

Commerce and Administration
Acting Chair: Ahmet Durukal 290 2989
durukal@bilkent.edu.tr

Computer Technology and Programming
Chair: Reyyan Ayfer 290 5065
ayfer@bilkent.edu.tr

VOCATIONAL SCHOOL OF TOURISM AND HOTEL SERVICES

Acting Director: Aykut Pekcan, Ph.D. 290 5035
pekcan@bilkent.edu.tr

Hospitality Services
Acting Chair: Aykut Pekcan, Ph.D. 290 5035
pekcan@bilkent.edu.tr
RESEARCH CENTERS AND INSTITUTES

Acoustics and Underwater Technologies Research Center (BASTA)
Director: Abdullah Atalar, Ph.D. 290 1200 - 290 1201 - 266 4120
aatalar@bilkent.edu.tr

Ahmed Adnan Saygun Center for Music Research and Education
Acting Director: Kağan Korad 290 1387
korad@bilkent.edu.tr

Bilkent Center for Advanced Studies (BİCAS)
Director: Salim Çiraci, Ph.D. 290 1216
ciraci@fen.bilkent.edu.tr

Bilkent University Center for Applied Research on Global Issues (BUCARGI)
Director: Hatice Pınar Bilgin, Ph.D. 290 1067 - 290 1249 - 290 2164
pbilgin@bilkent.edu.tr

Center for Research in Transitional Societies (CRTS)
Director: Güliz Ger, Ph.D. 290 2949
ger@bilkent.edu.tr

Center for Russian Studies
Director: Norman Stone 290 3421
norman@bilkent.edu.tr

Center for Turkish Literature
Acting Director: Mehmet Kalpakli, Ph.D. 290 2317
kalpakli@bilkent.edu.tr

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Director: Metin Heper, Ph.D. 290 1857
heper@bilkent.edu.tr

Communications and Spectrum Management Research Center (İSYAM)
Director: Ayhan Altıntaş, Ph.D. 290 2457 - 290 2458
altintas@ee.bilkent.edu.tr

Halil İnalcık Center for Ottoman Studies
Director: Mehmet Kalpakli, Ph.D. 266 5102 - 290 2206
kalpakli@bilkent.edu.tr

Institute of Material Science and Nanotechnology (UNAM)
Director: Mehmet Bayındır, Ph.D. 290 3500 - 290 3501 - 290 2513
mib@fen.bilkent.edu.tr

Institute of World Systems, Economies, and Strategic Research
Director: Orhan Güvenen, Ph.D. 290 1660 - 290 3161
gorhan@bilkent.edu.tr

Nanotechnology Research Center (NANOTAM)
Director: Ekmel Özbağ, Ph.D. 290 1966
nanotechnology@bilkent.edu.tr
National Magnetic Resonance Research Center (UMRAM)
Director: Ergin Atalar, Ph.D.  290 3272 - 290 1154
ergin@ee.bilkent.edu.tr
The Faculty of Art, Design and Architecture comprises six academic departments:

- Architecture
- Communication and Design
- Fine Arts
- Graphic Design
- Interior Architecture and Environmental Design
- Urban Design and Landscape Architecture

These departments offer undergraduate programs that lead to Bachelor of Architecture (B.Arch.), Bachelor of Fine Arts (B.F.A.), and Bachelor of Arts (B.A.) degrees. The graduate programs of the Faculty include Master of Fine Arts (M.F.A.) degree programs in the areas of Media and Design, Interior Architecture and Environmental Design, Master of Arts (M.A.) degree in the area of Media and Visual Studies, an interdisciplinary doctoral program in Art, Design and Architecture, and Ph.D. in Interior Architecture and Environmental Design.

The educational principles of the faculty are based upon the fact that the creative process in art and design relies on a broad body of knowledge for direction and inspiration. Guided by this principle, the degree programs aim to train highly competent research, design and performance oriented artists having a deep understanding of basic concepts, modern design and performance methods. The international and multidisciplinary composition of the academic staff allows the provision of interdisciplinary programs, as well as particular courses of study to meet individual educational needs.

**ACADEMIC STAFF**

Yasemin Afacan, Assistant Professor

Hasan Yusuf Akcura, Instructor
B.A., French Language and Literature, Faculty of Letters, Department of Western Languages and Literatures, Ankara University, 1985.

Jülide Aksiyote Göür, Instructor

Burçak Altay, Instructor

Serpil Altay, Instructor
M.S., Urban and Regional Planning, London School of Economics, 1972.

Kumru Arapgirlioğlu, Instructor
Ph.D., Public Administration and Political Sciences, Ankara University, 2003. Environmental Planning and Administration.

Necmiye Şule Aybar, Instructor

İnci Başa, Assistant Professor
Ph.D., Architecture, Middle East Technical University, 2000. Architectural theory/history; architectural discourse analysis.
Bülent Batuman, Assistant Professor  

Deniz Baykan, Instructor  

Aysu Berk, Instructor  

Can İzzet Birand, Instructor  

Marek Brzozowski, Assistant Professor  

Bülent Mehmet Çaplı, Visiting Professor  
Ph.D., Communication, Istanbul University, 1990.

Gaye Çulcuoğlu, Instructor  

Halime Demirkan, Professor  

Didem Dizdaroğlu, Assistant Professor  
Ph.D., Urban Planning, Queensland University of Technology 2013.

Feyzan Erkip, Professor  
Ph.D., City and Regional Planning, Middle East Technical University, 1993. Environmental analysis and design.

Mark Paul Frederickson, Visiting Associate Professor  

Katherine Grace Fry, Visiting Professor  
Ph.D., Media and Communications, Temple University, Philadelphia, 1994.

Giorgio Gasco, Visiting Assistant Professor  
Ph.D., Architecture, Polytechnic University of Cataluna, 2007.

Ahmet Gürata, Assistant Professor  
Ph.D., Cultural Studies and Humanities, University of London, 2003.

Meltem Gürsel, Associate Professor  
Ph.D., Architecture, University of Illinois at Urbana-Champaign, 2007. Architectural theory/history/criticism, cross-cultural histories of modernism, gender and space, design education.

Cengiz Gürler, Instructor  

Fulya Gürer, Instructor  

Murad Gürzumar, Instructor  

Çağrı İmamoğlu, Assistant Professor  

Levent Y. İnce, Instructor  
M.F.A., Department of Graphic Design, Bilkent University, 2010.

Hatice Karaca, Instructor  
Mehmet Turhan Kayasü, Instructor  
M.Arch., Architecture, Middle East Technical University, 1976.

Colleen Bevin Kennedy-Karpat, Assistant Professor  
Ph.D., French Literature and Culture, Rutgers University, 2011.

Ekin Kiliç, Instructor  
Proficiency in Art, Graphic Design, Hacettepe University, 2011.

Mehmet Atıl Kurttekin, Instructor  

Alper Küçük, Instructor  
Ph.D., Architecture, Middle East Technical University, 2007.

Fulfen Larlar, Instructor  
M.F.A., Motion Pictures and Television, San Francisco University, 2004.

Ahmet Oktan Nalbantoğlu, Instructor  

Ersan Ocağ, Assistant Professor  
Ph.D., Graphic Design, Bilkent University, 2008.

Kağan Olguntürk, Instructor  
Competency in Art, Cinema and Television, Marmara University, 2004.

Nilgün Olguntürk, Associate Professor  

Ufuk Önen, Instructor  
M.A., Media and Visual Studies, Bilkent University, 2008.

Serpil Özalp, Instructor  

Adam Kazimierz Pekalski, Visiting Instructor  

Mustafa Pultar, Adjunct Professor  
Ph.D., Princeton University, 1985. Structural design, architectural science, environmental analysis and design.

Ercan Sağlam, Assistant Professor  
Higher Diploma in Art, Sculpture, Hacettepe University, 2001.

Özlem Savaş, Assistant Professor  
Ph.D., Design History and Theory, University of Applied Arts Vienna, 2008.

Necmiye Yaprak Savut, Visiting Assistant Professor  

Tijen Sonkan Türkkan, Instructor  

Agnieszka Srokosz, Instructor  

Fundac Şenova Tunali, Instructor  
Ph.D., Graphic Design, Bilkent University, 2012.
Burcu Şenyapılı Özcan, Associate Professor
Ph.D., Interior Architecture and Environmental Design, Bilkent University, 1998. Computer aided design, design education

Şule Taşlı Pektaş, Assistant Professor

Sedvan Teber, Instructor

Dominique Selin Tezgör-Kassab, Professor
Ph.D., (State Doctorate), History of Civilization and Archaeology, University of Human Sciences of Dijon, 1993.

Saadet Ayşe Gül Tokol, Instructor
Ph.D., Architecture, Middle East Technical University, 1997. Urban morphology, space syntax, urban theory.

Andreas Treske, Visiting Assistant Professor
M.A., Film Directing, Hochschule für Fernsehen und Film, Munich, 1992.

Elif Erdemir Türkkan, Instructor

Sibel Ertez Ural, Instructor
Ph.D., Architecture, Karadeniz Technical University, 1995.

Nancy Susan Woods, Instructor

Semiha Yılmazer, Assistant Professor

Mehmet Hakan Yurdadoğan, Instructor
M.Arch., Architecture, Middle East Technical University, 1982.

Beata Malgorzata Zalewska-Slaczcyk, Instructor

PART-TIME ACADEMIC STAFF

Aykân Alemdaroğlu, M.A., Latin Languages and Literature, Istanbul University, 2001.
Heves Beşeli Özkoç, M.S., Middle East Technical University, 2009.
Annemarie Constantinescu Strihan, Ph.D., City and Regional Planning, University of Pennsylvania, 2004.
Ekin Ekiz, Ph.D., Civil Engineering, University of Michigan, 2007.
Ertan Ergin, B.A., Architecture, Middle East Technical University, 1980.
Üfk Ürtûm, B.Arch., Architecture, Middle East technical University, 1985.
Mehmet Tevfik Gürsu, M.Arch., Architecture, Middle East Technical University, 1976.
Düral Kadioğlu, Ph.D., Department of Anatomy, Faculty of Medicine, Liverpool University, 1973.
Gökhan Kınayoğlu, M.A., Architecture, Middle East Technical University, 2007.
Erhan Konuk, B.S., Faculty of Science, Hacettepe University, 1995.
Glenn Terry Kukkola, M.A., Divinity, University of Toronto, 2006.
Fatma Eda Kutay, M.S., Middle East Technical University, 1996.
Başak Muratoglu, Ph.D., Art, Design and Architecture, Bilkent University, 1999.
Burcu Omay, M.A., Middle East Technical University, 1999.
Zeynep Öktem, M.S., Middle East Technical University, 2009.
Sedat Örsel, M.A., Faculty of Law, Ankara University, 1971.
İrmak Özkan, M.F.A., Bilkent University, 1996.
Aycıa Turgay, M.A., University of Westminster, 2011.
Cetin Tünger, M.F.A., Bilkent University, 2014.
Orhan Uludag, M.CP., City and Regional Planning, Middle East Technical University, 1990.
Hande Vural Johnson, M.F.A., Writing for the Screen and Stage, School of Communication, Northwestern University, 2008.
Tomris Yardımcı, M.Arch., Restoration, Middle East Technical University, 1975.

GENERAL ART, DESIGN AND ARCHITECTURE COURSES

ADA 131 Architectural Drawing
A general overview of the relationship between architectural design and drawing. Introduction to basic principles and techniques of architectural drawings such as plan, section and elevation; three dimensional expression and rendering techniques for visual communication of design ideas. Credit units: 3 ECTS Credit Units: 4. Aut (I. Basa, M. P. Frederickson, H. Karaca, A. Küçük, S. Teber, S. E. Ural) Spr (E. Ergin, G. Kinayoglu, A. Küçük, S. Teber)

ADA 134 Designing with Digital Media
Application of basic concepts and methods to the design process and representation; production of a digital set of drawings. Credit units: 3 ECTS Credit Units: 4. Aut (Ş. Taşlı Pektaş, Ç. Tünger) Spr (G. Kinayoglu, Ş. Taşlı Pektaş, Ç. Tünger, T. Türkal)

ADA 263 History of Built Environment I
Definition of history and concept of continuity in the built environment beginning from prehistory to the end of the 17th century by means of selected examples from the Middle-East, Anatolia and Europe, with a specific emphasis on the formation of architecture, interior architecture and landscape/urban design. Credit units: 3 ECTS Credit Units: 5. Aut (K. Arapgirlioğlu, G. Gasco, B. Omay, S. Özaloğlu, S. A. G. Tokol)

ADA 264 History of Built Environment II
Examination of the selected examples beginning from the 18th century Ottoman, Turkish and Western architectures by comparative analysis, with a specific emphasis on the formation of architecture, interior space and landscape/urban design. Credit units: 3 ECTS Credit Units: 5. Spr (K. Arapgirlioğlu, G. Gasco, B. Omay, S. Özaloğlu, S. A. G. Tokol)

ADA 302 Design Studio IV: Collaboration
Exploration of collaborative design. Integration of architectural, interior and urban design concepts. Credit units: 6 ECTS Credit Units: 10, Prerequisite: ARCH 301 or IAED 301 or LAUD 301.

ADA 412 Contemporary Problems in Urban Sustainability
Sustainability within global urban settings; socio-spatially situated understanding of what is ‘sustainable’. Socio-political construction of ‘sustainability’. Historical and contemporary examples in the North and South; management of natural resources (land, water…), socio-political equity; ‘right to the city’. Use of case studies and contemporary examples. Credit units: 3 ECTS Credit Units: 6.

ADA 690 Seminar in Advanced Research Topics
Credit units: None ECTS Credit Units: 1. Aut (B. Özgüç) Spr (B. Özgüç)

ADA 699 Ph.D. Dissertation
Credit units: None ECTS Credit Units: 180. Aut (B. Özgüç) Spr (B. Özgüç)
DEPARTMENT OF ARCHITECTURE

M. Gürel (Chair), I. Basa, A. Berk, M. P. Frederickson, G. Gasco, B. Şenapılı Özcan, Ş. Taşlı Pektaş.


Architectural designs shape our environment and affect the way we manage our everyday lives. The faculty is devoted to educate critical and independent thinkers who comprehend the importance of architecture’s social impact. The program embraces the interdisciplinary nature of the discipline and offers a broad range of courses in order to equip students with knowledge and skills that will enable them to design aesthetically pleasing, structurally safe, technologically sound, environmentally healthy, and comfortable buildings.

UNDERGRADUATE PROGRAM

During the first year, the curriculum establishes foundational knowledge in mathematics, physics, arts and culture as well as in design and architectural drawing. This foundational year reflects the interdisciplinary nature of architecture and allows students to share an intellectual environment specifically within the faculty as well as the university at large. The second year curriculum introduces students to topics of architectural history, structural design, and construction of buildings. Design studios rest at the curriculum’s core and enable students to apply knowledge learned in these courses to architectural design problems. The collaborative design studios in the second year expose students to concepts of interiors, environmental design, urban design, and landscape architecture. They aim to help students understand and appreciate the interdisciplinary character of architecture. The third and fourth year courses that follow offer advanced theoretical and practical knowledge in various areas of architecture and develop skills in architectural design. Together with a wide range of electives, these courses allow students to specialize in different aspects of the discipline. Courses on professional practice and summer practices held in offices and construction sites help prepare students for future professional life.

UNDERGRADUATE CURRICULUM

FIRST YEAR

<table>
<thead>
<tr>
<th>Autumn Semester</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>ADA 131</td>
<td>Architectural Drawing 3 / 4</td>
</tr>
<tr>
<td>ENG 101</td>
<td>English and Composition I 3 / 6</td>
</tr>
<tr>
<td>FA 101</td>
<td>Basic Design I 6 / 10</td>
</tr>
<tr>
<td>FA 171</td>
<td>Introduction to Art and Culture I 3 / 5</td>
</tr>
<tr>
<td>GE 100</td>
<td>Orientation 1 / 1</td>
</tr>
<tr>
<td>MATH 101</td>
<td>Calculus I 4 / 7</td>
</tr>
<tr>
<td>ADA 134</td>
<td>Designing with Digital Media 3 / 4</td>
</tr>
<tr>
<td>MATH 102</td>
<td>Calculus II 4 / 7</td>
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<tr>
<td>PHYS 101</td>
<td>General Physics I 4 / 6</td>
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SECOND YEAR

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<tr>
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<tbody>
<tr>
<td>ADA 263</td>
<td>History of Built Environment I 3 / 5</td>
</tr>
<tr>
<td>ARCH 201</td>
<td>Architectural Design Studio I 6 / 10</td>
</tr>
<tr>
<td>ARCH 251</td>
<td>Architectural Building Systems 3 / 5</td>
</tr>
<tr>
<td>GE 250</td>
<td>Collegiate Activities Program I 4 / 8</td>
</tr>
<tr>
<td>HIST 200</td>
<td>History of Turkey 4 / 8</td>
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</table>
TURK 101 Turkish I ................................................................. 2 / 2
Free Elective ................................................................. 3 / 6

Spring Semester Credits / ECTS Credits
ADA 264 History of Built Environment II ................................ 3 / 5
ARCH 202 Architectural Design Studio II ................................ 6 / 10
ARCH 231 Statics and Strength of Materials ......................... 3 / 5
ARCH 252 Construction and Materials ................................ 4 / 6
GE 251 Collegiate Activities Program II .............................. 1 / 1
TURK 102 Turkish II ............................................................. 2 / 2

THIRD YEAR

Autumn Semester Credits / ECTS Credits
ARCH 290 Summer Practice I .............................................. 2 / 6
ARCH 301 Architectural Design Studio III ......................... 6 / 10
ARCH 321 Architecture and Society ..................................... 3 / 4
ARCH 331 Structural Design I ............................................ 3 / 5
ARCH 341 Environmental Technology I ......................... 3 / 5
Free Elective ................................................................. 3 / 6

Spring Semester Credits / ECTS Credits
ADA 302 Design Studio IV: Collaboration .............................. 6 / 10
ARCH 332 Structural Design II ........................................ 3 / 5
ARCH 342 Environmental Technology II ......................... 3 / 5
Humanities Elective ............................................................... 3 / 6
Restricted Elective ............................................................... 3 / 6

FOURTH YEAR

Autumn Semester Credits / ECTS Credits
ARCH 390 Summer Practice II ............................................. 2 / 6
ARCH 401 Architectural Design Studio V ......................... 6 / 10
ARCH 411 Conservation of Historical Environments .......... 3 / 6
Free Elective ................................................................. 3 / 6
History of Architecture Elective ........................................... 3 / 6

Spring Semester Credits / ECTS Credits
ARCH 402 Architectural Design Studio VI ....................... 6 / 10
ARCH 418 Professional Practice ........................................ 3 / 6
Free Elective ................................................................. 3 / 6
Restricted Elective ............................................................... 3 / 6

HISTORY OF ARCHITECTURE ELECTIVES

ARCH 463 Modern Turkish Architecture ............................... 3 / 6
ARCH 465 Contemporary Architecture and Theory ............. 3 / 6
ARCH 466 Architectural Theory and Criticism .................... 3 / 6

COURSE DESCRIPTIONS

ARCH 201 Architectural Design Studio I
Introduction to principles and concepts of architectural design; case study and analysis; smallscaled projects on specific design problems. Development of skills in architectural representation. Credit units: 6 ECTS Credit Units: 10, Prerequisite: FA 102. Aut (M. Gürel, F. Mirza, B. Şenyapılı Özcana, Ş. Taşlı Pektaş)

ARCH 202 Architectural Design Studio II
Exploration of the relationship between the building and the site. Integration of basic urban concepts into the design process in the context of urban design and development. Credit units: 6 ECTS Credit Units: 10, Prerequisite: ARCH 201. Spr (A. Constantinescu Striha, M. Gürel, F. Mirza, Ş. Taşlı Pektaş)

ARCH 231 Statics and Strength of Materials
Introduction to the basic concepts and principles of statics; vector mechanics; geometrical properties; free body diagrams; internal forces: shear and moment diagrams. Analysis of simple load-carrying structures; columns; concepts of stress, strain and deformation. Credit units: 3 ECTS Credit Units: 5, Prerequisite: MATH 101. Aut (E. Ekiz) Spr (A. Berk)
ARCH 251  Architectural Building Systems
Credit units: 3 ECTS Credit Units: 5, Prerequisite: ADA 131. Aut (C. Korkmaz, O. Uludağ)

ARCH 252  Construction and Materials
Continuation of ARCH 251; further studies of construction methods, materials and building systems; integration of design and building technology; building sustainability; development of a set of construction documents. Credit units: 4 ECTS Credit Units: 5, Prerequisite: ARCH 251. Spr (G. T. Kükkoła, O. Uludağ)

ARCH 290  Summer Practice I
Practical experience in building construction processes; active participation in construction work on site (4 weeks). Credit units: None ECTS Credit Units: 6, Aut (Ş. Taşı Pektaş) Spr (Staff)

ARCH 301  Architectural Design Studio III

ARCH 302  Architectural Design Studio IV
Exploration of collaborative design. Integration of architectural, interior and urban design concepts. Credit units: 6 ECTS Credit Units: 10, Prerequisite: ARCH 301. Spr (G. Gasco)

ARCH 315  Computerized Presentation Techniques
Advanced usage of computerized programs for representation of projects by integrating traditional and computer media. Credit units: 3 ECTS Credit Units: 6.

ARCH 317  Parametric Design Studio
Different parameters of design are examined; skills are acquired in establishing building information systems (BIMs) and using them efficiently through the utilization of related software packages. Credit units: 3 ECTS Credit Units: 6. Aut (B. Şenyapılı Özcan) Spr (B. Şenyapılı Özcan)

ARCH 321  Architecture and Society
Investigation of societal and environmental aspects and determinants of architectural design; analysis of case studies. Credit units: 3 ECTS Credit Units: 4. Aut (M. Gürel)

ARCH 331  Structural Design I
Principal structural elements of a building: Beams, columns and slabs. Load distributions on the structure. Exploring material properties and deformation. Introduction to steel; structural design of steel elements. Analysis of architectural applications. Case studies of historic and contemporary steel structures. Credit units: 3 ECTS Credit Units: 5, Prerequisite: ARCH 231. Aut (A. Berk)

ARCH 332  Structural Design II
Introduction to concrete, design and analysis of reinforced concrete members. Exploring pre-stressed and post-tension techniques. Case studies of historic and contemporary examples. Earthquake: Importance and role in structural design. Introduction to finite element modeling (FEM) and computer analysis. Credit units: 3 ECTS Credit Units: 5, Prerequisite: ARCH 331. Spr (E. Ekiz)

ARCH 333  Form and Structure
Provides an understanding of the behavior of structures in relation to their form; studies spatial structures such as shells, domes, cable-nets and fabrics using computer programs where the relationship between the geometrical form and the structural behavior will be observed and explained through structural simulations. Credit units: 3 ECTS Credit Units: 6.

ARCH 341  Environmental Technology I
Study of fundamental daylight and artificial lighting principles; building lighting performance; lighting design methods. Introduction to concepts of architectural acoustics; sound behavior in buildings; noise control; fundamental design principles and methods. Fire prevention in buildings; life-safety systems and architectural applications; standards and regulations. Credit units: 3 ECTS Credit Units: 5. Aut (F. Ataylar)

ARCH 342  Environmental Technology II
Credit units: 3 ECTS Credit Units: 5. Spr (G. T. Kükkoła)

ARCH 351  Urban Metabolism: tools from the social sciences for architects and designers
City as a dynamic, contested space, marked by reconfiguration and change. Literatures of actor-network theory, urban political ecology, urban regime theory; links between transformation of resources into built environment, with a focus on housing, and accompanying flows (people, resources, waste, power); dynamics of socio-political power and domination in cities. Credit units: 3 ECTS Credit Units: 6.

ARCH 390  Summer Practice II
Practical experience in an architectural office; active participation in the design process and project development; observation of office environment (4 weeks). Credit units: None ECTS Credit Units: 6.
ARCH 401 Architectural Design Studio V
Embody complex form generation based on architectural technologies that deal with building components and their interactions. Encourages the integration of technological advancements in construction and presentation techniques to the design process. Special consideration is given to contextual design, community leadership, participatory design and generation of building programs. Credit units: 6 ECTS Credit Units: 10, Prerequisite: ADA 302.

ARCH 402 Architectural Design Studio VI
Emphasizes architectural complexity involving all relevant issues of a comprehensive design process including production drawings and documents; develops contemporary design solutions for a high-quality, sustainable and aesthetic built environment; focuses on multifunctional building design with complex programs in an urban context; physical and social integration of building into the urban texture. Credit units: 6 ECTS Credit Units: 10, Prerequisite: ARCH 401.

ARCH 411 Conservation of Historical Environments
General introduction to the principles and techniques of conservation and restoration; focuses on the problems and developments related to conservation in Turkey; covers analysis of restored historic sites and buildings. Credit units: 3 ECTS Credit Units: 6.

ARCH 417 Advanced Visualization Studio
Advanced techniques in computer aided visualization. Virtual environments, internet based platforms and software packages for design related disciplines are utilized for creating design visualizations. Credit units: 3 ECTS Credit Units: 6.

ARCH 418 Professional Practice
Professional administration of architectural design projects and the construction process; conduct of architectural practice; financial planning and contracts; professional ethics; rights and responsibilities of architects and clients; role of client and user; codes and legal aspects of building construction. Credit units: 3 ECTS Credit Units: 6.

ARCH 463 Modern Turkish Architecture
Study of architectural developments in Turkey from 1900 to the present within a socio-cultural framework; particular emphasis on the interrelationship of architecture and political developments; survey of important buildings, key figures of architecture and urban design; extensive readings on the subject. Credit units: 3 ECTS Credit Units: 6.

ARCH 465 Contemporary Architecture and Theory
Review of the developments in Western architectural culture from the turn of the twentieth century to the present; contemporary architectural movements and theories. Credit units: 3 ECTS Credit Units: 6.

ARCH 466 Architectural Theory and Criticism
Investigation of architectural history, theory and criticism on special topics; social, cultural and political influences on architecture; readings of important theoretical and critical writings about a broad range of topics. Credit units: 3 ECTS Credit Units: 6.
DEPARTMENT OF COMMUNICATION AND DESIGN


Modern media is a leading force in the contemporary process of globalization. The department of Communication and Design aims to educate media professionals, with a special emphasis on visual communication and visual technologies, specifically in the fields of advertising, journalism, visual design, video and TV production and new media. Students are provided with a wide range of courses in media studies, theories and practice, like interpersonal communication and individual presentation, forms and techniques of public and mass communication, visual design and visual studies, advertising, marketing and public relations, basic computer and Internet knowledge. The visual design and communication courses in practical fields such as photography, television, computer and video are conducted in computer labs with the most developed visual design programs, photography studios and a very well equipped digital video production studio. Since the department's philosophy is to educate both creative and responsible media professionals, it also includes several must and elective courses on the ethical, legal and social problems related with mass communication.

UNDERGRADUATE CURRICULUM

FIRST YEAR

<table>
<thead>
<tr>
<th>Autumn Semester</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>COMD 101</td>
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<tr>
<td>CS 153</td>
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<tr>
<td>ENG 101</td>
<td>3 / 6</td>
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<tr>
<td>FA 171</td>
<td>3 / 5</td>
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<tr>
<td>GE 100</td>
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<td>TURK 101</td>
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<td>CS 154</td>
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<td>ENG 102</td>
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<td>3 / 5</td>
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SECOND YEAR

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<th>Autumn Semester</th>
<th>Credits / ECTS Credits</th>
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<td>HUM 111</td>
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<td>MATH 264</td>
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<tr>
<td>COMD 204</td>
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<td>COMD 206</td>
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<td>COMD 210</td>
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<td>ECON 103</td>
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<td>GE 251</td>
<td>1 / 1</td>
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<td>HUM 112</td>
<td>3 / 6</td>
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### THIRD YEAR

**Autumn Semester**

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<th>Course Code</th>
<th>Course Title</th>
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<tr>
<td>COMD 290</td>
<td>Summer Practice I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>COMD 305</td>
<td>Digital Video Production I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>COMD 321</td>
<td>Analysis of Moving Image</td>
<td>3 / 6</td>
</tr>
<tr>
<td>COMD 341</td>
<td>Media and Society</td>
<td>3 / 6</td>
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<tr>
<td>COMD 471</td>
<td>Media Ethics</td>
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**Spring Semester**

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<tbody>
<tr>
<td>COMD 306</td>
<td>Digital Video Production II</td>
<td>3 / 6</td>
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<tr>
<td>COMD 342</td>
<td>Popular Culture</td>
<td>3 / 6</td>
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<tr>
<td>COMD 348</td>
<td>New Media</td>
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### FOURTH YEAR

**Autumn Semester**

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<td>COMD 390</td>
<td>Summer Practice II</td>
<td>3 / 6</td>
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<td>COMD 481</td>
<td>Visual Communication Project I</td>
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**Spring Semester**

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<td>COMD 482</td>
<td>Visual Communication Project II</td>
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<td>Elective</td>
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<td>Restricted Electives (2)</td>
<td>6 / 12</td>
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### RESTRICTED ELECTIVES

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<tbody>
<tr>
<td>COMD 207</td>
<td>Film History</td>
<td>3 / 6</td>
</tr>
<tr>
<td>COMD 310</td>
<td>Screenwriting</td>
<td>3 / 6</td>
</tr>
<tr>
<td>COMD 322</td>
<td>Film Theory and Criticism</td>
<td>3 / 6</td>
</tr>
<tr>
<td>COMD 331</td>
<td>News Reporting and Writing</td>
<td>3 / 6</td>
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<tr>
<td>COMD 346</td>
<td>Introduction to Advertising</td>
<td>3 / 6</td>
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<td>COMD 347</td>
<td>Media Industries</td>
<td>3 / 6</td>
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<tr>
<td>COMD 349</td>
<td>Media Planning</td>
<td>3 / 6</td>
</tr>
<tr>
<td>COMD 350</td>
<td>Audio Production</td>
<td>3 / 6</td>
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<tr>
<td>COMD 354</td>
<td>Interactive Media Design and Development</td>
<td>3 / 6</td>
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<td>COMD 355</td>
<td>Social Media Marketing</td>
<td>3 / 6</td>
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<td>COMD 356</td>
<td>Digital Culture</td>
<td>3 / 6</td>
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<tr>
<td>COMD 361</td>
<td>Sound Design I</td>
<td>3 / 6</td>
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<tr>
<td>COMD 362</td>
<td>Sound Design II</td>
<td>3 / 6</td>
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<td>COMD 365</td>
<td>Media, Memory and Culture</td>
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<td>COMD 422</td>
<td>Advanced Issues in Communication Studies</td>
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<td>COMD 424</td>
<td>Media Theory and Methods</td>
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<td>COMD 433</td>
<td>Gender and Media</td>
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<td>COMD 434</td>
<td>Special Topics in Journalism</td>
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<td>COMD 435</td>
<td>Documentary</td>
<td>3 / 6</td>
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<td>COMD 436</td>
<td>Television Genres</td>
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<td>COMD 437</td>
<td>Post-production Techniques</td>
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<td>COMD 438</td>
<td>Adaptation in Media</td>
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<td>COMD 439</td>
<td>International Public Relations</td>
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<td>COMD 442</td>
<td>Special Topics in Visual Studies</td>
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<td>COMD 461</td>
<td>Public Relations and Communication Campaigns</td>
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<td>COMD 462</td>
<td>Special Topics in Advertising</td>
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<tr>
<td>MAN 333</td>
<td>Marketing Principles</td>
<td>3 / 6</td>
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<tr>
<td>MAN 432</td>
<td>Consumer Behavior</td>
<td>3 / 6</td>
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MINOR PROGRAM
The Department of Communication and Design is a response to the growing need of our increasingly
globalized and networked world in which mass communications and visual technologies of various
kinds play a fundamental role. By providing a wide range of courses in media studies, theories and
practice, the Department of Communication and Design aims to educate media professionals, with
a special emphasis on visual communication and visual technologies, specifically in the fields of
advertising, journalism, visual design, video and TV production and new media. Our rationale is to
produce knowledgeable and responsible media professionals who are able to respond to the urgent
needs of development and globalization in effective ways.

The Minor Program in Communication and Design aims to introduce dynamics of media theory
and practice to Bilkent students from different backgrounds. As a complement to their major area of
study, the minor program give the students a deep insight into the fields of communication, media and
design, and prepare them for a career that requires them to anticipate the impact of communication
in our day.

Students enrolled in any of the Bilkent faculties are eligible to apply, provided that they fulfill the
application criteria set by the university.

The minor program consists of six courses in total, of which three are mandatory. The mandatory
courses are COMD 203 Introduction to Communication Studies I, COMD 204 Introduction to Com-
munication Studies II, and COMD 321 Analysis of Moving Image. Additionally, according to their
fields of interest, students choose three 300 or 400 level Communication and Design courses.

Prerequisite Courses: None

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>COMD 203</td>
<td>Introduction to Communication Studies I</td>
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<td>COMD 204</td>
<td>Introduction to Communication Studies II</td>
<td>3 / 6</td>
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<tr>
<td>COMD 321</td>
<td>Analysis of Moving Image</td>
<td>3 / 6</td>
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<td>Elective-300 or 400 level COMD courses (3)</td>
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CURRICULUM

GRADUATE PROGRAMS

Master of Arts (M.A.) in Media and Visual Studies

The Department of Communication and Design offers Master of Arts program in Media and Visual
Studies. The M.A. program aims to prepare students for careers in the media and communications
sector as well as academic careers. It provides students with a sophisticated conceptual framework
and analytical skills to enable them to make original contributions to media, visual and cultural studies
by specializing in a particular aspect of Turkish or international media such as film, television, Internet
or printed medium. The program encourages free and creative thinking, emphasizing research,
analysis, interpretation, and criticism. Aiming at improving the standards of Turkish media, visual and
cultural studies, the program encourages theoretical, interdisciplinary, and comparative approaches.

Admission: Applicants are required to have a Bachelor's degree. In addition to the general require-
ments set forth by the university, admittance to the graduate program is determined by the results of
an entrance examination. The date and place of the examination are announced each year by the
University.

Degree Requirements: After the completion of at least 24 units of course work in two successive
terms, the candidates must take two seminars in their area of interest and prepare and submit a
thesis. The duration of program is four semesters.

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<th>Course Code</th>
<th>Course Title</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>COMD 511</td>
<td>Theory and Method in Media Visual and Cultural Studies</td>
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<tr>
<td>COMD 590</td>
<td>Seminar in Research Topics</td>
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COMD 599 Master’s Thesis ........................................... 1 / 56
GE 590 Academic Practices .......................................... 1 / 12
Electives (7) ............................................................. 21 / 42

Master of Fine Arts (M.F.A.) in Media and Design
The Master of Fine Arts program in Media and Design is a joint program offered by the Department of Graphic Design and the Department of Communication and Design. The M.F.A. program aims to prepare students primarily for careers in the media and graphic design sectors and secondarily in the academia. Integrating practical, theoretical, interdisciplinary, and comparative approaches, the program provides students with a sophisticated theoretical and practical framework to enable them to make original contributions to both Turkish and international media and design production.

Admission: Applicants are required to have a four-year undergraduate degree. In addition to the general requirements set forth by the university, admittance to the program is determined by the results of an interview and the evaluation of the portfolios consisting of media and design works that have been done before (fiction writing, drawings, illustrations, graphic designs, scripts, storyboards, slides, photographs, web designs, animation projects, and/or videos). The date and place of the interview are announced each year by the University.

Degree Requirements: After the completion of at least 24 units of course work in two successive terms, the candidates must take two research seminars in their area of interest and prepare and submit a thesis project of media and design that also contains a written component. The duration of the program is four semesters.

CURRICULUM OF MASTERS PROGRAM

Courses Credits / ECTS Credits
COMD 511 Theory and Method in Media Visual and Cultural Studies 3 / 7.5
GE 590 Academic Practices .......................................... 1 / 12
GRA 501 Graduate Studio I ........................................... 3 / 7.5
GRA 502 Graduate Studio II .......................................... 3 / 7.5
GRA 590 Seminar in Research Topics ................................ 1 / 1
GRA 599 Master’s Thesis ............................................ 1 / 56
Restricted Electives (5) ................................................ 15 / 30

GRADUATE ELECTIVES
The elective list contains all graduate courses with at least 3 credits.

Dual M.A. in Communication and Information Sciences with Tilburg University
The Dual M.A. program allows a student to complete coursework and research while affiliated with both Bilkent COMD and Tilburg University in the Netherlands. The dual M.A. gives students the opportunity to further expand their horizons to an international scale, connecting expertise in the field of communication studies with real experience abroad. Graduates of the program receive an M.A. degree from Bilkent plus an M.A. degree from Tilburg in one of six areas of specialization: Human Aspects of Information Technology, Business Communication and Digital Media, Intercultural Communication, Communication Design, Data Journalism, Management of Cultural Diversity.

Admission: An undergraduate degree with a minimum 2.5 GPA (or equivalent) A minimum score of 55 in ALES OR GRE scores with a combined verbal and quantitative total of 950 (minimum) and a score of 3.5 in analytical writing. Proficiency in English as determined by TOEFL, IELTS, TOEIC, KPOS, or DS scores. Applicant interview at Bilkent conducted by faculty from Bilkent and Tilburg. To continue with the Tilburg-based portion of the program requires a minimum CGPA of 3.0 out of 4.0 at the end of the second semester of study at Bilkent. Students proceeding to Tilburg after completing their courses at Bilkent may also be required to enroll in a Statistics and Research Methodology
course specifically designed for Communication and Information Sciences students. Depending on
the student's previous background in statistical research, he/she might be required to complete this
module and/or pass a qualifying exam in order to be admitted to the program.

Degree Requirements: Students enrolled in the dual M.A. spend two semesters at Bilkent (60
ECTS) before traveling to Tilburg to complete one year of further coursework (60 ECTS) that also
includes a master's thesis. While the program is designed to be completed in two years - four
semesters plus a summer in Tilburg - extensions are allowable as long as the entire dual degree
program is completed within three years.

COURSE DESCRIPTIONS

COMD 101  Visual Communication Design I
An elementary introduction to the principles of visual design and communication. Concepts of form, pattern,
color, composition and function. Basic problem solving strategies in two-dimensional design. Development of
visual awareness and visual literacy. Theories of perception, Gestalt and design dynamics. Credit units: 6 ECTS
Credit Units: 10. Aut (J. Akşiyote Görür, F. Şenoval Tunali)

COMD 102  Visual Communication Design II
Traditional media approaches and contemporary digital applications incorporated to solve problems within the
visual arts. Advanced uses of form, pattern, color, composition and function to solve both two-dimensional
and three-dimensional problems. Usage of different visual forms through photography, illustration, typography and
graphic design. Credit units: 6 ECTS Credit Units: 10. Prerequisite: COMD 101. Spr (J. Akşiyote Görür, F.
Şenoval Tunali)

COMD 203  Introduction to Communication Studies I
Communication as a process: Code, massage, sign, medium and context. Theories and models of commu-
ication: Linguistics, semiotics and engineering models. Encoding and decoding, analog and digital codes.
Convention and use. Lateral, symbolic and metaphorical communication; visual metaphors. Credit units: 3
ECTS Credit Units: 6. Aut (C. B. Kennedy-Karpat)

COMD 204  Introduction to Communication Studies II
Various forms and modes of communication. The impact of technology on communication, especially mass communication. Visual and verbal aspects: narrative, technology and spectatorship. Credit units: 3 ECTS Credit Units: 6. Prerequisite: COMD 203. Spr (A. Görata, E. Koyuncu)

COMD 205  Basic Photography
An introductory course in photography. Taking photographs: interior/exterior, knowledge of composition and film
developing, and basic laboratory practices. Credit units: 3 ECTS Credit Units: 6. Prerequisite: COMD 102. Aut
(K. Olguntürk)

COMD 206  Introduction to Digital Cinematography
Moving image production in various kinds of media formats. Basic professional video camera operation and
cinematographic skills such as camera movement, framing, composition, and lighting. Credit units: 3 ECTS
Credit Units: 6. Prerequisite: COMD 205. Aut (H. Y. Akçura) Spr (H. Y. Akçura)

COMD 207  Film History
History of cinema from its invention to the digital era. Major breakthroughs, significant movements and genres in
cinema, as well as style and meaning, elements of film narrative, and filmmaking techniques. Historical, political
and cultural context of the movies. Credit units: 3 ECTS Credit Units: 6. Aut (A. Görata)

COMD 210  Introduction to Screenwriting
Basic notions of classical narrative scriptwriting such as character, structure, plot, dialogue, genre, and theme, as
well as textual elements of audio-visual forms such as documentary, experimental and multimedia presentations.
Proper script formatting, dialogue writing, pitching ideas, and proposal writing. Completion of one short script
and a proposal for a second audio-visual project. Credit units: 3 ECTS Credit Units: 6. Aut (F. Larlar, H. Vural
Johnson) Spr (F. Larlar)

COMD 290  Summer Practice I
Summer internship to give students an experience in the organization, structure and working of the creative
industries over a minimum of 4 weeks. Credit units: None ECTS Credit Units: 6. Prerequisite: COMD 204. Aut
(K. Olguntürk)
COMD 305 Digital Video Production I
Through various kinds of digital video projects, development of teamwork skills and learning the professional production process including pre-production, cinematography, and post-production, as well as production planning, shooting and editing, basic sound recording and design. Preparation a digital portfolio for final evaluation. Credit units: 3 ECTS Credit Units: 6, Prerequisite: COMD 206. Aut (H. Y. Akçura, K. Olguntürk) Spr (K. Olguntürk)

COMD 306 Digital Video Production II
A continuation of COMD 305, advancing video production and directing skills. The emphasizing time management and project design. Improvement of skills in digital video post-production through increasingly complex projects. Credit units: 3 ECTS Credit Units: 6, Prerequisite: COMD 305. Spr (K. Olguntürk)

COMD 310 Screenwriting
Art of story-telling, increasing awareness of memory, observation, and interpersonal relationships through the construction of narrative form for the screen. The ways in which an audience can be manipulated through the use of language. Themes with stories drawn from experience and conventions, problems, and possibilities of screenwriting. Credit units: 3 ECTS Credit Units: 6, Spr (H. Vural Johnson)

COMD 321 Analysis of Moving Image
Cinematic language, which has extended into a variety of visual media, including television. Mise-en-scene, cinematography, editing, sound-image relationships, narrative and non-narrative forms, with attention to both dominant practices (Hollywood) and alternatives. Use of these concepts in conjunction with critical writing skills to analyze moving image texts. Credit units: 3 ECTS Credit Units: 6. Aut (F. Larlar) Spr (F. Larlar)

COMD 322 Film Theory and Criticism
Key debates in film theory, covering concepts such as genre, auteurism, ideology, psychoanalysis, subjectivity, national and transnational cinemas, spectatorship and reception discussed in relation to film language, including narrative, mise-en-scene, cinematography, sound, and editing. Credit units: 3 ECTS Credit Units: 6. Spr (C. B. Kennedy-Karpat)

COMD 331 News Reporting and Writing
News reporting and production techniques of radio and television. Gathering information, editing and writing under strict deadlines in order to prepare the student for a professional position. News values, and responsibilities. Basic news writing and style principles, interviewing techniques. Credit units: 3 ECTS Credit Units: 6. Aut (M. Mengü Hale) Spr (M. Mengü Hale)

COMD 333 News and Society
The function and nature of news in contemporary society and its role and impact on social and political affairs. The topics that will be covered are: the concept of information and its role in the modern world; news and story-telling, news as genre of writing and discourse; news values; agenda-setting; construction of reality; news and propaganda; journalistic ethics. Credit units: 3 ECTS Credit Units: 6. Aut (M. Mengü Hale)

COMD 341 Media and Society
The media as a major social institution, the relationship between media and society. The production and reception of media content, the impact of media over other institutions, society and culture as well as the effects over individual behavior. Questions of control and ownership, public and private media. Mass culture and popular culture. Different forms and genres of media, fictional and news material. Propaganda and ideological influence. The impact of new technologies of communication. Credit units: 3 ECTS Credit Units: 6. Aut (E. Koyuncu)

COMD 342 Popular Culture
An awareness of how popular culture operates in specific ways. Popular narrative and entertainment forms in contrast with "high culture." Impact of cultural forms on audiences and a critical study of theories of popular culture. Significant cases from literature, press, film, television, and new media. Credit units: 3 ECTS Credit Units: 6. Spr (Ö. Savaş)

COMD 346 Introduction to Advertising
Basics of advertising: its functions, and how to plan and produce advertisements. Role of advertising in marketing communications, advertising institutions and media, and its retail aspects, with a theoretical foundation in economics, ethics, and social aspects. Credit units: 3 ECTS Credit Units: 6. Aut (E. Özdora Aksak)

COMD 347 Media Industries
Survey of media industry and careers in television, film and new media. Titles, duties, and responsibilities, as well as the abilities, skills, experience, and training required for different media careers. Guest lectures from practicing media professionals. Credit units: 3 ECTS Credit Units: 6. Spr (S. Örsel)

COMD 348 New Media
Basic knowledge of new media. Innovations that new media has introduced to conventional media forms, covering social media, online video, podcasting, wikis, computer games, etc. New forms of narrative in the digital era. Credit units: 3 ECTS Credit Units: 6. Spr (E. Ocak)
COMD 349 Media Planning
A framework for understanding the role of effective media planning in the context of advertising and public relations, covering topics related to selection, evaluation, and planning of advertising and public relations media. Various decisions and problems that arise in the media planning process. Credit units: 3 ECTS Credit Units: 6.

COMD 350 Audio Production
This course aims to acquaint the student with the techniques and aesthetics of audio production including radio broadcasting, audio for television, and multimedia production such as podcasts. Emphasis will be placed on scripting, editing, and production of several program forms. Introducing the concepts, technology, and skills behind audio production, the course will give a firm foundation in broadcasting and multi-media production. Credit units: 3 ECTS Credit Units: 6. Aut (E. Konuk)

COMD 354 Interactive Media Design and Development
Practical and theoretical fundamentals of design and the implementation of interactive multimedia systems. A foundation in principles of human-computer interaction and interaction design, including gaming, live audio and video processing, motion detection, gesture recognition, tangible media, and interactive spaces. Credit units: 3 ECTS Credit Units: 6. Spr (L. Y. Ince)

COMD 355 Social Media Marketing
Social platforms such as Facebook, Twitter, and Pinterest that drive contemporary marketing practices. Use of social media as a marketing tool with case studies, best-practice methodology, and current news items. A digital strategy combined with traditional media to influence purchasing decisions, and to develop comprehensive digital and social media marketing plans. Credit units: 3 ECTS Credit Units: 6. Spr (Ö. Abacı)

COMD 356 Digital Culture
Investigation of how perceptions of art along with cultural productions have transformed with the development of information technologies. Along the same line of thought, the most current manifestations of international contemporary art and design by probing into some recent case studies. Together with theoretical input, institutional organization structures. Seminal texts from scholars, media critics and theoreticians, as well as visual and aural examples from the field to accompany lectures. Credit units: 3 ECTS Credit Units: 6. Spr (B. Muratobğlu)

COMD 361 Sound Design I
Audio in relation to visual media through basic audio production and post-production techniques for video and film. Skill development in sound recording both in-studio and on location, covering signal processing, digital audio editing, and mixing. Credit units: 3 ECTS Credit Units: 6. Aut (U. Önen) Spr (U. Önen)

COMD 362 Sound Design II
Continuation of Sound Design I. Advanced audio post-production techniques for video and film. Components and creative potential of sound design in order to enhance communication through artistic and expressive uses of sound. Credit units: 3 ECTS Credit Units: 6. Prerequisite: COMD 361. Spr (U. Önen)

COMD 363 Music and Media
Media shapes the production, distribution, and consumption of music. Theories and practices of music and related technologies in media. A variety of perspectives including artistic, industrial, and cultural dimensions. Credit units: 3 ECTS Credit Units: 6. Aut (U. Önen) Spr (U. Önen)

COMD 364 Video Production for Non-majors
Fundamental technical skills for digital moving image production including lighting, sound, cinematography, and basic editing. Production of several video projects during the semester. Credit units: 3 ECTS Credit Units: 6. Spr (A. Treske)

COMD 365 Media, Memory and Culture

COMD 390 Summer Practice II
Summer internship in which students participate actively in professional audiovisual media productions and make detailed observations of these productions’ planning as well as their media integration strategies, techniques, and tools. Improvement of skills in teamwork and production/client relations. Minimum time commitment of 4 weeks. Credit units: None ECTS Credit Units: 6. Prerequisite: COMD 306. Aut (H. Y. Akçura)

COMD 424 Media Theory and Methods
Various advanced methods of studying media: semiotics, content analysis, theories of identification, audience studies and ethnographies, and economics of media. Design and conduct of an independent research project in a specific area of media studies. Credit units: 3 ECTS Credit Units: 6.
COMD 433  Gender and Media
Representation of masculinity and femininity in the media. Gender bias and stereotypes in the portrayal of gender in film, television, internet and print media. Gendered audiences and gender differences in media reception. Issues of pornography and censorship, in the use of women’s images in advertising and marketing. The role of media transforming as well as perpetuating gender roles gender inequality. Credit units: 3 ECTS Credit Units: 6. Aut (Ö. Savaş)

COMD 434  Special Topics in Journalism
Advanced topics in journalism to deepen students' critical understanding of the field. The complicated nature of fact, truth and evidence; journalism contexts; privacy and publicity; ethics; news agendas; technological change; and journalism applied to specific areas like science, culture, business, and politics. Credit units: 3 ECTS Credit Units: 6. Aut (M. Mengü Hale) Spr (B. M. Çaplı)

COMD 435  Documentary
Basic knowledge of the history and forms of documentary cinema. Sub-genres and modes of documentary from its emergence to the digital era, with particular attention to newly emerging digital modes of documentary. Credit units: 3 ECTS Credit Units: 6. Aut (E. Ocak)

COMD 436  Television Genres
Television’s role as a cultural, social, political, and industrial force. Evolution of television and strategies for critical inquiry into its nature as a medium, exploring the uses and limitations of genre theory as applied to television, format adaptations, and interactive television. Credit units: 3 ECTS Credit Units: 6. Spr (B. M. Çaplı)

COMD 437  Post-production Techniques
A variety of film and media post-production techniques, including 3D integrations, animation, and green-box installations. Completion of a group project that puts these techniques into practice. Credit units: 3 ECTS Credit Units: 6. Aut (Ö. Abacı)

COMD 438  Adaptation in Media
Adaptation and intertextuality in a variety of media forms: film, literature, television, theater, games, comics, etc. Adaptation in media franchises, cross-cultural adaptation, current theories of adaptation, and critical approaches to adapted texts. Credit units: 3 ECTS Credit Units: 6. Spr (C. B. Kennedy-Karpat)

COMD 439  International Public Relations
The impact of public relations in an international context, including community and nation building, relationship management, and multi-national entities. Case studies and examples from different countries to gain an in-depth understanding about how cultural context might influence public relations practices. Credit units: 3 ECTS Credit Units: 6. Spr (E. Özdora Akşak)

COMD 442  Special Topics in Visual Studies
Advanced topics in visual media and technologies. Concepts of technology and image, visual language, new media and digital language. Role and power of visual cultures, technologies, and media to reflect and shape society. Credit units: 3 ECTS Credit Units: 6. Spr (H. Vural Johnson) Spr (K. G. Fry)

COMD 461  Public Relations and Communication Campaigns
Theory and practice of public relations and public communication. PR and opinion research, communication process and building effective campaign strategy. Case studies in PR and public communication, commercial and political advertising, humanitarian campaigns. Ethical considerations and impact on society. Credit units: 3 ECTS Credit Units: 6. Aut (E. Özdora Akşak)

COMD 462  Special Topics in Advertising
Study of selected advanced topics in advertisement production and research focusing on various media application and future developments. Creativity and diversity, advertising research and planning of campaigns, generating ideas and strategy, copywriting for television, radio and direct marketing. Credit units: 3 ECTS Credit Units: 6. Prerequisite: COMD 346. Spr (E. Özdora Akşak)

COMD 471  Media Ethics
A survey of the current ethical problems and issues in reporting, editing and broadcasting moral principles, legal regulations and their application to these problems. Examination of case studies with special emphasis on questions of privacy and freedom of information. Credit units: 3 ECTS Credit Units: 6. Aut (B. M. Çaplı)

COMD 481  Visual Communication Project I
The first phase of the fourth-year capstone project required of all COMD majors. Project relying on students' skills in project planning, media integration, and production and/or research techniques. Evaluation of plan as part of the course performance assessment. Through practical exercises and applications to major component media including computer text, graphics, photography, animation, speech, sound, and video. Technical and human interface issues. Credit units: 4 ECTS Credit Units: 6. Prerequisite: COMD 306. Aut (H. Y. Akçura, U. Önen, A. Treske)
COMD 482  Visual Communication Project II
Introduction to planning, media integration, and production techniques and tools of interactive multimedia. Through practical exercises exposition to major component media including computer text, graphic, photography, animation, speech, sound, and video. Technical and human interface issues. Credit units: 4 ECTS Credit Units: 6. Prerequisite: COMD 481. Spr (H. Y. Akoça, Ê. Önen, A. Treske)

COMD 511  Theory and Method in Media Visual and Cultural Studies
An overview of the major theories and fundamental research methods in media, visual, and cultural studies. Mass culture theory, the Frankfurt School, structuralism and post-structuralism, semiotics, and cultural studies; research methods include effect studies, media ethnography, content analysis, and other ways of studying media through close examination of its texts, institutions, audiences, and subcultures. Credit units: 3 ECTS Credit Units: 7.5. Aut (A. Gürata, Ê. Ocak)

COMD 513  Film and Genre
Key concepts in contemporary film studies, focusing on the deeply interconnected areas of genre, stardom, and director studies, categories to be discussed in conjunction with other fundamental concepts: narrative, mise-en-scene, gender, subjectivity, the gaze, spectatorship and audiences, and media industries. Application of these concepts in short, analytical papers and a final, in-depth critical essay. Credit units: 3 ECTS Credit Units: 7.5. Aut (C. B. Kennedy-Karpat)

COMD 514  Identity Space and Image
Major debates related to the notions of identity and subjectivity in contemporary visual and cultural studies. Drawing upon various theoretical and methodological frameworks, emphasis on how identity and subjectivity can be conceived in relation to the concepts of space, memory, belonging, hybridity and migrancy in contemporary global culture. Credit units: 3 ECTS Credit Units: 7.5. Spr (Ö. Savaş)

COMD 515  Media Reception
Drawing upon different theoretical and methodological approaches to the study of media reception, exploration of the relationship between media texts and their audiences. A variety of media forms and genres including films, TV serials, comics, and popular literature alongside topics such as media effects, active audience theory, ethnography, fandom, gender, nation, and ethnicity. Credit units: 3 ECTS Credit Units: 7.5.

COMD 516  Turkish Cinema and Modernity
Turkish cinema in relation to the question of "modernity." Offering a critical analysis of the historical development of Turkish cinema in the context of Turkey's experience of modernity. Investigation of debates around cultural specificity, gender, masculinity, realism, genre, and audience. Credit units: 3 ECTS Credit Units: 7.5.

COMD 517  Topics in Media Studies
Advanced, critical engagement with a specialized area within Media Studies. Topics, readings, and projects to be determined by the instructor. Credit units: 3 ECTS Credit Units: 7.5. Spr (K. G. Fry)

COMD 518  New Media and Film Cultures
Technology does not merely change the way films are made or seen, but also the way it is studied. In this course we will explore the transformation of film studies when it meets new technologies and the internet. The proliferation of image making technologies from mobile phones to surveillance videos raised the question of what constitutes cinema. This course will examine the philosophical consequences of the world of hidden cameras, YouTube videos and new screens, while questioning our public and private selves. Credit units: 3 ECTS Credit Units: 7.5.

COMD 523  Media and Everyday Life
Reflecting a growing emphasis on practices of everyday life in the study of contemporary societies, identities, and political movements, examination of the entanglements of ordinary people with various media from an anthropological perspective. Drawing on ethnographically informed, historically grounded, and context-specific case studies, exploration of how people use and make sense of media texts and communication technologies in daily life, with a particular focus on the aesthetics and politics of the everyday. Credit units: 3 ECTS Credit Units: 7.5. Aut (Ö. Savaş)

COMD 524  Essay Film
Introduction to the essay film, which is an intellectual cinematographic form that is established at the intersection of academic and artistic modes of expression. Development of academic and intellectual capacities of students through the elaboration of this artistic form. Each student to develop an essay film project on a specific topic through readings and screening discussions. Credit units: 3 ECTS Credit Units: 7.5. Spr (Ê. Ocak)

COMD 525  Curatorial Practices in Contemporary Art
Development of skills and insight to evaluate the conceptual framework of a contemporary art exhibition and its spatial structure with design principles. Development of an understanding about the ideological, cultural, and social implications of the venues that host exhibitions (such as non-profit art centers, museums, galleries, alternative places) and public spaces. Various curatorial approaches and big scale contemporary art practices
as case studies. Diverse readings, class interaction, discussions and hands on collaborative projects exploring concepts covered in class. Credit units: 3 ECTS Credit Units: 7.5. Spr (B. Muratoglu)

**COMD 541 Writing for Media**
Writing for various fictional, documentary, experimental, and/or journalistic media, using methods such as creative brainstorming, concept selection, writing workshops, research projects, and seminars. Completion of a final project in area of interest. Credit units: 3 ECTS Credit Units: 7.5.

**COMD 566 Documentary Form and Practice**
An overview of central issues in documentary study and creation, and development of an understanding of the fundamental aesthetic tools of documentary production through lectures, screenings, exercises and individual short projects. Credit units: 3 ECTS Credit Units: 7.5.

**COMD 590 Seminar in Research Topics**
Credit units: None ECTS Credit Units: 1. Aut (Ö. Savaş) Spr (Ö. Savaş)

**COMD 599 Master's Thesis**
Credit units: None ECTS Credit Units: 56. Aut (A. Gürata) Spr (Ö. Savaş)
DEPARTMENT OF FINE ARTS


Part-time: D. Kadioğlu.

The Fine Arts Department has a distinctive structure and curriculum that contrast with other art schools in Turkey. The Department offers a flexible program that unites studio practice and art theory, combining art disciplines such as painting, printmaking, sculpture, installation, and ceramics with courses in theory and criticism. The aim of the curriculum is to equip future artists with a capacity for studio work and an understanding of artistic production as well as the theoretical dimensions of art. The well-equipped etching, lithography, silk screen, ceramics, and sculpture studios offer students excellent opportunities to explore new horizons.

UNDERGRADUATE PROGRAM

The interdisciplinary program of the Department integrates theory and practice. The aim is to enhance the students in various fields of fine arts. The students are expected to go through the phases of research, recognition, experience, and production of original works of art. They are continuously encouraged to develop their own artistic and critical formation.

In the Program, students experiment with various fields of arts such as painting, printmaking, sculpture, ceramics, and multi-media and are encouraged to conceive and produce creative original works and modes of thought.

UNDERGRADUATE CURRICULUM

FIRST YEAR

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<thead>
<tr>
<th>Autumn Semester</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>ENG 101</td>
<td>English and Composition I</td>
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<tr>
<td>FA 103</td>
<td>Drawing I</td>
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<tr>
<td>FA 105</td>
<td>Foundation Studio I</td>
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<tr>
<td>FA 171</td>
<td>Introduction to Art and Culture</td>
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<tr>
<td>GE 100</td>
<td>Orientation</td>
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<td>GRA 131</td>
<td>Design Tools and Techniques</td>
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<td>TURK 101</td>
<td>Turkish I</td>
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<td>ENG 102</td>
<td>English and Composition II</td>
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<td>FA 104</td>
<td>Drawing II</td>
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<td>Foundation Studio II</td>
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<td>FA 172</td>
<td>Introduction to Art and Culture II</td>
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<td>GRA 132</td>
<td>Lettering and Introduction to Typography</td>
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<td>Turkish II</td>
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SECOND YEAR

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<td>FA 190</td>
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<td>FA 201</td>
<td>Art Studio I</td>
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<td>FA 203</td>
<td>Drawing III</td>
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<td>FA 223</td>
<td>Visual Perception and Color</td>
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<td>FA 271</td>
<td>History of Art I</td>
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<td>GE 250</td>
<td>Collegiate Activities Program I</td>
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<td>HIST 200</td>
<td>History of Turkey</td>
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<td>Drawing IV</td>
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<td>FA 262</td>
<td>Fine Arts Seminar</td>
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<td>FA 272</td>
<td>History of Art II</td>
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<td>GE 251</td>
<td>Collegiate Activities Program II</td>
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**THIRD YEAR**

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<td>Introduction to Visual Techniques I</td>
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<th>Semester</th>
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COURSE DESCRIPTIONS

FA 101 Basic Design I

FA 102 Basic Design II
Continuation of basic design concepts: space, proportion, scale, human dimensions and activities. 3D design problems: user, function, structure. Credit units: 6 ECTS Credit Units: 10, Prerequisite: FA 101. Spr (S. Altay, E. S. Ayhan Kocyiğit, H. Beşeli Özkoç, M. T. Gürsu, Y. Kaygusu, C. Korkmaz, A. Küçük, S. Özaloglu, B. Şeyapılı Özcan, S. Teber)

FA 103 Drawing I
Exploration of the human figure, its parts and its form as far as structure and functions are concerned. Drawing fundamentals in figurative expression, proportions and compositional expressions by working directly from the model in various media. Credit units: 3 ECTS Credit Units: 4. Aut (C. Gürer)

FA 104 Drawing II
Exploration of visual form, character and gesture of movements of the human figure. Searching, evaluating and applying the basic elements of life drawing: line, form, color, value, module and composition. Credit units: 3 ECTS Credit Units: 4, Prerequisite: FA 103. Spr (C. Gürer)

FA 105 Foundation Studio I
Introduction to the basic elements and the principles of two-dimensional design. Development of an understanding of the visual language while improving abilities in abstract thinking and problem solving. Credit units: 6 ECTS Credit Units: 10. Aut (F. Gürer)

FA 106 Foundation Studio II
As a continuation of FA 105, new subjects such as color, value, texture, transparency and layers via basic 2D, 3D and 4D design problems. Credit units: 6 ECTS Credit Units: 10, Prerequisite: FA 101 or FA 105. Spr (C. İ. Birand)

FA 107 Drawing and Visual Expressions
Improvement of drawing skills by means of discovering the ways of how to look and what to see in the environment in which we live. Credit units: 3 ECTS Credit Units: 4. Aut (K. Arapgiriğloğlu, D. Kadioğlu, A. Strokosz, S. Teber, B. M. Zalewska-Sladczyk) Spr (A. Strokosz, S. Teber, B. M. Zalewska-Sladczyk)

FA 171 Introduction to Art and Culture I
Part of the two-semester course (FA 171 and FA 172) to develop a historical and critical sensibility about artistic and cultural production, focusing on themes like the correlation between Art and Culture, the terminology and institutions that define the arts, paintings, sculpture, architecture, design, and popular culture. At the end of these courses, a fair knowledge of and a critical perspective on concepts, values and the relationship of art and culture. Credit units: 3 ECTS Credit Units: 5. Aut (G. Çulcuoğlu, F. Şenova Tunali, B. Ulusoy, M. H. Yurdadoğan) Spr (E. Özđora Aşkâ, B. Ulusoy)

FA 172 Introduction to Art and Culture II
Part of the two-semester course (FA 171 and FA 172) to develop a historical and critical sensibility about artistic and cultural production, focusing on the social function of art, Modernism, Art and the unconscious. Pop Art, Postmodernism, photography, film and television and digital media and multimedia. Development of a keen awareness of visual environment in a theoretical and practical way by applying the concepts given in the lectures and readings to visual and symbolic environment. Credit units: 3 ECTS Credit Units: 5. Spr (G. Çulcuoğlu, F. Şenova Tunali, N. S. Woods, E. Yörükg, M. H. Yurdadoğan)

FA 190 Summer Practice I
Minimum 6 weeks practice at arts-related institutions. Credit units: None ECTS Credit Units: 6. Aut (E. Sağlam)
FA 201  Art Studio I  
Introduction to the art elements, arts techniques. For the students who are prepared to focus on developing a personal point of view in art. Credit units: 6 ECTS Credit Units: 10, Prerequisite: FA 102 or FA 106. Aut (A. Srokosz)

FA 202  Art Studio II  
A continuation of FA 201. Development of concepts towards the transformation of basic design criteria to artwork with contribution of fantasy and imagination. Credit units: 6 ECTS Credit Units: 10, Prerequisite: FA 201. Spr (A. Srokosz)

FA 203  Drawing III  
Study of the figure to improve drawing skills and knowledge. Fast sketching, figural expression, transformation, drawing materials and techniques. Credit units: 3 ECTS Credit Units: 4, Prerequisite: FA 104. Aut (A. Özsalal)

FA 204  Drawing IV  
Examining the human body in terms of form, color and color values. Studies leading to individual expression in model drawing based on the basic principles of art. Credit units: 3 ECTS Credit Units: 4, Prerequisite: FA 203. Spr (A. Özsalal)

FA 207  Artistic Anatomy  
A course for those who wish to gain the ability to catch the perfection of human body form by creating techniques and attitudes in observing and drawing the skeleton and live models. Credit units: 3 ECTS Credit Units: 6. Aut (D. Kadoglu)

FA 208  Anatomical Figure Drawing  
Furthering of the Artistic and Anatomical approach to figure drawing by critical interpretation and detailed study of the works of Renaissance Great Masters by means of studio sessions. Credit units: 3 ECTS Credit Units: 6. Spr (D. Kadoglu)

FA 211  Introduction to Painting I  
Building basic technical skills. Experiments with the use of paint. Conceptual and practical experiments on color mixing. Examining the creative processes through these experiments. (non-FA majors only). Credit units: 3 ECTS Credit Units: 6. Aut (B. M. Zalewska-Sladczyk)

FA 212  Introduction to Painting II  
Research on visual elements; form-color, structure, volume and composition. Relations between light, color and sight. Developing the skill of design, compositional capacity through working on certain projects. (non-FA majors only). Credit units: 3 ECTS Credit Units: 6. Spr (B. M. Zalewska-Sladczyk)

FA 213  Introduction to Printmaking I  
Introduction to the fundamental techniques of water-based silkscreen printmaking. Manual and digital processes. Independent work and application of processes in creative ways while mastering the applied techniques. All projects in small editions while the final project involving a multi-process, multi-layer edition. Individual and group critiques throughout the semester. Credit units: 3 ECTS Credit Units: 6. Aut (N. S. Woods) Spr (N. S. Woods)

FA 214  Introduction to Printmaking II  
Introduction to the fundamental techniques of oil-based intaglio printmaking. Traditional and contemporary applications and experimentation. Working independently on monoprints, small editions, and a multi-layer, multi-plate final project. Individual and group critiques throughout the semester. Credit units: 3 ECTS Credit Units: 6. Aut (N. S. Woods) Spr (N. S. Woods)

FA 215  Introduction to Sculpture I  
An introductory studio course on the basic concepts, materials and processes of sculpture, with an emphasis on the understanding of perception and representation of three dimensional objects for students from other disciplines. (non-FA majors only.) Credit units: 3 ECTS Credit Units: 6. Aut (E. Sağlam) Spr (E. Sağlam)

FA 217  Introduction to Ceramics I  
Introduction to the basic material and techniques in ceramics including design, glazing, firing, loading and unloading kiln. Practice of what has been studied based on an artist's life and work. By the end of the course, writing of a research paper demonstrating knowledge of design, glazing and firing based on the artist chosen to work on. Credit units: 3 ECTS Credit Units: 6. Aut (A. Özsalal) Spr (A. Özsalal)

FA 219  Ancient Techniques and New Technology in Mosaic  
An experimental course, combining the current techniques and the new technology in ceramics such as using ceramic colours on fired tiles. Search for new ways of expression in colour. Using the clay as the canvas. Credit units: 3 ECTS Credit Units: 6. Aut (A. Özsalal) Spr (A. Özsalal)
FA 223 Visual Perception and Color
Examination of subjects such as psychology of visual perception, seeing the color and perception of color-form, concepts and theories of color. Credit units: 3 ECTS Credit Units: 4. Aut (A. Srokosz) Spr (A. Srokosz)

FA 262 Fine Arts Seminar
Critical assessment of selected national and international artist's works and their ideas and approaches. Credit units: 3 ECTS Credit Units: 4. Spr (E. Sağlam)

FA 271 History of Art I
A chronological survey of the history of art from the Stone Age to the Byzantine World. Credit units: 3 ECTS Credit Units: 5. Aut (A. Alemdaroğlu)

FA 272 History of Art II
A chronological survey of the history of art from the Renaissance period to the 21. Cent. Credit units: 3 ECTS Credit Units: 5. Spr (A. Alemdaroğlu)

FA 290 Summer Practice II
Minimum 6 weeks practice at arts-related institutions. Credit units: None ECTS Credit Units: 6. Aut (E. Sağlam)

FA 301 Art Studio III
A studio class in one of the selected fields of fine arts based on independent project work. The ceramics section applying underlying principles of sketching and critiquing. As one of the requirements of the course, individual or group tutorials during project work. By the end of the course, completion and presentation of three pieces of project based on course objectives. Credit units: 6 ECTS Credit Units: 10, Prerequisite: FA 202. Aut (A. Özsalar)

FA 302 Art Studio IV
Continuation of FA 301. With emphasis on the development of individual vision and personal expression. Credit units: 6 ECTS Credit Units: 10, Prerequisite: FA 301. Spr (A. Özsalar)

FA 304 Special Problems in Drawing
Studies of the human body concerning form, color and value. Exploration of individual expression by using models to build up thought and imagery. Contemporary figural expressions. Credit units: 3 ECTS Credit Units: 4, Prerequisite: FA 204. Spr (A. Srokosz)

FA 361 Philosophy of Art I
Philosophical issues that arise concerning the creation, interpretation and viewing of art, since Plato. What is "mimesis"; who is the best judge of art; is art beautiful and good; should art be viewed dis-interestedly. Credit units: 3 ECTS Credit Units: 6. Aut (A. Alemdaroğlu)

FA 371 History of Art III
Main achievements of the History of Art from the Middle Age to the Baroque period in Europe, such as the construction of the cathedrals, the research on perspectives, the conquest of the colors and of the light. Comparative material related to the Ottoman Empire and the Far East. Credit units: 3 ECTS Credit Units: 4. Aut (D. S. Tezgör-Kassab)

FA 372 History of Art IV
Great artistic challenges from the Neoclassicism, Romanticism and Orientalism until the mid-20th century. The reciprocal influences between the Ottoman Empire and Europe, as well as the new vision of art created by the Impressionism, Cubism, Dada or Surrealism. Credit units: 3 ECTS Credit Units: 4. Spr (D. S. Tezgör-Kassab)

FA 390 Summer Practice III
Minimum 6 weeks practice at arts-related institutions. Credit units: None ECTS Credit Units: 6. Aut (E. Sağlam)

FA 401 Art Studio V
Studio work related to the student's preference of thematic possibilities in the selected field of fine arts. Credit units: 6 ECTS Credit Units: 10, Prerequisite: FA 302. Aut (E. Sağlam)

FA 402 Art Studio VI - Degree Project
Individual studio work aiming to realize a coherent body of artwork in the selected field of fine arts. Credit units: 9 ECTS Credit Units: 16, Prerequisite: FA 401. Spr (E. Sağlam)

FA 421 Analysis of Art Work I
Introduction to critical analysis of works of art by concentrating on the theoretical debates developed around various issues on art theory since the 19th century. Credit units: 3 ECTS Credit Units: 4. Aut (A. Alemdaroğlu)

FA 422 Analysis of Art Work II
Having dealt with the nature of painting, photography and cinema in the first part of this course, study of various postmodern approaches to art-such as semiotic, psychoanalytic, social and political approaches in order to foreground the impact of the postmodern theory on arts. Credit units: 3 ECTS Credit Units: 4, Prerequisite: FA 421. Spr (A. Alemdaroğlu)
FA 462  Senior Seminar  
Working and assessment on selected contemporary issues of art, finding interdisciplinary and alternative ways of communication with public. Credit units: 3 ECTS Credit Units: 4. Spr (E. Sağlam)

FA 467  Curatorial Studies I  
An introduction to the study of museum education and curatorship, focusing on historical development of art institutions and society discussions. Credit units: 3 ECTS Credit Units: 6.

FA 473  Contemporary Turkish Art  
Analysis of the general features of various movements in Modern Turkish Art. Painting, sculpture and ceramics in Turkey from the late nineteenth century to the present. Its evaluation in comparison with European and other modern art movements. Credit units: 3 ECTS Credit Units: 6. Aut (B. Z. Önen)
DEPARTMENT OF GRAPHIC DESIGN


Part-time: A. Alemdaroğlu, Ç. Alpay.

Turkey, in recent years, has witnessed an explosion in advertising and communication that has resulted in the emergence of an aesthetic awareness in both the public and the private domain. There is a growing demand for well-educated designers in all aspects of visual design and communication.

The Department of Graphic Design strives to promote visual literacy, and the production of visual language to communicate messages through illustration, typography, photography, advertising, computer graphics, packaging, and contemporary media. To this aim, students are encouraged to utilize and experiment with contemporary production technologies.

The educational philosophy of the Department of Graphic Design is to question well-worn graphic trends, emphasize critical and theoretical thinking, and contribute innovative and individual proposals to the field.

UNDERGRADUATE PROGRAM

A broad based curriculum during the first year exposes students to fundamental art and language education as well as courses in Art History, Art and Culture and foundation studio art classes. The second year is made up of intensive studio classes in Visual Communications, Illustration, Typography, Photography, and Computer Graphics. The third year consists of more advanced topics aiming to increase students' knowledge in design and awareness to contemporary design issues. A variety of elective courses are also offered beginning with the third year for students to improve themselves further in specific fields of visual design. In-depth theoretical courses such as Analysis of Artwork and Philosophy are offered in addition to a comprehensive array of electives which support and enhance the core curriculum. The fourth year aims to prepare students for professional practice. It encourages students to find their individual voice and approach in design which is finalized with a senior project and a graduation exhibition.

UNDERGRADUATE CURRICULUM

FIRST YEAR

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<td>GE 402</td>
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FA 103 Drawing I .................................................. 3 / 4
GRA 209 Graphic Design for Non-Majors ......................... 3 / 6
GRA 211 Typography I ........................................... 3 / 6
GRA 225 Introduction to Visual Techniques I .................... 3 / 6
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CURRICULUM

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<tr>
<td>GRA 209 Graphic Design for Non-Majors</td>
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<td>GRA 211 Typography I</td>
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<tr>
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ELECTIVE COURSES

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<td>GRA 226 Introduction to Visual Techniques II</td>
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<td>GRA 323 Logos, Symbols and Signs</td>
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<td>GRA 324 Photographic Practice</td>
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</table>

**MINOR PROGRAM**

Graphic design deals with the creation of effective solutions to visual communication problems. It explores how to use visual language in an innovative way to convey specific messages to a target audience. The products of graphic design include advertisements, flyers, posters, book and magazine covers, editorials, packaging, logos, typefaces, websites, illustrations, animated characters, film credits, and more. The Department of Graphic Design at Bilkent University provides students with a well-equipped and thorough education which will make them proficient in the use of visual language, able to think critically and creatively, and capable of contributing innovative and individual proposals to the field.

The Minor Program in Graphic Design aims to introduce the dynamics of visual design to Bilkent students from different backgrounds. The program aims to lay the foundations in all stages of visual design from research to concept formation, image making to execution, and to endow students with the necessary skills of visual communication. The principle idea behind the program is that, like a second language, competence in visual language will add an extra dimension to students’ own field of practice and make them better equipped in a world where interdisciplinarity is a growing demand.

The minor will also be of interest to those students intending to pursue a graduate degree in a design related field.

Students enrolled in any of the Bilkent faculties are eligible to apply, provided that they fulfill the application criteria set by the university. The minor program consists of six courses in total, of which five are mandatory. The mandatory courses are Drawing I, Graphic Design for Non-Majors, Typography I, Introduction to Visual Techniques I, and History of Graphic Art. Additionally, according to their fields of interest, students choose one additional course from the Graphic Design Minor Program electives list as shown below.

**Prerequisite Courses:** None
COURSE DESCRIPTIONS

GRA 131  Design Tools and Techniques
Foundations for visualization tools and technical skills in graphic design. Credit units: 3 ECTS Credit Units: 4. Aut (M. A. Kurttekin)

GRA 132  Lettering and Introduction to Typography
Evolution and principles of typography including anatomy of letterform and compositional hierarchy with typo­
graphic elements. Credit units: 3 ECTS Credit Units: 4. Spr (M. A. Kurttekin)

GRA 201  Graphic Design I
This studio course deals with visual thinking, color theory, gestalt principles, design techniques, concept devel­
opment, and visualization of concepts in two and three dimensional design. Teaching methods include lectures,
demonstrations, extensive studio work, and critiques. Students employ both analog media and digital media to
create intelligent and powerful visual communication. Credit units: 6 ECTS Credit Units: 8, Prerequisite: FA 106. Aut (A. K. Pekalski)

GRA 202  Graphic Design II
Development of creativity, imagination, visual sensitivity and technical skills through solving a series design
problems with variety of media and materials. Credit units: 6 ECTS Credit Units: 8, Prerequisite: GRA 201. Spr
(A. K. Pekalski)

GRA 205  Rendering for Graphic Design I
Basic knowledge on illustration and rendering techniques using various media by encouraging students to
experiment with tools as well as design softwares to develop their own personal styles. Credit units: 3 ECTS
Credit Units: 6.

GRA 206  Rendering for Graphic Design II
Advanced illustration and rendering techniques. In addition, calligraphy and various printing techniques. Credit
units: 3 ECTS Credit Units: 6.

GRA 207  Conceptual Design
An investigation of the application of abstract concepts to concrete design products, i.e., packaging, advertising
and printed material, as a vehicle to create specific moods and associations in design. Credit units: 3 ECTS
Credit Units: 6.

GRA 208  Graphic Design Concepts
A seminar course with an emphasis on group based concept development to be implemented in everyday graphic
design products, i.e., packaging, advertising and printed material. Credit units: 3 ECTS Credit Units: 6.

GRA 209  Graphic Design for Non-Majors
Extensive studio work. Basic elements, processes and fundamentals of graphic design, ways of efficient com­
munication with image and text in analogue and digital media. Credit units: 3 ECTS Credit Units: 6. Aut (A. K.
Pekalski) Spr (A. K. Pekalski)

GRA 210  Web Design
Introduction to the world wide web and the stages of web design process through image editor, html editor and
browser. Credit units: 3 ECTS Credit Units: 6. Aut (Ç. İ. Birand, M. A. Kurttekin) Spr (M. A. Kurttekin)

GRA 211  Typography I
Typographic design systems, the aesthetic functional and conceptual use of lettering for printing, typographic
uses of various visual media and technical methods. Credit units: 3 ECTS Credit Units: 6. Aut (F. Gürer)

GRA 212  Typography II
The artistic and technical problems of typographic design, typographic layout techniques. letterform design,
portfolio studies on logos and signs. Credit units: 3 ECTS Credit Units: 6, Prerequisite: GRA 211. Spr (F.
Gürer)

GRA 215  Animation and Film/Television Graphics I
Main principles of visual images and movement. Making images move. Continuity, lighting, filming and linking.
Credit units: 3 ECTS Credit Units: 6. Aut (Ç. Alpay)

GRA 216  Animation and Film/Television Graphics II
Methods of animation, preparation of sketch board and storyboard. Studies with application of various graphic
elements in motion. Credit units: 3 ECTS Credit Units: 6. Spr (Ç. Alpay)

GRA 217  Motion Graphics
Introduction to motion graphics, including history, categories, techniques and applications of motion graphics
and animation basics as well as design and composition, storyboarding, sound and music adjustment on time
based media. Credit units: 3 ECTS Credit Units: 6. Aut (E. Kılıç) Spr (E. Kılıç)
GRA 218   Essentials of Photography  
Introduction to basic principles and techniques of photography covering darkroom techniques and processes.  
*Credit units: 3 ECTS Credit Units: 6, Aut (M. Gürzumar)*

GRA 219   Advanced Photography  
Introduction to advanced photography techniques such as advertisement, still-life and architecture photography and teaching image processing tools.  
*Credit units: 3 ECTS Credit Units: 6, Prerequisite: GRA 218. Spr (M. Gürzumar)*

GRA 223   Photographic Image Processing I  
Processing techniques of digitized still images, including digital darkroom methods by using related computer software.  
*Credit units: 3 ECTS Credit Units: 6, Aut (M. Gürzumar) Spr (M. Gürzumar)*

GRA 224   Photographic Image Processing II  
Development of projects for media and video.  
*Credit units: 3 ECTS Credit Units: 6,*

GRA 225   Introduction to Visual Techniques I  
An introductory course on vector and raster based graphic fundamentals and their applications to various 2-D graphic design items.  
*Credit units: 3 ECTS Credit Units: 6, Aut (M. A. Kurttekin)*

GRA 226   Introduction to Visual Techniques II  
Continuation course of GRA 225 aiming to carry the design skills and abilities to an advanced level.  
*Credit units: 3 ECTS Credit Units: 6, Prerequisite: GRA 225. Spr (M. A. Kurttekin)*

GRA 290   Summer Practice I  
Four weeks practice of offset printing.  
*Credit units: None ECTS Credit Units: 6, Aut (C. Gürer) Spr (C. Gürer)*

GRA 301   Graphic Design III  
Studio course aiming to improve students’ skills and knowledge in visual communication and graphic design so that students become more fluent in the use of visual language and be better acquainted with the dynamics of contemporary graphic design.  
*Credit units: 6 ECTS Credit Units: 8, Prerequisite: GRA 202. Aut (E. Kilic)*

GRA 302   Graphic Design IV  
Studio course and continuation of GRA 301 aiming to improve students’ abilities to design and refine use of visual language to a more sophisticated level. Subject dealing with complex design issues and helping students to find ways to develop their own personal voice.  
*Credit units: 6 ECTS Credit Units: 8, Prerequisite: GRA 301. Spr (F. Gürer)*

GRA 313   Typographic Design and Theories  
Typographic Design and Theories is a course which aims to promote students’ practice and knowledge in the field of typography, thus instill an awareness in the dynamics and the creative potential of this discipline. Serving as a studio course, Typographic Design and Theories concentrates on typography based projects assisted by visual lectures and theoretical discussions, and it encourages students to explore new forms of visual expressions by using the typographical grammar.  
*Credit units: 3 ECTS Credit Units: 6, Aut (C. İ. Birand)*

GRA 315   Information Design and Data Visualization  
Studio course focusing on expanding students’ understanding of how graphic design can become an effective tool for organizing and presenting complex data and information.  
*Credit units: 3 ECTS Credit Units: 6, Spr (C. İ. Birand)*

GRA 323   Logos, Symbols and Signs  
Exploration of the languages and functions of logos, symbols and sign systems in visual communication.  
*Credit units: 3 ECTS Credit Units: 6, Aut (F. Gürer) Spr (F. Gürer)*

GRA 324   Photographic Practice  
Course for non-majors introducing basic principles and techniques of photography, darkroom techniques and processes.  
*Credit units: 3 ECTS Credit Units: 6, Aut (M. Gürzumar) Spr (M. Gürzumar)*

GRA 333   Packaging I  
Projects on various subjects of publication graphics. Methods of realizing these projects with various graphics media. Use of airbrush and reproduction camera.  
*Credit units: 3 ECTS Credit Units: 6, Aut (C. Gürer)*

GRA 334   Packaging II  
Realization and preparation of graphics projects on mass communication media.  
*Credit units: 3 ECTS Credit Units: 6, Spr (C. Gürer)*

GRA 341   History of Graphic Art  
Introduction to the twentieth century graphic design by exploring various movements, philosophies and pioneering figures using a collaborative, thought-provoking format.  
*Credit units: 3 ECTS Credit Units: 6, Aut (C. İ. Birand)*
GRA 344  Psychology of Advertisement
An introduction to the psychological aspects of the current consumer market. Its relation to cultural and sociological phenomena as an aid in determining an effective policy in advertising. Credit units: 3 ECTS Credit Units: 4. Spr (E. Kõlõc)

GRA 347  Design Issues
A hybrid lecture/participation studio that introduces students to the contemporary issues they will encounter throughout their careers. Credit units: 3 ECTS Credit Units: 6. Spr (C. İ. Birand)

GRA 353  Design: Image and Text I
Cultural codes involved in designing and understanding an image, its nature and its communicative processes. Credit units: 3 ECTS Credit Units: 6.

GRA 354  Design: Image and Text II
The text and image relationship. Discursive analysis of text and image. Narrative forms, i.e. novel, theatre, film, etc. Adaptations. Written text as a "sign" of image. Bridging text and image: scriptwriting. Students will be expected to write screenplays of various forms. Credit units: 3 ECTS Credit Units: 6.

GRA 390  Summer Practice II
Four weeks practice of experiencing and working at an advertising agency/graphic design and photographic studios. Credit units: None ECTS Credit Units: 6. Aut (C. Gürer) Spr (C. Gürer)

GRA 401  Graphic Design V
Studio course enabling students to apply their knowledge and skills to advanced graphic design projects. Explored through: studio work, lectures, critiques and with knowledge of the design skills. Credit units: 6 ECTS Credit Units: 14, Prerequisite: GRA 302. Aut (M. Brzozowski)

GRA 402  Graphic Design VI
Development and execution of final professional long-term graphic design project that includes various different items and media. Credit units: 8 ECTS Credit Units: 14, Prerequisite: GRA 401. Spr (M. Brzozowski)

GRA 421  Illustration I
Ways of interpreting a subject through pictures. Black and white and color illustrations. Interpretation of graphic subjects through pictures. Credit units: 3 ECTS Credit Units: 6. Aut (A. K. Pekalski)

GRA 422  Illustration II

GRA 423  Professional Practice
Preparation of fourth-year students to professional graphic design career. Working fields of graphic design, the design firm, design market in Turkey, design ethics, copyright and licensing, presentation of the design work, and preparing a resume and portfolio. Credit units: 3 ECTS Credit Units: 6. Spr (E. Kõlõc)

GRA 501  Graduate Studio I
Course examining visual communication problems within the framework of contemporary culture. Emphasizing on critical approach and fresh perspectives through new concepts and alternative forms. Credit units: 3 ECTS Credit Units: 7.5. Aut (A. Treske)

GRA 502  Graduate Studio II
Design of projects and discussions on contemporary art and design media forms and practices like time based media concepts, new media, interactive media, installations, audio-visual experiments. Credit units: 3 ECTS Credit Units: 7.5. Spr (A. Treske)

GRA 503  Illustration I
Experimentation with various techniques to create work with an emphasis on personal style. Development of the ability to interpret ideas and concepts with images through the most creative solutions of imaginative illustrations. Credit units: 3 ECTS Credit Units: 7.5. Aut (M. Brzozowski)

GRA 504  Illustration II
Studies with wide practical applications of illustration. From editorial to literary with emphasis on developing individual methods. Credit units: 3 ECTS Credit Units: 7.5. Spr (M. Brzozowski)

GRA 511  Typography I
Issues of typographic form such as readability, syntax, expression, typographic communication, image-type relationships, and the historical components in relation to technology and contemporary trends. Credit units: 3 ECTS Credit Units: 7.5. Spr (E. Kõlõc)

GRA 517  Image Time and Motion I
Engagement of students to make meaningful generalizations for interpreting or evaluating local experiences and practices in digital media, art and communication. Credit units: 3 ECTS Credit Units: 7.5.
GRA 518  Image Time and Motion II
A continuation from "Image, Time and Motion I". An extended attempt to think about popular developments of time-based media in digital environments. Critical discourse created through the works of digital artisans, net artists and cyber entrepreneurs as well as the theoretical and analytical localization of current trends. Credit units: 3 ECTS Credit Units: 7.5.

GRA 519  Critical Approaches to Advertising Consumer Culture
Critical scholarship on modern advertising and the economic, social, cultural context, often called consumerism or consumer culture. Semiotics and contemporary cultural issues on advertising, cultural/ideological and material/economic power of advertising, historical development. Credit units: 3 ECTS Credit Units: 7.5.

GRA 521  Animation I
Contemporary techniques for animated cartoons, movie and TV titles with emphasis on animation with computer imaging techniques, and the aesthetic issues of the medium and its relation to traditional visual arts and film. Credit units: 3 ECTS Credit Units: 7.5. Aut (E. Kılıç)

GRA 541  Graphic and Visual Representation
Theories, issues, and debates in the fields of graphic and visual arts. Graphic and pictorial representation, the relations between perception, image, language and subjectivity. Several theories of visuality and image such as semiotics, psychoanalysis and postmodern approaches. Credit units: 3 ECTS Credit Units: 7.5.

GRA 542  Mass Media and Visual Technologies
Developments in the field of visual media and technologies with an emphasis on modern mass media as social institution. Several approaches to technology with a particular emphasis to recent technologies such as television, computers and virtual reality as well as urban space as a visual and technological environment. Credit units: 3 ECTS Credit Units: 7.5. Aut (B. M. Çaplı)

GRA 558  Visual Communication Approach to Artistic Thinking
Process of artistic thinking and creation in visual arts. A seminar format to combine lectures with student research on specific topics such as perceptual, conceptual and semiotic levels of processing information. Credit units: 3 ECTS Credit Units: 7.5.

GRA 590  Seminar in Research Topics
Credit units: None ECTS Credit Units: 1. Aut (A. Gürata) Spr (A. Gürata)

GRA 599  Master's Thesis
Credit units: None ECTS Credit Units: 56. Aut (A. Gürata) Spr (A. Gürata)
DEPARTMENT OF INTERIOR ARCHITECTURE AND ENVIRONMENTAL DESIGN


The curriculum combines the arts with technical and scientific studies in order to give students a well-rounded education. As the department is cognizant of modern trends in interior architecture and the implications of new technologies, it aims at providing a balanced education between the artistic, technological and humane aspects of the profession.

UNDERGRADUATE PROGRAM

The curriculum is organized around studios which prepare the novice designer to deal progressively with larger and more complex interiors and greater technical detail. The studios enable students to synthesize knowledge from parallel courses in history, art, technology, drawing and principles of design. The first two years are intended to develop an understanding of different concepts of design in form, material, space, composition, and introduce the fundamentals of total interior space planning and design. The third and fourth years provide the opportunity to specialize in different interest areas such as: computers, new materials and technologies, humanities, social sciences, safety, special needs of the handicapped, and elderly etc. Digital Media (Computers) is also integrated into different levels of education.

UNDERGRADUATE CURRICULUM

FIRST YEAR

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<tr>
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<td>FA 101 Basic Design I</td>
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<tr>
<td>FA 107 Drawing and Visual Expressions</td>
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<tr>
<td>FA 171 Introduction to Art and Culture I</td>
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<tr>
<td>GE 100 Orientation</td>
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<td>TURK 101 Turkish I</td>
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<tbody>
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<td>ADA 134 Designing with Digital Media</td>
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<td>ENG 102 English and Composition II</td>
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<tr>
<td>FA 102 Basic Design II</td>
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<tr>
<td>FA 172 Introduction to Art and Culture II</td>
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<td>TURK 102 Turkish II</td>
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SECOND YEAR

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<td>GE 250 Collegiate Activities Program I</td>
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<tr>
<td>HIST 200 History of Turkey</td>
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<td>IAED 201 Interior Design Studio I</td>
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<td>IAED 211 Media for Representation</td>
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<td>IAED 251 Construction and Materials I</td>
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<tr>
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<tbody>
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<td>ADA 264 History of Built Environment II</td>
<td>3 / 5</td>
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<tr>
<td>GE 251 Collegiate Activities Program II</td>
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</tbody>
</table>
The Department of Interior Architecture and Environmental Design offers M.F.A. program with the possibility of specialization in building science, history, theory and criticism, design theories and methods, and environmental psychology. Students are guided through an intensive program that emphasizes scholarly inquiry, research skills, analysis and constructive criticism. The curriculum provides an interdisciplinary outlook, incorporating knowledge from related disciplines. The graduate studio combines theory and application. The elective courses are chosen through consultation with an academic advisor.

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits / ECTS Credits</th>
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<tr>
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<tr>
<td>IAED 341</td>
<td>Architectural Acoustics and Fire Safety</td>
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<td>IAED 351</td>
<td>Detailing Studio</td>
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<td>IAED 463</td>
<td>History of Furniture</td>
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<td>Current Issues in Interior Design II</td>
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<tr>
<td>IAED 491</td>
<td>Current Issues in Interior Design I</td>
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</tbody>
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**GRADUATE PROGRAM**
Master of Fine Arts in Interior Architecture and Environmental Design

**Admission:** Applicants are required to have a Bachelor's degree in a relevant field of design. In addition to the general requirements set forth by the university, admittance to the program is through an interview as well as a portfolio evaluation. The portfolio should represent work done during undergraduate years and contain those pieces of work the applicants consider their best efforts. All students are expected to be fluent in written and oral English in order to be admitted to the program.

**Degree Requirements:** After the completion of at least 24 units of course work in two successive terms, the candidates must take two seminar courses in their area of interest and prepare and submit a thesis. The duration of the program is four semesters.

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<td>IAED 502</td>
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<td>IAED 511</td>
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<td>IAED 590</td>
<td>Seminar in Research Topics 1 / 1</td>
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<td>IAED 599</td>
<td>Master's Thesis 56 / 56</td>
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**RESTRICTED ELECTIVES**

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<td>IAED 514</td>
<td>Research Methods II 3 / 7</td>
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<td>IAED 543</td>
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<td>IAED 544</td>
<td>Environmental Analysis II 3 / 7</td>
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<tr>
<td>IAED 571</td>
<td>Lighting and Color 3 / 7</td>
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<tr>
<td>IAED 574</td>
<td>Art, Science and Technology 3 / 7</td>
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<td>IAED 583</td>
<td>Design Principles and Theories 3 / 7</td>
</tr>
<tr>
<td>IAED 585</td>
<td>Design Requirements 3 / 7</td>
</tr>
</tbody>
</table>

Doctor of Philosophy in Interior Architecture and Environmental Design

**Admission:** Applicants are required to have a Master's degree in a relevant field. In addition to the general requirements set forth by the university, admittance to the program is through an interview given before the beginning of each academic year. The date and place of the interview is announced each year by the university. All students are expected to be fluent in written and oral English in order to be admitted to the program.

**Degree Requirements:** The minimum course load for the Ph.D. program is 24 credit units. After completion of the courses, the student takes a qualifying examination composed of written and oral components. Upon successful completion of the qualifying exam, the student is designated as Ph.D. candidate and is assigned a dissertation committee. The next step is to prepare and defend a dissertation proposal. Upon a favorable evaluation of the proposal by the dissertation committee, the candidate qualifies for work towards a Ph.D. dissertation. At the completion of the dissertation, a jury composed of five scholars, expert in the relevant field examines the dissertation for a final decision on the degree. All Ph.D. candidates are required to have at least one article accepted for publication in an AHCI, SSCI or SCI indexed journal before the final dissertation defense.

<table>
<thead>
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<th>Courses</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>GE 690</td>
<td>Academic Practices 24 / 24</td>
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<tr>
<td>IAED 501</td>
<td>Graduate Studio I 7 / 7</td>
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<td>IAED 502</td>
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FACULTY OF ART, DESIGN, AND ARCHITECTURE

IAED 511 Research Methods I .................................................. 3 / 7
IAED 690 Seminar in Advanced Research Topics .............................. - / 1
IAED 699 Ph.D. Dissertation ......................................................... - / 160
Electives (5) ........................................................................ 15 / 30

A total of 5 required, restricted elective or general elective courses (24 credits) according to the individual students major.

COURSE DESCRIPTIONS

IAED 201 Interior Design Studio I
Three dimensional problem solving techniques are used to relate the elements and principles which shape interior space to the functional and aesthetic factors which affect individual space requirements. Credit units: 6 ECTS Credit Units: 10, Prerequisite: FA 102. Aut (F. Ataylar, Ç. İmamoğlu, İ. Özman, N. Y. Savut, E. E. Türkkan, M. H. Yurdadoğan)

IAED 202 Interior Design Studio II
Basic concepts and design methods for residential interiors and structures. Individual and group needs in relation to personal, family and institutional living. Credit units: 6 ECTS Credit Units: 10, Prerequisite: ADA 201 or IAED 201. Spr (F. Ataylar, Ç. İmamoğlu, İ. Özman, N. Y. Savut, E. E. Türkkan, M. H. Yurdadoğan)

IAED 211 Media for Representation
"Computer Aided Design" provides an introduction to 3D-modeling. Although surface and solid modeling is the main topic of this course, color, texture, material and light will also be covered. Credit units: 3 ECTS Credit Units: 5, Prerequisite: ADA 134 or IAED 112. Aut (T. Sonkan Türkkan) Spr (Z. Öktem, T. Sonkan Türkkan)

IAED 221 Human Factors
Investigation of human factors and dimensions as a determinant in the design of interior environments. Credit units: 3 ECTS Credit Units: 4. Aut (B. Altay) Spr (B. Altay)

IAED 244 Lighting Design
Introduces principles of lighting and different lighting techniques. Initiates color and lighting design utilizing both natural and artificial light sources. Credit units: 3 ECTS Credit Units: 4. Spr (F. Ataylar, N. Ölçüntürk, S. E. Ural)

IAED 251 Construction and Materials I
Introduction to the basic elements and components of structural members of buildings as well as furniture; surveying skills; production of construction drawings. Credit units: 4 ECTS Credit Units: 6, Prerequisite: ADA 131 or FA 132. Aut (N. Ş. Aybar, M. T. Kayasız) Spr (D. Yurttaş)

IAED 252 Construction and Materials II
Investigation of the behavior and properties of basic groups of building materials; focus on sustainability; production of construction drawings. Credit units: 4 ECTS Credit Units: 6, Prerequisite: IAED 251. Spr (N. Ş. Aybar, M. T. Kayasız)

IAED 290 Summer Practice I
The aim of this summer training is to give the student experience on site and/or in production techniques. The minimum time for this practice is 4 weeks. Credit units: None ECTS Credit Units: 6. Aut (T. Sonkan Türkkan) Spr (T. Sonkan Türkkan)

IAED 301 Interior Design Studio III
Special consideration is given to public interiors and hospitality design. Course objectives include developing an understanding of spatial design for humane working and living environments, inclusive design, interior detailing and documentation, and building systems and components. Credit units: 6 ECTS Credit Units: 10, Prerequisite: IAED 202. Aut (Y. Afacan, N. Ş. Aybar, M. T. Kayasız, M. Özdamar, A. Turgay, T. Yarımçı)

IAED 302 Interior Design Studio IV
Special consideration is given to public interiors and healthcare design. Course objectives include developing an understanding of healthcare issues, service, accommodation and care facilities, cultural relationships, handicapped requirements, building safety and spatial comfort. Credit units: 6 ECTS Credit Units: 10, Prerequisite: IAED 301. Spr (Y. Afacan, N. Ş. Aybar, M. T. Kayasız, M. Özdamar, A. Turgay, T. Yarımçı)

IAED 322 People and Environment
Human behavior and its relation to the design of environments. Concepts such as private and public space, territoriality, perception and cognition of spaces, and spatial experience are explored. Credit units: 3 ECTS Credit Units: 5. Aut (Ç. İmamoğlu, Z. Öktem) Spr (K. Arapçılıoğlu, Ç. İmamoğlu)
IAED 341 Architectural Acoustics and Fire Safety
Acoustics, noise control and fire prevention in buildings. Credit units: 3 ECTS Credit Units: 5. Aut (Z. S. Gül, S. Yılmazer)

IAED 342 Sustainable Design for Interiors
Creation of a basic understanding of issues related to sustainable design with an emphasis on thermal comfort and indoor air quality. Issues related to mechanical and electrical equipment and services in buildings will also be covered. Credit units: 3 ECTS Credit Units: 5. Spr (Y. Alacan)

IAED 351 Detailing Studio
An overall assessment of the knowledge of building construction and material science is sought with emphasis on conceptual and detail drawings related to interior architecture problems. Credit units: 3 ECTS Credit Units: 4, Prerequisite: IAED 252. Aut (M. Özdamar)

IAED 351 Product Detailing
Detailing problems of products such as the detailing of furniture, cabinetry, upholstery, fixtures, etc. Problems related to the nature of materials and production methods. Credit units: 3 ECTS Credit Units: 4, Prerequisite: IAED 351. Spr (S. Altay)

IAED 390 Summer Practice II
The aim of this summer practice is to give the student experience in the organization and working of an architecture/interior architecture/design office. The student is expected to make observations on the project developing order, project application and designer/client relationships in a private or institutional design office. The minimum time for this practice is 4 weeks. Credit units: None ECTS Credit Units: 6. Aut (T. Sonkan Türkkan) Spr (T. Sonkan Türkkan)

IAED 391 Special Topics in Interior Design I
An investigation and research in depth of a topic related to interior design. A course that encourages the student's self conduct and research capabilities in theoretical issues to justify proposed design solutions. Credit units: 3 ECTS Credit Units: 6. Aut (B. Egel) Spr (B. Egel)

IAED 392 Special Topics in Interior Design II
A specialized course designed to deliver topics of special interest for the students. The course aims at taking advantage of expertise within the faculty and possibly invited guest lecturers. Credit units: 3 ECTS Credit Units: 6. Aut (N. Y. Savut) Spr (N. Y. Savut)

IAED 393 Visionary and Future Environments
A global perspective and investigation of the means to conceptualize, plan, and design visionary and futuristic environments will be researched. Futuristic technology, fantasy, illusionistic, and utopian environments will be explored with an emphasis on innovative, alternative, and divergent conceptual problem-solving. Credit units: 3 ECTS Credit Units: 6.

IAED 394 TV Set Design
The aim is to teach the basic principles of TV set design. A term project is assigned to each student that is supported by a series of lectures. The term project covers each phase of design process starting from planning to models, developing concept alternatives, concept boards, use of material, choice of finishes, use of camera and light are the basic issues that are emphasized within the course. Credit units: 3 ECTS Credit Units: 6. Aut (I. Özaman) Spr (I. Özaman)

IAED 396 Architectural Photography
The aim of the course is to develop critical understanding of photography and how it can be used as a tool for analyzing and documenting architecture. The course covers the basics of architectural photography and enables the students to develop skills in using digital photography as a medium to convert design ideas into visual forms. Credit units: 3 ECTS Credit Units: 6.

IAED 397 Color Theory and Applications
Titles such as color theories and systems; color vision and perception; color interactions; symbolic color and preferences; spatial perception and color illusion are discussed within the scope of architectural applications. Credit units: 3 ECTS Credit Units: 6. Spr (S. E. Ural)

IAED 401 Interior Design Studio V
This course aims to develop proficiency of the students in designing and presenting refined interior architecture projects for complex and large spaces in relation to more confined subspaces and objects. Many aspects of interior design are covered such as achieving integrity with regards to interior and exterior organizations and design components, understanding and integrating building systems, and considering social, cultural, regulatory and environmental issues in design. Credit units: 6 ECTS Credit Units: 14, Prerequisite: ADA 302 or IAED 302. Aut (B. Altay, H. Demirkan, B. Egel, T. Sonkan Türkkan, B. Tanverdi, S. E. Ural)
IAED 402 Interior Design Studio VI
This course aims to develop proficiency of the students in designing and presenting refined interior architecture projects for complex and large spaces in relation to more confined subspaces and objects. In addition to the consolidation of the issues covered in IAED 401, special emphasis is given to sustainable design. Credit units: 6 ECTS Credit Units: 14, Prerequisite: IAED 401. Spr (B. Altay, H. Demirkan, F. E. Kutay, T. Sonkan Türkkan, B. Tanverdi, S. E. Ural)

IAED 415 Advanced Detailing Studio
Systems research for the interior environment: furniture technology and materials. Students will be required to complete a project at the working drawing level. Credit units: 3 ECTS Credit Units: 4, Prerequisite: IAED 351. Aut (S. Altay)

IAED 418 Interior Design: Professional Practice
Information on the administration of a major interior design project is given. Client and trade relations, codes, government and legal requirements are emphasized. Credit units: 3 ECTS Credit Units: 4. Spr (M. Özdamar)

IAED 461 Environmental Management and Sustainable Development
The course aims to engender an awareness of how our relationship with the environment is managed. The course introduces systems and techniques (e.g. sustainability indicators, life-cycle analysis) that are vital for sustainable practices. Innovative system thinking for sustainable development and practice skills for environmental management will be introduced to gain an understanding of human-environment relations. Students will learn about systems and decision making process to expand their knowledge on economic and organizational dimensions of environmental decisions. Through series of lectures, students will develop their ability to analyse a range of complex environmental management situations and their relationships with sustainable development. Credit units: 3 ECTS Credit Units: 6.

IAED 463 History of Furniture
A course dealing with historical evolution of furniture within a chronological spectrum. Students are asked to prepare portfolios and give seminar presentations. Credit units: 3 ECTS Credit Units: 5. Aut (E. E. Türkkan) Spr (E. E. Türkkan)

IAED 464 Issues and Themes in Industrial Design
The aim of the course is to raise awareness on the profession of industrial design through a series of lectures, presentations and design practices. The course encourages student's self conduct and research capabilities in theoretical issues to justify proposed design solutions. The course will be executed in parallel platforms. There will be series of lectures related with the emergence and scope of industrial design as a profession, the position of industrial design today, design and culture in the 21st century and some contemporary discussions on design. As a parallel session there will be presentations by students related with the topics discussed. The semester will be concluded with a design solution to an innovative design problem. Credit units: 3 ECTS Credit Units: 6. Spr (E. E. Türkkan)

IAED 491 Current Issues in Interior Design I
Investigating existing innovative planning, design issues in interior design to give more insight to the students for the development of their design skills. Credit units: 3 ECTS Credit Units: 6. Aut (N. Olguntürk)

IAED 492 Current Issues in Interior Design II
Specialized issues related to contemporary techniques and materials. Special interior design problem solving. Credit units: 3 ECTS Credit Units: 6. Aut (F. Ataylar)

IAED 501 Graduate Studio I
An emphasis is placed on improving research skills, analysis, discussion, and a theoretical approach to spatial design. Students are expected to develop sensitivity towards socio-cultural issues, environmental concerns, and practices of users. Credit units: 3 ECTS Credit Units: 7. Aut (N. Olguntürk)

IAED 502 Graduate Studio II
Students are expected to conduct research on particular topics; critically analyze assigned readings and raise/engage in discussions on those topics. Within the generated theoretical framework, students work on specific design projects, furthering their skills of problem solving, space creation and design presentation. Credit units: 3 ECTS Credit Units: 7, Prerequisite: IAED 501. Spr (N. Olguntürk)

IAED 511 Research Methods I
A foundation course which deals with system and methods regarding information acquisition, verification of sources, theory of interpretation and hypothesis formulation for developing a critical ability to understand and study the issues related to interiors. Credit units: 3 ECTS Credit Units: 7. Aut (M. Pultar)

IAED 512 Statistical Analysis
The principles of statistical analysis methods, concepts of data collection and structuring are discussed with the aim of providing the student with the necessary tools to deal with large amounts of data and to draw conclusions from such data. Credit units: 3 ECTS Credit Units: 7. Aut (H. Demirkan)
IAED 514  Research Methods II
This is a tutorial course involving the conduct of an actual research project in interior and/or environmental design. The students shall be responsible, individually and in group work, for initiating, designing and conducting a research project under the guidance of the instructor. The work will include gathering and analyzing data, drawing conclusions and preparing a research report. Credit units: 3 ECTS Credit Units: 7, Prerequisite: IAED 511. Spr (H. Demirkan)

IAED 543  Environmental Analysis I
An interdisciplinary course designed to develop cognitive skills and sensitivity for the evaluation of the built environment. Investigation of techniques and methods pertaining to analysis, synthesis and physical, social aspects of spatial formations will be dealt. Students are expected to participate in seminars and work on case studies in the studio. Credit units: 3 ECTS Credit Units: 7.

IAED 544  Environmental Analysis II
The methodology of environmental research and measurement technique for various aspects of environmental attitudes and user responses/behaviors are the major topics in this course. The students are expected to carry out empirical analyses for the measurement of any aspect in the field. IAED 543 is recommended as a preliminary. Credit units: 3 ECTS Credit Units: 7.

IAED 574  Art, Science and Technology
A seminar-based course to investigate the characteristics of various disciplines that relate to art, science and technology and correlate to the unity of mankind. Credit units: 3 ECTS Credit Units: 7. Spr (M. Pultar)

IAED 583  Design Principles and Theories
The aim of the course is to develop a critical understanding of theories of architecture and principles of design. Course will explore, question and discuss classical, modern and contemporary theories of architecture, the works of some well known architects as well as works of the students. The course will be on a mixture of lectures, seminars and applied studies. The students are expected to do regular reading and to take active part in seminar preparations and discussions. Credit units: 3 ECTS Credit Units: 7.

IAED 590  Seminar in Research Topics
Credit units: None ECTS Credit Units: 1. Aut (N. Olguntürk) Spr (N. Olguntürk)

IAED 599  Master's Thesis
Credit units: None ECTS Credit Units: 56. Aut (N. Olguntürk) Spr (N. Olguntürk)

IAED 690  Seminar in Advanced Research Topics
Credit units: None ECTS Credit Units: 1. Aut (N. Olguntürk) Spr (N. Olguntürk)

IAED 699  Ph.D. Dissertation
Credit units: None ECTS Credit Units: 160. Aut (N. Olguntürk) Spr (N. Olguntürk)
DEPARTMENT OF URBAN DESIGN AND LANDSCAPE ARCHITECTURE


The design of urban environments requires skills of conceptualization at various scales, proposing solutions, and their implementation. It is also required to develop familiarity with issues such as heterogeneous human populations, dense building stocks, natural and environmental assets, a specialized labor force and a shared urban identity, as well as to build an ability to address these issues in design. Finally, it is necessary to master the appropriate use of natural and artificial materials.

Urban projects, of which landscape design is an integral part, have constituted the most intriguing design products in the world during the last two decades. These projects and their implementation have opened discussions leading to contemporary design theories, indicating that the integration of landscape architecture and urban design will further prosper in the future. Addressing the issues of urban context with those of landscape architecture, the department is the first to offer an undergraduate degree. The growing number of academic staff includes faculty who come from various disciplinary backgrounds including landscape architecture, city planning and architecture.

UNDERGRADUATE PROGRAM

Unlike other programs of landscape architecture, the Department of Urban Design and Landscape Architecture at Bilkent University is affiliated with a design faculty focusing on studios. The design studios and the technical and theoretical courses that make up the curriculum are supported by field trips in order to study various urban contexts as their project sites. These trips range from intra-city daily tours to international summer programs.

UNDERGRADUATE CURRICULUM

FIRST YEAR

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COURSE DESCRIPTIONS

LAUD 190 Summer Practice I
This summer practice aims to give students basic knowledge about surveying methods, grading techniques and the basic skills of map reading and recognizing topographic symbols. Measurements pertaining to topography and landforms are also demonstrated. Credit units: None ECTS Credit Units: 6. Spr (B. Batuman)

LAUD 201 Design Studio I: Site Design
The first stage of the Vertical Design Studio System composed of three different studios: Concept, Context and Form in which the second, third and fourth year students are enrolled. Basics of site design, i.e., understanding and analyzing the project area, characteristics, open space types in cities, landscape elements and design techniques. Credit units: 6 ECTS Credit Units: 10. Prerequisite: FA 102. Aut (D. Baykan, U. Ertem, S. A. G. Tokol)

LAUD 202 Design Studio II: Housing
The second of the Urban Design Studios focusing on small scale site planning and design problems that integrate landscape and urban design issues. Preparation of base plans, analysis of spaces, volumetric evaluations and project brief writing defined as integral phases of a design problem. Frequent presentations and studio critiques to develop oral and graphic skills and techniques. Credit units: 6 ECTS Credit Units: 10. Prerequisite: LAUD 201. Spr (D. Dizdaroğlu, F. Erkip, U. Ertem)

LAUD 212 Computers and Geometry
Basic hardware and software concepts and the command language relevant to the operating system. Basic geometric concepts related to two and three dimensional design introduced through various software system. Credit units: 3 ECTS Credit Units: 5.

LAUD 221 Introduction to Urban Concepts
A conceptual framework as a design reference that can be used to emphasize order in architecture and urban design. The logic of visual and graphic language, ground rules in visual literacy and various concepts of the physical urban environment. Credit units: 3 ECTS Credit Units: 5. Aut (D. Baykan)

LAUD 232 Landscape Representation
Perspective drawing with two vanishing points; orthographic drawing, visual representation of natural and built elements in both conventional and creative means, and any urban design and landscape architecture project at various scales and developing technical skills. Credit units: 3 ECTS Credit Units: 5. Prerequisite: ADA 131 or FA 101. Spr (H. Karaca, S. A. G. Tokol)

LAUD 241 Plant Material I
This beginning level lecture and field study course is the first one of a serial courses on landscape plants. Content of the course covers basic biological structure of plants, how to classify them as tree, shrub, groundcover, vine, flower and herb, learn their botanical (Latin) names, botanical classification and plant terminology, understand a plant's visual characteristic, ecological requirement and learning its design use. Credit units: 3 ECTS Credit Units: 5. Spr (G. Çulcuoğlu)

LAUD 242 Plant Material II
The second semester of plant material course aims to build a general framework to familiarize the students with the variety of Turkey's flora while understanding effects of climate, topography and soil on plant communities. The students are asked to learn and identify typical plants for every region in terms of their visual characteristics (form, color, texture and size), ecological requirements and landscape uses. Credit units: 3 ECTS Credit Units: 4. Prerequisite: LAUD 241. Aut (D. Dizdaroğlu)

LAUD 251 Introduction to Landscape Theory
An introductory lecture-based course that aims to build a theoretical basis to understand meaning and scope of landscape architecture and urban design, the major components of landscape architecture such as environmental conditions, human factors, landform and landscape elements; topography, vegetation, water and built material. Credit units: 3 ECTS Credit Units: 5. Aut (H. Karaca)

LAUD 252 Site Design Techniques
Principles of site engineering especially knowledge on site grading. Land surveying, office procedures for calculating cut and fill volumes for a construction project, site drainage and erosion control techniques. Credit units: 3 ECTS Credit Units: 5. Spr (D. Dizdaroğlu)
LAUD 290  Summer Practice II
The second summer practice that focuses on plant material aims to build a familiarity with plant material, to learn their physical properties, to develop a basic understanding about their propagation techniques, design principles, application and maintenance techniques. This summer practice is done in nurseries for a minimum period of 4 weeks. Credit units: None ECTS Credit Units: 6, Prerequisite: LAUD 241. Aut (B. Batuman) Spr (B. Batuman)

LAUD 301  Design Studio III: Small Town
The third of the Vertical Design Studio System composed of three different studios: Concept, Context and Form in which the second, third and fourth year students are enrolled. Complexities of the urban environment in the framework of small scale cities, waterfronts or selected districts of metropolitan cities. Proposal of future scenarios and design solutions for those project areas. Credit units: 6 ECTS Credit Units: 10, Prerequisite: ADA 202 or LAUD 202. Aut (D. Dizdaroglu, F. Erkip, A. O. Nalbantoğlu)

LAUD 302  Design Studio IV: City Center
The fourth of the Vertical Design Studio System composed of three different studios: Concept, Context and Form in which the second, third and fourth year students are enrolled. Multi-functionality, transportation network, spatial qualities, changes and center - periphery interaction of core areas of larger cities. Credit units: 6 ECTS Credit Units: 10, Prerequisite: LAUD 301. Spr (D. Baykan, H. Karaca, A. O. Nalbantoğlu)

LAUD 311  Computer Aided Design
Matrix representations of the homogeneous coordinate system and transformations. Symmetry, pattern, shape and graph theory. Two and three dimensional design concepts demonstrated through a CADD system. Credit units: 3 ECTS Credit Units: 5, Prerequisite: LAUD 212. Aut (T. Türküç)

LAUD 312  Advanced Modelling Techniques in C.A.D.
This course aims to strengthen and improve the students' CAD abilities, especially in 3-dimensions. Surface modelling and solid modelling techniques are focused, with a particular emphasis on photorealistic images obtained through these models. Although the course is taught using AutoCAD software, it is possible to work in other CAD programs using the techniques mastered here. Credit units: 3 ECTS Credit Units: 6.

LAUD 324  Morphology and Topology of Urban Spaces
This elective course discusses and analyzes the physical principles, functions, relationships, and physical elements of urban spaces (buildings, landform levels, and plants). The course presents various techniques/methods to make a typological and morphological study of urban spaces to prepare a morphic language and an elementary lexicon. Credit units: 3 ECTS Credit Units: 6.

LAUD 342  Planting Design
This design course introduces planting design and its significance in landscape architecture considering its all processes, and focuses on structural characteristics, visual properties, symbolic meanings, psychological effects and sensual experience of plants. Credit units: 3 ECTS Credit Units: 4, Prerequisite: LAUD 241. Spr (H. Karaca, A. O. Nalbantoğlu)

LAUD 351  Landscape Construction and Materials
Traditional and innovative use of materials many of which offer sustainable options. Construction methodologies layout and detail developments. Introduction to materials used in landscape construction, their design potential and limitations, design details and construction methods. Credit units: 3 ECTS Credit Units: 5. Aut (A. O. Nalbantoğlu)

LAUD 362  Making of Urban Landscape
A field study oriented elective course aiming to reveal the ‘spirit’ of the place and everyday life. Survey, analysis, diagnosis and design of the city’s components to see and understand the urban form, its elements and related conditions. Public open spaces, squares, clusters of houses, transportation hubs, cultural nodes, recreational areas, etc. Credit units: 3 ECTS Credit Units: 6.

LAUD 371  Analysis of Urban Environment I
Urban settlements throughout different historical periods. Economic, social and physical structure of cities with the guidance of 20th century urban theories, investigations and evaluation methods. Urban-rural, urbanization-urbanism dichotomies, classification of urban settlements and finally variations in urban form and structure. Credit units: 3 ECTS Credit Units: 5. Aut (D. Baykan)

LAUD 372  Analysis of Urban Environment II
A lecture-based course aiming to review several urban analysis techniques. A "laboratory" for students in which they can explore analysis techniques at different scales. Macro readings and geographical analyses applied to different actual urban sites. Credit units: 3 ECTS Credit Units: 5. Spr (D. Baykan)
LAUD 374 History of the Gardens
The concept of garden with respect to the civilizations through history, such as the Hanging Gardens of Babylon, the Ottoman gardens, the Baroque and Impressionist French gardens, the traditional Japanese gardens or the British Landscape gardens. Lectures, research presentations, feedback discussions and video screenings.
Credit units: 3 ECTS Credit Units: 6.
LAUD 390 Summer Practice III
The third summer practice has two stages. The first stage focuses on the application of soft material where planting techniques, plant composition, maintenance process are dealt with. The second stage focuses on the application of hard material, dealing with the process and techniques of production of hard material, the technical properties of materials, in addition to the preparation of bills of quantity and tender documents. Each stage lasts 3 weeks, a total duration of 6 weeks. Credit units: None ECTS Credit Units: 6. Aut (B. Batuman) Spr (B. Batuman)

LAUD 401 Senior Design Studio I: Open Space Network
The fifth of the Vertical Design Studio System composed of three different studios: Concept, Context and Form in which the second, third and fourth year students are enrolled. Design of social, physical, cultural, ecological and morphological networks in various scales. Credit units: 6 ECTS Credit Units: 10, Prerequisite: ADA 302 or LAUD 302. Aut (K. Arapgirlioğlu, B. Batuman, H. Karaca)

LAUD 402 Senior Design Studio II: Graduation Projects
The finale of the Vertical Design Studio System composed of three different studios: Concept, Context and Form in which the second, third and fourth year students are enrolled. Urban design and landscape architecture medium of knowledge gained through the undergraduate education via special topics in selected cities. Credit units: 6 ECTS Credit Units: 10, Prerequisite: LAUD 401. Spr (K. Arapgirlioğlu, B. Batuman, S. A. G. Tokol)

LAUD 404 Senior Design Research
This intensive research and writing course is organized in seminar format. It aims on the one hand to provide a knowledge basis for the Senior Design Studio, while on the other, to help prepare students for a variety of professional careers. This preparation includes enhancing skills of critical and analytical thinking and creative problem solving, while developing a sensitivity and responsibility to social problems. Credit units: 3 ECTS Credit Units: 4, Prerequisite: LAUD 401. Spr (F. Erkip)

LAUD 417 Contract Documents
A lecture/studio course studying the technical and practical aspects of organizing the components of a full set of contract documents for a landscape and urban design project. All working drawings, bills of quantity, organization of the specifications and relationship of these components to the conditions of tender and contract prepared and compiled in a portfolio. Credit units: 3 ECTS Credit Units: 6. Aut (A. O. Nalbantoğlu)

LAUD 418 Professional Practice
A lecture/seminar course studying the practical aspects of professional practice with its social, legal, technical, ethical and financial factors. Relations between the designer, contractor and client, office management and organization, tendering and contracting procedures and project management and supervision. Credit units: 3 ECTS Credit Units: 5. Spr (T. Munzur)

LAUD 421 Realization of Urban Projects
This is an interactive course, studying the conditions/factors, partners/actors, elements of project realizations, to provide better urban environments. During the course, problems that may be encountered at different levels of urban project realization in terms of legal, institutional, financial issues will be taken up. Various approaches to urban problems will be discussed with the students and the students will be exposed to different case studies given by guest lectures. Credit units: 3 ECTS Credit Units: 6.

LAUD 441 Realization of Planting Projects
Students of final year utilizing their accumulated knowledge on the morphologic specifications of plant typologies in various open space applications. Operation in studio environment with hands-on applications of project design cases. Brief lectures to refresh and synchronize the specific topics relevant with the weekly exercises. Credit units: 3 ECTS Credit Units: 6.

LAUD 461 Occupancy in Urban Areas
This course focuses on the relationship between people and the physical settings, particularly urban public spaces. Lectures on various aspects of occupancy in urban areas and field studies conducted to analyze cases are in different contexts constitute the course work. The content and the format make the course an appropriate one for joint arrangements with other universities at home and abroad. Credit units: 3 ECTS Credit Units: 6. Spr (D. Baykan)

LAUD 471 Urban Sociology
This is a compulsory fourth year course that is designed to provide a better conceptualization of the components of the city to be used in urban design within an overall system of urbanization. The dynamics of urbanization process and the economic, social, and cultural aspects of the urban phenomena will be discussed with reference to
different approaches in the analysis of this process. Particular emphasis will be given to the spatial repercussions of different aspects of the urbanization process in different environments. The course aims at widening the perspectives of students with respect to the development of cities throughout history in different contexts. Credit units: 3 ECTS Credit Units: 5. Aut (F. Erkip)

LAUD 472  Recent Issues in Human Geography
Relations between society, space and social science in a changing world. Recent approaches in analyzing the relationships between society and space in different time and space contexts with an emphasis on time-space geography, agency and structure relationships, local/global dynamics, images and symbols in different cultural contexts. Credit units: 3 ECTS Credit Units: 6.

LAUD 473  Experiencing the City
This course aims at exploring human experience in various urban settings. The complexity of human interaction in urban settings is discussed focusing on the nature of private and public spaces. Spatial and social factors that define the context of urban life and experience are analyzed with selected cases. Students are required to be actively involved in analyses through field surveys. Credit units: 3 ECTS Credit Units: 6. Aut (F. Erkip)

LAUD 474  Space, Culture and Identity
This course examines the cultural and political contradictions of urban design. It explores how urban design turns the city into a scientific object of knowledge, a laboratorium of modernity, and a site for the formation of new experiences and identities. It considers the ways in which urban design contributes to the expansion of colonial power, the maintenance of social order and inequalities. It also pays particular attention to how urban design stimulates political imaginations, social revolutions and everyday resistances. Drawing critically on a variety of sources, from architectural history to philosophy and anthropology, the course presents cases of urban design and its politics, historically and theoretically, from different places across the globe. Credit units: 3 ECTS Credit Units: 5.

LAUD 475  Cinema and Space
Multiple readings of interior and exterior spaces within the framework of the theory of cinematic montage and cinematic imagery. An analogy between cinema and space design, and the eye and the camera. Design as a cinematographic process. Both creative acts are organized in time through space and perceived through time in space. Credit units: 3 ECTS Credit Units: 6. Aut (S. A. G. Tokol)

LAUD 476  Visual Politics of Space
The relation between systems of visual representation and social power relations through the connection(s) between image and space. The capacity of visual representations to produce meaning, the political implications of such meanings, and the social functions of these representations in an interval between the mid-19th century to the end of the 20th century. The role of various visual media (painting, photography, cinema) on the ways of perceiving, conceptualizing and socially defining space. Credit units: 3 ECTS Credit Units: 6.

LAUD 481  Landscape Ecology
Ecology, ecosystems, environmental problems, limits of environment in reference to human activities on land; and tools of analysis, synthesis and assessment methods of landscape structure, function, change and processes to achieve sustainable environments. Credit units: 3 ECTS Credit Units: 5.

LAUD 482  Tourism and Nature Conservation
Protection and conservation concepts related to natural sites; their importance within the overall ecosystem, in urban ecosystems and for the quality of human life. The symbiotic relationship between natural environments and tourism sector, environmental effects of mass tourism, alternative tourism types, recreation forms. Credit units: 3 ECTS Credit Units: 6.

LAUD 483  Environment Philosophy and Ethics
The meaning of environment and human attitude towards nature and other living things. Related environmental topics and issues in the light of environmental philosophy and ethics. Students from a variety of disciplines building a certain level of consciousness, responsibility and skills to understand and resolve environmental conflicts. Credit units: 3 ECTS Credit Units: 6.
The Department offers undergraduate and graduate programs leading to B.S., MBA, M.S. and Ph.D. degrees.

The main objective of the programs is to develop the skills required to confront the challenges of a changing world. The successful managers of the future should be able to cope with the complexities of change and an economic environment which is best characterized by keen competition. Thus contemporary business education does not only include teaching the techniques of the profession, but aims at developing a vision, flexibility and adaptability to new situations.

The programs’ emphasis is on analytical methods and problem solving rather than a mere description of existing practices. Participative learning is emphasized through case analyses, term projects, simulation and classroom discussions. Computer applications, quantitative analysis and behavioral sciences are integrated into the programs to provide for quantitative and qualitative aspects of management with an emphasis on the former. The graduates are equipped with knowledge, skills and analytical thinking necessary to enhance the effectiveness and efficiency of the enterprises that they will serve.

**ACADEMIC STAFF**

**Levent Akdeniz**, Associate Professor
Ph.D., Economics, University of Houston, 1996. Corporate finance, computational economics, numerical methods.

**Zeynep Aydön**, Instructor
M.S., Industrial Engineering, Bilkent University, 2009. Marketing research, digital marketing, mobile marketing, online word of mouth.

**Kürşat Aydoğan**, Professor
Ph.D., Finance, Syracuse University, 1986. Investments, corporate finance, international finance.

**Ceren Aydoğmuş**, Instructor
Ph.D., Business Administration, Hacettepe University, 2011. Organizational psychology, marketing research, financial business applications.

**Özgür Tolga Baycan**, Instructor

**Eyüp Emre Berk**, Associate Professor

**Liwei Cao**, Instructor
MBA, University of California, San Diego, 2014. Accounting.

**Jacques Couvas**, Adjunct Senior Lecturer

**İrem Demirkan**, Assistant Professor (on leave)
Ph.D., Management, University of Texas at Dallas, 2007. Innovation, entrepreneurship, strategic management, knowledge management.

**Sebahattin Demirkan**, Assistant Professor (on leave)
Ph.D., Accounting, University of Texas at Dallas, 2007. Financial accounting, auditing, strategic management, corporate governance.

**Barış Erman Depecik**, Instructor
Ahmet Ekici, Assistant Professor  
Ph.D., Marketing, University of Nebraska, 2002. Public policy and marketing, relationship marketing, advertising.

Erdal Erel, Professor  
Ph.D., Industrial Engineering and Operations Research, Virginia Polytechnic Institute and State University, 1987. Production control and planning, scheduling, design of manufacturing systems.

Burcu Esmer, Visiting Assistant Professor  
Ph.D., Finance, University of Iowa, 2011. Corporate finance, agency conflict, mergers.

Gülsiz Ger, Professor  
Ph.D., Marketing, Northwestern University, 1985. Consumer behavior, culture and consumption.

Celile İtr Göğüş, Assistant Professor  
Ph.D., Texas A&M University, 2006. Organizational behavior/human resource management.

Lale Gümüşüoğlu, Assistant Professor  

Destan Kandemir, Assistant Professor  
Ph.D., Michigan State University, 2005. Marketing research, marketing strategy, marketing management and global marketing.

Zahide Karakitapoğlu Aygün, Associate Professor  

Timothy Scott Kiessling, Visiting Associate Professor  
Ph.D., Management/Marketing, University of Oklahoma, 2005, Global mergers and acquisitions; knowledge transfer of MNCs; corporate top management team; global strategic human resource management.

Ayşe Kocabıyık, Assistant Professor  
Ph.D., Decision Sciences, INSEAD, 2005. Risk management, decision analysis, revenue management.

Olga Kravets, Assistant Professor  

Zeynep Önder, Associate Professor  

Dilek Önkol, Professor  

Aydın Örson Örge, Visiting Assistant Professor  
Ph.D., Organizational behavior, University of Kansas, 2005. Process-oriented and relational approaches to organization, spacing and organization, organizational and strategic change.

Süheyla Özyıldırım, Associate Professor  

Aslıhan Salih, Associate Professor  
Ph.D., Finance, University of Massachusetts, Amherst, 1995. Investments, asset allocation, futures and options markets, risk management.

Tanseli Savas, Assistant Professor  

Banu Sultanoğlu, Instructor  
M.S., Accounting and Finance, Başkent University, 2008. Accounting, auditing.
Fehmi Tanrõesver, Assistant Professor

Ayşe Başak Tanyeri, Assistant Professor

Vefa Tarhan, Visiting Professor
Ph.D., Economics, University of California at Santa Barbara, 1979. Corporate finance, economics and financial policies, emerging market economies.

Mehmet Selçuk Uslu, Adjunct Senior Lecturer
Ph.D., Accounting, Ankara Academy of Economic and Commercial Sciences, 1973. Accounting, cost analysis and management

PART-TIME ACADEMIC STAFF


Alper Bakdur, MBA, Banking and International Finance, City University, 2004.


Berna Tari Kasnakoglu, Ph.D., Marketing and Consumer Behavior, Bilkent University, 2008.

Salim Tekin, Ph.D., Industrial and Systems Engineering, Georgia Institute of Technology, 2011.


Ebru Yüksel, Ph.D., Economics, Bilkent University, 2008.
DEPARTMENT OF MANAGEMENT


The aim of the Department of Management is to prepare managers for the global business arena with emphasis on computer-based analytical problem solving techniques for decision making and a strong quantitative approach for managing resources.

UNDERGRADUATE PROGRAM

The undergraduate curriculum exposes the student to basic social sciences through courses in economics, psychology, sociology and history. Courses in mathematics and statistics are included to provide the background necessary for technical skills. Basic courses in the functional areas of business are offered in first, second, and third years. In addition, the curriculum provides elective courses in those functional areas so that students can focus on an area of their choice. Majors will provide students with guidance in selecting MAN electives, and will be declared at the beginning of Term 2 of Year 3. Doing a major will enable the students to get specialized in one of the below subjects: Finance and Quantitative Analysis, Global Business Rules, Marketing and Innovation Management, Business and Management.

UNDERGRADUATE CURRICULUM

FIRST YEAR

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<tr>
<th>Autumn Semester</th>
<th>Credits / ECTS Credits</th>
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<tr>
<td><strong>ECON 101</strong> Introduction to Economics I</td>
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<tr>
<td><strong>ENG 101</strong> English and Composition I</td>
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<tr>
<td><strong>GE 100</strong> Orientation</td>
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<tr>
<td><strong>MAN 101</strong> Introduction to Business I</td>
<td>3 / 6</td>
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<tr>
<td><strong>MATH 105</strong> Introduction to Calculus I</td>
<td>4 / 7</td>
</tr>
<tr>
<td><strong>SOC 101</strong> Introduction to Sociology</td>
<td>3 / 6</td>
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<td><strong>TURK 101</strong> Turkish I</td>
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<tr>
<th>Spring Semester</th>
<th>Credits / ECTS Credits</th>
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<tr>
<td><strong>ECON 102</strong> Introduction to Economics II</td>
<td>3 / 6</td>
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<td><strong>ENG 102</strong> English and Composition II</td>
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<tr>
<td><strong>MAN 102</strong> Introduction to Business II</td>
<td>3 / 6</td>
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<tr>
<td><strong>MATH 106</strong> Introduction to Calculus II</td>
<td>4 / 7</td>
</tr>
<tr>
<td><strong>PSYC 100</strong> Introduction to Psychology</td>
<td>3 / 6</td>
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<tr>
<td><strong>TURK 102</strong> Turkish II</td>
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SECOND YEAR

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<tr>
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<tr>
<td><strong>ECON 221</strong> Introduction to Probability and Statistics I</td>
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<tr>
<td><strong>GE 250</strong> Collegiate Activities Program I</td>
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<tr>
<td><strong>HUM 111</strong> Cultures Civilizations and Ideas I</td>
<td>3 / 6</td>
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<tr>
<td><strong>MAN 213</strong> Principles of Financial Accounting</td>
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<tr>
<td><strong>MATH 227</strong> Introduction to Linear Algebra</td>
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<td><strong>General Elective</strong></td>
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<th>Spring Semester</th>
<th>Credits / ECTS Credits</th>
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<tr>
<td><strong>ECON 222</strong> Introduction to Probability and Statistics II</td>
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<tr>
<td><strong>ENG 206</strong> Business Communications</td>
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### Third Year

#### Autumn Semester

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>LAW 313</td>
<td>Business Law</td>
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<tr>
<td>MAN 321</td>
<td>Corporate Finance</td>
<td>3 / 6</td>
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<tr>
<td>MAN 335</td>
<td>Fundamentals of Marketing</td>
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<tr>
<td>MAN 341</td>
<td>Production Management</td>
<td>3 / 6</td>
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<tr>
<td>MAN 361</td>
<td>Organization Theory</td>
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#### Spring Semester

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<td>MAN 312</td>
<td>Managerial Accounting</td>
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### Fourth Year

#### Autumn Semester

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<td>MAN 399</td>
<td>Summer Practice</td>
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<td>MAN 403</td>
<td>International Business</td>
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<td>Major Electives (3)</td>
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#### Spring Semester

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### Major Electives

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<td>ECON 301</td>
<td>Econometrics I</td>
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<td>ECON 302</td>
<td>Econometrics II</td>
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<tr>
<td>ECON 322</td>
<td>Monetary Economics</td>
<td>3 / 6</td>
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<tr>
<td>ECON 331</td>
<td>International Economics I</td>
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<tr>
<td>ECON 332</td>
<td>International Economics II</td>
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<tr>
<td>ECON 426</td>
<td>Applied Economic Analysis</td>
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<td>ECON 432</td>
<td>Turkish and World Economy in the 20th Century</td>
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<td>IR 338</td>
<td>Politics of International Economy</td>
<td>3 / 6</td>
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<tr>
<td>LAW 303</td>
<td>Public International Law</td>
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<tr>
<td>LAW 304</td>
<td>Private International Law</td>
<td>3 / 4</td>
</tr>
<tr>
<td>LAW 406</td>
<td>International Business Law</td>
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<tr>
<td>MAN 302</td>
<td>Business Forecasting</td>
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<td>MAN 306</td>
<td>Market Research</td>
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<td>MAN 307</td>
<td>Financial Management</td>
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<tr>
<td>MAN 322</td>
<td>Money and Banking</td>
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<tr>
<td>MAN 401</td>
<td>Managerial Economics</td>
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<td>MAN 404</td>
<td>Investment Analysis</td>
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<td>Business Plan Development</td>
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<td>MAN 410</td>
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<td>MAN 414</td>
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<td>MAN 416</td>
<td>Financial Statement Analysis</td>
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<td>MAN 419</td>
<td>Marketing Strategy and Innovation</td>
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<td>MAN 421</td>
<td>Capital Markets and Institutions</td>
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<td>MAN 422</td>
<td>International Finance</td>
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<td>MAN 424</td>
<td>Risk Management</td>
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<td>MAN 425</td>
<td>Corporate Financial Strategy</td>
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<td>MAN 430</td>
<td>Anthropological Marketing</td>
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<td>MAN 432</td>
<td>Consumer Behavior</td>
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<td>MAN 433</td>
<td>Global Marketing and Emerging Markets</td>
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</table>
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MAN 446 Supply Chain Management ........................................ 3 / 6
MAN 447 Project Management .................................................. 3 / 6
MAN 467 Cross-Cultural Management ....................................... 3 / 6
MAN 483 Entrepreneurial Management ....................................... 3 / 6
MAN 485 Real Estate Finance ..................................................... 3 / 6
MAN 492 Business Studies and Practice ...................................... 3 / 6

GRADUATE PROGRAM

Master of Business Administration (MBA) Program

The MBA program aims to foster the education of proficient managers and executives who can effectively recognize and "manage" the challenges presented by a continuously changing business environment. The goal is to provide a strong foundation of administrative and conceptual skills to prospective managers who may assume responsibilities of planning, organizing, directing and controlling the operations of public, private, and non profit organizations. The MBA degree can be viewed as extending and enhancing a wide variety of undergraduate experiences, including but not limited to the programs in engineering, economics and social sciences as well as in business. The program's emphasis is on analytical methods and problem solving rather than a mere description of existing practices. Participative learning is emphasized through case analyses, term projects, simulation, and classroom discussions. Computer applications, quantitative analysis and behavioral sciences are integrated into the program to provide for quantitative and qualitative aspects of management. The graduates are equipped with the knowledge, skills and analytical thinking necessary to enhance the effectiveness and efficiency of the enterprises they will join.

Admission: Applicants to the program should have a Bachelor's degree (B.S. or B.A.) and should be proficient in English. Applicants are evaluated on the basis of their GMAT/GRE scores, academic records, letters of recommendation, career goals and an interview.

Degree Requirements: Students admitted to the program will be required to complete a minimum of 60 credit hours of course with a minimum cumulative grade point average of 3.00/4.00.

CURRICULUM of the MBA PROGRAM

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>MBA 500 Bilcamp</td>
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<tr>
<td>MBA 502 Macroeconomics</td>
<td>3 / 6</td>
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<tr>
<td>MBA 503 Microeconomics</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MBA 511 Accounting</td>
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<tr>
<td>MBA 522 Corporate Finance</td>
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<tr>
<td>MBA 532 Marketing Management</td>
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<tr>
<td>MBA 542 Production and Operations Management</td>
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<tr>
<td>MBA 551 Probability and Statistics</td>
<td>3 / 6</td>
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<tr>
<td>MBA 553 Data Models and Decisions</td>
<td>3 / 6</td>
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Executive MBA Program

Bilkent Executive MBA program aims to cultivate a strategic perspective in the participants of the program in managing today’s global business. Program is designed to build strong executive foundational skill set and an ability to integrate business functional area knowledge to cope with the challenges of the contemporary global business environment.

The program will start with a one week orientation that will be geared towards building soft skills such as working in teams, negotiation, communication and conflict resolution through various activities. The participants will be exposed to foundational courses including management, quantitative methods and financial reporting, marketing and finance. Integrative courses are designed combine strategic material from a number of functional areas and will be thought by multiple instructors. The program concludes with a one week global business application camp and a strategy simulation that will require participants to lead a global company.

The schedule is designed to accommodate the specific needs of the executives. It starts with a three day orientation at the end of September. During the academic year the courses run on Friday afternoons and Saturdays every other week.

Admission: Applicants to the program are required to have a Bachelor’s degree (B.S. or B.A.), minimum three years of managerial experience, and proficiency in English sufficient to follow the course material. Applicants should have strong communication and social skills, entrepreneurial and leadership qualities and aim to be top-level executives.

Degree Requirements: Participants admitted to the program will be required to complete a minimum of 41 credit hours of course with a minimum cumulative grade point average of 3.00/4.00.

Bilkent University and Tilburg University MBA/M.S. Dual Degree Program

The Faculty of Business Administration offers a dual degree-Master of Business Administration/Master of Science (MBA/M.S.) in two years. Students will spend one year (three semesters) at Bilkent University to receive their MBA degree and another year at Tilburg University in the Netherlands to obtain their M.S. degree in the following fields: Financial Management, Information Management, International Management, Logistics and Operations Management, Marketing Research, Marketing Management, Accounting, Strategic Management.

Admission: The application is administered by the Bilkent University Faculty of Business Administration. The applicants with a minimum CGPA of 3.0 out of 4.0 at Bilkent MBA, are interviewed by the faculty members of Bilkent and Tilburg Universities for acceptance. The tuition fee for the M.S. degree at Tilburg University is the regular fee for non-European Economic Area students determined annually. Up to 10 merit-based scholarships are available for the Tilburg M.S. program, which consist of a roughly 40% tuition fee reduction and a monthly allowance of 300 Euros.

MASTER OF SCIENCE and Ph.D. PROGRAMS

The Faculty of Business Administration offers the Masters of Science and the Doctor of Philosophy degrees for those interested in advanced study of the theory and practice of management in three areas Finance, Marketing, and DSOM (Decision Science and Operations Management).

The mission of the Bilkent M.S./Ph.D. Program in Business Administration is to prepare individuals for research and teaching careers. A high faculty-to-student ratio and active involvement in research throughout the program foster close interaction between students and faculty and accelerate the transition from students to academic. Programs of study designed for the particular needs and research interests of each individual enable the students to master the behavioral, social, economic and mathematical sciences through courses from various departments in Bilkent University. An active exchange program with universities abroad provides additional opportunities for coursework and collaborative research. Visiting scholars and graduate students from abroad add to the diversity of our community.

The research conducted by our faculty covers a broad range of areas of expertise and we welcome graduate students with degrees in a wide range of fields (anthropology, business administration, com-
puting science, economics, engineering, ethnography, mathematics, physics, psychology, statistics etc.).

**Master of Science**

**Admission:** Applicants must have a bachelor's degree in business administration, economics, engineering or a related field. They must be fluent in written and oral English, and possess strong quantitative and qualitative skills. All applicants are required to submit GMAT or GRE scores and provide recommendation letters. ALES scores are needed for Turkish applicants. Proficiency in written and oral English must be documented. (Also refer to the “Graduate Admissions” section in the introduction of this catalog for the general graduate admission requirements and www.man.bilkent.edu.tr for the particular requirements of the Master of Science programs in business administration.)

**Requirements:** Students have to complete a minimum of 24 credit hours of course work, write and defend a master's thesis and maintain a cumulative GPA of at least 3.00/4.00. The expected duration of M.S. study is four semesters.

**Doctor of Philosophy**

**Admission:** Applicants must be fluent in written and oral English, and possess strong quantitative and qualitative skills. Candidates should submit GMAT or GRE scores and provide recommendation letters. ALES scores are needed for Turkish applicants. Proficiency in written and oral English must be documented. (Also refer to the “Graduate Admissions” section in the introduction of this catalog for the general graduate admission requirements and www.man.bilkent.edu.tr for the particular requirements of the Ph.D. program in business administration.)

**Requirements:** The Ph.D. program consists of a course work of at least 27 credit hours, a qualifying examination, preparation, proposal, and defense of a dissertation based on original research. The student should maintain a cumulative GPA of 3.00/4.00 throughout the period of study. Course work is tailored according to the field chosen and the specific research needs of the student. The expected duration for Ph.D. study is eight semesters for students with M.S. degree and ten semesters for students with B.S. degree.

**COURSE DESCRIPTIONS**

**MAN 101 Introduction to Business I**
This course introduces students to business education. Students will develop a basic notion of ‘business’ at the beginning of their education, emphasising ethics, globalisation, small business and entrepreneurship. They will be able to identify the main functional areas of business, including management, operations, marketing, finance and accounting, and start to develop an understanding of how they fit together. The course features interactive lectures, documentaries and video cases, and small group discussions. **Credit units: 3 ECTS Credit Units: 6.**

_Aut (A. Ö. Örge) Spr (L. Akdeniz)_

**MAN 102 Introduction to Business II**
This course carries on introducing students to business computer applications. Students will acquire ICT (Informative Communication Technologies) skills, which they will practice during both in their education and career life’s. Students will be able to prepare advanced documents, evaluate data and perform calculations. In addition, they will be able to conduct simple and complex data analysis using functions and tools in spreadsheet and basic solver applications. Besides, they will gain an insight into automated tasks that can be conducted by writing VBA (Visual Basic for Applications) macros. At the end of the course, students will able to combine their business knowledge with diverse business cases in lab environment. **Credit units: 3 ECTS Credit Units: 6.**

_Prerequisite: MAN 101. Aut (Ö. T. Baycan) Spr (C. Aydoğmuş, Ö. T. Baycan)_

**MAN 211 Principles of Accounting I**
This course is especially designed for Law students. The objective is to make them aware of and familiar with financial transactions and information. For this purpose the topics covered in this course are as follows: The accounting environment, basic elements of recording financial transactions, accounting cycle, year end adjustments and closings and the preparation of financial statements. The emphasis will be on the Income Statement and the Statement of Financial Position. Introductory knowledge of how to read financial statements will also be given to the students. **Credit units: 3 ECTS Credit Units: 6.**

_Aut (F. Tanrısever, M. S. Uslu) Spr (M. S. Uslu)_
MAN 213  Principles of Financial Accounting
An introductory accounting course, that covers the accounting environment, basic mechanics of record keeping and reporting of financial statement information. Specifically, the topics covered include the generally accepted accounting principles, the accounting cycle, preparation and reporting of financial statements (balance sheet, income statement, cash flow statement, and statement of shareholders’ equity) together with the discussion of individual accounts that are included in those financial statements (i.e. current assets; long-term assets and accounting for depreciation; liabilities and shareholders’ equity). Credit units: 4 ECTS Credit Units: 8. Aut (B. Sultanoglu, M. S. Uslu) Spr (L. Cao)

MAN 216  Elements of Finance
An introductory course on the building blocks of financial decision making. Topics include financial system, its functions, institutions and instruments, risk and return, time value of money, valuation of securities, and elements of international finance. Credit units: 3 ECTS Credit Units: 6. Aut (T. Savaşer) Spr (A. Bakdur, T. Savaşer)

MAN 256  Introduction to Management Science
Management science is the application of mathematical modeling to decision making in various management contexts. This course introduces students to mathematical model construction, spreadsheet modeling using Excel Solver, and interpretation of Solver output. The topics also include other decision making tools such as decision trees and simulation. Credit units: 3 ECTS Credit Units: 6. Prerequisite: ECON 225 or MATH 227. Spr (E. Erel, A. Kocabeykoğlu, F. Tanrisever)

MAN 262  Organizational Behavior
This course focuses on various factors that have an impact on how individuals and groups respond to and act in organizations. Within this context, the course consists of the application of concepts, theories, and empirical results from the behavioral and social sciences to the study of behavior in and around organizations. Credit units: 3 ECTS Credit Units: 6. Prerequisite: ECON 225 or MATH 227. Spr (E. Erel, A. Kocabeykoğlu, F. Tanrisever)

MAN 302  Business Forecasting
This course aims to provide the concepts and principles of a variety of forecasting models. Main emphasis is on the establishment of a process for effective forecasting. Within this framework, various smoothing techniques, regression analysis, ARIMA models, and judgmental forecasting issues are discussed in detail. Credit units: 3 ECTS Credit Units: 6. Prerequisite: ECON 221. Aut (D. Önkal) Spr (S. Tekin, E. Yüksel)

MAN 306  Market Research
Regardless of the type of the organization, managers in all functions and at all levels need systematic and dependable information about their operations. More specifically, managers need information about their employees, customers, suppliers, competitors, and macro variables of their environment. In an ever changing and volatile business environment, the task of market research is to provide managers with accurate, reliable, relevant, valid and timely information. In this course, the students will be expose to various research methods that are currently being used in the industry in order to find solutions for problems that various organizations are facing. By the completion of this course, the students should be able to understand the organizational value and context of information gathering, know when to collect primary and secondary data, determine the appropriate data analysis technique, and persuasively communicate/report research results. Credit units: 3 ECTS Credit Units: 6. Prerequisite: ECON 222 and MAN 262. Aut (Staff) Spr (D. Kandemir)

MAN 307  Financial Management
MAN 307 is an intermediate level course on the theory and practice of corporate finance. Upon successful completion of the course, students will be able to: master financial vocabulary to communicate effectively with professionals in finance; draw pro-forma financial statements and apply investment rules to make investment decisions; recognize the differing objectives of the firms’ stakeholders (such as shareholders, bondholders, managers, employees, customers, suppliers) and evaluate how the differing objectives may affect the decision-making of financial managers; recognize and evaluate the effect of financing decisions on firm value. Credit units: 3 ECTS Credit Units: 6. Prerequisite: MAN 213. Spr (A. B. Tanrıer)

MAN 312  Managerial Accounting
The aim of the course is to introduce the students to the main issues in management accounting. Special emphasis will be put on decision making at different levels of management, and on data and reports to facilitate the decision making process. Topics covered include: cost volume profit analysis, cost behavior, costing systems, budgeting, unit cost calculations, pricing, variance analysis, responsibility accounting and performance evaluation. Credit units: 3 ECTS Credit Units: 6. Prerequisite: MAN 213. Aut (B. Sultanoglu) Spr (B. Sultanoglu, M. S. Uslu)

MAN 321  Corporate Finance
This course aims to introduce the students to the world of finance, through the fundamental concepts, such as time value of money, risk, return, and asset valuation. After taking this course students will be able to measure and analyze the financial performance of a firm, apply the time value of money to solve financial problems, value financial and real asset investments, define and measure risk and rate of return, calculate fair values of bonds
and common stocks, and apply capital budgeting techniques. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MAN 213. Aut (K. Aydoğan, B. Esmer, Z. Önder) Spr (B. Esmer, A. B. Tanyeri)

MAN 322 Money and Banking
This course is designed to introduce the theory and practice of money and banking in developing countries. In the first part of the course, money demand and money supply processes and the role of money in an economy will be emphasized. In the second part, the macroeconomics framework will be developed. And finally in the third part, the course will focus on the models of bank behavior and management. In addition, a wide range of topics from financial institutions to government intervention in financial markets will be covered. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 102 and ECON 222. Aut (L. Akdeniz)

MAN 333 Marketing Principles
An analytical study of marketing as a major business function. Topics include an overview of the marketing system, the marketing concept, market research, market analysis, marketing strategies (segmentation, targeting, positioning), and marketing programs. An examination of how effective marketing strategy and program decisions is based on an analysis of buyer behavior, market structure and competition. Credit units: 3 ECTS Credit Units: 6. Aut (C. Aydoğan) Spr (Z. Aydoğan, F. Watson)

MAN 335 Fundamentals of Marketing
The course introduces the students to the fundamental concepts, tools and activities that comprise the marketing function. It overviews the development of marketing thought as well as contemporary issues in marketing. Topics include the marketing concept and orientation, segmentation and positioning, buyer behavior analysis, and marketing mix-product, price, promotion, distribution-decisions. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 101 and ENG 206 and MAN 102. Aut (A. Ekici) Spr (Z. Aydoğan)

MAN 341 Production Management
Production management is a functional field of management covering the design, operation, and improvement of the processes and systems employed in the creation and delivery of an organization's products and services. This course intends to be a survey of the operating practices and procedures found in both manufacturing and service delivery firms. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 225 or MAN 256. Aut (E. E. Berk) Spr (E. E. Berk)

MAN 361 Organization Theory
This course is to help students obtain in-depth understanding of organizations and organizational effectiveness. By introducing the basic concepts and recent theoretical approaches, the course will help students to develop the capability of understanding, designing, and managing organizations. The course emphasizes both the macro characteristics of organizations such as their structures, technology and environment, and internal processes such as organizational culture, managerial decision making, politics and conflicts. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MAN 262. Aut (C. I. Göğüş, Z. Karakıtapoğlu Aygın)

MAN 399 Summer Practice
The minimum time for this practice in an organization is four weeks (20 working days). The main objective is to observe a company / institution / organization in an original setting and work on questions relevant to the company / institution / organization on the fundamental areas of Management. Credit units: None ECTS Credit Units: 6, Aut (A. Ö. Orge) Spr (A. Ö. Orge)

MAN 401 Managerial Economics
This course introduces economic concepts used in managerial decision making. By the end of the course students will be equipped with basic tools of microeconomics and with experience applying these tools to questions about consumer behaviour, competition among firms, and government policy. Cases and problems will illustrate how economic concepts can be applied to improve corporate strategies. Credit units: 3 ECTS Credit Units: 6, Prerequisite: senior standing. Aut (S. Özyıldırım)

MAN 403 International Business
International Business differs in important ways from business conducted within national borders. It presents additional critical challenges for managers interested in trade or investments in foreign countries, but it also offers new opportunities in foreign markets. This course emphasizes the use of analytical tools and develops a framework for analyzing the decisions that must be made by organizations interested in doing business internationally. In turn, this framework provides the basis for formulating strategies, structures, and processes that will enable such organizations to succeed in the international business environment. Concepts and knowledge from strategy, international finance, international trade and investment, cross-cultural issues, international politics and law, marketing, human resource management, and other related areas will be combined and focused on how to succeed international business. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MAN 335. Aut (L. Gümüşlöğlu)

MAN 404 Investment Analysis
The main objective of this course is to help students develop a basic understanding of the theory and practice of investment analysis. The characteristics of financial markets and financial instruments, security trading
MAN 406 Business Strategy
Business strategy refers to the long-term direction and scope of a firm’s activities. This course serves as a comprehensive overview of the analytical tools, methods, and processes of developing, implementing, and evaluating business strategy. From the perspective of top-level management, the course examines how resources and competences of firms are identified and leveraged to create long-term direction and sustainable competitive advantage within their competitive, industry, and macro environmental contexts. Credit units: 3 ECTS Credit Units: 6, Prerequisite: IE 342 or MAN 321. Spr (Z. Önder)

MAN 407 Business Plan Development
This course focuses on business plans as a necessary element of starting a business and also prepares the students to participate in business planning in large institutions. The course will go through the process of preparing successful business plans including determining the contents of a plan and reviewing an actual plan. The course will be designed to help the students to incorporate the contents of the core management courses. Upon the completion of the course the students are expected to analyze and prepare the components of a business plan. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MAN 321 and MAN 335. Spr (T. S. Kiessling)

MAN 410 Innovation Management
Despite the increasing importance of innovation to competitive advantage of organizations in today’s world, few companies master the ability to identify, create and exploit opportunities for innovation on a systematic basis. In this course, all aspects of managing innovation; from recognizing the need and desire to be creative and innovative, using imagination to add value, developing structures, systems and incentives that encourage and implement innovation, will be discussed. The course will center on three themes: ideation/creativity generation techniques, innovation (models, dimensions, degrees and sources of innovation) and strategic management of innovation. In line with these topics, real company cases will be presented and discussed so that students will better understand the significance of leadership and corporate entrepreneurship in managing innovation. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MAN 262 and MAN 335. Spr (L. Gümüşlüoğlu)

MAN 414 Auditing
The primary objective of the course is to distinguish between accounting and auditing through familiarizing the students with the basic auditing concepts. Topics such as types of audits and auditors, audit reports for financial statements, professional ethics, evidence accumulation and verification procedures, internal control and auditing engagements are discussed. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MAN 213 and MAN 312. Aut (U. Akdoğan)

MAN 415 Intermediate Accounting
This course is the first professional level course for undergraduate students who want to prepare for a career in accounting or financial management. It covers concepts, requirements, and standards of external financial reporting, and methods of presentation. The focus is on international concepts of external financial accountability and not the specific standards of any specific country. Students must have had a previous course in financial reporting with a grade of at least a C, or equivalent. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MAN 213 and MAN 312.

MAN 416 Financial Statement Analysis
This course aims to develop an ability to analyze financial information as an aid to financial decision making. The emphasis will be on the usefulness of information for various groups, such as investor’s of the firm, security analysts and creditors. Basic financial statement analysis tools, such as ratio analysis, cross-sectional and time-series analysis, statistical forecasting models will be covered. Part of this course will be devoted to the research and empirical evidence on the impact of financial statement information on asset pricing, efficiency of the capital markets, debt ratings and corporate restructuring. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MAN 213 and MAN 321. Spr (N. Akman)

MAN 419 Marketing Strategy and Innovation
Marketing Strategy and Innovation integrates critical aspects of marketing and innovation, and presents marketing as a strategic process driven by value creation for customers. The course focuses on the design and management of all elements of business necessary to define, develop and deliver customer value in the challenging environment of global competition and rapidly changing markets. The course brings together theoretical and practical perspectives with the goal of developing students’ skills in conception, development, and execution of a marketing strategy that would allow a firm to serve its customers in a profitable and sustainable way. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MAN 335. Spr (O. Kravets)

MAN 421 Capital Markets and Institutions
MAN 421 is an introductory course on the theory and practice of financial intermediation. Upon successful completion of the course, students will be able to: analyze how changing economic conditions and regulations...
are affecting financial institutions in the world and in Turkey; read and interpret financial statements of commercial banks; recognize and analyze the risks that financial institutions face; understand how financial markets (such as bond markets and stock markets) operate. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MAN 321. Aut (A. B. Tanyeri)

**MAN 422 International Finance**

This course introduces financial issues associated with the operation of a firm in the international environment. Specifically, the workings of the foreign exchange markets, the impact of economic policy on exchange rates, the nature of foreign exchange risk, and important aspects of financial management of the multinational corporation will be introduced. The connection to current events as reported in newspapers and journals will be emphasized. Credit units: 3 ECTS Credit Units: 6, Prerequisite: consent of instructor. Spr (S. Özyıldırım)

**MAN 424 Risk Management**

This course aims to introduce the risk management and the derivatives markets. The concept of risk management and the question of why risk management is vital for modern financial institutions will be explored. The topics will include forwards, futures, swaps, options, hedging and portfolio insurance, value at risk. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MAN 321. Spr (A. Salih)

**MAN 425 Corporate Financial Strategy**

The primary objective of “Corporate Financial Strategy” is for students to understand the implications of financial theory in real situations (cases) and to be able to analyze and communicate the implications of their analyses to an informed audience. The course outline is organized to include major strategic decisions of corporations such as real options, mergers, restructuring, risk management as well as corporate governance and international finance. A second objective is for students to function in teams for case studies and presentations. A final objective is for students to refine and expand specific skills and use of financial analytical tools in a real-world context. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MAN 321. Spr (B. Esmer)

**MAN 430 Anthropological Marketing**

Students learn how to do qualitative research in order to understand markets and consumers. Quoting from a textbook (Mariampolski), “ethnography, with its focus on observed everyday behavior, is quickly becoming the method of choice to identify unmet needs, stimulate novel insights, and create strategies for developing new ideas.” The students do research, employing ethical and effective field practices, as well as use the research for marketing and business decisions. The research assignments will also enhance writing and presentation skills. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MAN 335.

**MAN 432 Consumer Behavior**

A study of the nature and determinants of consumer behavior. Examines how individuals and groups acquire, consume and dispose of goods, and explores the influence of various psycho-sociological factors, such as personality, cognitive characteristics, beliefs, social class and culture on the formation of consumers’ attitudes and purchasing behavior. To enhance understanding and prediction of marketplace behavior; and emphasizes the applications to the development, evaluation and implementation of marketing strategies. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MAN 335 or consent of instructor. Aut (Z. Aydın)

**MAN 433 Global Marketing and Emerging Markets**

Application of marketing concepts and methods to the international marketplace. Problems and decisions involved in marketing across national boundaries are discussed. While focusing on the export marketing, some of the other topics covered include the international environment, export market selection, export market entry strategies, export marketing mix decisions, financing and methods of payment, and the export order and physical distribution. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MAN 335. Aut (B. E. Depecik)

**MAN 434 Integrated Marketing Communications**

This course introduces students to various tools such as advertising, sales promotions, and sponsorships, that marketers use while communicating with their customers. The emphasis rests on strategic planning and development of marketing communications campaigns, their integration and evaluation. The course combines theory and practice and aims to develop analytical skills necessary for effectively assessing and managing communication needs of companies operating in today's competitive business environment. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MAN 335. Spr (B. E. Depecik)

**MAN 436 Services Marketing**

The aim of this course is to provide strategic insights to the marketing managers of service firms. To realize the previously given objective, the course focuses on the unique characteristics of service products that differentiate them from manufactured goods and classifies services according to many different variables such as the nature of the service act, method of service delivery. Then, alternative strategies that can be executed to achieve organizational objectives by the marketing managers of different types of service firms are discussed in detail. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MAN 335.
MAN 439  New Product Development
In this course, focus is on the tools and techniques associated with analyzing market opportunities and then designing, testing, and introducing new products and services. Both quantitative and qualitative approaches are covered. In particular, the course covers the new product development process, market entry strategies, how to generate new product ideas, mapping customer perceptions, segmentation, product positioning, forecasting market demand, and product design. The course emphasizes how to incorporate consumers, customers and competitors into all of these aspects of the company’s new product development. It is intended for students who are interested in working on new product innovations, both in entrepreneurial firms and in established companies. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MAN 335. Aut (D. Kandemir)

MAN 440  Revenue Management
Revenue management is concerned with two types of demand decision: quality (how to allocate capacity to different market segments, when to withhold a product from sale etc.) and price (how to set prices, how to price across product categories, over time etc.). This course aims to introduce students to the tools and conceptual frameworks of revenue management and its applications in diverse industries such as tourism, hospitality, manufacturing and fashion. Credit units: 3 ECTS Credit Units: 6, Prerequisite: (ECON 101 and ECON 225) or (ECON 101 and MAN 256).

MAN 444  Special Topics in Finance
The most obvious manifestation of global financial instability is the current banking crisis that began in the U.S. but spread swiftly to Europe, other developed nations, and some developing economies. The creation of exotic financial instruments, the presence of unregulated participants in global markets such as hedge and private equity funds, the failure of rating agencies to properly evaluate novel financial instruments, and the search for higher returns without properly accounting for risk were some of the evident contributors to the crisis, resulting in severe write-offs and even the failure of some of the most visible and highly respected institutions in the financial universe. This course will begin with an extensive and intensive examination of the 2007 crisis of the late ‘90’s and the Turkish crisis of ‘94. Furthermore, the absence of international financial architecture to prevent global crises, the inability or unwillingness of national regulatory bodies to intervene proactively, and the actions of regulators to mitigate national financial problems will then be examined. Credit units: 3 ECTS Credit Units: 6, Aut (V. Tarhan) Spr (V. Tarhan)

MAN 446  Supply Chain Management
This course covers the essential elements of Supply Chain Management, which consist of controlling and coordinating all the activities that take place from the raw material purchasing to the end customer satisfaction; such as order processing, purchasing, material storage and handling, production scheduling, packaging, transportation and setting customer service standards. How these activities are successfully modeled, planned, and controlled in manufacturing and service industries are addressed. The decisions and strategies regarding transport and inventory, which are the most important parts of Business Logistics for a firm, are highlighted. The course is augmented with case studies to facilitate discussion and to gain an understanding of basic principles. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MAN 341.

MAN 447  Project Management
The role of projects in organization is getting more important as they become the major tool for reaching strategic goals. This course provides an integrative view of project management. Topics include project selection, project organization, budgeting and cost estimation, progress and performance measurement and evaluation, and project auditing. Project planning and control techniques, such as CPM and PERT, are also covered. Credit units: 3 ECTS Credit Units: 6.

MAN 451  Decision Analysis
This course is designed as an introduction to the basic concepts, principles and methods of decision making under uncertainty; and covers decision trees as a modeling tool. Role and value of information in decision making is discussed, as well as the concept of risk, and modeling risk attitudes with utility theory. Measuring utility functions, and alternatives to utility theory are also discussed. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 221 and MAN 256. Aut (A. Kocabıyıkögelü)

MAN 462  Human Resources Management
In this course, an academic understanding of human resource management (HRM) is aimed to be given to students who have little or no prior knowledge of the area. The development of HRM as an academic field is critically explored in its historical context, emphasizing the differences between personnel management and more contemporary approaches such as HRM. Various functions and dimensions of HRM are defined and discussed, by using case studies and real examples both from Turkey and other countries. Current issues around HRM are also explored. The course eventually aims to simulate answers to the following questions: firstly, why HRM is one of the most significant management functions, and secondly, who does HRM in organizations. This course will be suitable for senior students who want to extend their background in HRM before actually going into the business world, whether or not they plan to work as specialists in this area. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MAN 262.
MAN 467  Cross-Cultural Management  
This course is designed for persons who expect to do business in an unfamiliar country or interact with people from other cultures. It recognizes the importance of becoming consciously aware of the fundamental cultural differences that determine everyday life as well as business practice. It is based on the literature of cultural anthropology and applies it to such practical matters as negotiation, the role of deadlines and a culture’s sense of time, the structure of organizations, business ethics and corruption, stress management, and business etiquette. Specific countries as well as general principles are discussed. Student groups will investigate a culture of their choice and present their findings to the class. Their written reports will be collected into a Cultural Handbook that will be distributed to the class. Credit units: 3 ECTS Credit Units: 6, Prerequisite: HCIV 102 or HUM 112. Spr (J. Couvas)

MAN 471  Motivation and Leadership  
The main objective of this course is to introduce the basic concepts and theoretical perspectives on motivation and leadership that are useful for understanding human behavior in organizations. It offers an extensive examination of the nature of leadership and motivation in organizations with an emphasis on both theoretical and practical understanding. At the end of this course, students should have a better conceptual sense of leadership and motivation, and important insights into themselves as potential leaders and motivators. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MAN 335 and MAN 341.

MAN 474  European Union and Turkey: Trade and Policies  
This is an interdisciplinary course introducing the students to the European Union and Turkey-EU relations. After a review of EU history and institutional and legal framework, emphases will be on external and internal trade law and implementation of the Customs Union Decision between Turkey and the EU. Full membership criteria are also discussed. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 102. Aut (J. Couvas)

MAN 483  Entrepreneurial Management  
The course aims to give additional tools and knowledge to graduating students to create their own business, or to acquire share of already running business or to become top executives who shape the future of companies in which they work. Lectures will be augmented by case discussions. Groups of students will do a term project in which an entrepreneurial example will be evaluated in detail. Throughout the semester, prominent businessmen and top executives will be invited to the class to share their experience through active participation of the students. Credit units: 3 ECTS Credit Units: 6.

MAN 485  Real Estate Finance  
This course deals with the central issues in real estate finance and investment. Typical policies and procedures used in financing of residential, industrial, and commercial properties are discussed. Topics include methods of measuring rates of return, feasibility and appraisal processes, risk analysis, equity and debt financing vehicles. Real estate investment trusts and mortgage backed securities are also covered. Credit units: 3 ECTS Credit Units: 6, Prerequisite: IE 342 or MAN 321. Aut (Z. Önder)

MAN 492  Business Studies and Practice  
This course is designed to enable students to connect their theoretical learning in various areas of business and the business world in practice. To that end, the students in this course will find the opportunity to engage with and experience first-hand an actual business that will serve as a “host company”. The focus area of this engagement (for example, a business problem, process, or an achievement) will be negotiated and determined in advance among host company officials, course coordinator, and the Faculty management. Following a period of in-class preparation, student teams will then be expected to conduct an applied field study are expected to be supported and contextualized through a general analysis of the host company and the industry in which it operates. In addition to various interim assignments, the end of semester deliverables for the course are a written presentation of the findings in the form of a practicum report, and an oral presentation to be delivered to the course coordinator, company officials. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MAN 321 and MAN 335 and MAN 341.

MAN 509  International Business  
This course will provide an understanding of international business as an essential part of Globalization. The international business environment will be evaluated in economic, cultural, political, and legal aspects to explore how international businesses are initiated and conducted. Economic Integration among nations will be discussed with emphasis on Europe. Methods of entry into foreign markets via licensing, franchising, joint ventures, coventures, and foreign direct investment will be reviewed providing actual real life examples. Credit units: 3 ECTS Credit Units: 8.

MAN 525  Financial Economics  
This course covers the theoretical foundations of modern financial economics. The focus is on financial markets and the valuation of financial claims traded in those markets, under discrete time models. Topics analyzed include models of consumption and investment decisions under uncertainty; risk aversion; stochastic dominance; mean variance theory; equilibrium models of asset pricing (CAPM, ICAPM, APT); linear multifactor models; and incomplete markets. Credit units: 3 ECTS Credit Units: 8. Aut (A. Salih)
MAN 555 Probability and Statistics
This course reviews the basic principles of probability and statistics prior to their development in more specialized quantitative research methods. It also provides a short introduction to some simple methods of data presentation and exploration, and some standard statistical tests. Topics include probability rules, distributions, densities, random variables, limit theorems, sampling distributions, estimations and basics of hypothesis testing. **Credit units:** 3 ECTS Credit Units: 8.

MAN 580 Special Topics in Business Administration
**Credit units:** 3 ECTS Credit Units: 8. Aut (V. Tarhan) Spr (V. Tarhan)

MAN 590 Pro-Thesis Seminar
**Credit units:** None ECTS Credit Units: 1. Aut (Staff) Spr (Z. Önder)

MAN 593 Research Paper I
**Credit units:** None ECTS Credit Units: 3. Aut (Z. Önder) Spr (Z. Önder)

MAN 594 Research Paper II
**Credit units:** None ECTS Credit Units: 3. Aut (Z. Önder) Spr (Z. Önder)

MAN 599 Master's Thesis Project
**Credit units:** None ECTS Credit Units: 56. Aut (Z. Önder) Spr (Z. Önder)

MAN 604 Quantitative Business Research
The course covers various aspects of survey designs and analysis issues including sampling questionnaire design and construction, interviewing techniques and analytical strategies of survey data, a general survey of social science research techniques. Experimental and non-experimental research designs, measurement theory, reliability and validity, and an overview of statistical evaluation procedures are discussed. **Credit units:** 3 ECTS Credit Units: 8.

MAN 605 Qualitative Research
This course aims to introduce students to the philosophical foundations, design, conduct, and presentation of qualitative research. Issues of quality and methods of data collection, analysis, and interpretation will be emphasized. The course focuses on enabling students to experience the research process in the course of learning how to plan, execute, and evaluate qualitative research. Assignments and a term project provide experience and practice in data collection, analysis, and presentation. In this way, the role of various creative skills, including oral and written skills, in gathering, interpreting, and reporting on qualitative data are also emphasized. The seminar aims to provide an opportunity for learning from each other and by interacting with others in the class while students present materials and critically evaluate and discuss the readings. Students are encouraged to develop research relevant to dissertation or other projects of interest. **Credit units:** 3 ECTS Credit Units: 8. Aut (G. Ger)

MAN 607 Philosophy and Epistemology of Scientific Inquiry
This seminar aims to introduce students to the philosophical and epistemological foundations of science and scientific inquiry, fundamental issues distinguishing positivist versus post positivist approaches to research, and the types and issues of research design. Following a study of philosophy of science, epistemological issues, and alternative approaches, methodology and design (surveys, experiments, interpretive research) issues are discussed. Assignments, presentations, and term papers provide exposure to fundamental issues as well as practice in critical reading and thinking about a) scientific inquiry, b) evaluation (“goodness”) of research, and c) research methodology. The seminar provides an opportunity for thinking through and presenting well-developed thoughts about issues of science and research and learning from each other while students present and discuss the readings. **Credit units:** 3 ECTS Credit Units: 8. Aut (G. Ger) Spr (G. Ger)

MAN 627 Seminar in Corporate Finance
It is a doctoral seminar course covering major theories and empirical studies that have been developed in the area of corporate finance. The aim is to teach a class that will generate research ideas. **Credit units:** 3 ECTS Credit Units: 8. Aut (A. B. Tanyeri)

MAN 628 Seminar in Investment Theory
It is a doctoral seminar course covering major theories and empirical studies that have been developed in the area of investment theory. The aim is to teach a class that will generate research ideas. **Credit units:** 3 ECTS Credit Units: 8.

MAN 629 Seminar in Financial Intermediation
It is a doctoral seminar course covering major theories, recent developments and empirical studies that have been developed in the area of financial intermediation. The aim is to teach a class that will generate research ideas. **Credit units:** 3 ECTS Credit Units: 8.

MAN 631 Marketing Theory
This course aims to develop fundamental knowledge of and about marketing as a field of study and provoke critical thinking about the field. Readings and discussions examine the historical development of marketing
thought and theory, as well as contemporary issues, alternative perspectives, and critical insights. The course considers the philosophical foundations of marketing practice and marketing thought and issues of scholarship and science in marketing. The course is interactive and involves critical discussion of the readings during both lectures and student presentations. Students search for possible dissertation topics and develop a preliminary dissertation proposal. Credit units: 3 ECTS Credit Units: 8.

**MAN 633 Seminar in Marketing Strategy**
This course is designed to provide doctoral students with a foundation in marketing strategy research. This course will identify, review, and critique a variety of theoretical perspectives that can be applied to areas including firm capabilities, marketing channels, strategic alliances, and firm boundaries. Credit units: 3 ECTS Credit Units: 8.

**MAN 634 Consumer Behavior Theory I**
This course deals with the understanding of the behavior, attitudes, preferences and decision making processes of people as consumers and psychological theories underlying consumer behavior. Some strategic implications of consumer preference formation, judgment and decision making are also addressed. Understanding consumers is a critical component of marketing to implement efficient marketing strategies. Principles from psychology as well as other social sciences are integrated to analyze consumer behavior. Credit units: 3 ECTS Credit Units: 8. Spr (O. Kravets)

**MAN 636 Consumer Behavior Theory II**
This course details with the understanding of the behavior, attitudes, preference and decision making processes of people as consumers and the psychological theories underlying consumer behavior. Some strategic implications of consumer preference formation, judgment and decision making are also addressed. Understanding consumers is a critical component of marketing to implement efficient marketing strategies. Principles from psychology as well as other social sciences are integrated to analyze consumer behavior. Credit units: 3 ECTS Credit Units: 8.

**MAN 639 Special Topics in Marketing I**
This doctoral seminar covers major theories and studies in selected areas in the marketing field. The course reviews historical and contemporary approaches in the area and aims equip students with knowledge useful in generating research ideas. Credit units: 3 ECTS Credit Units: 8.

**MAN 640 Special Topics in Marketing II**
This doctoral seminar covers major theories and studies in selected areas in the marketing field. The course reviews historical and contemporary approaches in the area and aims equip students with knowledge useful in generating research ideas. Credit units: 3 ECTS Credit Units: 8.

**MAN 656 Advanced Multivariate Statistics**
The objective of this course is to introduce tools for multivariate analysis including multivariate ANOVA, principle components analysis, discriminant analysis, cluster analysis, factor analysis, structural equations modeling, canonical correlations and multidimensional scaling. Credit units: 3 ECTS Credit Units: 8.

**MAN 699 Ph.D. Dissertation**
Credit units: None ECTS Credit Units: 160. Aut (Z. Önder) Spr (Z. Önder)

**MBA 500 Bilcamp**
This is an extended MBA orientation. It will be used to review some background that is important for the program, as well as team building. It will be run as a one-credit orientation course during the week before classes start in September. Possible skills components to be included are calculus review, basic statistics, intermediate excel (modeling), presentation skills, group skills (team work), research skills, leadership skills and emotional intelligence. Credit units: 1 ECTS Credit Units: 1. Aut (A. Salih)

**MBA 502 Macroeconomics**
Macroeconomic conditions play important roles in managers ’ decision and firm performances. For instance aggregate income, unemployment and inflation affect profitability, borrowing rates and investment plans of the firms. The topics that will be introduced are: economic growth, unemployment, inflation, money demand and supply, interest rates, balance of payments, foreign exchange markets and exchange rates. Credit units: 3 ECTS Credit Units: 6. Spr (S. Özyildirim)

**MBA 503 Microeconomics**
This course summarize the theory and practice of microeconomics for managers. Theory of the consumer and the firm are the primary areas of the course. In addition, different market structure (perfect competition, monopolistic competition, oligopoly and monopoly), choice under uncertainty and some topics in financial economics will be covered. Credit units: 3 ECTS Credit Units: 6. Aut (L. Akdeniz)

**MBA 504 Financial Risk Management**
This course is a graduate level course focusing on the instrument of financial risk management. After taking this course participants will be able to understand the economic functions of derivatives markets and where they fit within the financial intermediation process. More specifically they will develop an understanding of the basic
Instruments like futures, forwards, options and some commonly used exotic derivatives. The course also aims to develop a working knowledge of the hedging strategies that could be implemented by the instruments introduced in the course. **Credit units:** 3 ECTS **Credit Units:** 6.

**MBA 505** Special Topics in Marketing  
**Credit units:** 2 ECTS **Credit Units:** 4.

**MBA 511** Accounting  
In this course, students will be able to aware the need for accounting records and reports and the basic principles underlying the accounting cycle and preparation of financial statements. Emphasis is given to accounting as an aid to managerial decision making. In addition, topics such as budgeting, funds flow and the basics of cost accounting are discussed. **Credit units:** 3 ECTS **Credit Units:** 6. **Aut (N. Akman)**

**MBA 512** Managerial Accounting  
The course focuses on the information development and analysis, presenting and communicating information to make it useful, and bring in accounting, financial and business information into the decision process. As students learn the fundamental concepts of management accounting, an attempt is made to identify problems with current accounting and managerial conventions. **Credit units:** 2 ECTS **Credit Units:** 4.

**MBA 513** Financial Statement Analysis  
This course introduces the tools of financial and credit analysis. Analysis of the relation between financial accounting data and firm performance is emphasized. Characteristics of accounting ratios and their relations to market and industry factors, time series behavior of earnings and forecasting models are also investigated. **Credit units:** 2 ECTS **Credit Units:** 4.

**MBA 519** Financial Institution and Markets  
In this course, the history, structure and functions of financial institutions (banks, insurance companies, mutual funds, etc.) as well as central banking are introduced. The existence of money, financial intermediaries, financial markets and the necessity of regulations are discussed within domestic and global context. Topics include why banks and other financial institutions exist, how asset prices are determined, what is the risk and term structure of interest rates and what is efficient market hypothesis. All major markets and their respective financial instruments are studied to develop the necessary quantitative toolset for sensible decision making in an increasingly global economy. **Credit units:** 3 ECTS **Credit Units:** 6.

**MBA 521** Corporate Finance  
A course in the theory of corporate finance with emphasis on investment and financing decisions of the firm. Topics include valuation, capital budgeting, capital structure, cost of capital, dividend policy, financial statement analysis, profit planning, financial forecasting, and working capital management. **Credit units:** 3 ECTS **Credit Units:** 6. **Prerequisite:** MBA 511. **Spr (K. Aydoğan)**

**MBA 524** Investment Analysis  
Risk and return characteristics of various investment instruments such as common stocks, bonds, convertibles and options are considered. Modern portfolio theory is discussed and related concepts are used in constructing portfolios for individual and institutional investors. Alternative portfolio management strategies and financial analysis and valuation of corporate securities are also covered. **Credit units:** 3 ECTS **Credit Units:** 6. **Spr (Z. Önder)**

**MBA 526** International Finance  
This course introduces the environment, theory and practice of international finance. The major topics covered are: the foreign exchange market and price elasticities of trade, the Keynesian Model of Income and the trade balance, the Monetary approach to the balance of payments, introduction to capital mobility: The Mundell-Fleming model. In the second part of the course international monetary system, the European monetary system, financial liberalization and stabilization in LDC's are covered. **Credit units:** 3 ECTS **Credit Units:** 6. **Aut (S. Özyildirim)**

**MBA 531** Marketing Research  
After a brief review of the examination of marketing information needs and resources including the collection and dissemination of primary and secondary data, this course focuses on quantitative research in marketing. More specifically, this course discusses problem definition, research design, sampling techniques, data collection and analysis. An overview of methods of measuring consumer reactions to project characteristics, effectiveness of advertising, and other promotional devices are also discussed. **Credit units:** 3 ECTS **Credit Units:** 6. **Spr (B. Tan Kasnakoglu)**

**MBA 532** Marketing Management  
Survey of the marketing concept, consumer behavior, segmentation, marketing research, competitive analysis, and marketing decisions involving products, price, distribution and promotion are discussed in this course. Analytical, strategic and decision making aspects are emphasized. Cases are used for application of the principles discussed. **Credit units:** 3 ECTS **Credit Units:** 6. **Spr (A. Ekici)**
MBA 535  Consumer Behavior I  
This course introduces micro aspects of consumer behavior and its implications for marketing strategy. Students will be able to discuss consumer needs and motivations, exploring both the rational and emotional bases of consumer actions. Moreover, students will be able to aware how consumers learn, store and recall information about products, form attitudes and make decisions about consumption activities. Credit units: 3 ECTS Credit Units: 6.

MBA 539  Services Marketing  
Services Marketing deals with the challenges of marketing and managing services and delivering quality service to customers. This course is applicable to both organizations whose core product is service (e.g., banks, hotels, insurance, hospitals, healthcare, and educational institutions) and to organizations that rely on service excellence for competitive advantage (e.g., automotive, industrial products, etc.). By the successful completion of this course, students will be able to demonstrate an understanding of the fundamental concepts and terminology used in services marketing, describe and utilize the important services framework (i.e. the GAP model), and identify and apply appropriate marketing tools to services context. Credit units: 2 ECTS Credit Units: 4.

MBA 542  Production and Operations Management  
This course familiarizes the student with the nature and content of methods of quantitative analysis employed in production/operations management decision making; enables him/her to identify, formulate and solve operations management problems that s/he may encounter in his/her professional careers. Course themes include strategic impact of operations management; global trends/practices in operations management; product/service design and development; design of production and work systems; total quality management; supply chain management. Credit units: 3 ECTS Credit Units: 6. Spr (E. E. Berk)

MBA 546  Supply Chain Management  
This course introduces the essential elements of Supply Chain Management, which consist of controlling and coordinating all the activities that take place from the raw material purchasing to the end customer satisfaction; such as order processing, purchasing, material storage and handling, production scheduling, packaging, transportation and setting customer service standards. Students will be able to aware how these activities are successfully modeled, planned, and controlled in manufacturing and service industries are addressed. They will also discuss decisions and strategies regarding transport and inventory, the most important parts of Business Logistics for a firm. The course is augmented with case studies to facilitate discussion and to gain an understanding of basic principles. Credit units: 3 ECTS Credit Units: 6.

MBA 548  Project Management  
In this course, students familiarizes the project management area from a management perspective. Topics include project selection, project organization, budgeting and cost estimation, and project auditing. Project planning and control techniques, such as CPM and PERT, are also covered. Credit units: 2 ECTS Credit Units: 4.

MBA 551  Probability and Statistics  
Uncertainty is a key concept in business decision making. Given the incomplete information in their environments, business decision makers are confronted with the challenging task of making "good" decisions in the face of uncertainty and risk. Probability provides the mathematical language of uncertainty; while statistics provides a toolbox for the collection, analysis and synthesis of data to aid in decision making. Within this framework, this course aims to provide the concepts and principles of a variety of introductory statistical tools and techniques. The emphasis of this course is on the themes of testing hypothesis, correlation and regression, analysis of contingency tables, analysis of variance, and time series. Credit units: 3 ECTS Credit Units: 6. Aut (2. Aydin)

MBA 553  Data Models and Decisions  
This course introduces students the techniques of management science and models to think structurally about decision problems, make more informed management decisions, and enhance decision-making skills. Topics include linear, discrete, and non-linear optimization and simulation modeling, as well as multi-criteria optimization. Spreadsheet models and spreadsheet-based software packages will be used extensively. Credit units: 3 ECTS Credit Units: 6. Aut (E. Erel)

MBA 555  Markets and Cultures  
Students are exposed to the cultural analysis of markets and study how markets work in interaction with culture. The aim is to explore the relationships among markets, culture, economics, and politics, all of which surround businesses/organizations. In the internationalizing markets of the global world, students need to understand cultural dynamics and interactions among cultures. The course entails a group project through which students learn how to do ethnographic research, written and oral presentation, as well as enhance their skills in reflexivity. Credit units: 3 ECTS Credit Units: 6.

MBA 556  Strategic Acquisitions: Identification, Negotiation and Post-Merger Integration  
The mission of this course is to survey the drivers of success in mergers and acquisitions (M&A) and develop your skills in the design and evaluation of these transactions. The student will develop an instinct for the problems and opportunities in an M&A situation. This course highlights elements in the structure and process of every
M&A transaction that deserve professional scrutiny. Strategic analysis is the core skill in M&A and is supplement by analyses of strategy, dilution, financing, and risk management. The course will exercise analytics in these areas. Designing a transaction requires skills of analysis and negotiation. We will survey a number of analytic tools, and then exercise them and your presentation skills in a “pitch book” exercise. The work in this exercise will teach a great deal about the design process, and the important leadership skills called for. We will survey some strategic frameworks useful in M&A, and the steps necessary to translate a concept into a solid proposal. 

Credit units: 2 ECTS Credit Units: 4.

MBA 557 New Venture and Business Plan Development: Entrepreneurship and Intrapreneurship

This course is how to develop a business plan for a new firm or a new product in an established firm. The class will integrate entrepreneurship, finance, accounting, operations management, human resources, marketing and strategy to develop a successful business plan for success. By the end of the class, the student will be able to develop their own business plan for a new idea to present to investors, or a new product launch that will be presented to top management for possible approval. The same approach can be utilized for new ideas within a department to launch for a student’s future. 

Credit units: 2 ECTS Credit Units: 4.

MBA 558 Marketing Communications

This course will provide students the knowledge and insight to use the marketing communication tools more effectively. The course covers the key strategic and tactical aspects of a large set of communication campaigns that ran across various platforms (e.g., TV, print media, Internet). The course is designed for MBA students who want to i) develop an understanding of the different types of communication tools, ii) analyze the key drivers for successful marketing communications programs, iii) design an effective marketing communication campaign, iv) apply specific tools and approaches to evaluate the effectiveness of communication campaigns from the business, regulatory, social & ethical points of view. In addition, the course also aims to improve team working skills, promote critical and analytical thinking, and enhance decision-making and problem-solving skills. 

Credit units: 3 ECTS Credit Units: 6.

MBA 561 Management

Managing successfully in the chaotic and dynamic world of 21st Century business demands a wide range of management skills and understanding. This course familiarizes students to these new skills and understandings in its three major components: (1) The Fundamentals of Modern Management: concepts, theories, and models of effective management. (2) Competing by Design: organizational structure as the critical tool for implementing corporate strategies. (3) The Management of Organizational Behavior in order to achieve a competitive advantage. 

Credit units: 4 ECTS Credit Units: 6. Aut (C. I. Göküş)

MBA 562 Human Resource Management

Human resource management (HRM) is one of the major functional areas in management. It is now widely accepted that all managers need to be aware of HRM to successfully deal with various managerial issues. In this course, it is aimed to give MBA students with little or no prior knowledge of HRM an academic understanding the subject. The development of HRM as an academic field is critically explored in its historical context, with a special emphasis on the differences between personnel management and HRM. Various functions and dimensions of HRM (i.e. recruitment and selection, training and development, performance management, etc.) are defined and discussed, by using case studies and real examples both from Turkey as well as from abroad. Contemporary issues around HRM (e.g. discrimination and diversity, downsizing, industrial relations, etc.) are also explored. Upon successful completion of the course, students will be able to answers to the following questions: firstly, why and how is HRM one of the most significant management functions? and secondly, who does HRM in organizations? 

Credit units: 3 ECTS Credit Units: 6. Spr (B. Kivrak)

MBA 568 Entrepreneurship and Innovation Management

This course covers approaches to the study of entrepreneurship and discusses challenges that companies face in identifying, creating and exploiting opportunities for innovation on a systematic basis. Within this context, family businesses and the private sector development and innovation in Turkey will also be explored. 

Credit units: 3 ECTS Credit Units: 6.

MBA 582 New Product Design and Marketing

New products and services are vital to the success of all companies and their brands. However, innovation is risky and most new products fail in the marketplace. Ineffective marketing is the primary cause of new products failures whose financial impact to the economy is significant. Thus, expertise in the marketing and design of new products is a critical skill for all managers, inside and outside of the marketing department. In this course, we focus on the tools and techniques associated with analyzing market opportunities and then designing, testing and introducing new products and services. Both quantitative and qualitative approaches are demonstrated. In particular during the course, students will analyze real case studies and competitive team projects to apply the new product development process, market entry strategies, how to generate new products ideas, mapping customer perceptions, segmentation, product positioning, forecasting market demand, and product design. 

Credit units: 3 ECTS Credit Units: 6. Aut (O. Kandemir)
MBA 584 Special Topics in Business Administration
Each semester a different topic is covered in this course. Examples include E-commerce, product Design and Brand Planning. Credit units: 2 ECTS Credit Units: 4.

MBA 585 Special Topics in Marketing
The course will explore in-depth a current topic in the marketing field. The topic will be based on students interest and availability of school resources. Credit units: 3 ECTS Credit Units: 6.

MBA 591 Business Strategy
Business strategy is concerned with managing the competitive position and long-term development of the enterprise in order to ensure its survival and success. In this capstone course, students will be able to synthesize the previous training in functional areas to address the evaluation, formulation and implementation of corporate and business level strategies in relation to the firm’s environment. Students also acquire familiarity with the principal concept s, frameworks, and techniques of corporate and business strategy and strategic management; gain expertise in applying these concepts, frameworks, and techniques in order to discuss the reasons for good or bad performance by an enterprise; and generate, evaluate and recommend strategy options for an enterprise. Credit units: 4 ECTS Credit Units: 8. Aut (T. S. Kiessling) Spr (T. S. Kiessling)

MBA 592 Business Practice
The business practice course will require students to either complete a management consulting project or a business plan for an organization (company, government branch, NGO, or non-profit enterprise). Projects will be completed in groups of three or four. In this course, students will be able to propose a structured analysis, a decision support tool, a report, and/or other deliverables dictated by the organization in their terms of reference with the students. Credit units: 4 ECTS Credit Units: 8. Prerequisite: MBA 591. Aut (E. Erel) Spr (E. Erel, A. Sahil)

MBA 602 MBA Project
This course is designed to guide students to study a business related-research topic. Students must complete a written project during this course. Credit units: None ECTS Credit Units: 3. Aut (E. Erel) Spr (E. Erel)

MBA 631 Markets and Competition
Competitive Marketing Strategy is a rigorous course that focuses on the vital skills that all business managers need to know in order to create winning strategies as you face competitive forces at the product and service level. The premise of the course is that firms are successful when they implement strategies that create and capture value. Thus, the objectives of the course are to learn how to (a) analyze competition, category, company, customers and consumers in specific marketplace situations; (b) create strategies that maximize competitive advantages in gaining economic profit; and (c) formulate plans to implement those strategies. You’ll not just be developing strategy; you will also learn to become a strategy critic when you serve on an executive board examining, questioning and voting on another student team’s strategic plan for a case study. In addition, you will gain valuable experience as you fine-tune verbal and written presentation skills. The course consists of lectures and case presentations. Topics covered include both the process and content of strategic action and interaction; measuring and mapping value; strategic models; brands and other major sources of competitive advantage; methods for comparing competitive offers and strategies; scenario analysis; competitive signaling and competitive intelligence. Credit units: 3 ECTS Credit Units: 6.

MBA 672 Leadership for International Managers
This course aims at familiarizing students with the knowledge and skills for recognizing leadership patterns and developing competencies and attitudes that will enhance their own competitiveness in the corporate arena and contribute to developing their personal managerial styles. It combines management theory and practical tools used by managers to carve a leading role for their organizations - Whether commercial enterprises or not-for-profit organizations - in the global environment, taking into consideration the impact of cultural diversity and the increasing importance of the emerging markets on drawing and implementing international strategies successfully. Credit units: 2 ECTS Credit Units: 4.

MBA 673 International Business Strategy
Business conducted internationally entails the consideration of a far greater range of variables and associations than business conducted in the home country. Accordingly, in this course, students are able to learn their business, markets, institutions, challenges, strategy, and operations of international and cross-cultural business. Upon conclusion of this course, students should: (a) become sensitized to the urgency and challenges of international business for the contemporary enterprise; (b) have substantial understanding of fundamentals of international business with respect to major world markets, their environments and consumers; (c) understand basic managerial requirements for the successful performance of firms in international business; (d) be able to fit in quickly and perform in the international business operations of any firm. Credit units: 2 ECTS Credit Units: 4.

MBA 677 Negotiating Skills for International Executives
This course aims at familiarize the students with knowledge and skills to understand the dynamics of cross cultural negotiations in the global business environment and apply in practice proven techniques in a variety
of circumstances. After an initial skill assessment of the participants, theory and cases inspired from real-life situations alternate in order to immerse the participants and equip them with first-hand experience. role playing, feed-back, self-evaluation, and multi-media aids are some of the pedagogical tools used. One-on-one, multiparty, cross-border, government, mediation, alternate conflict resolution approaches are addressed, to degrees tailored to the profile and needs of the students. The topic of negotiations in the work-place for personal achievement is also covered. Assignments are used for ongoing evaluation, and final examination is in the form of a short essay. Credit units: 2 ECTS Credit Units: 4.

EMBA 502  EMBA Project

This applied course enables participants to put into practice the various functional area knowledge that they gained in their courses. With a macro-level strategic focus, this application is designed to enable participants to think about how their learning experiences in the program could be leveraged to identify and initiate business change and strategic improvement avenues in their own business and managerial contexts. Credit units: None. ECTS Credit Units: 3.

EMBA 515  Foundations of Organizational Management

This course serves as a general overview of managerial issues in modern business organizations. Structured around distinct organizational management domains, the course emphasizes the importance of effectively managing 1) employees (individuals and teams/groups), 2) organizational processes (motivation, leadership, communication, and learning), and 3) macro organizational design issues (structure and culture). The course also aims to serve as a platform for participants to start reflecting on their ongoing managerial practice, and comparing and connecting their practical managerial experience with the theoretical knowledge on organizational management that they are going to be exposed to in the course. Credit units: 5 ECTS Credit Units: 12. Aut (A. O. Orge)

EMBA 516  Competitive Strategy

The main purpose of the course is to develop knowledge skills and abilities concerning the fundamentals in strategic management. The general objectives of the course are to introduce to the key principles of strategic management, develop an understanding of the concepts, skills, and abilities that make strategies successful, develop an awareness of the critical importance of industry and competition analysis, develop knowledge and skills for evaluating strategic options in corporate growth decisions, involve in a variety of activities that will develop the ability to apply the concepts. Credit units: 5 ECTS Credit Units: 12.

EMBA 521  Business Law

The participants of this course will learn the legal system and how to use legal advise for managerial decisions. Topics covered include principals of obligation law, concepts of "obligational relationship" and "obligation", sources of obligations, formation and validity of legal transactions; particularly contracts, representation, torts and unjust enrichment. Basic concept of commercial enterprises law and negotiable instruments law, Partnerships and corporations, different aspects of public companies, legal issues related to competition, Principals of bankruptcy law, forcing of payments of debts, order of payment, forced sale and bankruptcy, Legality, sources and application of the criminal laws. General theory of crime; elements of crime, criminal responsibility; punishment, new perspectives in criminal law, especially in commercial criminal law area. Credit units: 3 ECTS Credit Units: 7. Aut (A. Salih)

EMBA 525  Managing Systems Effectively

One of the key responsibilities of today's global managers is to orchestrate the multitude of actors, resources and processes of business value creation systems. Based primarily on an operational perspective, this course aims to shed light on and integrate various interdependent facets of value creation to instill in participant a holistic and practice-oriented appreciation of issues in modern business systems management. With this goal, the course examines key topics including supply chain, operations and logistics management; strategic human resource management; and, IT and managerial reporting processes. Credit units: 3 ECTS Credit Units: 7. Aut (A. Kocabiyikoğlu)

EMBA 535  Foundations of Quantitative Methods and Financial Reporting

This course is built around fundamental quantitative and reporting tools to help executives become informed and strategic users of the managerial data supplied to them. To that end, participants are first introduced a framework for thinking about problems involving uncertainty and, building on this framework, and developing quantitative tools for analyzing and interpreting data. This analytical framework is also supported by various spreadsheet applications for managerial use. Building on this analytical foundation, participants then learn how to examine accounting records and reports and the basic principles underlying the accounting cycle and preparation of financial statements, with a general focus on how accounting can be used as an aid to strategic managerial decision making. Credit units: 5 ECTS Credit Units: 12. Aut (B. Sultanoğlu)

EMBA 545  Foundations of Financial Management

Participants of this course will develop a basic understanding of the financial management issues and problems in business organizations. To this end, the participants are first introduced the general functioning of the aggregate macromconomic environment, and how and through which channels international financial environment affects the local economy. The course then covers the role and functioning of the capital and money markets as a device
for the allocation of resources, the channeling of investable funds, and reallocation of risk. Finally, the course involves a basic introduction to financial mathematics and how financial securities are priced. Topics covered include interest rates, basic financial instruments, stock and bond pricing, concepts of return and risk and how they affect the managerial decision making process. Credit units: 5 ECTS Credit Units: 12. Spr (A. Salih)

EMBA 546 Strategic Financial Management
This course is designed around the question of how to create value for your company and increase financial performance through strategic decisions such as investing in real assets with a thorough understanding of the risks involved, optimal mix of financing and how it relates to the markets and people, how to allocate financial resources among various stakeholders. Credit units: 3 ECTS Credit Units: 7. Aut (A. B. Tanyeri)

EMBA 547 Decision Analysis
This course integrates the managerial decision making process under uncertainty and many stakeholders through strategic financial decisions. Founded on descriptive and prescriptive approaches, it covers models in decision making, heuristics and biases, individual versus group decision making and tools for decision support. Credit units: 2 ECTS Credit Units: 5. Spr (D. Önkal, A. Salih)

EMBA 555 Foundations of Marketing Management
This course is crafted around the core elements and tools of marketing, such as market-focused culture, customer and competitor analysis, value delivery, pricing, relationship management, brand management, marketing communication and marketing analytics. For these purposes, the participants are introduced various frameworks to better understand and manage the nature and determinants of consumer behavior, branding, and sales management techniques. The course also provides opportunities for participants to reflect on and apply the course contents in their own business and managerial contexts. Credit units: 5 ECTS Credit Units: 12. Spr (A. Ekici, A. Salih)

EMBA 556 Managing Markets, Growth and Change
In today’s increasingly complex and dynamic global business environment, one haunting management challenge is to continually nurture market responsiveness and adaptation as key business competences. To help participants address these challenges, the course aims to examine various processes through which successful business organizations monitor, internalize, and respond to market dynamics. With this focus, the course examines topics such as market research; marketing strategy; new product development; innovation; business growth management; and, organizational change management. Credit units: 5 ECTS Credit Units: 12. Spr (A. Ö. Orge, A. Salih)
The Faculty of Economics, Administrative, and Social Sciences comprises five academic departments:

- Economics
- History
- International Relations
- Political Science and Public Administration
- Psychology

The Departments of Economics, International Relations, Political Science and Public Administration, and Psychology offer programs leading to Bachelor’s, Master’s, and Doctor of Philosophy degrees, while the Department of History has only a graduate program leading to M.A. and Ph.D. degrees. In addition, the Faculty contributes to interdisciplinary graduate programs that offer M.S. and Ph.D. degrees in the area of Neuroscience.

**ACADEMIC STAFF**

Michelle Marie Adams, Associate Professor  

Şaziye Pelin Akyol, Assistant Professor  
Ph.D., Economics, Penn State University, 2014.

John James Alexander, Assistant Professor  

Jedediah Wilfred Papas Allen, Assistant Professor  
Ph.D., Lehigh University, 2012.

Ersel Aydını, Associate Professor  

İhsan Iker Aytürk, Assistant Professor  

Gamze Baray, Instructor (on leave)  

Hakan Berument, Professor  

Miri Besken, Assistant Professor  

Ahmet Beyati, Instructor  
Ph.D., Management, University of Baghdad, 1994. Arabic.

Ali Bilgiç, Assistant Professor  
Hatice Pınar Bilgin, Associate Professor
International Relations Theory, Critical Security Studies.

Hüseyin Boyacı, Associate Professor (on leave)

Hasan Tolga Bölükbaşı, Assistant Professor
Ph.D., Sociology, McGill University, 2007. Political Economy, European Politics, Comparative
Politics.

Selver Buldanlıoğlu Şahin, Assistant Professor
Ph.D., Political Science, University of Canterbury, 2008. Contemporary International interventions,
Security sector reform, democratisation, peace building after conflict, politics and society of the
Balkans and Southeast Asia.

Berrak Burçak, Assistant Professor

Elena Cirkovic, Assistant Professor
Ph.D., International Law, Osgoode Hall Law School, York University, 2010. International Law,
Transnational Law, International Legal History, Rights and Citizenship Comparative Politics, Archi-
tects and Politics, Transnational Corporate Regulation, Legal and Political Theory and Philosophy.

Alev Čınar, Visiting Professor

Cerag Esra Çuhadar Gürkaynak, Assistant Professor
Ph.D., International Relations, Syracuse University, 2004. Negotiations and Third Party Interven-
tion, Foreign Policy Analysis, Political Psychology.

Nuh Aygün Dalkran, Assistant Professor
Ph.D, Managerial Economics and Strategy, Kellogg School of Management, Northwestern Uni-
versity, 2012.

Katja Doerschner, Assistant Professor (on leave)
Ph.D., Experimental Psychology, New York University, 2006. Perception of surface material,
including color, in complex environments, perception of shape and motion.

Özer Ergenc, Visiting Professor

Fatma Tahire Erman, Associate Professor
Ph.D., Environmental Psychology, City University of New York, 1993. Rural to urban migration,
squatter housing and gender.

Nilgün Fehim Kennedy, Instructor
Ph.D., Sociology, Middle East Technical University, 2005. Sociology.

Tore Fougner, Assistant Professor
Ph.D., International Relations, Keele University, 2002. Global Political Economy, Global Govern-
nance, International Relations Theory, Critical Theory, Gender, Labour.

Onur Gökçe, Senior Lecturer
B.S., Faculty of Political Science, Ankara University, 1962. Turkish Foreign Policy, Diplomatic
Language.

Ioannis N. Grigoriadis, Assistant Professor
Ph.D., Turkish Politics, University of London, 2005. Turkish Politics, European Politics.

Gül Güneydön, Assistant Professor
Ph.D., Social and Personality Psychology, Cornell University, 2013. Interpersonal cognition, im-
pression formation, close relationships and mental representations of close relationship partners,
affect regulation.
Serdar Ş. Güner, Associate Professor  

Refet Soykan Gürkaynak, Professor  

Jale Gürzumar, Instructor  
MBA, Middle East Technical University, 1986. Business administration.

Kevin Edward Hasker, Assistant Professor (on leave)  

Banu Helvacıoğlu, Adjunct Senior Lecturer (on leave)  
Ph.D., Political Studies, Queen’s University, 1988. Politics of identity, European concepts, political theory.

Metin Heper, Professor  
Ph.D., Public Administration, Syracuse University, 1971. Turkish politics, comparative state politics and bureaucracy.

Clemens Maximilian Hoffmann, Assistant Professor  

Hande Ilgaz, Assistant Professor  

Halil İbrahim İnalıcı, Professor  
Ph.D., History, Ankara University, 1942. Ottoman history.

Başak İnce, Assistant Professor  
Ph.D., Political Science, University of London, 2008. Turkish politics, Comparative politics.

Pınar İpek, Assistant Professor  

Onur İşçi, Assistant Professor  
Ph.D., History, Georgetown University, 2014. Diplomatic History, Cold War Studies, Imperial/Soviet Russian History, Ottoman/Turkish Foreign Affairs.

Aida Just, Assistant Professor  

Daniel Just, Assistant Professor  
Ph.D., Comparative Literature, New York University, 2005. Sociology of Literature, political theory, Cold War culture.

Mehmet Kalpaklı, Assistant Professor  
Ph.D., Turkish Literature, University of Washington/İstanbul University, 1992. Ottoman literature and cultural history, Near Eastern languages and literature, modern Turkish literature, theory of literature, use of computers for humanities.

Tank Kara, Assistant Professor  
Ph.D., Economics, University of Rochester, 1996. Game theory, social choice theory, mathematical economics.

Türkan Mine Kara, Instructor  
Ph.D., Economics, Hacettepe University, 2002. Methodology in economics, history of economic thought, economic development.
Emin Karagözoglu, Assistant Professor  

Mehmet Nedim Karakayalı, Associate Professor  

Sırri Hakan Kırmlı, Associate Professor  

Mehmet Akif Kirecci, Assistant Professor  
Ph.D., University of Pennsylvania, 2007. Middle Eastern Modernization; Orientalism.

Edward Kohn, Assistant Professor  

Semih Koray, Visiting Professor  
Ph.D., Mathematics, Boğaziçi University, 1980. Mathematical economics.

Paul Latimer, Assistant Professor  
Ph.D., History, Sheffield University, 1982. Medieval European history.

Sang Seok Lee, Assistant Professor  

Cadoc Douglas Auld Leighton, Associate Professor  

David Michael Lewis, Assistant Professor  
Ph.D., Psychology, University of Texas, 2013. Bridge social, personality and evolutionary psychology with behavioral genetics to offer a novel paradigm for investigating personality traits as evolved solutions to distinct social problems.

Syed Fahri Mahmud, Visiting Associate Professor  
Ph.D., Economics, McMaster University, 1986. Econometrics, applied econometrics, macroeconomics.

Can Emir Mutlu, Assistant Professor  
Ph.D., University of Ottawa, 2013. Critical security studies, International political sociology, technology, practices, and materialities of global mobility regimes.

Carnot E. Nelson, Visiting Professor  

Bilin Neyaptı, Associate Professor  
Ph.D., Economics, University of Maryland, 1997. Macroeconomics, monetary economics, institutional economics.

Çağla Ökten Hasker, Associate Professor (on leave)  

Saime Özçürümez Bölükbaşı, Assistant Professor  

İbrahim Özugr Özdamar, Assistant Professor  
Ph.D., Political Science, University of Missouri-Columbia, 2006. International Relations Theory, Foreign Policy Analysis, Research Methods, American Foreign Policy, Black Sea Politics.

Oktay Özel, Assistant Professor  
Ph.D., History, University of Manchester, 1993. Ottoman socio-economic history, demographic changes, methods and problems in historical writings.
Abdürrahim Özer, Instructor
M.A., International Relations, Bilkent University, 2008.

İbrahim Mert Öztürk, Instructor

Cavit Pakel, Assistant Professor

Fitnat Banu Pakel, Assistant Professor

Ayşe Özgür Pehlivan, Assistant Professor
Ph.D., Pennsylvania State University, 2011. Microeconomics, international trade, empirical industrial organization, applied microeconometrics.

Evgeniy Radoslavov Radushev, Visiting Assistant Professor
Ph.D., History, Bulgarian Academy of Sciences, 1982. Ottoman diplomatics and paleography, Ottoman socio-economic, political and ethnocultural history.

Hüseyin Çağrı Sağlam, Assistant Professor

Selin Salman Engin, Instructor
M.S., Social Psychology, Middle East Technical University, 2007.

Jeremy Mills Salt, Visiting Associate Professor
Ph.D., Middle Eastern History, Melbourne University, 1980. Middle Eastern studies.

Zeki Sargil, Assistant Professor (on leave)
Ph.D., Political Science, University of Pittsburgh, 2007. Turkish Politics, comparative Politics.

Selin Sayek Böke, Associate Professor

Nida Shoughry, Assistant Professor
Ph.D., International Politics, Aberystwyth University, 2010. The Israeli-Palestinian/Arab conflict, history and politics of the Middle East, Media and politics, Islam and politics, critical approaches to terrorism, social movements and resistance and social movement theory.

Norman Stone, Professor

Nil Seda Şatana, Assistant Professor (on leave)
Ph.D., Political Science, State University of New York (SUNY), 2006. Inter and Intra-State Conflict, Civil-Military Relations, Terrorism.

Zerrin Tandoğan, Instructor
Ph.D., Anthropology, Hacettepe University, 1991. Social anthropology, international migration, multi-cultural relations, research ethics, student mobility.

Fatma Taşkin, Associate Professor

Ann-Marie Thornton, Instructor

David E. Thornton, Assistant Professor

Sübidey Togan, Professor

Mirza Trokic, Assistant Professor
Dimitri Tsarouhas, Associate Professor
Ph.D., Politics, The University of Sheffield, 2005. European Integration, Political Economy, EU-Turkey Relations, Comparative European Politics.

Meral Uğur Çınar, Assistant Professor
Ph.D., Political Science, University of Pennsylvania, 2012.

Kenneth Weisbrode, Assistant Professor
Ph.D., History, Harvard University, 20th Century American diplomatic history.

Paul Andrew Williams, Assistant Professor

Alp Erinci Yeldan, Professor

Kemal Yıldız, Assistant Professor

Mehmet Taner Yiğit, Associate Professor

PART-TIME ACADEMIC STAFF

Yasemin Aker, M.A., Clinical Mental Health Counseling, University of Massachusetts, 2010.

Dimitrios Akrivoulis, Ph.D., International Relations, University of Kent at Canterbury, 2002.

Ömer Altay, M.A., Economics, Essex University, 1974.

Deniz Altınbaş, Ph.D., Political and Social Sciences, Gazi University, 2007.

İnci Apaydın, M.S., Operations Research, Middle East Technical University, 1989.


Ayşegül Avci, M.A., History, Bilkent University, 2009.


Zeynep Başgözé, M.S., Informatics Institute, Cognitive Sciences, Middle East Technical University, 2008.


Michael T Brannick, Ph.D., Psychology, Bowling Green State University, 1986.


Volkan Çetinkaya, Ph.D., Economics, Rutgers University, 2007.

Ali Oğuz Diriöz, Master of International Affairs and Public Policy, Bilkent University, 2007.

Mehmet Ali Okan Doğan, B.A., Department of Political Science and Public Administration, Bilkent University, 2006.

İsmail Hakkı Doğankaya, Ph.D., Logistics, Dokuz Eylül University, 2009.


Merve Ermemis, M.S., Industrial and Organizational Psychology, Kingston University, 2011.

Çağkan Felek, B.A., Political Science and International Relations, Middle East Technical University, North Cyprus, 2010.

Athina Gkouti, Ph.D., European Politics, Aberystwyth University, 2014.

Dan Goldenberg, Ph.D., Medieval History, Tel Aviv University, 2010.

Nilüfer Güngenci, M.A., Counseling for mental Health and wellness, New York University, 2013.


Rabia Harmanşah, M.S., Middle East Studies, Middle East Technical University, 2006.
SOC 101 Introduction to Sociology
Introduces students to the subject matter, major concepts, and theoretical approaches of sociology. Includes readings in the works of both classical and modern theorists. Emphasis is on social organization and stratification, community, power, social change. Credit units: 4 ECTS Credit Units: 8. Aut (M. Ç. Aslan, K. Emiroğlu, A. Özer, İ. M. Öztürk, E. Sönmez Taş, E. Türkçelik, M. S. Ünsal, H. Yeni) Spr (A. Avci, K. Emiroğlu, A. Özer, İ. M. Öztürk, F. Pamuk, M. S. Ünsal, H. Yeni)

HIST 200 History of Turkey
This course focuses on aspects of Turkey's history with an emphasis on research. It is designed as an interactive course with the objective to investigate events, chronologically short historical periods, as well as historic representations. Credit units: 4 ECTS Credit Units: 6. Aut (N. Fehim Kennedy, R. Harmanşah, D. Just, B. Z. Önen, H. I. Rösch) Spr (N. Fehim Kennedy, R. Harmanşah, D. Just, B. Z. Önen, H. I. Rösch)
DEPARTMENT OF ECONOMICS


Economics is the study of the behavior of economic units, institutions and systems and the choices that they make with respect to the allocation of scarce resources between production and consumption. It is concerned with a wide range of problems that directly affect society: the causes of unemployment and inflation, productivity and economic growth, foreign debt and trade links, and the role of government in market economies.

UNDERGRADUATE PROGRAM

The program leading to the Bachelor's degree in Economics combines training in technical economics with opportunities for a broad and balanced undergraduate education. The program aims to give the students a solid grounding in modern economic theory and accompanying skills necessary for independent and critical thinking which will allow them to acquire an understanding of the Turkish and the world economy. The aim is achieved through a flexible curriculum which is structured to provide the basic social science and quantitative toolbox necessary for all economists in the first two years, followed by a student-tailored curriculum in the last two years during which the students choose a track of study they prefer to complete under economics. These tracks cover all general economics fields including Academics Economics Track which aims to prepare students for a highly quantitative graduate study, Macroeconomics Track which emphasizes topics about the workings of the macroeconomy such as monetary and international economics, Microeconomics Track which focuses on the decision making of individuals and firms in depth, Managerial Economics Track which capturing the synergy issues between management and economics, and finally a General Economics Track which allows the students to explore cross tracks during their studies. All of these general tracks are supported by a range of free electives allowing students to becoming well-rounded social scientists and furthermore university graduates.

UNDERGRADUATE CURRICULUM

FIRST YEAR

<table>
<thead>
<tr>
<th>Autumn Semester</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>CS 123</td>
<td>Introduction to Computing and Programming for Social Sciences</td>
</tr>
<tr>
<td>ECON 101</td>
<td>Introduction to Economics I</td>
</tr>
<tr>
<td>ENG 101</td>
<td>English and Composition I</td>
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<tr>
<td>GE 100</td>
<td>Orientation</td>
</tr>
<tr>
<td>MATH 105</td>
<td>Introduction to Calculus I</td>
</tr>
<tr>
<td>TURK 101</td>
<td>Turkish I</td>
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<td></td>
<td>Unrestricted Elective</td>
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<thead>
<tr>
<th>Spring Semester</th>
<th>Credits / ECTS Credits</th>
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<tr>
<td>ECON 102</td>
<td>Introduction to Economics II</td>
</tr>
<tr>
<td>ENG 102</td>
<td>English and Composition II</td>
</tr>
<tr>
<td>MATH 106</td>
<td>Introduction to Calculus II</td>
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<tr>
<td>TURK 102</td>
<td>Turkish II</td>
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<td></td>
<td>Unrestricted Elective</td>
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<td></td>
<td>100 Level Social Science Elective</td>
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SECOND YEAR

<table>
<thead>
<tr>
<th>Autumn Semester</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>ECON 203</td>
<td>Microeconomic Theory I</td>
</tr>
<tr>
<td>ECON 205</td>
<td>Macroeconomic Theory I</td>
</tr>
</tbody>
</table>
ECON 221  Introduction to Probability and Statistics I  3 / 6  
ECON 225  Mathematics for Economists  3 / 6  
GE 250  Collegiate Activities Program I  - / 1  
HCIV 101  History of Civilization I  3 / 6  

**Spring Semester**  
Credits / ECTS Credits  
ECON 204  Microeconomic Theory II  3 / 6  
ECON 206  Macroeconomic Theory II  3 / 6  
ECON 222  Introduction to Probability and Statistics II  3 / 6  
GE 251  Collegiate Activities Program II  1 / 1  
HCIV 102  History of Civilization II  3 / 6  
HIST 200  History of Turkey  4 / 8  
Restricted Elective  3 / 6  

**THIRD YEAR**  

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits / ECTS Credits</th>
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</thead>
<tbody>
<tr>
<td>Autumn Semester</td>
<td></td>
</tr>
<tr>
<td>ECON 301  Econometrics I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ECON 363  History of Economic Thought</td>
<td>3 / 6</td>
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<tr>
<td>Economics Elective</td>
<td>3 / 6</td>
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<tr>
<td>Restricted Elective</td>
<td>3 / 6</td>
</tr>
<tr>
<td>Unrestricted Elective</td>
<td>3 / 6</td>
</tr>
<tr>
<td>Spring Semester</td>
<td>Credits / ECTS Credits</td>
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<tr>
<td>Economics Electives (2)</td>
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<tr>
<td>Restricted Elective</td>
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<td>Unrestricted Electives (2)</td>
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**FOURTH YEAR**  

<table>
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<tr>
<th>Course</th>
<th>Credits / ECTS Credits</th>
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</thead>
<tbody>
<tr>
<td>Autumn Semester</td>
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</tr>
<tr>
<td>ECON 399  Summer Training</td>
<td>- / 6</td>
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<tr>
<td>Economics Elective</td>
<td>3 / 6</td>
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<tr>
<td>Restricted Elective</td>
<td>3 / 6</td>
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<tr>
<td>Transdisciplinary Senior Project</td>
<td>3 / 6</td>
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<tr>
<td>Unrestricted Elective</td>
<td>3 / 6</td>
</tr>
<tr>
<td>Spring Semester</td>
<td>Credits / ECTS Credits</td>
</tr>
<tr>
<td>Economics Electives (2)</td>
<td>6 / 12</td>
</tr>
<tr>
<td>Restricted Elective</td>
<td>3 / 6</td>
</tr>
<tr>
<td>Unrestricted Electives (2)</td>
<td>6 / 12</td>
</tr>
</tbody>
</table>

**ELECTIVE REQUIREMENTS**

Regardless of the track a student has chosen, the elective composition of each student should adhere to the following quotas:

1. One 100 level social science elective.
2. Five restricted electives.
3. Eight unrestricted electives.
4. Six Economics electives.
5. One Transdisciplinary Senior Project.

**MINOR PROGRAM**

The Minor program in Economics is offered to students who are interested in economics but hold primary interests in other fields. Economics is the study of the allocation of resources and provides an understanding of a very wide range of issues that one faces both in their daily lives and in their careers. By arming the students with the theoretical toolkit as well as the basics of empirical...
analysis, and allowing the application of this expanded toolbox in a field elective course, the Minor program in Economics promotes the intellectual growth of the individual student and contributes to them becoming better citizens as well as better professionals. The minor is not only useful for students in fields other than economics who may wish to continue their education with a graduate degree in economics but also for those who wish to prepare for a MBA, graduate studies in other social sciences including law, international relations, public policy and quantitative analysis, as well as those who just want to have a better understanding of the world they are living in.

Prerequisite Courses:

MATH 102 Calculus II or MATH 106 Introduction to Calculus II or MATH 114 Multi Variable Calculus

One of the below requirements

* ECON 101 Introduction to Economics I and ECON 102 Introduction to Economics II
* ECON 103 Principles of Economics
* ECON 107 Principles of Microeconomics and ECON 108 Principles of Macroeconomics

CURRICULUM

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits / ECTS Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECON 203 Microeconomic Theory I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ECON 204 Microeconomic Theory II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ECON 205 Macroeconomic Theory I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ECON 206 Macroeconomic Theory II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ECON 222 or ECON 301</td>
<td>3 / 6</td>
</tr>
<tr>
<td>Elective (Any 300 or 400 level ECON Course)</td>
<td>3 / 6</td>
</tr>
</tbody>
</table>

GRADUATE PROGRAMS IN ECONOMICS

Graduate programs in economics aim to train students to enable them to carry out independent research. For this purpose, the programs are designed to ensure that the students get a solid background in both economic theory and the techniques used in empirical research. While the Department offers both M.A. and Ph.D. degrees, the M.A. degree is considered, in principle, as an intermediate step that is passed en route to the Ph.D. The core requirements common to both programs leave little room for choosing the courses to be taken in the first year, but the students are offered considerable flexibility as to their choice of the fields of specialization later on.

Students admitted to graduate studies in the department are expected to have a strong background in undergraduate level economics and some training in mathematics and statistics. Sufficient (though not necessarily a pre-condition) background would consist of an undergraduate degree in Economics, a year-long calculus sequence that includes multivariate analysis, a course in linear algebra, and a course in probability and statistics. (Also refer to the “Graduate Admissions” section in the introduction of this catalog for the general graduate admission requirements.)

Master of Arts in Economics

The curriculum aims to prepare the students toward a Ph.D. degree. However, elective courses and a thesis study in the 2nd year gives the students the opportunity to over take practical training, preparing them for jobs in the government or private sector.

Prospective students must have completed Bilkent University’s requirements for a Bachelor of Arts degree in Economics or approximately equivalent training. Since students will be required to take the same courses as the Ph.D. candidates, similar preparation in mathematics and statistics is generally expected. Degree requirements for Master of Arts in Economics are:

1. The core curriculum for Master of Arts in Economics degree must be successfully completed. The courses in the core curriculum for Master of Arts in Economics include the graduate level Mathematics Review course (ECON 500), Microeconomic Theory (ECON 503-504),
write two Master's thesis. The initial year of the program in Bilkent University sets the groundwork at the end of the last year, each approved by individual committees in both universities. After the University where they specialize in one alternative field. The two Master's theses are completed and provides the participants with necessary skills to continue towards the second year in Tilburg complete their education in Turkey in two years. Students are expected to take 13 to 15 courses and Bilkent University and their second at Tilburg University. Part-time students have the option to complete their education in Turkey in two years. Students are expected to take 13 to 15 courses and write two Master's thesis. The initial year of the program in Bilkent University sets the groundwork and provides the participants with necessary skills to continue towards the second year in Tilburg University where they specialize in one alternative field. The two Master's theses are completed at the end of the last year, each approved by individual committees in both universities. After the completion of the program the students are granted an M.A. in Economics at Bilkent University and an M.S. degree in one of the following fields at Tilburg University: Economics, Mathematical Economics and Econometric Methods, Operations Research and Management Science, Quantitative Finance and Actuarial Sciences.

Doctor of Philosophy in Economics

The Ph.D. program in economics is a program requiring the attainment of scientific competence in conformity with international scientific standards. Admission to the doctoral program is by written
application and an evaluation by the department. It is expected that admitted students will be ade-
quately prepared in calculus, linear algebra, and statistics. (Also refer to the “Graduate Admissions”
section in the introduction of this catalog for the general graduate admission requirements.)

All students take a common core curriculum at the outset and later branch out in the desired fields of
specialization. The fields may be chosen from fiscal economics, international economics, macroeco-
nomics, mathematical economics, monetary economics, and econometrics. Well-prepared stu-
dents should anticipate spending approximately two years in course work and another two years
in seminars, independent study, and dissertation research. While exceptional progress may make
a three-year program feasible, some types of research programs will require at least five years to
complete.

A candidate for the Ph.D. degree must:

1. Successfully complete the core curriculum for Ph.D. degree in Economics. The courses in the
core curriculum for Ph.D. degree in Economics include the graduate level Mathematics Re-
view course (ECON 500), Microeconomic Theory (ECON 503-504), Macroeconomic Theory
(ECON 505-506), Mathematics for Economists (ECON 515-516), Probability and Statistics
(ECON 509-510) sequences, two elective sequences, and Pro-thesis Seminar (ECON 590)
and the Ph.D. Dissertation (ECON 699) courses.

2. Successfully complete the course requirements for Ph.D. degree by earning at least 24 credits
from the courses listed under “Graduate Electives”. (Some graduate courses offered by other
departments may be counted towards this requirement.)

3. Show competence in two comprehensive examinations in macroeconomics and microeco-
nomics within the first three semesters after being admitted to the Ph.D. program.

4. Submit a detailed thesis proposal while taking the ECON 699 course and give a seminar on
this work.

5. Submit and successfully defend a dissertation that represents a contribution to knowledge in
the field.

Candidates must be in residence for a minimum of three years including the period spent on the
Master of Arts program.

CURRICULUM OF Ph.D. PROGRAM

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits / ECTS Credits</th>
</tr>
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<tbody>
<tr>
<td>ECON 691 Ph.D. Pre-Thesis Seminar I</td>
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<tr>
<td>ECON 692 Ph.D. Pre-Thesis Seminar II</td>
<td>- / 1</td>
</tr>
<tr>
<td>ECON 695 Research Methods in Economics I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ECON 696 Research Methods in Economics II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ECON 699 Ph.D. Dissertation</td>
<td>- / 160</td>
</tr>
<tr>
<td>GE 690 Academic Practices</td>
<td>- / 24</td>
</tr>
<tr>
<td>Electives (6)</td>
<td>18 / 36</td>
</tr>
</tbody>
</table>

During each semester of the second year at least three credit units of electives must be taken. The
Ph.D. candidate may also take elective courses for credit in the third and fourth years of study. These
electives may include courses from other departments or institutions as well as courses offered by
the Department. There is no upper or lower limit on the number of such courses.

COURSE DESCRIPTIONS

ECON 101 Introduction to Economics I
Introduces microeconomic concepts and analysis, supply and demand analysis, theories of the firm and of
individual behavior, competition and monopoly, welfare economics. Application to problems of current economic
policy. Credit units: 3 ECTS Credit Units: 6. Aut (T. Kara) Spr (A. O. Pehlivan)

ECON 102 Introduction to Economics II
An overview of macroeconomic issues: the determination of output, employment, unemployment, interest rates,
and inflation. Monetary and fiscal policies are discussed as well as international economic issues. Introduces
basic models of macroeconomics and illustrates principles with the experience of Turkish and foreign economies.

**ECON 103 Principles of Economics**
Introduces the basic concepts of micro and macro economics, supply and demand analysis, and economic theories. The implications of economics in regards to social issues and the role of economics in the field of communication and advertising are discussed. Credit units: 3 ECTS Credit Units: 6. Aut (F. Taşkın) Spr (R. S. Gürkaynak, F. Taşkın)

**ECON 105 Principles of Economics I**
Introduction to basic microeconomic concepts. What is microeconomics all about? Economists’ approach to current microeconomic issues at the individual household and firm level. Government's micro policies in providing incentive for production, consumption, and technology choice. Current debates on firm behavior, “new economy”, and issues of privatization and efficient use of resources. Market organizations, welfare and the firm objectives. Credit units: 3 ECTS Credit Units: 6. Aut (N. Özkarameş Coşkun, M. Siyahhan) Spr (M. Siyahhan)

**ECON 106 Principles of Economics II**
An overview of macroeconomic issues. The concept of the gross national product and its determination. Theories of macroeconomic equilibrium and government policies to effect the gross national product, employment, investment, and foreign trade. Current issues on the “global economy”, international economic organization and Turkey's role in a changing world macroeconomic environment. Credit units: 3 ECTS Credit Units: 5. Aut (N. Özkarameş Coşkun) Spr (E. Gürel)

**ECON 107 Principles of Microeconomics**
Introduction of core microeconomic concepts, focusing on application of these principles in current events. Main topics include demand and supply analysis, firm behavior and the studying of market structures and their welfare analysis. Credit units: 3 ECTS Credit Units: 6. Aut (Ş. P. Ayvöl, B. Byikt Onar, T. Kulaksızoğlu) Spr (B. Byikt Onar, M. T. Yiğit)

**ECON 108 Principles of Macroeconomics**
Introduction to core macroeconomic concepts, focusing on their application to current economic events. Main topics include determination of output, inflation, interest rates, employment and unemployment. Credit units: 3 ECTS Credit Units: 6. Aut (T. M. Kara) Spr (T. M. Kara)

**ECON 199 Training in Economics I**
The course aims at practical training in industrial, business or research settings, typically conducted during semester breaks under the guidance and approval of the student’s academic advisor. Credit units: None ECTS Credit Units: 1.

**ECON 203 Microeconomic Theory I**
This course is the first part of an intermediate level microeconomics sequence. Consumer theory, theory of the firm, and partial equilibrium theory are studied in depth. Applications of the partial equilibrium model to public finance and trade are also covered. Credit units: 3 ECTS Credit Units: 6. Prerequisite: (ECON 101 and MATH 106) or MATH 102 or MATH 114. Aut (N. A. Dalkırar, A. O. Pehlivan, K. Yıldız) Spr (F. B. Pakel)

**ECON 204 Microeconomic Theory II**
This course is the second part of an intermediate microeconomics sequence. Topics covered are: general equilibrium, welfare economics, monopoly, imperfect competition, externalities and public goods, uncertainty and information, and game theory. Credit units: 3 ECTS Credit Units: 6. Prerequisite: ECON 203. Aut (N. A. Dalkırar) Spr (E. Karagözoglu, K. Yıldız)

**ECON 205 Macroeconomic Theory I**
This course is the first part of an intermediate macroeconomics sequence. Besides the analysis of national income determination, inflation and unemployment, analysis of aggregate supply and growth theories will be introduced. Within the frameworks of basic business cycle models, demand side equilibrium, and the IS/LM models (including its open economy version) fiscal and monetary policy effectiveness will be studied. Credit units: 3 ECTS Credit Units: 6. Prerequisite: (ECON 102 and MATH 105) or MATH 102 or MATH 114. Aut (R. S. Gürkaynak, B. Neyaptı) Spr (H. Berument, B. Neyaptı)

**ECON 206 Macroeconomic Theory II**
This course is the second part of the intermediate macroeconomics sequence and it focuses on microfoundations in macroeconomic models. Among the subjects are the consumption and investment theories, inflation and unemployment trade-off, and fiscal and monetary policy design and institutions with regards to open economy macroeconomics, exchange rate models and current account dynamics that are grounded in the intertemporal optimization problem of the representative agent will also be introduced. Credit units: 3 ECTS Credit Units: 6. Prerequisite: ECON 205. Aut (S. S. Lee) Spr (B. Neyaptı, H. Ç. Sağlam)
ECON 207 Economics Theory for Engineers
This course is designed to introduce Engineering students to the fundamentals of economic analysis. It provides an introduction to micro and macroeconomic principles and concepts. The course also introduces the students to the core topics of intermediate level of microeconomic analysis: analysis of the consumer, the firm, and the market. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MATH 102 or MATH 225. Aut (F. B. Pakel, K. Yıldız) Spr (D. Pekkurnaz)

ECON 221 Introduction to Probability and Statistics I

ECON 222 Introduction to Probability and Statistics II
Sampling and sampling distributions. Introduction to inference. Point and interval estimation. Hypothesis testing. Small sample distributions (t, X², F). Introduction to analysis of variance, regression and distribution free methods. Applications using statistical computer programs. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 221 or MATH 119 or MATH 264 or PSYC 202. Aut (İ. Apaydın) Spr (İ. Apaydın, S. F. Mahmud, C. Pakel)

ECON 225 Mathematics for Economists
Multivariate calculus, constraint optimization, Hessians, implicit function theorem, difference equations. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MATH 102 or MATH 106. Aut (S. Koray, H. Ç. Sağlam) Spr (T. Kara)

ECON 301 Econometrics I
Introduction of linear multiple regression model, inference, hypothesis testing; and maximum-likelihood methods. Illustration from economics and application of these concepts to economic problems will be emphasized. The course covers Gauss-Markov assumptions and violation of the assumptions such as heteroskedasticity, serial correlation and errors variables. Credit units: 3 ECTS Credit Units: 6, Prerequisite: (ECON 101 and ECON 102 and ECON 222) or (ECON 207 or (ECON 203 and ECON 204)) and (MATH 230 or MATH 255 or MATH 260 or MATH 262)). Aut (H. Berument, C. Pakel, F. Taşkin, M. T. Yığılt) Spr (M. Tropić)

ECON 302 Econometrics II
Identification and estimation of simultaneous equation models. Advanced topics such as Generalized Least Squares, instrumental variables, non-linear regression techniques and limited dependent variable models. An introduction to time-series analysis such as stationary and non-stationary processes, VARs, unit roots, and cointegration. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 301. Spr (H. Berument)

ECON 321 Financial Institutions and Markets
Role and functioning of the capital and money markets as a device for the allocation of resources, the channeling of investable funds, and reallocation of risk. Function of financial intermediaries operating in these markets. International financial relations. Monetary history. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 202 or ECON 206.

ECON 322 Monetary Economics
Basic models of money and monetary economics; the role of expectations; asset pricing models with special reference to equities and the term structure of interest; the Phillips curve; banking and financial intermediaries, monetary and fiscal policies. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 202 or ECON 206. Spr (A. H. Kara)

ECON 323 Economics of Monetary Union
Contemporary issues of monetary integration; the European Monetary Union experience; Euro zone; monetary and fiscal policies for monetary union targets; the Maastricht Criteria; Central Bank Independence and Price Stability. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 202 or ECON 206. Aut (Ö. Altay)

ECON 331 International Economics I
Theory of international trade and applications in commercial policy. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 201 or ECON 204. Aut (S. Togan)

ECON 332 International Economics II
Adjustment in international economic relations with attention to foreign exchange markets, balance of payments, and the international monetary system. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 202 or ECON 206. Spr (S. Togan)

ECON 351 Fiscal Economics I
First and second best fiscal theory. Incidence models. Economic response to taxation. Quantitative analysis of economic effects of fiscal instruments and fiscal changes. Government finance statistics; tax and expenditure structures; the budget and government financing; fiscal management in Turkey and abroad. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 201 or ECON 204. Aut (S. F. Mahmud) Spr (S. F. Mahmud)
ECON 361  Methodology and Evolution of Social Theory
The course introduces concepts of the evolution of social theorizing in economics; alternative paradigms of economics; basic approaches to research methodology with emphasis on philosophy and epistemology; critical thinking on the economic rationale. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 204 and ECON 206.

ECON 363  History of Economic Thought
The main topic of this course is the developments in the theoretical aspects of economics, after the marginal utility revolution. The context starts from 1870's with the contributions of major economists to marginal utility theory and applications. It proceeds with general and partial equilibrium analyses. Finally, Keynesian income determination, Monetarism, New Classical economy and post-Keynesian approaches are examined. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 203 and ECON 205. Aut (T. M. Kara) Spr (T. M. Kara)

ECON 399  Summer Training
The course aims at giving third-year students a chance to have practical training in industrial, business or research settings, typically conducted during semester breaks under the guidance and approval of the student’s academic advisor. Credit units: None ECTS Credit Units: 6. Aut (Staff)

ECON 400  Analytical Writing for Economist
For students in the department of economics, writing analytically and effectively is important. Thinking, writing and presenting effectively are increasingly becoming the determinants of success in the professional world. The course aims at developing the analytical writing and presentation skills of the students and emphasizes the discussion, presentation and conveying of ideas in the field of economics. The coursework will consist of the writing exercises and presentations of discussions in economic topics and issues. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 204 and ECON 206. Spr (E. Çağlar)

ECON 401  Seminar in Microeconomic Policy
The course aims to develop the student's skills to undertake an independent research project in the area of microeconomics. The structure of the course is designed to improve student's presentation and writing skills. The course outline includes a comprehensive reading list in microeconomic theory and policy issues. The students are required to gain familiarity with the topics through weekly in-class discussions, presentations and written reports. Furthermore the students are required to demonstrate proficiency in a strand of literature chosen from the assigned reading list, formulate an academic hypothesis and complete a research report as part of the course requirements. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 204 and ECON 206. Spr (F. Taşır)

ECON 402  Seminar in Macroeconomic Policy
The course aims to develop the student's skills to undertake an independent research project in the area of macroeconomics. The structure of the course is designed to improve student's presentation and writing skills. The course outline includes a comprehensive reading list in microeconomic theory and policy issues. The students are required to gain familiarity with the topics through weekly in-class discussions, presentations and written reports. Furthermore the students are required to demonstrate proficiency in a strand of literature chosen from the assigned reading list, formulate an academic hypothesis and complete a research report as part of the course requirements. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 204 and ECON 206. Spr (F. Taşır)

ECON 403  Issues in Public Finance
Introduces fundamentals of deficit financing. The role of the bureaucracy and its relations with the government is discussed with an emphasis on the role of the Treasury and its functioning. New orientalism in government financial management, government balance sheet approach, expenditure management and control issues are other topics that are covered in this course. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 202 or ECON 206. Aut (F. Emli)

ECON 406  Issues in Macro Economics
This course covers contemporary theories of macroeconomics with special emphasis on current issues such as stabilization, unemployment, central bank independence and monetary control, and inflation targeting. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 202 or ECON 206.

ECON 409  Contemporary Issues in Turkish Economy I
Contemporary problems confronting the Turkish economy, structural adjustment reforms and macroeconomic policies. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 202 or ECON 205. Aut (H. Berument)

ECON 410  Contemporary Issues in Turkish Economy II
Turkish Economy in the 1990's, financial liberalization, Turkey and the European Union. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 202 or ECON 205.
ECON 415 Mathematics for Economists I
This course will introduce the students to advanced mathematical techniques via discrete mathematics. The main topics covered are: proof techniques, recursive relations, difference equations, backward induction, dynamic programming and their applications. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 225 or MATH 102 or MATH 114.

ECON 428 Public Sector Governance
This course is about theoretical and practical aspects of quality and performance management in provision of services within the public sector. In this regard, the course will attempt to inform the students about the pros and cons of new public management culture. The dynamics which changed the “public administration culture” to “public sector management” will be explored. Strategic and performance management and what they mean to public sector, public sector management reforms including financial management, personal management, quality management, audit issues and citizen participation in decision making process will be elaborated. No prerequisites are necessary. Credit units: 3 ECTS Credit Units: 6, Spr (F. Emil)

ECON 430 Economics of Regulation and Antitrust
The course deals with questions such as what particular market failures provide a rationale for government intervention? How can economic theory illuminate the character of market operation, the role for government action, and the appropriate form of government action. What do formal empirical analyses of economic behavior and the effects of government intervention indicate about the direction that this intervention should take? Where does the antitrust policy stand within this framework? To provide the most up to date answers to these questions, the course utilizes economic theory and empirical analysis that have been devised to further understanding of regulations and antitrust policies. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 201 or ECON 204 or ECON 207.

ECON 432 Turkish and World Economy in the 20th Century
Growth and developments in Turkey and the World from World War I to present. The application of economic analysis to historical issues. Topics: Great Depression, interwar period, the developments in Soviet type communism, Turkish economy during the Great Depression and thereafter. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 202 or ECON 206. Aut (F. Emil) Spr (F. Emil)

ECON 433 Industrial Economics I
This course will survey the current thinking and issues in industrial organization and regulation. The objectives of the course are both to examine in some depth how firms behave in a market economy, and to review some basic forms of state intervention in modern capitalist economics. The course will provide some background on firm behavior and, the legal environment in which they operate, and will review the rational and experience of antitrust and competition policies. The second semester will concentrate on the regulation of private monopolies. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 201 or ECON 204 or ECON 207. Spr (E. Kalkan)

ECON 439 Game Theory I
This course is an introduction to the theory of games. Games theory provides a set of analytical tools that can be used to model the interactions of decision-makers (consumers, firms, politicians, government, etc). The course introduces the basic theory of noncooperative game theory. A variety of applications will be discussed. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 204 or ECON 207 or MATH 223 or MATH 225 or MATH 242. Spr (S. Koray)

ECON 442 Application of Graph Theory to Economics
Credit units: 3 ECTS Credit Units: 6.

ECON 443 Advanced Economic Theory
Special topics in micro and macroeconomics. Topics include inflation and unemployment, theories of macroeconomic policies, economic stabilization, theories of the consumer and the firm welfare and general equilibrium analysis. Credit units: 3 ECTS Credit Units: 6, Prerequisite: (ECON 201 and ECON 202) or (ECON 204 and ECON 206). Aut (R. S. Gürkaynak)

ECON 444 Bargaining Theory and Experiments in Economics
Our objective is to introduce students (with potentially different majors) the key concepts in bargaining, major approaches used in modelling/studying bargaining (e.g., cooperative and noncooperative game theory, experimental economics, behavioral economics, social psychology), interactions between these approaches, special topics in bargaining, and current trends / future directions in bargaining research. We hope that, by the end of the course, students will have a decent and up-to-date knowledge about the research on bargaining; and some students may even come up with good research questions. Due to the interdisciplinary nature of the topic, the course will adopt multiple methodologies. First, the (game) theoretical foundations will be presented. Experimental and behavioral methods will follow to complement students’ understanding. Occasionally, research on bargaining behavior in social psychology and management will also be covered. Since practicing bargaining contributes to a better understanding of the topic, we will occasionally conduct in-class and field experiments. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 204 or ECON 207. Spr (E. Karagözolu)
ECON 446 Networks in Economics: Theory and Applications
The course deals with how network structures shape economic outcomes and influence the behavior of economic agents. The course will introduce the students to analytical models and applications of strategic network formation, job market networking, exchange and bargaining on networks, diffusion on networks, diffusion on networks and games on networks. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 204 or ECON 207 or MATH 223 or MATH 225 or (MATH 241 and MATH 242).

ECON 448 Economics of Information
The aim of this course is to analyze asymmetric information in markets and organizations. Selective topics from mechanism design, contract theory, principal-agent problems, global games and information aggregation will be covered. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 204 and ECON 225. Spr (N. A. Dalkiran)

ECON 453 Theories of Economic Growth and Development I
Introduction to modern theories of growth; the neoclassical growth model; the golden rule of accumulation; transitional dynamics and the steady state; exogenous versus endogenous growth modeling; sources of growth and the convergence of nations; empirics of growth. Introduction to endogenous growth. Credit units: 3 ECTS Credit Units: 6, Prerequisite: (ECON 201 and ECON 202) or (ECON 204 and ECON 206). Aut (A. E. Yeldan)

ECON 455 Institutions and Development
A synopsis of earlier development theories. Analysis of the linkages between economic development and macroeconomic institutions in the framework of "New Institutional Economics". Empirical analysis of institutional designs that are related to fiscal and monetary policy making are introduced. Specifically, economic effects of fiscal decentralization; budgetary rules and procedures; central bank independence and inflation targeting are examined. Credit units: 3 ECTS Credit Units: 6, Prerequisite: (ECON 202 or ECON 206) and ECON 222. Aut (B. Neyaph)

ECON 459 Health Economics
This course is designed to introduce upper level undergraduate students in economics to the field of Health Economics. The provision and production of health care have different characteristics and incentives from other consumer goods making health related markets a unique topic for study. This course will cover a number of topics including basic economic concepts important for the study in health economics, why health is different from other good, aspects of the health care market in Turkey, health care in other countries, as well as discussing the importance of health for development and some basic economic evaluation techniques. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 204. Aut (V. Çetinkaya)

ECON 464 Global Trading
The course focuses on the details of the global currency trading, mainly on trading in the foreign currency spot market. Buying and selling patterns, as well as volatility behavior in the market will be presented. A special focus on technical analysis in the foreign exchange market, including Japanese Candlesticks and Fibonacci numbers along several other tools, will be discussed. Determining and interpreting both short and long term movements in the global currency markets will be explored. The course will include a discussion of the world’s major currencies and the distinct characteristics of each currency market. The discussions will include not only theoretical analysis but will also include practical global currency trading and allow students to practice such real world issues through on hand exercises. These exercises will be carried out using up-to-date trading platforms, such as Trademaster and the likes. Credit units: 3 ECTS Credit Units: 6, Prerequisite: (ECON 101 or ECON 107) and (ECON 102 or ECON 108). Spr (P. Balli Ünal)

ECON 500 Mathematics Review Course
The course is designed to maintain and develop familiarity with the mathematical tools used in the Masters and Ph.D. Program in the department of Economics. This course is designed to help students master an important set of mathematical skills necessary to study economics. It will cover basic concepts from calculus, linear algebra, optimization, and mathematical analysis, which will be used in the first year courses. Credit units: 3 ECTS Credit Units: 6. Aut (N. A. Dalkiran)

ECON 503 Microeconomic Theory I

ECON 504 Microeconomic Theory II
Theory of general competitive equilibrium. Topics include existence of equilibrium, computational techniques, core of the economy, stability, uniqueness of equilibrium, and empirical general equilibrium models. Credit units: 4 ECTS Credit Units: 7. Spr (K. Yıldız)

ECON 505 Macroeconomic Theory I
A wide-ranging survey of modern macroeconomic theory with an emphasis on the necessary mathematical tools and the dynamic methods. Focuses on competitive equilibrium, optimality, dynamics of equilibrium, economic fluctuations, long-run growth, technological progress, life-cycle aspects and economic policies. Credit units: 4 ECTS Credit Units: 8. Aut (H. Ç. Sağlam)
ECON 506 Macroeconomic Theory II
Stochastic models of economic fluctuations. Rational expectations. The effectiveness of monetary and fiscal instruments. Uses of general equilibrium econometric models for forecasting and policy simulations. Multi-country models and the international transmission mechanism. Credit units: 4 ECTS Credit Units: 8. Spr (S. S. Lee)

ECON 507 Economics for International and Public Affairs I
This course introduces basic concepts of microeconomic analysis relevant for international economics and public affairs. Theories of rational consumer behavior, the profit seeking firm, and market structures are introduced in a policy setting. Issues of corporate governance, pricing strategies and social welfare are analyzed within the realm of efficiency and optimality, in a rapidly changing and globalizing world. Credit units: 3 ECTS Credit Units: 6. Aut (Staff)

ECON 508 Economics for International and Public Affairs II
Basic concepts and theories of macroeconomic analysis are introduced. The determination of national income, employment, inflation, interest rate and the exchange rate. Monetary and fiscal policy instruments are introduced with special emphasis on their effects on international economic relations. The course further introduces modern paradigms of open economy macroeconomics, and illustrates current economic problems with the experiences of Turkish and foreign economies. Credit units: 3 ECTS Credit Units: 6.

ECON 509 Probability and Statistics I

ECON 510 Probability and Statistics II
Ordinary Least Squares: basic assumption, estimation and tests of hypotheses, the coefficient of determination, prediction, functional forms, the problem of choosing between them and specification tests, multicollinearity. Dummy Variables, testing structural change, estimating the prediction error variance and pooling cross-sectional and time-series data. Lagged dependent variables, binary dependent variables. Autocorrelation and heteroscedasticity. Simultaneous equations; identification and single-equation estimation techniques. Credit units: 4 ECTS Credit Units: 6. Spr (M. T. Yiğit)

ECON 511 Econometrics I
Theory and applications of time series models. Topics include ARMA and VARMA models, Trend-Cycle decomposition, Unit roots, Cointegration, Structural change, GARCH, Regime switching and threshold models, Statespace form and Kalman filters, and specialized topics such as Fractional Integration and I(2) models. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 510. Aut (M. T. Yiğit)

ECON 512 Econometrics II
Theory and application of existing micro-econometric techniques, econometrics of panel data, and Monte Carlo simulation. Topics include Discrete regression models, Censored and Truncated regression, Models with self-selectivity, Disequilibrium models, Count Data, Duration models, Static panel data analysis, Dynamic panel data analysis, Non-stationary panel methods: Panel unit roots and cointegration, PanelVAR, Monte Carlo and bootstrap. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 510. Spr (A. Ö. Pehlivan)

ECON 513 Game Theory I
Game theoretic approaches to economics, strategic decision-making, discussion of contemporary issues in economic design. Credit units: 3 ECTS Credit Units: 6.

ECON 515 Mathematics for Economists I

ECON 516 Mathematics for Economists II
The contraction mapping theorem. Theorem of the maximum. Dynamic programming under certainty. Measure theory and integration. Stochastic dynamic programming. Modes of convergence and laws of large numbers. Credit units: 3 ECTS Credit Units: 7, Prerequisite: ECON 515. Spr (S. Koray)

ECON 521 International Economics I
Theory of international trade and applications in commercial policy. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ECON 504. Aut (A. Ö. Pehlivan)
ECON 522  International Economics II
Adjustment in international economic relations with attention to foreign exchange markets, balance of payments, and the international monetary system. Credit units: 3 ECTS Credit Units: 6. Prerequisite: ECON 506 and ECON 521.

ECON 523  Firms in International Trade
Credit units: 3 ECTS Credit Units: 6. Prerequisite: ECON 504.

ECON 551  Studies in Growth and General Equilibrium Modeling I
The course focuses on the general equilibrium properties of economies in dynamic movement. Theories of new growth and computation of transitional versus steady state dynamics are discussed and modeled using dynamic programming techniques. The Walrasian general equilibrium system is extended to study Grossman-Helpman-Romer type of endogenous growth based on R and D formation, and the economics of human capital-intensive, knowledge-driven endogenous growth. Dynamic Applied General Equilibrium is modeled to address contemporary issues on growth, accumulation and savings. Credit units: 3 ECTS Credit Units: 6.

ECON 562  Topics in Microeconomic Theory II
The subject matter of this course will vary from year to year, according to the interest of the instructor. Credit units: 3 ECTS Credit Units: 6. Prerequisite: ECON 561.

ECON 563  Topics in Macroeconomic Theory I
The subject matter of this course will vary from year to year, according to the interests of the instructor. Credit units: 3 ECTS Credit Units: 6.

ECON 564  Topics in Macroeconomic Theory II
Continuation of ECON 563. Credit units: 3 ECTS Credit Units: 6. Prerequisite: ECON 563. Spr (H. Küçük, T. Tryaki)

ECON 591  Masters Pre-Thesis Seminar I
This is a course where students will attend a series of lectures presented by faculty members and/or invited academics and submit written reports on the papers presented. Credit units: None ECTS Credit Units: 1. Aut (E. Karagözlioğlu)

ECON 592  Masters Pre-Thesis Seminar II
This is a course where students will attend a series of lectures presented by faculty members and/or invited academics and submit written reports on the papers presented. Credit units: None ECTS Credit Units: 1. Spr (E. Karagözlioğlu)

ECON 595  Research Paper I
Credit units: None ECTS Credit Units: 1. Aut (E. Karagözlioğlu)

ECON 596  Research Paper II
Students read, discuss and present research papers in particular areas. An in-depth study of an appropriate question and completion of a paper of high quality. Credit units: None ECTS Credit Units: 1. Spr (E. Karagözlioğlu)

ECON 599  Master’s Thesis
Credit units: None ECTS Credit Units: 56. Aut (Staff) Spr (Staff)

ECON 691  Ph.D. Pre-Thesis Seminar I
This is a course where students will attend a series of lectures presented by faculty members and/or invited academics and submit written reports on the papers presented. The students working on their dissertation are expected to present the outcome of their research and submit a research paper of publishable quality. Credit units: None ECTS Credit Units: 1. Aut (E. Karagözlioğlu)

ECON 692  Ph.D. Pre-Thesis Seminar II
This is a course where students will attend a series of lectures presented by faculty members and/or invited academics and submit written reports on the papers presented. The students working on their dissertation are expected to present the outcome of their research and submit a research paper of publishable quality. Credit units: None ECTS Credit Units: 1. Spr (E. Karagözlioğlu)

ECON 695  Research Methods in Economics I
This is a course where students will complete a research project with the full-time guidance and tutoring of a group of faculty members. The students will learn alternative research methods used in economics and apply them to a research question, with the goal of completing an academic paper at the end of the course sequence. Credit units: 3 ECTS Credit Units: 6. Aut (E. Karagözlioğlu)

ECON 696  Research Methods in Economics II
This is a course where students will complete a research project with the full-time guidance and tutoring of a group of faculty members. The students will learn alternative research methods used in economics and apply them to a research question, with the goal of completing an academic paper at the end of the course sequence. Credit units: 3 ECTS Credit Units: 6. Aut (E. Karagözlioğlu) Spr (E. Karagözlioğlu)
ECON 699   Ph.D. Dissertation
Credit units: None  ECTS Credit Units: 160.  Aut (Staff) Spr (Staff)
DEPARTMENT OF HISTORY


The Department of History functions mainly as a graduate department, offering M.A. and Ph.D. programs in the areas of Ottoman, American, and European histories. At the undergraduate level, the department offers both compulsory and elective courses in History of Civilization (HCIV 101/102) for the students of other departments and faculties, and provides preparatory courses for the entering graduate students entering the Department of History, some of which are also offered as electives for senior undergraduates of other departments.

MINOR PROGRAM

History is the academic study of past societies by means of written sources. An understanding of history is important for all students. Familiarity with the past of one’s own country, as well as that of other countries, is obviously essential for both one’s own identity but also for a full appreciation of the increasingly global atmosphere of the twenty-first century. Without a sense of history, we are nothing!

The new minor program in history is intended to teach the main skills of historical research while providing a strong background in the three main areas taught by the History Department: students will undertake a study of Ottoman history from the classical period to the early twentieth century, as well as research about medieval and modern Europe and the history of the USA. Emphasis is placed on independent thinking and critical analysis of sources and ideas rather than mere memorization of names and dates.

The minor courses in history form part of the History Department’s preparatory year for its master’s students. These courses are specifically designed for students with no previous experience of studying history and are already popular as electives among students from undergraduate departments. The minor program is open therefore to applicants with a sufficient CGPA from any department. Students who are considering a graduate degree in history are encouraged to apply, and those in social sciences and humanities who wish to support their major field with a broader historical knowledge will also find the history minor useful. However, the minor program requires no prior, specialist experience of studying history or related disciplines, and it will therefore be of interest to those students who simply wish to improve their knowledge of history, as well as those who have a more long-term interest in history as an academic field.

Prerequisite Courses: None

CURRICULUM

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>HIST 411</td>
<td>Ottoman History: 1300-1600</td>
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<tr>
<td>HIST 412</td>
<td>Ottoman History: 1600-1914</td>
</tr>
<tr>
<td>HIST 418</td>
<td>Modern Europe (1453-1914)</td>
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<td>Electives</td>
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GRADUATE PROGRAMS

The Department of History offers graduate programs in Ottoman, European and American history, leading to Master’s and Ph.D. degrees. Emphasis is placed on preparing students to be able to undertake independent research in these particular fields. The graduate program involves a preparatory year designed to give students the background knowledge, skills and language proficiency which will
enable them ultimately to make original research with primary source materials. Since profound histori
tical research can only be carried out through the use of primary source materials, it is necessary for students to acquire the relevant linguistic and paleographic skills.

Master of Arts in History

The program is designed to concentrate on the areas of Ottoman History, European History and the History of the United States.

The preparatory year prior to the Master's program provides a background in Western and Turkish history. The first year in the Master's program features specialized courses in Ottoman History, European History, and the History of the United States. Students should by then have acquired a solid knowledge in history so as to be able to raise questions concerning more specific historical themes. During the second year the student begins to write his/her Master's thesis under the supervision of an advisor. During the Master's program the student is expected to submit papers at the end of each semester.

Admission: Graduates from all departments may apply to this program. An undergraduate degree in History is not a prerequisite for entering the M.A. program. All students entering the graduate program in history must take one year of preparatory courses before they begin to take Master's level courses of the department. Therefore, graduates from the Faculties of Management, Engineering or Science, as well as those from the Humanities and Social Sciences Faculties who are interested in history are also eligible to apply for admission. Students admitted should have passed the English Language Test (level equivalent to internet based TOEFL 82). (Also refer to the “Graduate Admissions” section in the introduction of this catalog for the general graduate admission requirements.)

Degree Requirements:

1. Completion of at least 24 graduate-level credits after a preparatory year.
2. Within the program there are three tracks: Ottoman History, European History, and American History. Elective and Restricted Elective courses appropriate to each track will be designated within the curriculum below.
3. Students of Ottoman History must demonstrate competence in Ottoman Turkish and one modern language other than English or Turkish.
4. Students of European History and the History of the United States must demonstrate competence in one modern language other than English or Turkish.
5. A Master's thesis must be submitted and accepted.
6. A grade point average of at least 3.00 must be maintained for the totality of Master's level work.

CURRICULUM FOR THE MASTER OF ARTS PROGRAM

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<td>* Elective</td>
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<td>** Restricted Electives (5)</td>
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* Any 5XX or higher level course at least 3 credits.
** Any 5XX or higher level HIST course at least 3 credits.
Doctor of Philosophy in History

To enter the Ph.D. program a candidate is required to have completed an M.A. program in History, and passed the entrance exam for his/her specific major area of the doctoral program. Applicants with M.A. degrees from other programs at Bilkent or other universities are also subject to the same requirements for admission into the doctoral program. (Also refer to the “Graduate Admissions” section in the introduction of this catalog for the general graduate admission requirements.)

Among the degree requirements is a minimum of 24 credit units of graduate level course work beyond the course work completed at the Master's level, to be determined by the advisor and the departmental chair for each doctoral candidate. To meet the course requirements, the candidates may take the graduate level history courses that they have not previously taken and, if necessary, graduate level courses from other departments. For those who have taken graduate courses elsewhere, the department may apply for permission from the director of the graduate school (the Institute) to grant partial or full-credit for such courses. The candidate may also take language courses as recommended by his/her advisor. The candidate is expected to have participated in seminars offered on source materials. Within the program there are three tracks: Ottoman History, European History, and American History. Courses appropriate to each track will be designated within the curriculum below.

Candidates in Ottoman history are required to undergo language examinations in one of the Western languages (French, German, Latin, Ancient Greek, Italian) and in one of the Middle Eastern languages (Arabic, Persian) in reading proficiency prior to the comprehensive exams.

After the completion of a minimum of 24 credits of course work, the candidate is eligible to take the written and oral comprehensive exams. The first part of these examinations evaluates the candidate’s expertise in the relevant field/period. The second part is tailored to each particular students’ research proposal for the dissertation. The candidate must prepare a doctoral dissertation embodying original research and must successfully defend it in a final exam before a committee of the faculty before the end of the fourth year of the doctoral program unless an extension is granted. The dissertation has to represent a substantial contribution to the historical knowledge in one of the particular fields of study.

CURRICULUM FOR THE DOCTOR OF PHILOSOPHY PROGRAM

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<tr>
<th>Courses</th>
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<td>Elective</td>
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<tr>
<td>Restricted Electives (7)</td>
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* Any 5XX or higher level course at least 3 credits.
** Any 5XX or higher level HIST course at least 3 credits.

COURSE DESCRIPTIONS

HIST 200 History of Turkey
This course focuses on aspects of Turkey’s history with an emphasis on research. It is designed as an interactive course with the objective to investigate events, chronologically short historical periods, as well as historic representations. Credit units: 4 ECTS Credit Units: 8. Aut (M. Ç. Aslan, K. Emiroğlu, A. Özel, İ. M. Öztürk, E. Sönmez Taş, E. Türkçelik, M. S. Ünsal, H. Yeni) Spr (A. Avci, K. Emiroğlu, A. Özel, İ. M. Öztürk, F. Pamuk, M. S. Ünsal, H. Yeni)

HIST 203 History of Turkey
This course is designed to have students who already took a 2 credit history course to fulfill the overall 4 required credits for the subject. It focuses on aspects of Turkey’s history with an emphasis on research. It is an interactive course with the objective to investigate events, chronologically short historical periods, as well as historic representations. Credit units: 2 ECTS Credit Units: 4. Aut (M. Karabağ) Spr (M. Karabağ)
HIST 209  History of Turkey  
The course focuses on aspects of Turkey’s History with an emphasis on research. It is designed as an interactive course with the objective to investigate events, chronologically short historical periods, as well as historic representations. Credit units: 4 ECTS Credit Units: 8. Aut (F. Pamuk) Spr (Staff)

HIST 313  Classical Arabic I  
Basic grammar of Classical Arabic. The main tenses. Credit units: 3 ECTS Credit Units: 6. Aut (A. Beyathi)

HIST 314  Classical Arabic II  
Basic grammar of Classical Arabic. Irregular grammatical forms. Reading of simple religious and legal texts. Credit units: 3 ECTS Credit Units: 6. Spr (A. Beyathi)

HIST 315  Advanced Classical Arabic I  
Reading and grammatical interpretation of Classical Arabic texts. Credit units: 3 ECTS Credit Units: 6. Aut (A. Beyathi)

HIST 316  Advanced Classical Arabic II  
Reading and grammatical interpretation of Classical Arabic texts. Credit units: 3 ECTS Credit Units: 6. Spr (A. Beyathi)

HIST 401  Ottoman Turkish and Paleography I  
Course on Arabic script and Ottoman grammar. Credit units: 4 ECTS Credit Units: 8. Aut (K. Emiroğlu)

HIST 402  Ottoman Turkish and Paleography II  
Course on Arabic script and Ottoman grammar. Reading exercises on printed Ottoman texts. Credit units: 4 ECTS Credit Units: 8. Spr (K. Emiroğlu)

HIST 411  Ottoman History: 1300-1600  
Classical period of the Ottoman Empire. Economic, political and religious institutions. Ottoman economic system. Relations with its European neighbors. Credit units: 3 ECTS Credit Units: 6. Aut (O. Özel)

HIST 412  Ottoman History: 1600-1914  
Ottoman Empire in decline. Political, economic and ideological developments at the capital as well as in the provinces. Nationalism among non-Muslims and Muslims. Administrative and political reforms during the eighteenth and nineteenth centuries. Credit units: 3 ECTS Credit Units: 6. Spr (O. Özel)

HIST 413  Byzantine History I: 324-1025  
Foundation of the Eastern Roman Empire, development of Byzantine institutions, relations of the Byzantine Empire with the East and West. Cultural and religious developments. Credit units: 3 ECTS Credit Units: 6.

HIST 414  Byzantine History II: 1025-1453  

HIST 416  Medieval British History  
Formation of the medieval English state from its Anglo-Saxon beginnings to the 14th century, tracing the developments in central and local government, its politics, social structure and its interaction with the rest of the British Isles and the Continent. Credit units: 3 ECTS Credit Units: 6. Aut (D. E. Thornton)

HIST 417  Medieval Europe (500-1500)  
This course traces the history of western Europe from the fall of the Roman Empire to the Renaissance, and deals with the main political, social and religious changes during that period. Credit units: 3 ECTS Credit Units: 6. Aut (P. Latimer)

HIST 418  Modern Europe (1453-1914)  
The course seeks to deal, selectively with the historiography of major themes in the political, social intellectual and religious history of Europe from the Renaissance to the eve of the emergence of the national state system characteristic of the twentieth century. Credit units: 3 ECTS Credit Units: 6. Spr (C. D. A. Leighton)

HIST 431  History of the United States until the Reconstruction  
Basic history of the United States from the colonial period up to the Civil War, designed to orient students to more detailed information. Characteristic problems of early American political, economic and intellectual history during the nation-building process. Credit units: 3 ECTS Credit Units: 6. Spr (K. Weisbrode)

HIST 432  History of the United States from the Reconstruction  
Basic history of the United States from 1865 up to the modern times, designed to orient students to more detailed information. Characteristic problems of American political, economic and intellectual history in the process of its emergence as a world power. Credit units: 3 ECTS Credit Units: 6. Spr (K. Weisbrode)
HIST 481 Latin for Medieval and Early Modern History I
Introduction of Medieval Latin to those graduate students who wish to specialize in Medieval as well as Early European History. Emphasis on both grammar and reading. Credit units: 3 ECTS Credit Units: 6.

HIST 490 Field Related Seminar
This is a non-credit course, directed by the student's academic advisor, which will run each semester of the History Department Preparatory Year, designed to ensure that the students is doing or has done the necessary relevant courses for his or her field and that the students is otherwise prepared for his or her Master of Arts Program or Doctor of Philosophy Program. Credit units: None ECTS Credit Units: 1. Aut (Staff) Spr (Staff)

HIST 501 Ottoman Paleography I
Advanced reading exercises on Ottoman documents. Credit units: 4 ECTS Credit Units: 8, Prerequisite: HIST 401. Aut (Ö. Ergenc)

HIST 502 Ottoman Paleography II
Advanced reading exercises on Ottoman documents. Credit units: 4 ECTS Credit Units: 8, Prerequisite: HIST 402. Spr (Ö. Ergenc)

HIST 505 Ottoman Rule in Southeast Europe I: 1354-1600

HIST 506 Ottoman Rule in Southeast Europe II: 1600-1878
Islamic culture and heterodox Islamic movements in Southeast Europe. Decline of the Ottoman Empire. Military and fiscal transformation and its impact on Ottoman Balkans. The Siege of Vienna in 1683 and the political and social effects of the Ottoman defeats. The rise of non-Muslim middle class and education. The struggle for independence of Balkan people and the “Eastern Question”. Credit units: 3 ECTS Credit Units: 7.

HIST 507 Methodology in History I
Basic methods in historical research. The history of historiography. Main traditions and currents of historical thought. Credit units: 3 ECTS Credit Units: 7. Aut (Ö. Özel)

HIST 508 Methodology in History II
Main methods and approaches in historical research. Problems of historical research using primary sources. Source typology, and text criticism and analysis. Credit units: 3 ECTS Credit Units: 7. Spr (P. Latimer)

HIST 511 Ottoman Social and Economic History I
Ottoman Beylik as a frontier state. Hegemony in Anatolia and the Balkans. The Battle of Ankara and struggle for Revival. The conquest of Constantinople. The definitive foundation of the classical Ottoman Empire. Ottoman Empire as a world power. Internal disorders. Social, economic and religious institutions. Credit units: 3 ECTS Credit Units: 7. Aut (Ö. Ergenc)

HIST 512 Ottoman Social and Economic History II
The periods of transition and modernization of the Ottoman state and society. The detonation of the Ottoman classical socio-economic structure. The weakening of central authority. The ayans. Early attempts of modernization. Influence of the “Enlightenment” ideas on emergence of nationalist currents among non-Muslim communities. Tanzimat. Credit units: 3 ECTS Credit Units: 7. Spr (Ö. Ergenc)

HIST 517 Ottoman Millet System
Legal and social status of non-Muslim communities in the Empire, their cultural life and ecclesiastic organizations. The evaluation of the Christian and Jewish communities after the decree of “Tanzimat” in 1839 and after the Congress and Convention of Paris in 1856 will be discussed in this course. Credit units: 3 ECTS Credit Units: 7. Aut (E. Radushev)

HIST 518 Introduction to Ottoman Diplomatics
History and development of the field of archival research. Archives and archival sources in Turkey. Development of the field of Ottoman diplomatics. Types and classification of Ottoman documents. Internal structure of Ottoman official correspondence, decrees and diplomas prior to the Tanzimat period. Ottoman official documentation in the period of reform until the dissolution of the Ottoman Empire. Credit units: 3 ECTS Credit Units: 7. Aut (Ö. Ergenc)

HIST 520 Sources of Ottoman Social and Economic History II
The Ottoman land regime. Social and legal changes throughout the Ottoman period. Reading and analysis of sources such as berats, mühümme, sicils, tahris, temettüats and vakfiyes. Credit units: 3 ECTS Credit Units: 7. Spr (Ö. Özel)
HIST 524 US in the Vietnam Era
This course is designed to give students in the Master's program in American history an in-depth look at the history of Vietnam War. The course will focus on the period roughly 1945-1975. In addition to the war itself, other topics for discussion will include the Cold War, the Civil Rights movement, the counter culture and the legacy of the war in the 1990s. Credit units: 3 ECTS Credit Units: 7. Spr (E. Kohn)

HIST 526 Advanced Ottoman Diplomatics
Historical development and characteristics of ottoman diplomatics, focusing particularly on the bureaucratic-institutional mechanisms that produced diverse genres in the Ottoman central bureaucracy. Particular emphasis will be made on changing priorities of the central government over periods of time from the ‘classical’ period to the Tanzimat. Credit units: 3 ECTS Credit Units: 7. Spr (Ö. Ergenc)

HIST 527 Feudalism: East and West I
Examination of the origins and development of the diverse modern concepts of ‘Feudal’ and ‘Feudalism’ from late medieval and early modern legal theory, through the Enlightenment and Marxism down to modern times. It will go on to deal with the elements of these concepts as historical phenomena in medieval and early modern Europe, and in the Byzantine and Ottoman Empires. Credit units: 3 ECTS Credit Units: 7. Aut (P. Latimer)

HIST 529 Bulgaria under the Ottoman Rule: History and Sources
Medieval Bulgarian state before the Ottomans. Ottoman conquest - from “Bulgarian Empire” to Ottoman Rumelia. Turkish colonization in Bulgaria: ahis, gazis, dervishes, and yürükts in the early colonization process. Demographic structure of Bulgarian lands under Ottoman rule. Ottoman towns and Turkish settlements in the rural area. Administrative division of Rumelia, communication system and trade routes. Conversion to Islam in urban and rural areas. Islamization process in Bulgarian lands as a contemporary myth. Ottoman culture in Bulgaria. Sources for the study of the Ottoman rule in Bulgarian lands. Credit units: 3 ECTS Credit Units: 7.

HIST 537 US Civil War and the Reconstruction
An intensive examination of the United States from 1848 to 1877. Investigation of the causes of the Civil War; the military, social, and political history of the war; and the conflict over emancipation and Southern political power during the Reconstruction. Credit units: 3 ECTS Credit Units: 7.

HIST 538 US in the Gilded Age and Progressive Era

HIST 540 Warfare and Violence in Stuart Britain 1603-1807
The course discusses in a Europe-Wide context, both violent disorder in general and warfare in particular (the war of the three kingdoms, the Dutch invasion of 1688 and the Jacobite wars) in the British isles in the seventeenth and eighteenth centuries, it also deals, with the British struggle against the French revolutionary and Napoleonic states. Credit units: 3 ECTS Credit Units: 7. Aut (C. D. A. Leighton)

HIST 545 Themes in Historical Geography and Demography
Examination of the bases of historical demographic research and the importance of geographical and topological information in the understanding of communities in Europe and the Ottoman Empire. Credit units: 3 ECTS Credit Units: 7.

HIST 558 US Politics and Culture Since 1945
From the red scare to Vietnam, and from the Reagan revolution to the Clinton implacament, American Politics have been about more than just elections. Religion, culture, value and ideas combine to both reflect and shape the politics of the day. This class will look at American politics and culture since 1945 to the present, stressing the unique American influence that continue to shape politics today. Credit units: 3 ECTS Credit Units: 7.

HIST 560 Major Issues in Medieval and Early Modern Economies
Study of the main transformations in the economies of Europe and the Near East from late Roman times to the mid-seventeenth century. Examination of the disappeareance of monetary economy, emergence of manorialism, and trade life in the Mediterranean basin. Development of markets and the domination of Atlantic economy. Price inflation. Reasons and consequences of these developments. Credit units: 3 ECTS Credit Units: 7.

HIST 567 History and Literature in the Ottoman Empire

HIST 569 Cultural History of the Ottoman Empire I
Analysis of the cultural history of the Ottoman Empire from 1453 to the period of Turkish Republic. Topics include social and cultural structures of the Ottoman Empire, language, literature and artistic tradition, and analysis and interpretation of some significant works (divan’s, biographies of poets, kaside’s, memoir’s). Credit units: 3 ECTS Credit Units: 7. Aut (M. Kalpakli)
HIST 571  Religion and Nationalism in 19th Century Europe
The formation and development of nationalist movements in the late 18th and 19th centuries. Their relationship to religion, and competing and complementary ideologies. Study of concrete examples in existing states and in stateless ethnic groups, throughout Europe but with particular reference to the British Isles. Credit units: 3 ECTS Credit Units: 7.

HIST 573  New Era/New Deal (1920-1945)
This course is designed to give students in the masters program in US history an in-depth look at the history of and historical literature about the period 1920-1945. Major topics will include the Jazz Age, the Roaring's, the Great Depression, Franklin Roosevelt's New Deal and World War II. Credit units: 3 ECTS Credit Units: 7. Aut (E. Kohr)

HIST 576  The Ottoman Empire in the Great War 1911-1923
Internal and external conditions in the Ottoman Empire during the Tripolitanian War (1911-1912), the Balkan Wars (1912-1913), World War I (1914-1918), and the Turkish War of National Liberation (1918-1923). Credit units: 3 ECTS Credit Units: 6. Aut (M. A. Kirecici)

HIST 577  US Military and Diplomatic History
An intensive examination of American military and diplomatic history from the colonial period to the present with a focus on historiography. Topics may include colonial wars in North America, the wars of the United States, war and American society, treaties with European nations and with Native Americans, imperialism and anti-imperialism, realism, and the cold war. Credit units: 3 ECTS Credit Units: 7. Aut (K. Weisbrode)

HIST 589  History of Arab Nationalism in the Middle East
This course explores the birth, triumph and fall of Arab nationalism in the Middle East. The course focuses on historical events, political leaders and movements all of which defined and shaped the nature of the movement. Concepts such as Arabism, Arab unity, Arab nationalism are among the terms that we will investigate along with their contextualization in different regions of the Middle East by various actors. Factors which contributed to the development and/or decline of the Arab nationalist movement will be examined are: colonialism, the dissolution of the Ottoman Empire, the World War I and World War II, the emergence of the State of Israel, the Egyptian Revolution and the rise of Al-Nasser, Islamic resurgence and the recent incidents in the region. The ideological links between Arab nationalism and modern radical movements will also be examined. Credit units: 3 ECTS Credit Units: 7. Spr (M. A. Kirecici)

HIST 595  Seminar in American History I
Independent work on the history of the United States in the nineteenth century. Credit units: 3 ECTS Credit Units: 7.

HIST 599  Master's Thesis
Credit units: None ECTS Credit Units: 56. Aut (Staff) Spr (Staff)

HIST 605  History of Ottoman Diplomacy
This course provides our students with a focused survey and analyses of Ottoman diplomatic history from the beginning to the end of the Empire. The course shall look at the ways in which Ottomans conducted diplomacy, granted concessions and enacted agreements during different time periods, as well as the historical development of institutions that practiced diplomacy. Our focus will be on the diplomatic interactions and the social, economic, political, and cultural contexts in which they take place. When powerful, the Ottomans dictated their will on their rivals but starting from the early 18th century the Ottomans had to negotiate with other powers and employed non-Muslims who spoke foreign languages in the service of the government, eventually creating a new office, Hariciye Nezareti. The course will evaluate several important turning points in the history of the Ottoman Empire by specifically looking at the diplomatic relations which defined these important moments i.e. among several others, the Ottoman-Russian and Ottoman-Iranian wars, the Berlin Congress, Refugee Problems, the Balkan Wars and World War I. The intensified practice of diplomacy, public diplomacy and the influence of Ottoman reforms on its relations with foreign powers during the nineteenth century will also be scrutinized. The diplomatic efforts of the founding cadres of the Turkish Republic after the World War I and during the National Struggle for Independence will also be dealt with.

Objectives of the Course
- to analyze the process through which the Ottoman Empire enacted its diplomatic relations
- to gain a historical insight about the legacy of Ottoman and European diplomatic relations from the 14th to the 20th centuries.
- to develop a better understanding of the internal and external dynamics of the ways Ottoman diplomatic strategies
- to gain insight about the important events in the history of Ottoman relations with Europe, Asia, Russia and other parts of the world. Credit units: 3 ECTS Credit Units: 7.

HIST 617  Ottoman Intellectual Life in the Reform Period, 1839-1914
HIST 670 Topics in the History of Communism 1847-1953
This course takes the outstanding moments and writers in the history of Communism. It starts of course with Marx and the Communist Manifesto, and proceeds through the construction of Capital and the International to a discussion of the emergence of socialism especially in France and Germany. It moves on to a consideration of Lenin's adaptation of Marx to fit the world of Imperialism, and the position of large semi-capitalist states such as Russia (and later China). The success of the Bolsheviks in Russia alone is discussed, and then the emergence of the USSR as a super-power, especially with the Second World War. The course ends with the death of Stalin in 1953. Credit units: 3 ECTS Credit Units: 8.

HIST 692 Pre-Thesis Seminar
Credit units: None ECTS Credit Units: 1. Aut (Staff) Spr (Staff)

HIST 693 Pre-Thesis Seminar
Credit units: None ECTS Credit Units: 1. Aut (Staff) Spr (Staff)

HIST 699 Ph.D. Dissertation
Credit units: None ECTS Credit Units: 160. Aut (Staff) Spr (Staff)

HIST 701 British Societies 1793-1901
The course treats of the particular histories, i.e. social, cultural, economic, religious, political, etc., of the nations and regions of the British Isles in the nineteenth century. Credit units: 3 ECTS Credit Units: 7.

HIST 702 Modern Middle East since 1800
The Middle East stands at the focal point of International System and claims quite a big deal of our current political debates, a situation which is going to last for several years to come. Most of the current political issues surrounding the Middle East have roots in the complex and complicated history of the region, which suggest the necessity of a historical framework. This course is designed to fill that gap. Modern Middle East Since 1800 explores history of the modern Middle East since 1800. The geography and the concept that we call 'the Middle East' emerged mainly in parallel with the dissolution of the Ottoman Empire. A specific attention therefore will be given to what was there before the region had turned into its present form, what we know as the Middle East. The course is organized around themes and chronological events, surveying a wide range of issues: Themes that we will investigate include but are not limited to the rise of European Empires, Napoleonic invasion of Egypt, the notions of decline, modernization and colonization; Constitutionalism, nationalism, Abdulhamid and Islamism, the Committee of the Union and Progress, partitioning of the Ottoman lands after the World War I and the emergence of the new state system in the post war era. Historical and contemporary interactions between the Middle East and Europe will also be underlined. Among the central questions we will examine are the response from Ottoman societies to the challenges of colonialism and secular modernism; and, the clash between outside and local forces. Studying the history of the region will shed a better light on our understanding of the most recent developments in the region (i.e. crisis revolving around Arab Spring countries) and, help us better contextualize future challenges. Students will be exposed to original source materials that frame the key issues in the modern Middle East and engage in non-partisan discussion through written and oral presentations. Credit units: 3 ECTS Credit Units: 7.

HIST 703 Ireland and Irish America 1603-1921
The course seeks to be useful to students both of European and of North American History Irish History in the Modern period is explored in the context of the Histories of Europe and the Atlantic World. Much attention is paid to the topic of Migration with discussion of the role of Irish Americans in the Political, Social and Religious History of the United States from the Eighteenth to the Early Twentieth Century. Credit units: 3 ECTS Credit Units: 7.

HIST 705 History of Russia: From Tsardom to Empire
Course content begins with the founding of the first Russian state and continues to the Eastern question and Russo-Turkish war 1877-1878. The course will introduce the student to the basic facts of Russian history paying attention to the following key periods: origins of Russia-Kievan Rus; Mongol Invasions and Mongol-Tatar suzerainty of the Golden Horde; the rise of the princes of Moscow and Moscovite Tsardom; imperial Russia under the Romanov dynasty. Special attention will be devoted to Ottoman-Russian relations and to imperial Russian policy in the Balkans. Credit units: 3 ECTS Credit Units: 7. Spr (O. Önol)

HIST 707 The United States and the Second World War
A research seminar on the history of U.S involvement in the Second World War. Topics include American isolationism, the decision to intervene, wartime strategy, operations and diplomacy, leadership and relations with Allies, the "home front" the war economy, and impact of the war upon American society and culture. Credit units: 3 ECTS Credit Units: 7.

HIST 709 Hanover the British Isles and the Americas: Dynasty and Empire 1714-1837
The course offers a general survey of the history of Hanover, the British Isles and the overseas territories of their dynasty (with particular attention to the North American colonies), from its acquisition of the British throne in 1714 to the accession of Queen Victoria in 1837. It is intended for students of European and American history and of the history of empires. Credit units: 3 ECTS Credit Units: 7.
HIST 710  Topics in Modern European History 1870-1970
This course will take the most significant episodes of modern European (and in part world) history with a view to
encouraging students’ interpretive abilities. The topics will be Imperialism around 1890, the “Great Depression”
of the later nineteenth century and what it meant, the spread of parliamentary constitutionalism, the rise of
Socialism and of a new Political Catholicism. Minority nationalism will be examined, and the rise of Fascism and
Communism. The course ends with the attempt to create a new Europe after 1947, and the involvement of the
USA.  Credit units: 3  ECTS Credit Units: 8.  Aut (N. Stone)

HIST 712  Political Thought from the Reformation to the American Civil War
The course is structured around a series of major upheavals in the British Isles and English speaking North
America from the Mid-16th to the Mid-19th century, rather than around canonical texts, which often lack
contemporary importance. The periods of disturbance particularly considered are: that of the English and
Scottish Reformation; that of the civil wars of the mid-17th century and the Inter-regnum in the Stuart Kingdoms
(1639-60); the period of the regime change in those Kingdoms(1688-92);that of the American Revolutionary War
(1775-83); and that of the war between the States. The course considers those disturbed times was certain
contemporary political beliefs and to allow comment on their possible influences on subsequent political thought.
Credit units: 3  ECTS Credit Units: 7.

HIST 713  History of European Integration
This Seminar explores the history of the European movement from a political, social, economic and cultural
perspective from the interwar period through the end of the Cold War. Topics include alternate visions of Europe,
the histories of European institutions and legal regimes, the trajectory of ‘widening’ and deepening, the relations
between European integration and the Cold War, biographies of the principal figures in the European movement
(Briand, Monnet, Schuman, Spinelli, Delors, et al), and legacies of European federalism in present-day relations
of the EU with wider world.  Credit units: 3  ECTS Credit Units: 7.  Spr (K. Weisbrode)

HIST 714  Central Eastern Europe (1815-1945)
This course will cover assorted topics in the modern history of Central Europe, extending from the later nineteenth
century to 1970, with the possibility, for IR students, of studying the late-Communist period. The area involved
stretches from Poland to the Balkans, but the students will be able to concentrate on countries that are of
particular interest to them, e.g. Yugoslavia or Hungary. Some themes of great importance will be treated:
the failure of parliamentary Liberalism (the 1890’s and 1930’s), the treatment of questions of nationalism and
minority rights throughout the period; the rise of left-wing and political-Catholic parties; the relationship
of agriculture and economic development; and the extraordinary cultural flourishing associated with Vienna 1900’
but also extending to Prague and particularly Budapest; the process of Communist take-over. With the exception
of some memoirs, the existing English-language literature should be adequate for the course.  Credit units: 3
ECTS Credit Units: 8.  Aut (N. Stone)
International Relations (IR) is a relatively new discipline. Its importance, however, has been rapidly growing in recent decades. All of us are affected by the international environment and by foreign policy decisions. International issues are becoming increasingly significant, complex, and diversified. We often read and hear about such issues as the Arab-Israeli conflict, the Aegean dispute, the post-Cold War period, the European Union, arms control negotiations, and problems of international trade and finance. All these issues lend themselves to conflicting interpretations and competing alternative solutions. In order to grasp the significance of these contemporary problems, we need to have not only a certain degree of specialized knowledge about the geographical regions in question, but also some theoretical understanding of International Relations.

Career opportunities in the field increase as Turkey’s foreign relations diversify. The diplomatic service and other sectors of public bureaucracy continue to be an important source of employment. In addition to this, the media, private sector, professional organizations, and universities need increasing numbers of specialists in international affairs.

UNDERGRADUATE PROGRAM

The undergraduate program is comprised of a broad set of integrated courses designed to provide the training and perspective necessary for future career responsibilities in the field of International Relations. These courses emphasize increased competence in IR specialties such as International Law, Diplomatic History, Politics of International Economy, Foreign Policy Analysis, Global Issues and Area Studies. The teaching objectives are to maintain the crucial balance between theory and practice and to ensure that every student is exposed to the latest understanding of all the key IR issues and to the conceptual and analytical frameworks underlying them.

The core set of courses provides the fundamentals of the field of IR while a wide variety of elective courses, to be taken from the department as well as from the Departments of Political Science, Economics and Management, permits students to develop a program that will meet personal needs and special career interests.

For students who choose to pursue a more advanced degree in the field, the Department offers a Master’s degree program and a doctoral degree program with considerable flexibility for graduate students to develop specialized academic programs to suit their needs and interests.

| FIRST YEAR |
|-------------------------------|-----------------|-----------------|
| **Autumn Semester**           | **Credits / ECTS Credits** |
| ECON 107 Principles of Microeconomics | 3 / 6            |
| ENG 101 English and Composition I | 3 / 6            |
| GE 100 Orientation | 1 / 1            |
| HCIV 101 History of Civilization I | 3 / 6          |
| POLS 101 Introduction to Political Science I | 3 / 6      |
| SOC 101 Introduction to Sociology | 3 / 6           |
| TURK 101 Turkish I | 2 / 2            |

<table>
<thead>
<tr>
<th><strong>Spring Semester</strong></th>
<th><strong>Credits / ECTS Credits</strong></th>
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</thead>
<tbody>
<tr>
<td>CS 121 Introduction to Computing for Social Sciences</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ECON 108 Principles of Macroeconomics</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ENG 102 English and Composition II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>HCIV 102 History of Civilization II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>IR 101 Introduction to World Politics</td>
<td>3 / 6</td>
</tr>
<tr>
<td>TURK 102 Turkish II</td>
<td>2 / 2</td>
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</table>
SECOND YEAR

Autumn Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>GE 250</td>
<td>Collegiate Activities Program I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>IR 205</td>
<td>Diplomatic History</td>
<td>3 / 6</td>
</tr>
<tr>
<td>IR 227</td>
<td>Research Methods in International Relations</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 264</td>
<td>Statistics for Social Sciences</td>
<td>3 / 6</td>
</tr>
<tr>
<td>PHIL 243</td>
<td>Social and Political Philosophy I</td>
<td>6 / 12</td>
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Spring Semester

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<tr>
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<th>Course Title</th>
<th>Credits / ECTS Credits</th>
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</thead>
<tbody>
<tr>
<td>GE 251</td>
<td>Collegiate Activities Program II</td>
<td>1 / 1</td>
</tr>
<tr>
<td>HIST 200</td>
<td>History of Turkey</td>
<td>4 / 8</td>
</tr>
<tr>
<td>IR 236</td>
<td>20th Century World Politics</td>
<td>3 / 6</td>
</tr>
<tr>
<td>LAW 210</td>
<td>Basic Concepts of Law</td>
<td>3 / 4</td>
</tr>
<tr>
<td>PHIL 244</td>
<td>Social and Political Philosophy II</td>
<td>6 / 12</td>
</tr>
<tr>
<td>PSYC 102</td>
<td>Introduction to Social Psychology</td>
<td>3 / 5</td>
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THIRD YEAR

Autumn Semester

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>IR 303</td>
<td>International Law</td>
<td>3 / 6</td>
</tr>
<tr>
<td>IR 335</td>
<td>International Relations Theory</td>
<td>3 / 6</td>
</tr>
<tr>
<td>IR 338</td>
<td>Politics of International Economy</td>
<td>3 / 6</td>
</tr>
<tr>
<td>GENL Elect.</td>
<td>General Elective</td>
<td>3 / 6</td>
</tr>
<tr>
<td>Restricted</td>
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<td>3 / 6</td>
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Spring Semester

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits / ECTS Credits</th>
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</thead>
<tbody>
<tr>
<td>IR 305</td>
<td>International Organizations</td>
<td>3 / 6</td>
</tr>
<tr>
<td>IR 333</td>
<td>Foreign Policy Analysis</td>
<td>3 / 6</td>
</tr>
<tr>
<td>GENL Elect.</td>
<td>General Elective</td>
<td>3 / 6</td>
</tr>
<tr>
<td>Restricted</td>
<td>Restricted Elective</td>
<td>3 / 6</td>
</tr>
<tr>
<td>Unrestricted</td>
<td>Unrestricted Elective</td>
<td>3 / 6</td>
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FOURTH YEAR

Autumn Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits / ECTS Credits</th>
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</thead>
<tbody>
<tr>
<td>IR 399</td>
<td>Summer Training</td>
<td>3 / 6</td>
</tr>
<tr>
<td>IR 439</td>
<td>Turkish Foreign Policy</td>
<td>3 / 6</td>
</tr>
<tr>
<td>Restricted</td>
<td>Restricted Elective</td>
<td>3 / 6</td>
</tr>
<tr>
<td>Unrestricted</td>
<td>Unrestricted Electives (3)</td>
<td>9 / 18</td>
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</tbody>
</table>

Spring Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits / ECTS Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restricted</td>
<td>Restricted Electives (2)</td>
<td>6 / 12</td>
</tr>
<tr>
<td>Transdisc.</td>
<td>Transdisciplinary Senior Project</td>
<td>6 / 12</td>
</tr>
<tr>
<td>Unrestricted</td>
<td>Unrestricted Elective</td>
<td>3 / 6</td>
</tr>
</tbody>
</table>

In addition to elective courses offered by the Department of International Relations, students are allowed to take electives from the departments of Economics, Political Science, Psychology, Faculty of Law, Management and/or Philosophy or foreign language courses, among others.

BİLKENT-BINGHAMTON DUAL DIPLOMA PROGRAM

in Global and International Affairs

The dual diploma program Bilkent-Binghamton, SUNY bachelor's degree in Global and International Affairs (GIA) offers students at Bilkent University a unique program of interdisciplinary study in International Relations, History, Economics and other fields yielding high-level substantive knowledge and analytical skills for careers requiring global perspectives on international issues of various kinds. This four-year program includes full-time enrollment for four semesters at Binghamton University, the SUNY doctoral campus most noted for its undergraduate excellence, its comprehensive internationalization, and its history of fruitful association with Turkish universities. Students in the program must
meet all of the requirements for a Bachelor's degree both at Binghamton University and at Bilkent University. According to the residency requirement of the GIA program, students must spend at least 4 semesters at Bilkent University and at least 4 terms at the Binghamton University. After the first year spent at Bilkent University, the student may decide which of the following years will be spent at which campus. Although degree recipients receive two diplomas, one from each institution, both diplomas refer to the degree as jointly awarded, and no student can receive the degree or either of the diplomas without satisfying the academic requirements of both institutions.

To be able to start the program, students must achieve a satisfactory score, specifically a 550 or better (plus a score of 4 in the written part) on the U.S. Test Of English as a Foreign Language (TOEFL) (overall score 82 on the internet based with no less than 20 for each section - listening, reading, speaking, and writing) or with no less than 5.5 for each section overall score 6.5 on International English Language Testing System (IELTS). It is not possible to start the program without having a satisfactory score in one of these exams.

Minimum credits for the joint Bachelor's Degree in Global and International Affairs is 126 (minimum of 50 credits from Binghamton)

Following is the first and remaining year courses to be taken at Bilkent University.

**FIRST YEAR (Bilkent University)**

<table>
<thead>
<tr>
<th>Autumn Semester</th>
<th>Credits / ECTS Credits</th>
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</thead>
<tbody>
<tr>
<td>GS 121: Introduction to Computing</td>
<td>3 / 6</td>
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<tr>
<td>ECON 107: Principles of Microeconomics</td>
<td>3 / 6</td>
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<tr>
<td>ENG 101: English and Composition I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>GE 100: Orientation</td>
<td>1 / 1</td>
</tr>
<tr>
<td>HCIV 101: History of Civilization I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>POLS 101: Introduction to Political Science I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>TURK 101: Turkish I</td>
<td>2 / 2</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Spring Semester</th>
<th>Credits / ECTS Credits</th>
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</thead>
<tbody>
<tr>
<td>ECON 108: Principles of Macroeconomics</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ENG 102: English and Composition II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>HCIV 102: History of Civilization II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>IR 101: Introduction to World Politics</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 264: Statistics for Social Sciences</td>
<td>3 / 6</td>
</tr>
<tr>
<td>TURK 102: Turkish II</td>
<td>2 / 2</td>
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</table>

**REMAINING YEAR (Bilkent University)**

<table>
<thead>
<tr>
<th>Autumn Semester</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>HIST 200: History of Turkey</td>
<td>4 / 8</td>
</tr>
<tr>
<td>IR 399: Summer Training</td>
<td>- / 6</td>
</tr>
<tr>
<td>Restricted Electives (2)</td>
<td>6 / 12</td>
</tr>
<tr>
<td>Unrestricted Electives (3)</td>
<td>9 / 18</td>
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</table>

<table>
<thead>
<tr>
<th>Spring Semester</th>
<th>Credits / ECTS Credits</th>
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</thead>
<tbody>
<tr>
<td>Restricted Electives (3)</td>
<td>9 / 18</td>
</tr>
<tr>
<td>Unrestricted Electives (2)</td>
<td>6 / 12</td>
</tr>
</tbody>
</table>

(Binghamton University)

Binghamton will specify which courses are to be made available to students in this program in a given year. Binghamton also provides advising prior to students’ arrival in Binghamton and during their stay to ensure that they enroll in courses appropriate to their individual academic and personal backgrounds, needs, and interests. Following is a minimum credit breakdown by category (please note that some of these credits will be satisfied with courses taken at Bilkent):

- Political Science: 32 credits
- History: 32 credits
- Economics: 9-12 credits
MINOR PROGRAM

The minor degree program in International Relations offers Bilkent University students with an interest in world politics a solid basis for understanding world politics in a globalizing world as well as Turkey's international relations. The minor degree program is made up of four must courses: Introduction to World Politics, 20th Century World Politics, Foreign Policy Analysis, and International Relations Theory. Students also take three elective courses of their own choosing. The Department offers a wide variety of courses, all of which are open to minor degree students (subject to availability).

Prerequisite Courses: IR 101 Introduction to World Politics

<table>
<thead>
<tr>
<th>COURSES</th>
<th>CREDITS / ECTS</th>
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<tbody>
<tr>
<td>IR 235 20th Century World Politics</td>
<td>3 / 6</td>
</tr>
<tr>
<td>IR 333 Foreign Policy Analysis</td>
<td>3 / 6</td>
</tr>
<tr>
<td>IR 335 International Relations Theory</td>
<td>3 / 6</td>
</tr>
<tr>
<td>Electives (3)</td>
<td>9 / 18</td>
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</table>

GRADUATE PROGRAMS

Master of Arts in International Relations

Admission: Prospective students must have completed the Bilkent University requirements for a Bachelor of Arts degree in International Relations or equivalent training. (Also refer to the “Graduate Admissions” section in the introduction of this catalog for the general graduate admission requirements.)

Degree Requirements: A completed program must satisfy the following criteria:

1. Completion of at least 26 units of credit course work. The seven required international relations courses include the following: International Relations Theory, Academic Writing, Research Methods, Issues in Turkish Foreign Policy, Pre-Thesis Seminar, Academic Practices, and Master Thesis. The four elective courses can be selected from the offered graduate courses each semester.

2. Completion of an M.A. thesis proposal before the start of the second year.

3. An M.A. thesis must be submitted to and approved by the thesis defense committee.

4. A cumulative grade point average of at least 3.00 must be maintained for the totality of Master's level work.

Master of International Affairs and Public Policy (MIAPP)

The curriculum of the Master of International and Public Policy (MIAPP) is designed to provide students with a broad analytical background in the major fields of international affairs and European integration, combined with a specific focus on the newly emerging issues of governance and globalization. The program of study requires 60 units of graduate credits and is completed in four terms of full-time attendance without the requirement of submitting a Master's thesis. By underlining updated knowledge and skills essential to careers in international, private, and public sectors, the program responds to new professional opportunities at home as well as abroad. The program addresses the fundamental issues of the post-Cold War era, globalization, public
governance, corporate governance and European integration with an approach that incorporates scholarly perspectives and practical experience.

Requirements for Application: An undergraduate degree in international relations is not a prerequisite for admission. Graduates of other disciplines are also eligible and are encouraged to apply.

CURRICULUM

Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>ECON 507</td>
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<tr>
<td>ECON 508</td>
<td>3 / 6</td>
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<tr>
<td>ENG 406</td>
<td>3 / 5</td>
</tr>
<tr>
<td>IR 543</td>
<td>3 / 8</td>
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<tr>
<td>IR 547</td>
<td>3 / 8</td>
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<tr>
<td>IR 572</td>
<td>3 / 8</td>
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<tr>
<td>IR 574</td>
<td>3 / 8</td>
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<tr>
<td>IR 594</td>
<td>3 / 8</td>
</tr>
<tr>
<td>IR 629</td>
<td>3 / 8</td>
</tr>
<tr>
<td>MAN 509</td>
<td>3 / 8</td>
</tr>
<tr>
<td>MIAPP 501</td>
<td>6 / 12</td>
</tr>
</tbody>
</table>

Electives: (Eight of the following)
All 5XX or higher-level courses with at least 3 credits.

Electives: (Two of the following)
All 3XX or higher-level courses with at least 3 credits.

Doctor of Philosophy in International Relations

The doctoral program at Bilkent IR is a highly specialized program. Its purpose is to develop the skills of doctoral candidates in international political analysis and to increase their capacity to conduct research on theoretical issues, international security studies, strategic studies, comparative foreign policy, international political economy, regional integration, global environmental problems, international law, peacekeeping and conflict resolution as well as area studies such as the European Union, the Balkans, Russia, the Middle East, Central Asia and the Caucasus. The program is reserved for a limited number of students who are qualified and committed to spend several years conducting intensive research. The program is particularly suitable for students who wish to pursue an academic career.

Degree Requirements: Students accepted to this program must complete at least 26 credit hours of course work (prerequisite courses not included in this total are IR 501 International Relations Theory, which is a prerequisite for IR 621 Current Debates in International Relations Theory, and IR 519 Research Methods, which is a prerequisite for IR 699 Ph.D. Dissertation). Students may take elective courses from other departments in accordance with IR Ph.D. curriculum requirements. A cumulative grade point average of at least 3.00 must be maintained for the totality of Ph.D. coursework. The doctoral program must be completed in at most 12 semesters.

COURSE DESCRIPTIONS

IR 101 Introduction to World Politics
This course introduces students to international relations by presenting the basic concepts, approaches and major contemporary currents in world politics. The purpose of the course is to provide students with a framework for analysis whereby they can understand and evaluate international phenomena. It covers a wide range of topics including security issues such as war, terrorism, diplomacy and arms control; ecological issues such as climate change and resource depletion, and economic issues such as development, world trade and globalization. Credit units: 3 ECTS Credit Units: 6. Aut (O. Altındal, S. Buldanlioğlu Şahin, N. Shoughry) Spr (A. O. Dinöz)
IR 205 Diplomatic History
Diplomatic history from the Peace of Westphalia until World War I. Credit units: 3 ECTS Credit Units: 6. Aut (A. O. Diniz, O. Içci, S. H. Kırmlı) Spr (S. H. Kırmlı)

IR 227 Research Methods in International Relations
This course aims to introduce the students how to design an IR research paper and gradually write one throughout the semester. The students are familiarized with the basic concepts of research philosophies and methods such as formulation of a good research question, a theory, hypotheses and data collection & analysis techniques. The course does not only focus on theory but also makes the students acquainted with applied and empirical research. For that purpose, students get first hand experience on how to do library research by actually going to the library and meeting with a library advisor. Overall, the objective of the course is to build a basic background in students who are later in their training expected to write good research papers. Credit units: 3 ECTS Credit Units: 6. Aut (A. Gkouti, P. ÇIpek) Spr (C. E. Mutlu)

IR 236 20th Century World Politics
This course introduces students to critical events and dynamics of the 20th Century, including but not limited to the League of Nations, inter-war period, World War II, United Nations, Cold War, (super-power conflict and the Non-Aligned Movement), Détente; Second Cold War, the revolutions of 1989 and post-Cold War challenges to the international system. Credit units: 3 ECTS Credit Units: 6. Aut (C. M. Hoffmann) Spr (D. Akrivoulis, C. M. Hoffmann)

IR 303 International Law
The first part of a comprehensive survey of international law as the normative factor in international relations, to be continued in IR 304. The basic legal concepts are described and explained, together with a view of prospective developments. Rules of law are considered in their political, economic and cultural contexts, while emphasizing their normative character and the elements of legal reasoning. Credit units: 3 ECTS Credit Units: 6. Aut (E. Cirkovic, Ö. Sav) Spr (E. Cirkovic)

IR 305 International Organizations
A comprehensive study of the development of international organization and its role in the contemporary world. The central part of the course deals with the United Nations, its structure, performance and prospects, both in the maintenance of peace and in the economic and social field. Then specialized agencies and the regional organizations are treated on a descriptive basis. Credit units: 3 ECTS Credit Units: 6. Aut (D. Akrivoulis, C. E. Mutlu) Spr (S. Buldanlıoğlu Şahin)

IR 308 Turkic/Muslim People of the Former USSR
Russian Rule over the Turco-Muslim lands, the enlightenment and national revival of the Turco-Muslim peoples; establishment of Soviet power, communist rule and the road to national independence. Credit units: 3 ECTS Credit Units: 6. Aut (D. Akrivoulis, C. E. Mutlu) Spr (S. Buldanlıoğlu Şahin)

IR 311 Russian History
A survey of Russian History from the rise of Kievan Confederation (9th century) to the Bolshevik Revolution. Focus will be on reform, revolution, ideology and society. Credit units: 3 ECTS Credit Units: 6. Spr (S. H. Kırmlı)

IR 322 International Protection of Human Rights
Analyzes the concept of human rights firstly at the domestic level and then shifts the focus to the international level. During these analyses minority rights are also analyzed from the point of the treaties signed by the Ottomans and the Turkish Republic. The turning point in the protection of human rights at the international level commences by the U.N. Due to this all the developments in the U.N. and also in the Council of Europe in this particular field are analyzed in detail. Credit units: 3 ECTS Credit Units: 6. Aut (S. A. Vite) Spr (S. A. Vite)

IR 331 War, Peace and Security
This course is about three concepts that have been at the core of thinking about world politics, namely: ‘war’, ‘peace’ and ‘security’. By introducing a wide variety of intellectual traditions and contemporary ideas on these three core concepts to students, this course aims to provide a comprehensive basis for understanding the dynamics of world politics. The general objectives include the development of oral, written and research skills as the course require students to become able to read, absorb and critically assess a large amount of complex (and at times contradictory) material. The subject-specific objectives of the course include the ability to discuss the causes and significance of war, alternative meanings and practices of peace, and contending conceptions and practices of security. Credit units: 3 ECTS Credit Units: 6. Aut (H. P. Bilgin)

IR 333 Foreign Policy Analysis
IR 335  **International Relations Theory**  
This course provides students with a comprehensive introduction to contemporary international relations theory. No prior knowledge of international theory is expected.  
Credit units: 3 ECTS Credit Units: 6. Prerequisite: IR 101.  
Aut (D. Akrivoulis, A. Bilgic) Spr (P. A. Williams)

IR 338  **Politics of International Economy**  
The aim of this course is to provide students with a comprehensive introduction to International Political Economy (IPE) as a field of study. The course focuses on recent developments and current trends in the world political economy, various theoretical IPE perspectives, as well as more specific topics such as international monetary affairs, global finance, foreign debt, international trade, global production, foreign direct investment, transnational corporations, and development.  
Credit units: 3 ECTS Credit Units: 6.  
Aut (T. Fougner, P. A. Williams) Spr (T. Fougner, P. İpek)

IR 347  **The International System**  
Some international relations theories would argue that most of the problems and opportunities the world faces today are related to the structure of the modern international system. This course examines the historical and theoretical evolution of the international system, with particular emphasis on the last two centuries. The main objective is to see which ideas and events have shaped the structure of the current system, as well as how the structure has shaped ideas and events. The students are expected to actively participate in the class discussions.  
Credit units: 3 ECTS Credit Units: 6.

IR 349  **International Relations in Movies**  
This course will use movies to understand and explain international issues. Through classroom discussions, readings and films that deal with international issues, we will analyze how these films shed light on international affairs, how they show us different perspectives on such issues and deepen our understanding. We will see 6 to 8 movies during the semester and discuss how the content of the movie relates to what you have learned in your studies in international relations. In these movies and readings, we will focus on issues like foreign policy making, war, terrorism, ethnic conflict, identity, environmental issues, revolutions, civil wars, foreign intervention, international institutions, espionage, Cold War and so on.  
Credit units: 3 ECTS Credit Units: 6.  
Aut (İ. Özdamar)

IR 347  **Negotiation and Mediation in Politics**  
This course focuses on both the theory and practice of negotiation and mediation concerning legal and political conflicts. The course covers a wide range of issues concerning negotiations including the different theories of bargaining, processes of negotiation, psychological dynamics of negotiation, effective communication strategies, the role of language, culture, and power in negotiations, and the role of third parties in negotiations. An important part of the class is devoted to teaching the applied negotiation and mediation skills to students. Towards this end the students will carry out negotiation simulations and role plays related to various legal and political negotiations. In addition to the role plays and simulations, the course will also discuss several negotiation cases in detail including the negotiations over the Turkish Constitution, Cyprus, and Jerusalem.  
Credit units: 3 ECTS Credit Units: 6.  
Spr (Ç. E. Çuhadar Gürkaynak)

IR 351  **Globalization**  
The focus of this course is globalization—a concept encompassing the transnational linkages that increasingly characterize today’s world. As an introductory course, the aim is to develop a base of knowledge, analytical skills, and a vocabulary of concepts useful both for understanding globalization and for further engagement with the multi-dimensional concerns of International Relations. It also aims to analyze and predict the emerging dynamics of global politics, not necessarily only related to international patterns but to include as well transnational and domestic politics. In the course we will examine “global” theories that seek broadly to explain the patterns of interaction and conflict that are likely to dominate our world in the near and longer-term: try to situate globalization in historical context; and look at the relationships between globalization and culture, people flows across state borders, nationalism and ethnicity, security, democracy, religious fundamentalism, gender, the environment, and economics. Finally, we will consider these concepts by looking at their interaction in the Turkish case.  
Credit units: 3 ECTS Credit Units: 6.  
Aut (E. Aydınıl)

IR 352  **Environmental Issues and Ecological Sustainability**  
The course will explore environmental issues such as energy, water resources, global warming, climate change, natural disasters, food production, and biodiversity at local, national and international levels. Students will analyze how these issues affect not only the environment, but also the economy, the health and wellbeing of people, the lives of other organisms, and the future of the planet. The class will co-create experiences to gain an appreciation of policies and protocol to shape a more sustainable ecological future. The course begins with students analyzing their ecological footprint, followed by an audit of Bilkent University’s resource management policies. Through a review of regional and national media sources, the class will identify environmental issues important to the city of Ankara, and more generally to Turkey. Based on research and findings, teams will select an issue to investigate, analyzing challenges and opportunities to develop a proposal for the resolution of a selected issue.  
Credit units: 3 ECTS Credit Units: 6.  
Aut (J. F. Lane)
IR 353 Energy Security and Foreign Policy
This course examines the challenge for energy security in relation to foreign policy analysis. The course has three parts. The first part outlines the continuities and changes in the global energy market to underline the emerging challenges in securing energy supplies, access to resources and the environment. The second part presents different theoretical approaches to facilitate a conceptual framework in analyzing how energy security relates to foreign policy. The third part focuses on selected issues and cases to analyze and discuss energy security and foreign policy in the light of the different conceptual frameworks presented in the second part of the course. Credit units: 3 ECTS Credit Units: 6. Aut (P. İpek)

IR 354 Introduction to Middle East Politics
This is an introduction course to key issues in domestic and regional politics in the Middle East which aims to provide an overview of the main political developments of the region, and acquaint students with a major center of world affairs. In this course students will be introduced to the complexity of the Middle East and its politics, while attempting to understand the dynamics that shape the region. In addition, students will explore key conceptual frameworks through which the Middle East is studied and understood. Credit units: 3 ECTS Credit Units: 6. Aut (N. Shoughry)

IR 355 Public Policy Making in the European Union
This course is about policy processes in the EU. It is designed to equip students with knowledge, skills and research experience to analyze the challenges in the EU decision-making process. During the lectures, we will try to understand the policy making process in the EU by touching on the most complicated policy areas. Specific focus will be put on the current financial crisis and contemporary debates on the future integration of the EU. At the end of this course, students should be familiar with the complex EU policy making and policy implementing processes with a capacity to examine supranational policy problems and controversies, as well as to develop solutions in the field. The participants of the course will be able to analyze the political environment of European public policy and form effective strategies. Credit units: 3 ECTS Credit Units: 6. Spr (D. Altnbas)

IR 399 Summer Training
This course refers to the internship course which will need to be satisfied with an internship to be conducted during the summer of the end of the third year in the program. The course will be a non-credit (0 credit) course to be marked as S or U. To be satisfied by undertaking 20 days of internship during the summer and the submitting a report based on the experience. Credit units: None ECTS Credit Units: 6. Aut (Staff) Spr (Staff)

IR 413 Game Theory and International Politics
This course is designed to study rational behavior related to conflict. Substantively, it focuses on strategic rationality underlying 1. bargaining; 2. deterrence; 3. surprise attack. Credit units: 3 ECTS Credit Units: 6. Spr (S. Ş. Güner)

IR 439 Turkish Foreign Policy
Analysis of Turkish Foreign Policy from the beginning of the Republic until 1950. Credit units: 3 ECTS Credit Units: 6. Aut (O. Göktepe) Spr (O. Göktepe, O. İspo)

IR 454 International Environmental Politics
This course will focus on applying divergent theoretical approaches (realism, neoliberal institutionalism, domestic politics, epistemic communities, critical theory, feminism, etc.) to analysis of the causes, consequences, and resolvability of a representative range of international environmental political issues, from disputes relating to transboundary water shortages and degradation to global common property resource issues (especially ozone layer depletion, acid rain, and global warming). Credit units: 3 ECTS Credit Units: 6.

IR 455 The European Union and Turkey
This course aims to analyze the dynamics of Turkey's relations with the European Union since the foundation of official relations in the early 1960s till now. The particular issues to be analyzed are the following: The reasons for Turkey's application for membership in the EU, the reasons for the European Union to embrace an ambiguous attitude towards Turkey's membership, the role of the European Union in the Cyprus dispute, the impact of the September 11 on the dynamics of Turkey-EU relations, and the role of the United States in the general EU-Turkey relations. Credit units: 3 ECTS Credit Units: 6.

IR 463 Political Economy of Turkey
This class is designed to give an overview of the political economy of modern Turkey. It begins with an introduction to the history of social coalitions dominating Turkey's political economy between 1908 and 1980. It then proceeds with a thematic focus on the current issues of Turkish political economy. Among the current issues discussed are: politics of economic reforms; political economy of state-market relations; political economy of Turkey's relations with the IMF/World Bank, EU and USA; political economy of state-society relations; political economy of Turkish democracy; and political economy of income distribution, and corruption. Credit units: 3 ECTS Credit Units: 6.
IR 464  History of the Cold War
The history of the cold war spans 1946-1991. This course is designed as an explanation of major cold war events, and foreign policies of the superpowers, as well as those of their respective allies; the socio-economic trends that influenced thaws and eventually caused the end of the cold war. Credit units: 3 ECTS Credit Units: 6. Spr (O. İlşi)

IR 470  International Terrorism and Transnational Crime
This course is designed to give students a comprehensive understanding both conceptual and practical of the topics of international terrorism and transnational crime. On the conceptual side, the theories, origins, definitions, forms, strategies/tactics, international relations and countering strategies of international terrorism and transnational crime will be explored. On the practical side, we will have guest speakers who are active counter terrorism/organized crime professionals, as well as having the opportunity to visit relevant departments of the national and military police commands. The course will be run on a lecture/seminar basis, and will include a simulation activity of an international terrorist act, which will involve the participation of all class members. Credit units: 3 ECTS Credit Units: 6. Spr (E. Aydınlı)

IR 472  Diplomatic Language and Translation
The purpose of this course is to familiarize the student with diplomatic language, which is different from the language used in ordinary life. The difference stems mostly from the terms and expressions used that have a meaning other than those found in dictionaries. The course is an introduction to the art of communication and finesse employed in the diplomatic profession and as such, should be taken only by those who are interested in seeking employment in the Ministry of Foreign Affairs. Credit units: 3 ECTS Credit Units: 6. Aut (O. Gökçe) Spr (O. Gökçe)

IR 477  Political Economy of Natural Resources
This course introduces students to the importance of natural resources in the international political economy. It explores: how previously marginal actors on the energy scene, such as China, India, Russia, Turkey and their Caucasian and Central Asian neighbors, have become more central; the extent to which European Union energy requirements are driving this shift; how this shift is reshaping multinational business strategies; how ethnic conflict and terrorism are posing salient risks to major hydrocarbon supplies and supply lines; and the degree to which the need to preserve environmental integrity will ultimately limit fossil-fuel consumption. Credit units: 3 ECTS Credit Units: 6. Aut (P. A. Williams)

IR 487  European Political Economy
This course is designed to introduce students to the political economy of the European Union. It starts with an overview of the links between globalization and European integration. It then focuses on the main political economy challenges that the EU faces today. Specific issues include, but not limited to, competitiveness, cohesion, demographic change, migration and xenophobia, unemployment and social polarization, enlargement and transition, and regionalism and regionalization. The course ends with a discussion of the place of the EU in the world. Credit units: 3 ECTS Credit Units: 6.

IR 492  Gender in International Relations
The aim of this course is to highlight the role played by gender in world politics. The course locates a concern with gender in the broader context of International Relations as a field of study, and seeks to uncover and critically assess the gender dimension of key IR-issues such as war, peace, security, international political economy, development, and human rights. Credit units: 3 ECTS Credit Units: 6. Spr (T. Fougner)

IR 493  European Union
This course is designed to introduce the students to the history, institutions and policies of the European Union. It aims to develop an understanding of the basic dynamics of the European integration with a view of national and global contexts in which the EU has evolved towards an "ever closer union". The course does not require previous study on the EU. Credit units: 3 ECTS Credit Units: 6. Aut (D. Tsarouhas) Spr (D. Tsarouhas)

IR 494  Causes and Prevention of War
This course examines the causes and prevention of war. The goal is to discover and assess why interstate and intrastate (civil) wars take place and how to prevent or at least control them. The first part of the course focuses on theoretical aspects of war and in the second part we aim to empirically understand war through the study of various case studies. The two world wars, ethnic cleansing in states such as Rwanda are only a couple of the cases we cover. By the end of the course students will be familiar with basic theories of causes of war and cases associated with them. Finally, an assessment of the possible causes of wars of the future, namely terrorism follows with a focus on possible means to prevent such wars. The course objective is to involve the students in an in-depth examination of war through discussion of extensive readings, class presentations and critical essay writing. Credit units: 3 ECTS Credit Units: 6.

IR 495  World Energy Politics
Energy resources and their geographical distribution. Advances in energy technologies. Reference and alternative scenarios on energy. Supply and demand. Factors and actors effecting the oil prices. Major actors in the energy scene (States, organisations, etc). Main principles of energy policy. Energy policies and strategies of principal
actors (U.S., Russian Federation, E.U., China and others). Concept of the energy security. Turkey’s resources and energy policies. Will Turkey be an energy bridge? The importance of international relations on energy policies. Credit units: 3 ECTS Credit Units: 6. Aut (N. Pamir) Spr (N. Pamir)

IR 4005 Issues in International Political Economy
This graduate seminar course explores a series of issues central to the field of International Political Economy (IPE). While the exact focus is contingent on the contemporaneous disciplinary and policy agendas, as well as on the research interests of the participants, the course is centrally concerned with integrating theory and practice in a thorough and critical engagement with both IPE as an academic field of study, and various substantive aspects of the current world political economy. Credit units: 3 ECTS Credit Units: 6. Spr (T. Fougner)

IR 4100 Introduction to Security Studies
This course offers an introduction to the study of security. It traces the evolution of security studies from the study of war and strategy to concerns with individual, societal and global security. Credit units: 3 ECTS Credit Units: 6.

IR 4108 Diplomacy
The objective of this course is first to look into the history of professional diplomacy and its evolution to what it is today, how its protocols and rules became established over time; and second to simulate on the subtleties of the profession by way of concentrating on how diplomacy is conducted, tactics are applied and how cooperative decisions are made inside and outside institutional structures to gain an understanding of how states pursue their national interests, strategize and negotiate with one another in order to achieve mutually desired goals in a highly complex and, occasionally, conflicting world Credit units: 3 ECTS Credit Units: 6.

IR 4109 Issues for Turkey in Global Political Economy
This course is designed to introduce you to the issues important for the Turkish Republic in the global political economy. The course topics are grouped through a historical overview of the political economy of Turkey in relation to structural economic transformations and political developments in the globalization process. The course is divided into three sections. Section one introduces the relationship between politics and economics of Turkey between 1908 and 1960s. The issues covered in section one are state-led development and important substitution industrialization. Section two examines the economic crises and market liberalization period between 1970 and 1991. This issues covered in section two are chronic inflation, financial crises, privatization, export-led economic growth, and foreign debt. Section three will cover student presentations on a topic that are related to the twin processes of regionalization, specifically accession to the EU, and globalization in Turkey. Credit units: 3 ECTS Credit Units: 6. Spr (P. İpek)

IR 4114 Religion and IR Theories
The proposed course aims at increasing our understanding of how religion shapes international relations. The main topic of the course is the integration of religious subject matter into conceptual frameworks ranging from realism to liberalism and constructivism. The main question is how does religion translate into international politics. Hence, theoretical and empirical views are blended together. The subject matter covers whether religious actors can act as strategic actors, whether religions can have variable impact upon war and the likelihood of war in addition to analyses of international politics through the prism of religion and the interaction between secular and religious forces at global level. Credit units: 3 ECTS Credit Units: 6. Spr (S. Ş. Güner)

IR 4115 Turkey’s International Relations and the Middle East
This course is designed to orient the student about Turkey’s conduct of domestic and foreign policy with respect to the Middle East from both an historical and international relations perspective. The course will span from the end of WW I to contemporary times, with focus on mainly the Israel -Arab conflict, change and continuity, what factors play a role in the shaping of relations in the Middle East and how vital national interests are safeguarded. Credit units: 3 ECTS Credit Units: 6. Spr (O. Gökçe)

IR 4116 International Logistics
The course provides all of the concepts of international logistics with a special focus on management of international trade operations. The philosophy of international logistics and important international trade elements will be thought within the light of logistics management approaches. It aims to perceive the students the international logistics management and implementations and documentations of international trade. Within this scope, it has been targeted to introduce various sub concepts collectively through the baseline of international logistics and global marketing along with the processes for the entities of foreign trade management to enable students to understand the effects of the international logistics on international economy and relations. The course begins with the general explanations of international supply chain management in line with international logistics infrastruc-ture and continues with the main implementations of international trade. The course also includes international transportation and security issues along with the competitive support of international logistics within the context of theoretical knowledge. Credit units: 3 ECTS Credit Units: 6. Aut (İ. H. Doğan) Spr (İ. H. Doğankaya)

IR 4118 Turkey and the United States: Common Concerns and New ICT Instruments
This is an innovative course designed by Montclair State University and Bilkent University who will work together to forge a classroom-to-classroom partnership consisting of a semester-long course taught jointly by a professor in
each country, focusing on common challenges. Turkey and the U.S. face and building an understanding of the role information and communication technology (ICT). A portion of the course, including joint lectures, discussions, and assignments, will be conducted and completed collaboratively by students in both countries through the use of existing, under-utilized technologies (WEBEX, VTC, Skype, Googledocs, etc). Credit units: 3 ECTS Credit Units: 6.

IR 4120 Globalization, Development and the Environment in World Politics
Hurricanes in the Americas, droughts in Africa, excessive pollution in China and other weather extremes and environmental challenges undermine our current forms of social, economic and political organisation in the international system and their capacity to maintain nature as a basis for human life on this planet in the future. Continuing processes such as global warming, looming water scarcities and resource conflicts beg questions about the relationship between world politics and nature in general. Can development be redefined in more sustainable ways or do we need to rethink our notions of growth and progress more fundamentally? This course investigates these questions by looking at the actors and issues implicated in the relationship between globalisation and environmental change in world politics. It engages with competing theoretical perspectives about the drivers of environmental change and its relationship to International Relations, Security and the Global Political Economy. The course will address issues such as climate change, carbon trade as well as resource and climate conflicts. It will further investigate the relationship between the environment and global trade, finance and production in the context of globalisation. Students will gain an understanding of the international structures, institutions and key actors in these debates on governments and international organisations to civil society and transnational corporations. They will learn about the ways in which their exercise of power and influence impacts on the environment. The course begins with an overview over the debates about the relationship between nature, society and world politics before looking at key actors and more specialized debates. The course will proceed by contextualizing these general debates within a variety of specific case studies from around the world and discuss the potential for more sustainable forms of international development. Credit units: 3 ECTS Credit Units: 6. Aut (C. M. Hoffmann) Spr (C. M. Hoffmann)

IR 4121 Intervention in International Relations
This course examines the theory and practice of intervention in international relations. We will begin with an analysis of the historical, conceptual and normative aspects of intervention. Our discussions will center on the objectives, means and ends of intervention in situations of intra-state violence. We will also analyse the changes brought about by the end of the Cold War and the intensification of globalisation. We will then continue with more specific case studies and examine the circumstances and consequences of intervention. Investigation of these points will facilitate a deep understanding of the key themes and trends in the discourse and conduct of intervention as well as a critical discussion of the changes and continuities in arguments and practices over time. Credit units: 3 ECTS Credit Units: 6. Aut (S. Buldanlioğlu Şahin)

IR 4123 Environment, Climate Change and Sustainable Development
The main objective of the course is to analyse the concept of sustainable development in theory and practice specifically focusing on the interactions between the public domain, business world and the world we live in. Past and present strategies for promoting sustainable development, resistance to the concept, and some alternative conceptions and theoretical underpinnings of the notion of sustainable development will set the basis of discussions while the implications of the concept in politics of various sectors such as energy, transport, environment, agriculture and natural resource management will be explored. In particular the course will help the students to establish a connection between economic development and environment in terms of sustainability in the long-term and will help them to understand why international economic competition has and will have a continuous and pressing sustainability dimension. Topics like fast growth, production patterns, and population change will be reformulated from an environmental point of view allowing for critical thinking for future. Credit units: 3 ECTS Credit Units: 6. Aut (G. Kara)

IR 4124 European Union Foreign Policy
This course aims to provide students with a theoretically informed understanding of the European Union's various foreign policy tools, objectives and behaviour. It examines the place foreign policy occupies in different theoretical approaches to European integration; the historical evolution of different foreign policy tools through which the European Union pursues its international affairs; various foreign policy objectives of the Union and the evolving relations between the European Union and the rest of the world. Credit units: 3 ECTS Credit Units: 6.

IR 4125 Contemporary Debates in Geopolitics
Credit units: 3 ECTS Credit Units: 6.

IR 4126 International Climate Diplomacy
Ongoing negotiation process on global climate change, including its structure, key actors and their interests, issue areas, and history. Progress made over the course of negotiations thus far, and prospects for addressing remaining challenges of climate change. Credit units: 3 ECTS Credit Units: 6. Spr (J. E. Hall)

IR 4143 International and Public Policy Decision Making
This course aims at a gentle introduction of students into formal political theory. It is basically divided into two parts: individual decision-making theory and game theory. The first part concentrates on individual preferences
and choice including decision making under certainty and risk, cardinal utility, subjective probability, the calculus and paradoxes of voting, and mispresentation of preferences. The second part includes two-person mixed-motive games, coalitional-form games, concepts of equilibrium such as iterated elimination of dominated strategies and backward induction, Nash and subgame-perfect Nash equilibrium. These analytical tools would serve as nuts and bolts for the student to go beyond mere description of political events, either domestic or international, and to construct their own explanations of puzzling choices at those levels. Credit units: 3 ECTS Credit Units: 6.

IR 4147  International Politics
This course offers an introduction to the study of international politics. It aims to first provide the historical, conceptual, and theoretical tools and lenses for analyzing behavioral and institutional patterns in the international system, and then to use these analytical means in exploring major international issues and events. Particular emphasis will be given to topics of international security, such as major power rivalries, the impact of globalization on security, and the management of low intensity conflicts. Government experts and practitioners will be invited as guest lectures for certain specific issues, such as international terrorism and regional geostrategy. Credit units: 3 ECTS Credit Units: 6. Spr (E. Aydinli)

IR 4174  Turkey's International Relations
This course will first examine the structural and historical determinants of Turkish foreign policy, with an emphasis on the foreign policy decision-making mechanism, as well as the sources of change and continuity. This will be followed by first, a general exploration of the dynamics of the sub-system/region in which Turkey is located, and then more in-depth analyses of Turkey's particular relations with different geographical regions, such as Europe, Eurasia, the United States, and the Middle East. Some experts from the Turkish foreign ministry, as well as public figures with experience and expertise on relevant issues, will provide guest lectures. Credit units: 3 ECTS Credit Units: 6. Aut (E. Aydinli)

IR 4194  International Law and Organizations
International relations have legal and political sides. This comprehensive study will firstly analyze the normative side of international relations by describing and explaining the basic legal concepts of international law. At the later stage, it will focus on to the role of international organizations e.g. UN, Council of Europe, EU etc. to the contemporary world order under the effect of international law and politics. Credit units: 3 ECTS Credit Units: 6.

IR 501  International Relations Theory
The main traditions and currents of thought in international political theory. Early thinking about international relations. Major twentieth century approaches: idealist-realist debate; the power politics approach and its fundamental concepts such as balance of power, national interest, nationalism and imperialism. Behaviorism; systems thinking; interdependence and structure list theories. Decision-making and integration theories. Credit units: 4 ECTS Credit Units: 8. Aut (H. P. Bilgin)

IR 507  Foreign Policy of the United States
This course examines the making and execution of US foreign policy in terms of the following factors: constitutional checks and balances; religious and ideological traditions; Presidential doctrines and "the lessons of history"; economic tools and cultural diplomacy; the role of special-interest lobbies; and area-specific concerns. Credit units: 3 ECTS Credit Units: 8.

IR 508  Academic Writing
This course is designed to help students develop their ability to present their thoughts in academic language. Aims of the course include developing the students' skills in academic reading, paraphrasing, proper use of academic resources, and analytical expression in writing. By the end of this course, students would learn how to conduct literature review. Credit units: 3 ECTS Credit Units: 8. Spr (M. D. Elwell)

IR 509  Pre-thesis Seminar
Students who have taken IR 519 (Research Methods) must have a thesis proposal in hand. Students will finalize these thesis proposals under their supervisors' guidance. Later, the proposal will be presented to the Graduate Director for his/her approval. Students will not be allowed to register for courses in the following semester unless they fulfill this condition. Credit units: None ECTS Credit Units: 1.

IR 519  Research Methods
This course aims to develop in students an appreciation of research design and methods and to prepare them for the thesis stage of the Master's program. Topics covered include principles and foundations of empirical research, design and structure of research, and data processing and analysis. It also provides an opportunity for students to begin to design their own research project in the light of the methods discussed. Credit units: 4 ECTS Credit Units: 8. Spr (C. E. Mutlu)

IR 531  Central Eastern Europe (1815-1945)
Political and military history of Eastern Central Europe with an emphasis on wars and revolutions between 1815 and 1945. Credit units: 3 ECTS Credit Units: 8. Aut (N. Stone)
The Russian Revolutions
This course focuses on the analysis of the events leading up to the revolutions of 1905 and 1917 in Imperial Russia. Particular attention will be paid to the social, economic and political transformations of the pre-revolutionary period; the nature of the revolutionary and liberal opposition and the reactionary imperial administration. The main stages of the revolutions, changes in the nature of the Russian autocracy, the role of Duma in the imperial administration system, the nationalities problem, the formation of various political organizations and ultimately the overthrow of the autocracy will be examined in detail. A particular emphasis will be on the impact of the Russian revolutions on the subsequent global developments. *Credit units: 3 ECTS Credit Units: 8.*

International and Public Policy Decision Making
This course aims at a gentle introduction of students into formal political theory. It is basically divided into two parts: individual decision-making theory and game theory. The first part concentrates on individual preferences and choice including decision making under certain and risk, cardinal utility, subjective probability, the calculus and paradoxes of voting, and misrepresentation of preferences. The second part includes two-person mixed-motive games, coalitional-form games, concepts of equilibrium such as iterated elimination of dominated strategies and backward induction, Nash and subgame-perfect Nash equilibrium. These analytical tools would serve as nuts and bolts for the student to go beyond mere description of political events, either domestic or international, and to construct their own explanations of puzzling choices at those levels. *Credit units: 3 ECTS Credit Units: 8.*

International Politics
This course offers an introduction to the study of international politics. It aims to first provide the historical, conceptual, and theoretical tools and lenses for analyzing behavioral and institutional patterns in the international system, and then to use these analytical means in exploring major international issues and events. Particular emphasis will be given to topics of international security, such as major power rivalries, the impact of globalization on security, and the management of low intensity conflicts. Government experts and practitioners will be invited as guest lectures for certain specific issues, such as international terrorism and regional geostrategy. *Credit units: 3 ECTS Credit Units: 8.*

Russia and Turkey
This course is a unique seminar on the history of Turco-Russian relations in the course of history. Although it covers the period from 1552 to present, its main focus would be 20th century Turco-Russian relations, given the similarities of the "modernization" projects of both countries. *Credit units: 3 ECTS Credit Units: 8.*

European Union Integration, EU and OECD Economies
This course includes analyses of EU integration, globalization, regionalism and their relationship with nation states. Students will learn about the impact of EU integration on economic, political, cultural and social structures, the structure of the Turkish economy and the dynamics of its technological and socio-economic development. There will be a comparative analysis of EU and OECD economies and a transdisciplinary analysis of Turkey and the EU integration process. *Credit units: 3 ECTS Credit Units: 8.*

Turkey's International Relations
This course will first examine the structural and historical determinants of Turkish foreign policy, with an emphasis on the foreign policy decision-making mechanism, as well as the sources of change and continuity. This will be followed by first, a general exploration of the dynamics of the sub-system/region in which Turkey is located, and then more in-depth analyses of Turkey's particular relations with different geographical regions, such as Europe, Eurasia, the United States, and the Middle East. Some experts from the Turkish foreign ministry, as well as public figures with experience and expertise on relevant issues, will provide guest lectures. *Credit units: 3 ECTS Credit Units: 8.*

International Law and Organizations
International relations have legal and political sides. This comprehensive study will firstly analyze the normative side of international relations by describing and explaining the basic legal concepts of international law. At the later stage, it will focus on to the role of international organizations e.g. UN, Council of Europe, EU etc. to the contemporary world order under the effect of international law and politics. *Credit units: 3 ECTS Credit Units: 8.*

Master's Thesis
*Credit units: None ECTS Credit Units: 56.*

New Directions in Security Studies
This course is designed as a post-graduate level introduction to new directions in the study of security. Since the late 1980s, there has been remarkable change in the way security is conceived, studied and practiced. The academic field of Security Studies has been the subject of intense academic, intellectual and political debate during this period. The main aim of this course is to introduce students to main debates in Security Studies by tracing the development of Security Studies from its Cold War past to its post-Cold War present and opening up alternative ways of thinking about the future. *Credit units: 3 ECTS Credit Units: 8.*
IR 621 Current Debates in International Relations Theory
This course is designed as a post-graduate level introduction to current debates in International Relations theory. The content and nature of International Relations theory is by no means fixed. Indeed, International Relations theory has been the subject of intense academic, intellectual and political debate. The main aim of this course is to introduce students to some of the major debates in International Relations theory. The course also covers epistemological, ontological and methodological debates in IR. Specifically, the course aims to generate familiarity with the language of social research, the uses of theory and meanings of methodology in IR, ethical and political issues involved in the research process. Credit units: 4 ECTS Credit Units: 12, Prerequisite: IR 501. Spr (D. Tsarouchas)

IR 629 Global Political Economy
This course is designed to explore issues relating to theory and processes of increasingly globalizing international political economy. The purposes of the course are to expose students to major changes in the international political economy; to explore some of the theoretical debates over these changes; and, to examine the multitude of adjustment strategies states adopt to cope with changing structure of comparative advantage. Particular emphasis is placed upon the position of the middle-income developing countries (especially Turkey) within the global market structure. Credit units: 3 ECTS Credit Units: 8. Aut (O. Güvenen)

IR 649 The Soviet Union and The Second World War
As a consequence of the Second World War, the Soviet Union became one of the preeminent powers in the world, imposed its ideology and ethos upon an array of other countries, and parlayed its victory over fascism into a new claim of legitimacy. This seminar will explore the origins, course and character, and impact of the Second World War, with especial attention paid to the role of the USSR during the world’s greatest conflict. The course will be organized topically, within a more or less chronological framework. Credit units: 3 ECTS Credit Units: 8. Aut (S. H. Kırmlı)

IR 650 The Soviet Union Under Stalin (1924-1953)
This course covers the history of the Stalinist regime in detail. The political, economic, social, and cultural impacts of Stalinist policies (with a special emphasis on Soviet nationalities) before, during, and after the Second World War will be examined thoroughly. The humanitarian cost caused by the Great Terror, the forceful collectivization, and deportations will be dwelt on in depth. A better understanding of Stalin’s role in the making of the Soviet Empire is one of the main goals of this course. Credit units: 3 ECTS Credit Units: 8.

IR 662 EU Politics
This course is designed to provide graduate students with an advanced analysis of EU politics. After a general historical introduction, Part 1 discusses EU’s institutional architecture. Part 2 dwells on an in-depth analysis of European integration theories. Part 3 explores various meanings of Europeanization before examining some of the most important EU policy areas, such as the single market. Part 4 concludes with a discussion of EU’s recent enlargements and possible future scenarios. Credit units: 3 ECTS Credit Units: 8.

IR 670 Topics in the History of Communism 1847-1953
This course takes the outstanding moments and writers in the history of Communism. It starts of course with Marx and the Communist Manifesto, and proceeds through the construction of Capital and the International to a discussion of the emergence of socialism especially in France and Germany. It moves on to a consideration of Lenin's adaptation of Marx to fit the world of Imperialism, and the position of large semi-capitalist states such as Russia (and later China). The success of the Bolsheviks in Russia alone is discussed, and then the emergence of the USSR as a super-power, especially with the Second World War. The course ends with the death of Stalin in 1953. Credit units: 3 ECTS Credit Units: 8.
IR 5104 Issues in Turkish Foreign Policy
This course is not a historical account of Turkish Foreign Policy. Nor does it consist of a chronological description of the events and issues. It is designed to acquaint the candidates with conceptual and institutional frameworks useful to explain and understand Turkish foreign and security policy and the essence of Turkey's diplomatic-strategic conduct. Nevertheless, as a prerequisite of this course, candidates are required to have a basic preliminary knowledge about the history of Turkey's foreign relations. The approach of the course is critical as well as analytical. This means that the cause should underline not only the achievements, but also failures, contradictions, and deficiencies of Turkey's foreign policy. Credit units: 3 ECTS Credit Units: 8. Aut (I. Ö. Özdamar)

IR 5105 Issues in International Political Economy
This graduate seminar course explores a series of issues central to the field of International Political Economy (IPE). While the exact focus is contingent on the contemporaneous disciplinary and policy agendas, as well as on the research interests of the participants, the course is centrally concerned with integrating theory and practice in a thorough and critical engagement with both IPE as an academic field of study, and various substantive aspects of the current world political economy. Credit units: 3 ECTS Credit Units: 8. Spr (T. Fougner)

IR 5109 The Politics of EU Enlargement
This course focuses on the politics of enlargement by the European Union. It examines successive rounds of enlargement and analyzes their evolution with reference to EU priorities as well as member states' policies and intentions. The course combines theoretical insights with empirical analysis and offers a variety of perspectives from which students can assess for themselves the politics of enlargement. By the end of the course students should have become familiar with the EU, its politics and institutions as well as the theory and practice of EU enlargement. Credit units: 3 ECTS Credit Units: 8.

IR 5110 Topics in Modern European History 1870-1970
This course will take the most significant episodes of modern European (and in part world) history with a view to encouraging students' interpretive abilities. The topics will be Imperialism around 1890, the "Great Depression" of the later nineteenth century and what it meant, the spread of parliamentary constitutionalism, the rise of Socialism and of a new Political Catholicism. Minority nationalism will be examined, and the rise of Fascism and Communism. The course ends with the attempt to create a new Europe after 1947, and the involvement of the USA. Credit units: 3 ECTS Credit Units: 8. Aut (N. Stone)

IR 5112 Conflicts in the Middle East
This course offers an advanced conceptual and empirical analysis of contemporary Middle East politics through an exploration of its main conflicts and developments since the end of World War II. From the Palestinian question, to peace and war in the region, and the "Arab Spring"; students will engage in critical evaluation of the roots of key Middle East conflicts, the role that social movements and media play in the regions' trends and developments, and the involvement of superpower rivalry and impact on international politics. The course aims to provide students with an advanced understanding of key Middle East events and theories, and enhances their skill in interpreting political developments in the region. The course enables students to critically evaluate leading scholarship in the field of Middle East politics and international relations, and encourages students to develop their own positions on contemporary issues of the Middle East based on critical assessment of existing literature and empirical evidence. Credit units: 3 ECTS Credit Units: 8.

IR 5114 Religion and IR Theories
The proposed course aims at increasing our understanding of how religion shapes international relations. The main topic of the course is the integration of religious subject matter into conceptual frameworks ranging from realism to liberalism and constructivism. The main question is how does religion translate into international politics. Hence, theoretical and empirical views are blended together. The subject matter covers whether religious actors can act as strategic actors, whether religions can have variable impact upon war and the likelihood of war in addition to analyses of international politics through the prism of religion and the interaction between secular and religious forces at global level. Credit units: 3 ECTS Credit Units: 8. Spr (S. Güner)

MIAPP 501 Term Project
This course has an accompanying course. Students taking this accompanying course are first expected to agree on a topic with the professor of that course and then to write a 5,000 words long term paper on that particular topic. Credit units: None ECTS Credit Units: 8. Aut (Staff) Spr (Staff)

MIAPP 516 International Logistics
The course provides all of the concepts of international logistics with a special focus on management of international trade operations. The philosophy of international logistics and important international trade elements will be thought within the light of logistics management approaches. It aims to perceive the students the international logistics management and implementations and documentations of international trade. Within this scope, it has been targeted to introduce various sub concepts collectively through the baseline of international logistics and global marketing along with the processes for the entities of foreign trade management to enable students to understand the effects of the international logistics on international economy and relations. The course begins with
the general explanations of international supply chain management in line with international logistics infrastruc-
ture and continues with the main implementations of international trade. The course also includes international
transportation and security issues along with the competitive support of international logistics within the context
of theoretical knowledge. Credit units: 3 ECTS Credit Units: 8. Spr (İ. H. Doğankaya)

**MIAPP 555 Public Policy Making in the European Union**

This course is about policy processes in the EU. It is designed to equip students with knowledge, skills and
research experience to analyze the challenges in the EU decision-making process. During the lectures, we will
try to understand the policy making process in the EU by touching on the most complicated policy areas. Specific
focus will be put on the current financial crisis and contemporary debates on the future integration of the EU. At
the end of this course, students should be familiar with the complex EU policy making and policy implementing
processes with a capacity to examine supranational policy problems and controversies, as well as to develop
solutions in the field. The participants of the course will be able to analyze the political environment of European
public policy and form effective strategies. Credit units: 3 ECTS Credit Units: 8.
Political science is one of the oldest social science disciplines. It examines how people in one society and in societies organized into states live together and resolve or fail to resolve their conflicts. Politics is the art of influencing others as well as arriving at consensus. It is a widespread phenomenon that one encounters at all levels of society (family, school, government, and the like) as well as between states.

The discipline of political science which studies systematically (that is, shows and accounts for) the recurring patterns of events in politics, is divided into five subdisciplines: political theory, comparative politics, international relations, national politics and public administration. The undergraduate and graduate programs offered by the Department aim to provide a balanced education and training in these five subdisciplines. Through elective courses students can, to a certain degree, specialize in certain areas.

UNDERGRADUATE PROGRAM

The Department offers an education in political science with opportunities for a broad and balanced undergraduate study. Students pursue programs which, in addition to providing a firm grounding in the core subjects of the discipline, allow students to take courses in law, economics, management, and international relations as well as in computer sciences and humanities. Departmental courses are divided in a balanced fashion between the fields of political theory, comparative politics, and Turkish government and politics, cultural studies, and public administration.

The Department aims at providing the students with an education that would enhance their understanding of social artifacts. In addition to giving the basic requirements of a degree in political science, the program emphasizes the utility of learning social and political roles. The goal for a study in the Political Science and Public Administration major is to maximize students’ capacity to analyze and interpret the significance and dynamics of political events and governmental processes. The purpose is not simply to reveal the significance of political events and issues. It is to equip the students with the knowledge in coping with political phenomena and problems. The aim is political education "in depth" for those students who have an interest in politics whatever their professional goals and eventual occupations are.

UNDERGRADUATE CURRICULUM

FIRST YEAR

<table>
<thead>
<tr>
<th>Autumn Semester</th>
<th>Credits / ECTS Credits</th>
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</thead>
<tbody>
<tr>
<td>CS 121</td>
<td>Introduction to Computing for Social Sciences 3 / 6</td>
</tr>
<tr>
<td>ECON 107</td>
<td>Principles of Microeconomics 3 / 6</td>
</tr>
<tr>
<td>ENG 101</td>
<td>English and Composition I 3 / 6</td>
</tr>
<tr>
<td>GE 100</td>
<td>Orientation 1 / 1</td>
</tr>
<tr>
<td>HCIV 101</td>
<td>History of Civilization I 3 / 6</td>
</tr>
<tr>
<td>POLS 101</td>
<td>Introduction to Political Science I 3 / 6</td>
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<tr>
<td>TURK 101</td>
<td>Turkish I 2 / 2</td>
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<thead>
<tr>
<th>Spring Semester</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>ECON 108</td>
<td>Principles of Macroeconomics 3 / 6</td>
</tr>
<tr>
<td>ENG 102</td>
<td>English and Composition II 3 / 6</td>
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<tr>
<td>HCV 102</td>
<td>History of Civilization II</td>
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<tr>
<td>POLS 104</td>
<td>Introduction to Political Science II</td>
</tr>
<tr>
<td>PSYC 102</td>
<td>Introduction to Social Psychology</td>
</tr>
<tr>
<td>TURK 102</td>
<td>Turkish II</td>
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**SECOND YEAR**

<table>
<thead>
<tr>
<th>Semester</th>
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<td>Autumn</td>
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</tr>
<tr>
<td>GE 250</td>
<td>Collegiate Activities Program I</td>
</tr>
<tr>
<td>HIST 200</td>
<td>History of Turkey</td>
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<tr>
<td>LAW 103</td>
<td>Constitutional Law I</td>
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<td>PHIL 243</td>
<td>Social and Political Philosophy I</td>
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<td>SOC 101</td>
<td>Introduction to Sociology</td>
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<td>Basic Law Elective</td>
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<td>Spring</td>
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<tr>
<td>GE 251</td>
<td>Collegiate Activities Program II</td>
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<tr>
<td>LAW 104</td>
<td>Constitutional Law II</td>
</tr>
<tr>
<td>MATH 264</td>
<td>Statistics for Social Sciences</td>
</tr>
<tr>
<td>PHIL 244</td>
<td>Social and Political Philosophy II</td>
</tr>
<tr>
<td>POLS 201</td>
<td>Fundamentals of Social Research</td>
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**THIRD YEAR**

<table>
<thead>
<tr>
<th>Semester</th>
<th>Credits / ECTS Credits</th>
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<tr>
<td>Autumn</td>
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<tr>
<td>IR 101</td>
<td>Introduction to World Politics</td>
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<tr>
<td>LAW 315</td>
<td>Administrative Law</td>
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<td>POLS 303</td>
<td>Comparative Politics I</td>
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<td>POLS 305</td>
<td>Turkish Political Development</td>
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<td>Unrestricted I- Elective</td>
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<td>POLS 304</td>
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<td>POLS 306</td>
<td>Contemporary Turkish Politics</td>
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<td>Restricted Elective</td>
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<td>Unrestricted I- Electives (2)</td>
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**FOURTH YEAR**

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<tr>
<th>Semester</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>Autumn</td>
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<tr>
<td>POLS 399</td>
<td>Summer Training</td>
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<td>Restricted Elective</td>
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<td></td>
<td>Transdisciplinary Senior Project</td>
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<td>Unrestricted I- Elective</td>
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<tr>
<td></td>
<td>Unrestricted II- Elective</td>
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<tr>
<td>Spring</td>
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<tr>
<td>POLS 465</td>
<td>Governance and Public Policy</td>
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<td></td>
<td>Restricted Elective</td>
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<td>Unrestricted I- Electives (2)</td>
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<td></td>
<td>Unrestricted II- Elective</td>
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**REstricted Electives**

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>POLS 229</td>
<td>Turkish Political History I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>POLS 230</td>
<td>Turkish Political History II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>POLS 234</td>
<td>Religion and Politics in the Arab World</td>
<td>3 / 6</td>
</tr>
<tr>
<td>POLS 237</td>
<td>The Contemporary Middle East</td>
<td>3 / 6</td>
</tr>
<tr>
<td>POLS 238</td>
<td>Negotiation and Mediation in Politics</td>
<td>3 / 6</td>
</tr>
<tr>
<td>POLS 240</td>
<td>Social Transformation in Turkey</td>
<td>3 / 6</td>
</tr>
<tr>
<td>POLS 309</td>
<td>Turkish Political Thought I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>POLS 323</td>
<td>Political Anthropology</td>
<td>3 / 6</td>
</tr>
<tr>
<td>POLS 324</td>
<td>Research Methods</td>
<td>3 / 6</td>
</tr>
<tr>
<td>POLS 325</td>
<td>Transnational Cultures</td>
<td>3 / 6</td>
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</table>
POLS 639 The Ecology of Social Relations and Cultural Processes
POLS 640 Issues in Political Psychology
POLS 641 The Ultimate Sources of Politics
POLS 643 Issues in Political Theory
POLS 645 Voting Behavior and Political Parties
POLS 646 Politics of the Self
POLS 5431 Politics and Society in Turkey
POLS 5467 Conflict, Violence, and Peace
POLS 5486 Issues in Comparative Politics
POLS 5490 Democracy, Development, and Human Rights

Language courses satisfy elective requirements for the third and fourth year electives, but only one language course per semester is allowed.

MINOR PROGRAM

Politics is essentially a decision-making process which distributes status, power and resources at all levels of human society, ranging from the family to the international system. Being one of the oldest social science disciplines, political science examines perennial questions such as how those decisions are made, who makes them, or who benefits from them.

The aim of the Minor Program in Political Science is to acquaint Bilkent students from any background with the academic study of politics. Students enrolled in any one of the Bilkent faculties might apply, provided that they fulfill the application criteria. The minor program is composed of six courses in total and four of those are compulsory. Depending on their major program, students are expected to take either one of Introduction to Political Science I or Social Transformation in Turkey. Other compulsory courses are Comparative Politics I, Turkish Political Development and Contemporary Turkish Politics. Minor program students are allowed to pick and choose any two Political Science courses as electives and they would be well-advised to concentrate in one of the sub-fields.

Prerequisite Courses: None

CURRICULUM

Courses
POLS 303 Comparative Politics I
POLS 305 Turkish Political Development
POLS 306 Contemporary Turkish Politics
Electives (2)
POLS 101 or POLS 104

Credits
3 / 6
3 / 6
3 / 6
6 / 12
3 / 6

ECTS Credits
3 / 6
3 / 6
3 / 6
6 / 12
3 / 6

GRADUATE PROGRAM

Doctor of Philosophy in Political Science

The Ph.D. Program in Political Science is designed to provide Ph.D. candidates with theoretical background, analytical abilities and empirical research skills in accordance with international academic standards in four major fields (Turkish Politics, Comparative Politics, Political Theory, Social Theory and Cultural Studies). Students are admitted to the program by written application and an evaluation by the Graduate Admissions Committee of the Department. Also refer to the “Graduate Admissions” section in the introduction of this catalogue for the general graduate admission requirements.

A candidate for the Ph.D. degree must:

1. Successfully complete the core curriculum for Ph.D. Degree in Political Science. The courses in the core curriculum for the Ph.D. degree in Political Science include Seminar in Turkish Politics (POLS 601), Seminar in Comparative Politics (POLS 602), Seminar in Political Theory (POLS 606), Seminar in Social and Cultural Studies (POLS 612), Research Methods (POLS 610), Advanced Academic English (POLS 603), Academic Practices (GE 690) and the Ph.D. Dissertation (POLS 699).
2. Successfully complete the course requirements for the Ph.D. degree by earning at least 24 credits (if admitted with a Master’s degree) and 48 credits (if admitted without a Master’s degree) in total. Those required to complete 24 credits will take two elective courses from among the courses listed as “Graduate Electives” with at least 3 credits. Those required to complete 48 credits will take ten elective courses (eight from among the POLS 600 or higher level courses and two from among “Graduate Electives” with at least 3 credits.)

3. Show competence in the written and oral comprehensive examinations within the first three semesters after being admitted to the Ph.D. program (if admitted with a Master’s degree) within five semesters of being admitted to the program (if admitted without a Master’s degree).

4. Submit a detailed Ph.D. dissertation proposal within six months after successfully passing their comprehensive examinations.

5. Submit and successfully defend a Ph.D. dissertation that represents an original contribution to knowledge in the field.

### CURRICULUM OF Ph.D. PROGRAM

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits / ECTS Credits</th>
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</thead>
<tbody>
<tr>
<td>GE 690 Academic Practices</td>
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</tr>
<tr>
<td>POLS 601 Seminar in Turkish Politics</td>
<td>3 / 7</td>
</tr>
<tr>
<td>POLS 602 Seminar in Comparative Politics</td>
<td>3 / 7</td>
</tr>
<tr>
<td>POLS 603 Advanced Academic English</td>
<td>3 / 7</td>
</tr>
<tr>
<td>POLS 606 Seminar in Political Theory</td>
<td>3 / 7</td>
</tr>
<tr>
<td>POLS 610 Research Methods</td>
<td>3 / 7</td>
</tr>
<tr>
<td>POLS 612 Seminar in Social and Cultural Studies:</td>
<td>3 / 7</td>
</tr>
<tr>
<td>POLS 699 Ph.D. Dissertation</td>
<td>- / 150</td>
</tr>
<tr>
<td>Electives (2)</td>
<td></td>
</tr>
</tbody>
</table>

The students will register for Ph.D. Dissertation (POLS 699) once the coursework is completed until completing the requirements of the program.

### COURSE DESCRIPTIONS

**POLS 101 Introduction to Political Science I**
This course explains the nature of political science and its basic concepts including power, legitimacy, authority and choice. The development of modern nation-state; fundamental of the classical and contemporary ideologies; policy-making role of the state; relationship between the state and the citizen; democratic and non-democratic governments and constitutional design of government are also covered. **Credit units: 3** **ECTS Credit Units: 6.**
*Au (İ. İ. Aytürk, P. Çağlar Uludağ, M. A. O. Doğan, J. M. Salt, T. E. Tulu) Spr (P. Çağlar Uludağ, G. Sütcü)

**POLS 104 Introduction to Political Science II**
This second part of the course explores the major political institutions and processes. Elections and participation; the role of political parties and interest groups in a democratic polity; parliamentary structures; presidential and parliamentary systems of government; bureaucracy; courts and international organizations are analyzed. **Credit units: 3** **ECTS Credit Units: 6.**
*Au (Z. Tandoğan) Spr (P. Çağlar Uludağ, G. Sütcü)

**POLS 201 Fundamentals of Social Research**
Introduction to philosophical bases and goals of social research. The logic underlying a scientific analysis. The problems and considerations arising in the selection and formulation of a research question. **Credit units: 3** **ECTS Credit Units: 6.**
*Au (Ç. E. Çuhadar Gürkaynak) Spr (A. Just, Z. Tandoğan)

**POLS 229 Turkish Political History I**
This course is a survey of Ottoman/Turkish political history from its late Ottoman roots, until the foundation of the Republic of Turkey in 1923. The course aims not only to provide students with an analysis of late Ottoman/Turkish socio-political concepts, events and institutions (with an emphasis on continuity and change) but also to teach the necessary analytical tools required to assess historical phenomena. **Credit units: 3** **ECTS Credit Units: 6.**
*Spr (B. Burçak)

**POLS 230 Turkish Political History II**
This course is a survey of Turkish political history between 1923-1990, which focuses on the main themes, people, events, and institutions in modern Turkish history aiming not only to provide students with the necessary information regarding Turkish politics but also with the analytical tools needed to assess historical phenomena. **Credit units: 3** **ECTS Credit Units: 6.**
POLS 237 The Contemporary Middle East
This is a survey course designed to cover contemporary developments in the Middle East, including Israel/Palestine and the ‘peace process’ since 1993; the invasions of Iraq in 1991 and 2003 and their consequences, including constitutional developments and the formation of regional governments; nuclear technology, nuclear weapons and Iran’s nuclear program; and ‘western’ policies towards the region against a background of shifting global economic and political power. Turkey’s interests and involvement in all these issues will be continuing theme. Credit units: 3 ECTS Credit Units: 6. Aut (J. M. Salt)

POLS 238 Negotiation and Mediation in Politics
This course focuses on both the theory and practice of negotiation and mediation concerning legal and political conflicts. The course covers a wide range of issues concerning negotiations including the different theories of bargaining, different outcomes of negotiations, processes of negotiation, psychological dynamics affecting negotiations, effective communication strategies, the role of language, culture, and power in negotiations, and the role of third parties in negotiations. An important part of the class is devoted to teaching the applied negotiation and mediation skills to students. Towards this end the students will carry out negotiation simulations and role plays related to various legal and political negotiations. In addition to the role plays and simulations, the course will also discuss several negotiation cases in detail including the negotiations over the Turkish Constitution, Cyprus, and Jerusalem. Credit units: 3 ECTS Credit Units: 6. Spr (Ç. E. Çuhadar Gürkaynak)

POLS 240 Social Transformation in Turkey
This course aims at providing an insight into the social and cultural aspects of social transformation in Turkey. The transformation of spaces, divisions of labour, social stratification, life-styles and cultural values are explained through sociological and anthropological studies carried out in Turkey since the 1960s. Credit units: 3 ECTS Credit Units: 6. Spr (N. Fehim Kennedy)

POLS 303 Comparative Politics I
Historical and contemporary political developments in the USA, UK, France, and Germany. Credit units: 3 ECTS Credit Units: 6. Aut (H. T. Bölükbaşi, I. N. Grigoriadis, M. Uğur Çınar) Spr (S. Özçůrmez Bölükbaşi)

POLS 304 Comparative Politics II
Historical and contemporary political developments in Russia and her neighboring countries (the Commonwealth of Independent States), Eastern Europe, and the Peoples Republic of China. Credit units: 3 ECTS Credit Units: 6. Aut (A. Just) Spr (H. T. Bölükbaşi, A. Just)

POLS 305 Turkish Political Development
The development of the political systems from the Ottoman period to the present with special emphasis on the multi-party period. Credit units: 3 ECTS Credit Units: 6. Aut (I. I. Aytürk, B. Burçak, D. Öztürk) Spr (I. I. Aytürk)

POLS 306 Contemporary Turkish Politics
State, Politics and society in contemporary Turkey, from a theoretical perspective with special emphasis on problems of and prospects for democracy. Credit units: 3 ECTS Credit Units: 6. Aut (B. Ince) Spr (M. Heper, B. Ince, D. Öztürk)

POLS 309 Turkish Political Thought I
This course is a survey of political/intellectual trends in Ottoman-Turkish history. The course focuses on the late Ottoman period until the establishment of the Turkish Republic, focusing on an analysis of political/intellectual trends and their main ideologues with an emphasis on continuity and change through careful analysis of not only secondary but also primary sources. Credit units: 3 ECTS Credit Units: 6. Aut (B. Burçak)

POLS 324 Research Methods
Quantitative and qualitative research methods. Formulating research problems and selecting appropriate research designs. General problems of measurement, data collection techniques, analysis and interpretation of social science data. Credit units: 3 ECTS Credit Units: 6. Aut (Z. Tandoğan) Spr (Z. Tandoğan)

POLS 327 State and Society in the Mediterranean
The European Union's enlargement will include the Mediterranean countries in the near future. However, the Mediterranean countries, due to their multi-ethnic and multi-religious character, have faced some problems regarding state-society relations that culminated in the separatist demands or ethnic conflicts that threatened the national unity and integrity of the “nation-states”. The threat of nation-state fragmentation is both a factor of instability and a potential obstacle on future cooperation in the Mediterranean. The main objective of this course is to analyze in a systematic manner the historical and contemporary factors behind these ethnic conflicts and separatist tendencies that threaten the unity and integrity of the nation-states in the Mediterranean region. The course will consist of two main parts. In the first part, the general framework of analysis, the geographic definition of Mediterranean and the theoretical approaches to national integration and fragmentation will be laid down. The second part, will cover the case studies from Mediterranean countries; Italy, Spain, Yugoslavia, Cyprus and Israel. Credit units: 3 ECTS Credit Units: 6. Spr (R. Harmanşah)
DEPARTMENT OF POLITICAL SCIENCE AND PUBLIC ADMINISTRATION

POLS 331 State and Society in Israel
The aim of this course is to acquaint students with the basic characteristics of the Israeli society and political system. The course covers the evolution of a self-governing Jewish community from its origins in Ottoman Palestine until the present day. It addresses issues such as the governmental system, political parties, foreign policy, military, nationalism, religion, citizenship and ethnicity from a comparative perspective. Credit units: 3 ECTS Credit Units: 6. Spr (I. I. Aytürk)

POLS 334 Turkish Political Thought II
This course is a survey of political/intellectual trends in modern Turkish History between 1923 and 1990 aiming not only to provide students with the necessary information concerning Turkish political thought but also at teaching them how to analyze discourse through a careful analysis of both primary and secondary sources. Credit units: 3 ECTS Credit Units: 6. Spr (B. Burçak)

POLS 338 Cosmopolis: From the Roman to the Ottoman and British Empires
This course will offer an unusual conspectus of political thought in the last two thousand years. Most political theory has considered the nature of the polis or the nature of the modern state: there are very few great works, with perhaps the exception of Augustine’s City of God, which deal with the problem of the nature of empire, or cosmopolis, that is, a universal city rather than a particular city. The course shall involve a study of the understandings of empire held by those who reflected on the Roman, Byzantine, Holy Roman, Ottoman, Austrian and British Empires. It will include not only writers who lived within empires, but those from the more obvious western canon of political thought who reflected on empires from without. Not only political thought will be studied, but also some literature and history. The question will be why so little theory was written about empires. Credit units: 3 ECTS Credit Units: 6. Spr (J. J. Alexander)

POLS 342 Contemporary Political Theory
This course is an overview of contemporary political theory, focusing on the most frequently debated theorists. We will start with the discussion of the legacy of key political figures in the late twentieth century (Carl Schmitt, Jurgen Habermas, John Rawls, Theodor Adorno, Michel Foucault and Noam Chomsky), and will continue with the most recent contributions to political theory by Michael Hardt, Antonio Negri, Slavoj Zizek, Ernesto Laclau, Alain Badiou, Jacques Ranciere and Fredric Jameson. Credit units: 3 ECTS Credit Units: 6.

POLS 343 Social Theory: Past and Present
A selective survey of classical and contemporary social theories. The aim of the course is to enable students to understand the changes in social theory as a response to transformations in modern societies, and to develop an awareness of diverse theoretical perspectives that emerged since late nineteenth century. After a review of classical macro and micro theories, the focus will be on contemporary perspectives such as systems theory, critical theory, feminism, structuralism and post-structuralism. Credit units: 3 ECTS Credit Units: 6. Aut (M. N. Karakayali)

POLS 344 Turkish Nationalism: Politics and Ideology
This course aims to examine the emergence of Turkish nationalism as a political ideology in the late nineteenth century and its spread and influence in the Republic of Turkey. On the one hand, the emphasis is put on the history of ideas: the environment in which Turkish nationalism was born and flourished, its influence in the early republican era, and its evolution after are covered in detail. On the other hand, another goal of this course is to highlight the political institutionalization of Turkish nationalism. The way in which the Republic adopted nationalism as the core ideology of the nascent state and how various branches of the nationalist movement had found a political expression, participating in politics in modern Turkey, constitute the other central questions to be dealt with. Finally, prospects for future are to be discussed, taking into account the nationalist responses to Turkey’s domestic and global interests, commitments, and problems. New voices among Turkish nationalist, providing answers to current issues and introducing theoretical openings will receive attention, as well. Credit units: 3 ECTS Credit Units: 6.

POLS 347 Liberty and Liberalism
This is a course about one particular political ideal—liberty—and the attempt in modernity to make it the foundation of politics—in the form of liberalism. There is an engagement with historical views of liberty, with classical of liberalism since the early nineteenth century, and criticism which have been made of liberalism since that time. In contrasting an ideal with an ideology the course intends to make clearer the problems of attempting to establish political ideals in political parties. Credit units: 3 ECTS Credit Units: 6.

POLS 353 Foundations of Modern Political Theory
This course historically focuses on Renaissance and Reformation period and particularly analyzes Republicanism, humanism, Lutherism, constitutionalism, and absolutism. It addresses such questions as how and why one defends liberty, under what circumstances the right to resist is justified, what are different responses to constitutionalism, and what is state sovereignty with and without absolutism. Credit units: 3 ECTS Credit Units: 6.
POLS 355  Issues of Urbanization
Rural-to-urban migration, accompanied by squatter settlements in the physical realm, has been transforming many Asian, African and Latin American societies since the 1950s. This course investigates the social and political outcomes of “rapid urbanization” with a focus on squatter settlements and their residents. It covers theories that seek to explain social and economic transformation of “modernizing” societies and their urban development. It attempts to develop a critical approach to the “integration” question of migrants in their new environment, and while so doing, it focuses mainly on the Turkish case. Gender, ethnicity, religion and regional identity are addressed. Credit units: 3 ECTS Credit Units: 6. Aut (F. T. Erman)

POLS 357  Ethics and Morality in Daily Life
Ethics and morality are usually either confined to realm of religion or taught, learned and discussed in the area of philosophy. However, in today’s world, people are faced with ethical dilemmas and moral issues in many areas of daily life. The lines between “good” and “evil”, and between “right” and “wrong” are becoming increasingly blurred, yet individuals are generally left without a guide for solving these issues. There is therefore a need to discuss such issues as part of the education of young people in every field. This course aims to equip students who are not students of philosophy with some basic philosophical approaches to ethics and morality in simplified form, and to encourage them to apply these approaches to some practical issues in politics, science, law and other aspects of social life. Credit units: 3 ECTS Credit Units: 6. Aut (N. Fehim Kennedy)

POLS 399  Summer Training
Course description: This course refers to the internship course which will need to be satisfied with an internship to be conducted during the summer of the end of the third year in the program. The course will be a non-credit (0 credit) course to be marked as S or U. Credit units: None ECTS Credit Units: 6. Aut (Staff)

POLS 404  Political Parties and Interest Groups
Analysis of origins, functions and organizational characteristics of political parties and interest groups in different political systems. Pluralism, patron-client relationship and corporatism. Credit units: 3 ECTS Credit Units: 6.

POLS 411  Gender and Politics
The aim of the course is to gain a deeper understanding of the ways in which gender and gender inequality shape institutions, policies, and political processes, as well as the way states affect gender relations, the political construction of gender, and political mobilization based on gender. Classical and contemporary views on gender and politics will be examined with a focus on three topics within the broad area of the relationship of gender and politics in some depths: women in politics; state social policy, and gender and ideology. Credit units: 3 ECTS Credit Units: 6. Aut (N. Fehim Kennedy)

POLS 420  Theory and Modern Society
Elaborate examination of the efforts to address, evaluate, and extend questions posed by founding fathers of social theory (Durkheim, Marx, Weber, Nietzsche) with particular attention to current positions in social and political theory within the dynamic axis of modernity vs. post-modernity. This seminar-type course develops upon these debates with a special emphasis on social and intellectual contexts, conceptual frameworks and methods, and contributions to modern society and its theorizing. Works: Darwin, Spencer, Parsons, Dahrendorf, Saussure, Habermas, and Foucault. Credit units: 3 ECTS Credit Units: 6. Spr (M. N. Karakayalı)

POLS 421  Issues in Modern Political Thought
The object of this course is to critically analyze the project of modernity through the prisms of democracy, industrialization, science and cultural representation. The first half of the course focuses on the idea of progress in modern thought and politics. In the second half, the main question under investigation is the political impact of the project of modernity on different social forces. Credit units: 3 ECTS Credit Units: 6. Spr (J. J. Alexander)

POLS 426  Civil Society in Turkey
The course aims at studying the development of civil society in Turkey. Firstly, it focuses on the nation of civil society at the global level from a comparative and historical perspective, and then shifts the focus to the national level. Central to this is the distinction between civil society and state. The course introduces students to the characteristics and dynamics of present-day civil society in Turkey, and therefore deals with a number of case studies. Accordingly, media, labor unions, non-governmental organizations (associations, foundations), political parties, interest groups in contemporary Turkey are among the subjects of this course. Credit units: 3 ECTS Credit Units: 6.

POLS 431  Politics and Society in Turkey
This course explores the debates and controversies over modernization, westernization, nationalism and secularism as they become the main themes of the constitutive norms of the modern Turkish Republic. After briefly tracing the historical developments around these themes since the founding of the Republic, the course examines different dimensions of Turkish nationalism and its aspirations for a West-oriented modernity in various contexts of politics and daily life such as the use of public spaces, urban planning issues, differentiation of gender roles, or trends in popular culture. Credit units: 3 ECTS Credit Units: 6. Aut (A. Çınar)
POL 433 Politics of European Integration
This course aims to provide the 4th year students with a basic understanding of the process of European integration and second, focus on the historical evolution of the European Union and its institutions. Third, the course will analyse the challenges to the nation-state in Europe, specially those posed by integrative and fragmentary forces. The ultimate objective is to furnish students with the comprehension that the state is going through a major transformation in Europe due to the process of European integration. Credit units: 3 ECTS Credit Units: 6.

POL 449 Political Concepts
This course aims to consider a range of fundamental concepts in political theory, not for the purpose of introduction, but for the purpose of reflection. These concepts will be democracy, justice, ideology, liberty, party, politics, power, public opinion, representation, revolution, rights, rule, state etc. The intention of the course will be an intensive study and discussion of writings on these concepts. The basic text will be "Political Innovation and Conceptual Change" eds. Ball, Farr and Hanson. Credit units: 3 ECTS Credit Units: 6. Aut (J. J. Alexander)

POL 452 State Society and Citizenship in Turkey
The recent decades have witnessed the revival of the interest on citizenship issues worldwide. This course aims at analyzing the issue of citizenship in Turkey with respect to its relations with the state and society. The first part of the course will provide the students with theories on citizenship, how it emerged and developed, and various aspects of citizenship in the current literature. In the second part of the course, related with the contemporary debates on citizenship, namely identity politics, multiculturalism and constitutional citizenship, the Turkish experience will be analyzed. This part will consist of the historical background, the construction attempts, legal process and the current situation in Turkey. Credit units: 3 ECTS Credit Units: 6.

POL 454 Politics Media and Propaganda
This course deals with propaganda and the construction of news in the context of political life. Particular emphasis is given to prejudice and bias and reinforcing of ethnic, religious and national stereotypes. Propaganda is studied as a tool of social control both formally and informally. The course will concentrate on the 19th century but there will be references back to earlier forms of propaganda. Credit units: 3 ECTS Credit Units: 6.

POL 455 World Politics I
The course aims at analysing the basic dynamics behind the evolution of the international, and particularly the European political order in the 20th century with reference to the theories of international relations and international political economy. It covers topics in a chronological order, the pre and post-World War politics, the interwar period, the Second World War, the Cold War and post-Cold War period. The chronological design of the course will revolve around the main topics of international politics in the relevant periods, such as colonialism, post-colonialism, nationalism, liberalism, fascism, postmodernism, etc. Credit units: 3 ECTS Credit Units: 6. Aut (I. N. Grigoriadis)

POL 457 Literature and Society
This course examines literature as a social product, analyzing ways in which it reflects, influences, reacts to and participates in various social systems. The first part of the course will focus on the question of how different literary paradigms from realism, through modernism, surrealism, to postmodernism represent reality, and how they function as modes of social critique. In the second part of course, we will discuss how literature imagines social and political alternatives, how it forms collective identities, and how it helps to transform dominant social and cultural norms. Credit units: 3 ECTS Credit Units: 6. Aut (D. Just)

POL 464 Interculturalism and Europe
This course will cover the conceptual and practical aspects of interculturalism in Europe from an interdisciplinary perspective. It will focus on how cultural diversity is perceived and experienced by individuals (based upon anthropological studies) and the immigration policies and politics of the European Union since the end of Cold War. Credit units: 3 ECTS Credit Units: 6. Aut (Z. Tanedoğan)

POL 465 Governance and Public Policy
This course covers basic concepts, analytical tools, theoretical approaches and empirical information in studying public policy and governance in comparative perspective. It studies causal theories of policy variation and policy change across different countries and policy sectors. By drawing on a sample of policy areas, the course examines policy, politics and polity-level variables in phases of policy cycle. It traces emergence of ‘governance’ as distinctive mode of policymaking emphasizing sharing of competences among different public and private actors. It contextualizes policy variation and change by studying impact of domestic, regional and global interactions. Credit units: 3 ECTS Credit Units: 6. Aut (E. Öncüller Yayalar) Spr (E. Öncüller Yayalar, M. Uğur Çinar)

POL 466 Issues in Political Theory
Since Plato the relationship between aesthetics and ethics has been insolvable. In political theory, also subject to controversy are "aestheticized reality", de-politization and postmodern representations. This course, at the outset, examines different connotations of aesthetics and its conceptual interdependence on ethics. In the second part it analyzes the impact of aesthetics on the moral and political distinctions between the good and evil,
In each part in order to discuss possible implications of viewing "political realities" from aesthetic-ethical points of view, it offers some historical case studies on wars, Auschwitz, communist experimentations with reality, as well as the twenty first century episodes of suicide bombing, torture and the dismembering of human sensibilities. Credit units: 3 ECTS Credit Units: 6. Spr (B. Helvacıoğlu)

POLS 467 Conflict, Violence, and Peace
This course examines the rise of liberalism and socialism from the nineteenth century to the present. Its primary focus is on the radically different conceptions of freedom, the good life and collectivism in liberal and socialist theories. Its objective is two-fold: to distinguish between political ideologies and political theories and to provide the students with a firm historical and theoretical background on two of the most popular ideologies which have shaped world politics in the last two centuries. Credit units: 3 ECTS Credit Units: 6. Spr (I. N. Grigoriadis)

POLS 475 European Union: The Challenges
This course deals with the constitutional and legal amendments in the last 20 years designed to improve the standards of democracy in Turkey. Credit units: 3 ECTS Credit Units: 6.

POLS 480 European Politics
The main aspects of politics in both Eastern and Western Europe. The political, economic and social developments in both sections of the Continent. The post-war histories of the two rival blocs (the eastern and the western). The principal political issues in contemporary European politics are the core concern of the course. One of the most important objective of the course is introducing a wider pan-European perspective into the political science discourse. Credit units: 3 ECTS Credit Units: 6. Spr (S. Özçüremez Bölükbaşı)

POLS 483 Liberalism and Socialism: Past and Present
This course examines the rise of liberalism and socialism from the nineteenth century to the present. Its primary focus is on the radically different conceptions of freedom, the good life and collectivism in liberal and socialist theories. Its objective is two-fold: to distinguish between political ideologies and political theories and to provide the students with a firm historical and theoretical background on two of the most popular ideologies which have shaped world politics in the last two centuries. Credit units: 3 ECTS Credit Units: 6.

POLS 484 Life, Nature and Politics
A survey of past and current approaches in the social sciences which try to understand social and political institutions by paying special attention to the fact that human beings are living entities that interact with nature. The focus will be on contemporary sociobiological research which tries to analyze language and communication, social hierarchies, gender relations, moral and religious values, and the formation of habits and customs by models borrowed from the life sciences. Credit units: 3 ECTS Credit Units: 6.

POLS 486 Issues in Comparative Politics
This module introduces students to advanced research in comparative politics. It centers around the following topics: politics and government, the state, democracy, authoritarian rule, the comparative approach, political culture, political communication, political economy, political participation, elections and voters, interest groups, political parties, constitutions and the legal framework, multilevel governance, legislatures, the political executive, public management and administration, and public policy. Credit units: 3 ECTS Credit Units: 6. Aut (M. Uğur Çınar)

POLS 487 Conflict, Violence, and Peace
This is a seminar course that dwells on various theories of social and political conflict, violence, and peace. The course brings together different theoretical approaches developed in sociology, social psychology, cultural anthropology, and political science in addition to some classical texts in philosophy with regard to conflict, violence, and peace. Some of the issues covered are: the origins of social conflict, functions of conflict in a society, different types of social conflict, structure-agency debate with regard to conflict, escalation of conflict, psychological dynamics of social conflict and violence. The course will also examine different theoretical approaches that developed in various social science disciplines with regard to peace and reconciliation. Credit units: 3 ECTS Credit Units: 6. Aut (Ç. E. Çuhadar Gürkaynak)

POLS 476 World Politics II
This course is designed to address the basic issues of world politics in conjunction with the process of European integration especially during the cold war and post-Cold War periods. It covers topics like deterrence, terrorism, nationalism, drug trafficking, immigration, refugees, new wars, regional and international organizations and their old-new roles in world politics. Credit units: 3 ECTS Credit Units: 6.

POLS 485 Issues in Comparative Politics
This course examines the rise of liberalism and socialism from the nineteenth century to the present. Its primary focus is on the radically different conceptions of freedom, the good life and collectivism in liberal and socialist theories. Its objective is two-fold: to distinguish between political ideologies and political theories and to provide the students with a firm historical and theoretical background on two of the most popular ideologies which have shaped world politics in the last two centuries. Credit units: 3 ECTS Credit Units: 6.

POLS 488 Film and Politics
This course examines film as an extension of politics and a medium of political engagement. Concentrating on the second half of the twentieth century, we will discuss the fictions and the realities of various historical events (e.g., Hiroshima, Cold War, Red Scare, decolonization, mass emigration, fall of communism, terrorism) as they were represented in the mainstream, the avant-garde and the documentary film. We will ask to what extent these

POLS 473 Democratization Process in Turkey
This course deals with the constitutional and legal amendments in the last 20 years designed to improve the standards of democracy in Turkey. Credit units: 3 ECTS Credit Units: 6.
representations served as propaganda, a form of protest and resistance, or an attempt to formulate political alternatives, and what political influence they were able to generate. **Credit units:** 3 ECTS **Credit Units:** 6. **Spr (D. Just)**

**POLS 490 Democracy, Development and Human Rights**
This course is designed to introduce students to the issues of democracy, development, and human rights from the perspective of comparative politics. We will discuss different conceptualizations, theories, and measurements of these phenomena, analyze the extent to which existing theories contradict or complement each other, and whether their policy prescriptions have been successful in the real world. While the course focuses on how democracy, development, and human rights relate to each other, we will also address the effects of domestic and international institutions, natural resources, political culture, and globalization. The course is designed to provide a general understanding of the patterns and challenges to democracy, development, and human rights; however, we will also pay some attention to regional differences among Latin America, East Central Europe, Asia, and the Middle East. **Credit units:** 3 ECTS **Credit Units:** 6. **Aut (A. Just)**

**POLS 495 International Political Economy**
Focusing on international political economy as inspired by both politics and economics, this course centers around the following topics: the neoclassical conception of an economy, new economic and political theories, national systems of political economy and the international trading, monetary and financial systems, multinationals corporations, economic and political development, and regional political and economic integration. **Credit units:** 3 ECTS **Credit Units:** 6. **Spr (H. T. Bölükbaşı)**

**POLS 497 Local and Global in Cities**
This course explores the relationship between local dynamics and global developments in the context of cities. By doing so, it aims to reveal how today’s cities are being transformed in the process of the interplay between local and global forces. It brings together research on the cities of both the global South and the North. **Credit units:** 3 ECTS **Credit Units:** 6. **Aut (F. T. Erman)**

**POLS 536 Turkish Politics in Comparative Perspective**
State-society relations in Turkey from a comparative perspective. **Credit units:** 4 ECTS **Credit Units:** 7. **Spr (M. Uğur Çınar)**

**POLS 556 European Politics**
This course aims at providing the Ph.D. students with a basic understanding of European politics. The course will do so first, by analyzing the historical background of European politics from the Peace of Westphalia and onwards, with specific emphasis on the state-building process in Western Europe. Second, the course will focus on post-World War II developments in European politics, such as European integration. Third, the course will analyze the challenges in European politics today, specifically those posed by integrative and fragmentary forces. The course aims to provide a comparative analysis of European politics in a multi-disciplinary manner. **Credit units:** 4 ECTS **Credit Units:** 7. **Spr (S. Özçürümez Bölükbaşı)**

**POLS 568 Urban Politics**
Brief introduction to urban politics at the global level, followed by Third World urbanization and urban politics in the Third World, with a focus on the Turkish case. Effects of mass migration, and hence rapid urbanization, on urban politics. Politics defined broadly as any attempt to grasp and exercise power in the context of unequal relationships. Inequalities in the city, including gender, ethnicity and class, and the role of migration in restructuring or challenging them in the urban context. **Credit units:** 3 ECTS **Credit Units:** 7. **Spr (S. Özçürümez Bölükbaşı)**

**POLS 594 Political Cultures of the Middle East and North Africa**
The overall aim of this course is to move away from traditional approaches to understanding the Middle East, through analysis of constitutions, parliaments, parties regional developments and interaction with the outside world, in favor of a more lateral approach based on the cultural content of Middle Eastern societies. **Credit units:** 3 ECTS **Credit Units:** 7. **Spr (S. Özçürümez Bölükbaşı)**

**POLS 601 Seminar in Turkish Politics**
This is an introductory course on Turkish politics for the Ph.D. Program in Political Science. It covers such topics as political culture, including its antecedents, nationalism and politics, Islam and politics the dynamics of the political system with special reference to political parties and political leaders, the military and politics, and the consequent trial and tribulations of democracy in Turkey. **Credit units:** 3 ECTS **Credit Units:** 7. **Aut (M. Heper)**

**POLS 602 Seminar in Comparative Politics**
This seminar is designed to introduce students to the major theoretical and conceptual debates in the sub-field of comparative politics. The weekly readings are chosen to reflect the variety of topics and methodological approaches in comparative politics. **Credit units:** 3 ECTS **Credit Units:** 7. **Aut (S. Özçürümez Bölükbaşı)**

**POLS 604 Democratization Process in Turkey**
This course will deal with the processes of democratization and liberalization in Turkey particularly in the light of constitutional and legislative reforms adopted between 1993 and 1995. Attention will also be given to the impact of the EU membership perspective. **Credit units:** 3 ECTS **Credit Units:** 7.
POLS 605  The Public Sphere
This course takes the public sphere as the main field of politics where different political ideologies emerge, contending ideologies clash and power relations take shape. Originally developed by Jurgen Habermas, the notion “public sphere” has been extensively and critically debated by writers in relation to democracy, civil society, state-society relations, political participation and the place and function of political identities in relation to these. This course surveys this debate and focuses on the different ways in which the “public sphere” is understood and contextualized, particularly in relation to ethnic, racial and gender identities. Credit units: 3 ECTS Credit Units: 7.

POLS 606  Seminar in Political Theory
This course engages in a critical reading of a select number of contemporary thinkers from K. Marx in 19th to L. Irigaray 20th, and to S. Zizek in 21st century. The course starts with the most recent texts and moves backward in history. Although the questions posed each week revolve around the most pressing issues of the present political conjuncture, such controversial concepts as democracy, difference, representation and the subject are analyzed from within a broad range of perspectives. Credit units: 3 ECTS Credit Units: 7. Spr (B. Helvacioğlu)

POLS 608  Politics, Culture, Nation and Gender
This course takes the realm of urban daily life as the locus of politics and investigates different dimensions of the making of national identities in relation to issues of gender, race, ethnicity, and class. The readings have been structured so as to explore the complexity of national identities and founding ideologies around several dimensions. First, they will address the ways in which national ideologies are constructed and propagated in relation to race, ethnicity, gender, class, religion or colonial relations, as one or several of these elements converge in the making and contestations of national ideologies in different contexts. Second, the course will simultaneously explore different mediums of representation in the making and contestation of national ideologies, ranging from popular music, novels, architecture, art, films and mass media to clothing, food and other daily practices. Credit units: 3 ECTS Credit Units: 7. Spr (A. Çınar)

POLS 609  Issues in Urban Studies
This course addresses the theoretical and methodological issues in studying the city as a socio-cultural entity, and it aims to reveal urban dynamics that shape the city and city spaces in a variety of contexts. Attention is paid to emerging social and spatial landscapes in our era of globalization. In the class such concepts and topics are explored as the global city, the city in modernity and post-modernity, urban ethnography, gentrification and ghettoization, gated communities, the privatization of urban space, and urban governance, as well as Third World urbanization, squatter formation, migrant enclaves and local politics. The city is approached critically in terms of gender, ethnicity and class. Credit units: 3 ECTS Credit Units: 7.

POLS 610  Research Methods
The purpose of this course is to introduce you to the qualitative research methods in social sciences. Emphasis will be placed both on acquiring skills as a researcher and on learning to evaluate empirical work in political science. We will take up, in turn, basic concepts of qualitative research design and data collection. This is a seminar course and students will design their own research project in the light of the methods discussed in class sessions. Credit units: 3 ECTS Credit Units: 7. Spr (Ç. E. Çuhadar Gürkaynak)

POLS 612  Seminar in Social and Cultural Studies:
This course brings together concepts and perspectives from various fields of the human sciences such as sociology, psychoanalysis, anthropology and semiology. The focus will be on current analyses of how societies and cultures are formed and break down. Special attention will be paid to the problems and future of contemporary societies and cultures. Credit units: 3 ECTS Credit Units: 7. Spr (M. N. Karakayalı)

POLS 616  Political Cultures in the Middle East
The overall aim of this course is to move away from traditional approaches to understanding the Middle East, through analysis of constitutions, parliaments, parties regional developments and interaction with the outside world, in favor of a more lateral approach based on the cultural content of Middle Eastern societies. Credit units: 3 ECTS Credit Units: 7.

POLS 634  European Union Politics
This course discusses advanced studies on EU politics. The focus is on the following issues: EU executive, legislative and judicial politics, public opinion, democracy, parties and elections, interest representation, regulation of the single market, expenditure policies, economic and monetary union, citizen freedom and security policies, and foreign policies. Credit units: 3 ECTS Credit Units: 7.

POLS 635  Politics of Turkish Modernization
This course will explore the main themes around which Turkish modernization have revolved throughout the 20th century. First, the course will focus on debates and controversies over modernization, Westernization, nationalism and secularism as they become the main themes of the constitutive norms of the modern Turkish Republic. After briefly tracing the historical developments around these themes that have shaped Turkish society and politics since the founding of the Republic, the rest of the course examines different dimensions of the institutionalization and the negotiation of Turkish nationalism and its aspirations for a West-oriented modernity in various contexts of politics and daily life. Mainly, such negotiations are traced in daily life contexts such as the
use of public spaces, urban planning issues, differentiation of gender roles, or trends in popular culture such as music, political cartoons, films or television programs. Credit units: 3 ECTS Credit Units: 7.

POLS 636 Nationalism and Politics
The most important problem that inflicts the study of Turkish nationalism today is relative insularity in which its researchers are operating. Comparative studies are very few and the attempts to connect the field with the developments in nationalism studies of the last three decades are scanty. This doctoral seminar is designed to acquaint students of Turkish nationalism with select works from the enormous body of literature on nationalism as a global phenomenon and to draw parallels with the Turkish case. The main emphasis of the course will be on Turkish nationalism, covering a broad variety of topics from the origins of this ideology to its current institutionalization in the form of parties and civil society organizations. However, each of those seminar themes will be embedded in a wider framework of theoretical analyses of nationalism as well as relevant case studies from other countries. Credit units: 3 ECTS Credit Units: 7.

POLS 639 The Ecology of Social Relations and Cultural Processes
This seminar type course aims to explore key concept and models in social theory. One major concern throughout the course will be compare and contrast the perspectives that were developed by social theorists since the mid-nineteenth century with the more analytical approaches which propose that the social relations and cultures take can only be intelligible by looking at how human agents interact with their natural and social environments. Credit units: 3 ECTS Credit Units: 7.

POLS 640 Issues in Political Psychology
Political Psychology is an interdisciplinary field which explores topics that lie at the intersection between politics and psychology. This is a seminar course that explores various topics in political psychology. The course focuses on various theories in political psychology and their application to domestic and international political processes. Some of these theories are concerned with elite behavior in politics; others try to explain mass political behavior. The topics that will be covered in the seminar include: Political communication and media, social identity, authoritarianism, social dominance orientation, formation of belief systems and political attitudes, decision making and information processing, political leadership, inter-group conflict and cooperation, and collective violence. Credit units: 3 ECTS Credit Units: 7.

POLS 641 The Ultimate Sources of Politics
Political theory often considers the question of the most just or right form of politics. This course aims at analyzing the three theoretical foundations of any form of politics originates with God; that politics originates with those who are spirited, strong or powerful; and that it originates with the people. The course will consider them on its own terms: first, theocracy, then theocracy, then timocracy, and finally democracy. Credit units: 3 ECTS Credit Units: 7.

POLS 643 Issues in Political Theory
This is a higher level course which aims to extend political theory in terms of depth and breadth. In terms of depth, several major political works (highways) will be considered more reflectively and at more length than is usually possible elsewhere. And in terms of breadth, several rarely studied, little known or highly unconventional works (byways) which have contributed to political theory from odd angles, or what might be seen as cul-de-sac, will be studied. It is hoped that these two different approaches will give a better insight into the canons and canonical subjects of political theory than is possible in a more traditional course. Credit units: 3 ECTS Credit Units: 7. "Aut (J. J. Alexander)"

POLS 645 Voting Behavior and Political Parties
This course is designed to introduce students to the field of research on electoral politics in contemporary democracies. It focuses on understanding how electoral democracy works and assessing how well it works. We will analyze how election outcomes result from the interplay of preferences and strategies among voters and political parties, and how this process is affected by various institutional arrangements (e.g. electoral systems), social cleavages, the media, and economy. Credit units: 3 ECTS Credit Units: 7. "Aut (M. N. Karakayali)"

POLS 646 Politics of the Self
This course aims to provide an in-depth understanding of divergent perspectives in the social sciences on selfhood, with a particular focus on the challenges that individuals face in forming themselves as autonomous subjects in modern societies. Part of the course will be devoted to a historical and cross-cultural analysis of ‘self practices’ - i.e. socially transmitted activities through which individuals try to give a shape to their existence. These include a vast number of activities such as dietary regimes, bodily and cognitive exercises, hygienic techniques, methods of self-adornment, various forms of self-discipline and auto-critique, spiritual meditations, and so on. These practices show great variation across different societies and often play a critical role in shaping a person’s relation to others and his/her society. Among the topics that will be discussed in the course are: the relationship between ethics and politics; identity politics in modern societies; the role of reflexivity in the formation and transformation of social structures; alternative types of subjectivity; individualism; and, the role of modern technologies in changing contemporary individuals’ self-perception. The literature covered in the course will mainly consist of major contributions to social theory (e.g. Durkheim, Mauss, Simmel, Goffman, Adorno, Giddens, Archer, Butler, Latour, Foucault) but some attention will also be given to classical texts (e.g. Plato, Stoics, Kant, Nietzsche). Credit units: 3 ECTS Credit Units: 7. "Aut (M. N. Karakayali)"
POLS 699  Ph.D. Dissertation  
Credit units: None  ECTS Credit Units: 150.  Aut (Staff)  Spr (Staff)

POLS 5431  Politics and Society in Turkey  
This course explores the debates and controversies over modernization, westernization, nationalism and secularism as they become the main themes of the constitutive norms of the modern Turkish Republic. After briefly tracing the historical developments around these themes since the founding of the Republic, the course examines different dimensions of Turkish nationalism and its aspirations for a West-oriented modernity in various contexts of politics and daily life such as the use of public spaces, urban planning issues, differentiation of gender roles, or trends in popular culture.  Credit units: 3  ECTS Credit Units: 7.  Aut (A. Çınar)

POLS 5467  Conflict, Violence, and Peace  
This is a seminar course that dwells on various theories of social and political conflict, violence, and peace. The course brings together different theoretical approaches developed in sociology, social psychology, cultural anthropology, and political science in addition to some classical texts in philosophy with regard to conflict, violence, and peace. Some of the issues covered are: the origins of social conflict, functions of conflict in a society, different types of social conflict, structure-agency debate with regard to conflict, escalation of conflict, psychological dynamics of social conflict and violence. The course will also examine different theoretical approaches that developed in various social science disciplines with regard to peace and reconciliation.  Credit units: 3  ECTS Credit Units: 7.  Aut (C. E. Çuhadar Gürkaynak)

POLS 5486  Issues in Comparative Politics  
This module introduces students to advanced research in comparative politics. It centers around the following topics: politics and government, the state, democracy, authoritarian rule, the comparative approach, political culture, political communication, political economy, political participation, elections and voters, interest groups, political parties, constitutions and the legal framework, multilevel governance, legislatures, the political executive, public management and administration, and public policy.  Credit units: 3  ECTS Credit Units: 7.  Aut (M. Uğur Çınar)

POLS 5490  Democracy, Development, and Human Rights  
This course is designed to introduce students to the issues of democracy, development, and human rights from the perspective of comparative politics. We will discuss different conceptualizations, theories, and measurements of these phenomena, analyze the extent to which existing theories contradict or complement each other, and whether their policy prescriptions have been successful in the real world. While the course focuses on how democracy, development, and human rights relate to each other, we will also address the effects of domestic and international institutions, natural resources, political culture, and globalization. The course is designed to provide a general understanding of the patterns and challenges to democracy, development, and human rights; however, we will also pay some attention to regional differences among Latin America, East Central Europe, Asia, and the Middle East.  Credit units: 3  ECTS Credit Units: 7.  Aut (A. Just)
DEPARTMENT OF PSYCHOLOGY


Psychology is the study of mind and behaviour. It explores the way in which humans (and sometimes animals) see, learn, remember, and think; as well as the way they behave among others. It also looks at the relationship between mind and brain physiology, and studies how all these faculties develop from conception and birth through to the end of life.

Psychology has a wide scope. Its subject matter ranges from biology of the brain and the nervous system, to social issues like what makes people behave the way they do in a group. Thus, it is widely accepted that psychology is a discipline of both natural and social science. There are five core areas of psychological science. These are biological, cognitive, social, developmental, and personality psychology. The undergraduate program offered by the department aims to provide a balanced education in all these areas as well as some more specialised areas offered as electives.

The most important aspect of the program is its emphasis on scientific method and research. It is impossible to learn everything there is to know about such a vast area of scientific study. Thus it is more important to gain an understanding of the methods with which to study mind and behaviour. The main aim of the program therefore is to establish a good understanding of scientific method and analytic thinking as well as skills necessary to conduct research including data analysis and efficient use of computer software. In this capacity, students are required to take part in and conduct a range of research projects, which involve an increasing level of independence as the course progresses. In the final year students are required to complete an independent research project culminating in a senior thesis.

UNDERGRADUATE CURRICULUM

FIRST YEAR

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<tr>
<th>Autumn Semester</th>
<th>Credits / ECTS Credits</th>
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<tr>
<td>CS 123</td>
<td>Introduction to Computing and Programming for Social Sciences 3 / 6</td>
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<tr>
<td>ENG 101</td>
<td>English and Composition I 3 / 6</td>
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<tr>
<td>GE 100</td>
<td>Orientation 1 / 1</td>
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<tr>
<td>MATH 105</td>
<td>Introduction to Calculus I 4 / 7</td>
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<tr>
<td>PSYC 101</td>
<td>Introduction to Psychology I / Cognitive and Biological 3 / 6</td>
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<tr>
<td>TURK 101</td>
<td>Turkish I 2 / 2</td>
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<tr>
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<td>MATH 106</td>
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<td>MBG 110</td>
<td>Introduction to Modern Biology 3 / 6</td>
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<tr>
<td>PSYC 103</td>
<td>Introduction to Psychology II / Social and Developmental 3 / 6</td>
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SECOND YEAR

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<tr>
<td>HIST 200</td>
<td>History of Turkey 3 / 6</td>
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<tr>
<td>HUM 111</td>
<td>Cultures Civilizations and Ideas I 3 / 6</td>
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<tr>
<td>PSYC 200</td>
<td>Cognitive Psychology 3 / 7</td>
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<td>PSYC 203</td>
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### THIRD YEAR

#### Spring Semester

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<td>PSYC 230</td>
<td>Social Psychology</td>
<td>3 / 6</td>
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<tr>
<td>GE 251</td>
<td>Collegiate Activities Program II</td>
<td>1 / 1</td>
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<tr>
<td>HUM 112</td>
<td>Cultures, Civilizations and Ideas II</td>
<td>3 / 6</td>
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<tr>
<td>PSYC 205</td>
<td>Statistics II</td>
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<tr>
<td>PSYC 206</td>
<td>Research Methods II</td>
<td>3 / 6</td>
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<tr>
<td>PSYC 220</td>
<td>Brain and Behaviour</td>
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<td>PSYC 240</td>
<td>Developmental Psychology</td>
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#### Autumn Semester

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<tr>
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<td>Perception, Attention, and Action</td>
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<td>PSYC 340</td>
<td>Learning, Remembering, and Thinking</td>
<td>3 / 6</td>
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<tr>
<td>PSYC 350</td>
<td>Cognitive and Social Development</td>
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<td>PSYC 433</td>
<td>Abnormal Psychology</td>
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### FOURTH YEAR

#### Autumn Semester

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<tr>
<td>PSYC 498</td>
<td>Senior Project I</td>
<td>3 / 6</td>
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#### Spring Semester

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### DEPARTMENTAL ELECTIVE COURSES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>PSYC 301</td>
<td>Laboratory in Psychological Research</td>
<td>4 / 6</td>
</tr>
<tr>
<td>PSYC 320</td>
<td>Cognitive Neuroscience</td>
<td>3 / 6</td>
</tr>
<tr>
<td>PSYC 330</td>
<td>Theory and Practice of Applied Social Psychology</td>
<td>3 / 6</td>
</tr>
<tr>
<td>PSYC 360</td>
<td>Individual Differences and Personality</td>
<td>3 / 6</td>
</tr>
<tr>
<td>PSYC 391</td>
<td>Directed Research in Psychology</td>
<td>3 / 6</td>
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<tr>
<td>PSYC 405</td>
<td>Introduction to FMRI</td>
<td>3 / 6</td>
</tr>
<tr>
<td>PSYC 410</td>
<td>Neuropsychology</td>
<td>3 / 6</td>
</tr>
<tr>
<td>PSYC 415</td>
<td>Cognitive Aging</td>
<td>3 / 6</td>
</tr>
<tr>
<td>PSYC 420</td>
<td>Selected Topics in Cognitive Psychology</td>
<td>3 / 6</td>
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<tr>
<td>PSYC 421</td>
<td>Selected Topics in Social Psychology</td>
<td>3 / 6</td>
</tr>
<tr>
<td>PSYC 422</td>
<td>Selected Topics in Developmental Psychology</td>
<td>3 / 6</td>
</tr>
<tr>
<td>PSYC 430</td>
<td>Clinical Psychology</td>
<td>3 / 6</td>
</tr>
<tr>
<td>PSYC 431</td>
<td>Psychological Testing and Measurement</td>
<td>3 / 6</td>
</tr>
<tr>
<td>PSYC 434</td>
<td>Child and Adolescent Psychopathology</td>
<td>3 / 6</td>
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<tr>
<td>PSYC 435</td>
<td>Industrial and Organisational Psychology</td>
<td>3 / 6</td>
</tr>
<tr>
<td>PSYC 437</td>
<td>Program Evaluation</td>
<td>3 / 6</td>
</tr>
<tr>
<td>PSYC 438</td>
<td>Interpersonal Relationships</td>
<td>3 / 6</td>
</tr>
<tr>
<td>PSYC 439</td>
<td>Visual Neurosciences</td>
<td>3 / 6</td>
</tr>
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</table>
ELECTIVE REQUIREMENTS
The undergraduate curriculum requires students to take a total of 16 elective courses. At least 7 (seven) of these must be chosen from the list of Psychology (PSYC) "elective courses" seen above. Not all of these courses may be offered in a given academic year, and new courses not mentioned here may be offered during the academic year. Available courses will be announced by the Department at the beginning of each academic year mainly in the "undergraduate" section of the psychology department website (www psy.bilkent.edu.tr). Students have the sole responsibility to follow announcements made on the website and other media specified by the department.

At least 7 (seven) elective courses in the curriculum must be chosen from the list of "Elective".

At least 2 (two) elective courses in the curriculum must be chosen from the list of "Restricted Elective".

These lists may be changed during the academic year, which will be announced on the department website. Elective lists can also be followed under STARS Academic Units page.

MINOR PROGRAM
The minor Program in Psychology aims to provide the student with a general introduction to the main issues in the science of psychology. Demonstrating the way psychologists study mind and behaviour, the minor program will form the basis for further study in the field. The minor program student must take three fundamental courses in Psychology that require no specialized background. Cognitive Psychology studies the way people know: perception, memory and learning among its main focuses. Social Psychology is the study of mind and behaviour of the individual in a group setting: from families to workplace organisation, people spend a great deal of their lives in the presence of others. Finally, Developmental Psychology investigates the way people develop from birth to old age. In addition to these three courses, minor candidates are expected to attend three elective courses offered by the department. This is an opportunity for students to further deepen their understanding in a particular area, and experience first hand, contemporary research in psychological science.

Prerequisite Courses:
PSYC 100 Introduction to Psychology

CURRICULUM

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>PSYC 200 Cognitive Psychology</td>
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<tr>
<td>PSYC 230 Social Psychology</td>
<td>3 / 6</td>
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<tr>
<td>PSYC 240 Developmental Psychology</td>
<td>3 / 6</td>
</tr>
<tr>
<td>Electives (3)</td>
<td>9 / 18</td>
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GRADUATE PROGRAMS

Master of Arts in Psychology

The M.A. program has two main objectives. First to enhance the skills of the graduates as they enter the workforce and second to provide the bases for students who wish to continue an earn a Ph.D. degree. The program emphasizes both basic and applied areas of psychology. The focus of the program is on the areas of cognitive psychology, neuroscience, social, developmental, personality and industrial/organizational psychology. Within all areas the emphasis is on research. In addition to completing the required Master's thesis students are expected to participate in research upon entering the program.
CURRICULUM OF MASTERS PROGRAM

Courses | Credits / ECTS Credits
---|---
GE 590 | Academic Practices .......................................... 1 / 12
PSYC 530 | Advanced Research Methods and Statistics in Psychology I .......... 3 / 8
PSYC 591 | Pro-Thesis Seminar I ........................................ 1 / 1
PSYC 599 | M.A. Dissertation .......................................... - / 56
Electives (2) | ........................................ 6 / 12
Restricted Electives (5) | ........................................ 15 / 30

RESTRICTED ELECTIVES

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<th>Course</th>
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<td>Sensory and Motor Systems Neuroscience ........................................ 3 / 7.5</td>
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<tr>
<td>NSC 511</td>
<td>Cellular, Molecular and Developmental Neuroscience .......................... 3 / 7.5</td>
</tr>
<tr>
<td>NSC 512</td>
<td>Research Methods in Neuroscience ........................................ 3 / 7.5</td>
</tr>
<tr>
<td>NSC 513</td>
<td>Behavioural Neuroscience ........................................ 3 / 7.5</td>
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<tr>
<td>NSC 514</td>
<td>Affective Neuroscience ........................................ 3 / 7.5</td>
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<tr>
<td>NSC 515</td>
<td>Computational and Numerical Methods in Neuroscience .................. 3 / 7.5</td>
</tr>
<tr>
<td>NSC 516</td>
<td>Selected Topics in Neuroscience I ........................................ 3 / 7.5</td>
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<tr>
<td>NSC 517</td>
<td>Selected Topics in Neuroscience II ........................................ 3 / 7.5</td>
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<tr>
<td>NSC 570</td>
<td>Lab in Cellular, Molecular, and Developmental Neuroscience ........ 3 / 7.5</td>
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<tr>
<td>NSC 671</td>
<td>Lab in Sensory and Motor Systems Neuroscience .......................... 3 / 7.5</td>
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<td>PSYC 501</td>
<td>Advanced Cognitive Psychology ........................................ 3 / 8</td>
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<tr>
<td>PSYC 502</td>
<td>Advanced Developmental Psychology ........................................ 3 / 8</td>
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<td>PSYC 510</td>
<td>Advanced Social Psychology ........................................ 3 / 8</td>
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<td>PSYC 515</td>
<td>Selected Topics in Psychology I ........................................ 3 / 8</td>
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<td>PSYC 530</td>
<td>Advanced Research Methods and Statistics in Psychology I ........ 3 / 8</td>
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<tr>
<td>PSYC 535</td>
<td>Meta-analysis ........................................ 3 / 8</td>
</tr>
<tr>
<td>PSYC 575</td>
<td>Advanced Training in Psychological Research I .......................... 3 / 8</td>
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Doctor of Philosophy in Psychology

The Ph.D. program in the Department of Psychology is designed to build a strong, interdisciplinary background in theory and research in the psychological sciences. The programs focus on cognitive, social, personality, and evolutionary psychology, as well as neuroscience. Graduate students are expected to participate in research activities upon entering the program. To support psychological research, the university has developed an infrastructure that includes the National Magnetic Resonance Research Center (UMRAM), along with state-of-the-art research laboratories equipped with observation rooms for testing children and adults, a genetic testing room, and testing rooms for psychophysical and behavioral experiments.

Admission: Applicants must have a degree from a related undergraduate program for the Doctor of Philosophy Program without Master's and a degree from a related graduate program for the Doctor of Philosophy Program with Master's. Applicants who are Turkish citizens should take the ALES (Akademik Personel ve Lisansüstü Eğitimi Giriş Sınavı - Academic Personnel and Postgraduate Education Entrance Examination). Applicants who are not Turkish citizens and Turkish citizen applicants who are residents of a foreign country may take the GRE (Graduate Record Examination) instead of the ALES. All nonnative speakers of English are required to submit proof of proficiency in English. Minimum requirements are announced by the Graduate School of Economics and Social Sciences.

Degree Requirements: Candidates with a Master’s degree must successfully complete at least 24 credits and 11 courses. Those without a Master’s degree must successfully complete at least 48 credits and 20 courses. All candidates must prepare and defend a dissertation.
Doctor of Philosophy in Psychology

CURRICULUM

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<td>PSYC 530 Advanced Research Methods and Statistics in Psychology</td>
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<td>PSYC 630 Advanced research methods in psychology II</td>
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<td>PSYC 691 Pro-thesis seminars II</td>
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<td>PSYC 699 Ph.D. Dissertation</td>
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Doctor of Philosophy in Psychology (After a Bachelor's Degree)

CURRICULUM

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<td>GE 690 Academic Practices</td>
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<tr>
<td>PSYC 530 Advanced Research Methods and Statistics in Psychology</td>
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<tr>
<td>PSYC 591 Pro-Thesis Seminar I</td>
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<td>PSYC 630 Advanced research methods in psychology II</td>
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COURSE DESCRIPTIONS

**PSYC 100 Introduction to Psychology**
This course is a general introduction to the main issues and findings in psychological science. It lays out the kinds of questions facing psychologists trying to study the mind and behaviour, and it covers some major methods of answering these. The course spans the major research fields of psychology, presenting major findings from biological, social, developmental, and personality psychology. It also gives a brief introduction to mental disorders and clinical psychology. **Credit units: 3 ECTS Credit Units: 6.** Aut (E. İnanç, N. Özörcü Koçkertan, S. Salman Engin) Spr (E. İnanç, Ö. Karakale, S. Salman Engin)

**PSYC 101 Introduction to Psychology I / Cognitive and Biological**
This course is an in-depth introduction to the theories, methods and findings of psychological science. The course focuses on the biological and cognitive aspects of behavior. Topics covered include the brain and nervous system, perception, learning, thinking, memory, motivation and consciousness. **Credit units: 3 ECTS Credit Units: 6.** Aut (M. M. Adams) Spr (Ö. Yılmaz Kılıçaslan)

**PSYC 102 Introduction to Psychology II / Social and Developmental**
This course is designed to acquaint the student with the nature and causes of individual behavior in social situations; to identify the factors that shape feelings, behavior and thought. The topics to be covered include: the research methods of social psychology, social perception, social cognition, attitudes, prejudice/discrimination, interpersonal attraction, social influence, aggression, individual behavior in groups, and applications of social psychology in health, the legal system and the work setting (organizations). **Credit units: 3 ECTS Credit Units: 5.** Aut (M. Ermemiş, S. Salman Engin) Spr (M. Ermemiş, J. Gürzumar, S. Salman Engin)

**PSYC 200 Cognitive Psychology**
This course provides a comprehensive introduction to the area of cognitive psychology. It lays out the emergence and importance of cognitive psychology as a field of scientific research. Issues and findings are presented in sensation and perception, learning, memory, problem solving, thinking and reasoning, and language. **Credit units: 3 ECTS Credit Units: 7.** Prerequisite: PSYC 100 or PSYC 103. Aut (Z. Bağgöz) Spr (Staff)
PSYC 202  Statistics and Research Methods in Psychology II
This is the continuation of PSY 201 and follows an identical structure. Some topics covered in statistics: correlation, simple regression, multivariate analysis of variance. Credit units: 4 ECTS Credit Units: 7, Prerequisite: PSYC 201. Spr (İ. Apaydın)

PSYC 203  Statistics I
The main concepts and methods of statistical analysis used by psychologists are covered. Topics include probability theory, graphic representations, and distributions, measures of central tendency, non-parametric statistics (including Chi Square) and t-test. Students will practice using these statistics. Credit units: 3 ECTS Credit Units: 6, Prerequisite: CS 123 and PSYC 103. Aut (D. M. Lewis)

PSYC 204  Research Methods I
This course introduces to the various ways in which psychologists study behavior. Issues include understanding research design, developing hypotheses and learning how to write a scientific paper. Students will also learn to use various bibliographic sources. Student will carry out a series of studies and white them up in American Psychological Association style. Credit units: 3 ECTS Credit Units: 6, Prerequisite: CS 123 and PSYC 103. Aut (H. Ilgaz)

PSYC 205  Statistics II
This is a continuation of Psychological Statistics 1, PSYC 203. Topics to be covered include analysis of variance(one-way and multivariate), correlation, regression and multiple regression. Credit units: 3 ECTS Credit Units: 6, Prerequisite: PSYC 203. Spr (D. M. Lewis)

PSYC 206  Research Methods II
This course is a continuation of Research Methods 1 (PSYC 204). Students will be exposed to more complex designs such as factorial designs as well as correlational designs and quasi-experimental design. A number of studies will be conducted. Credit units: 3 ECTS Credit Units: 6, Prerequisite: PSYC 203 and PSYC 204. Spr (H. Ilgaz)

PSYC 220  Brain and Behaviour
As a basis for all mental activity and behaviour the nervous system and the brain in particular are quite important. This course introduces the structure and workings of the brain, its main characteristics, and its relationship to mind and behaviour. Credit units: 3 ECTS Credit Units: 6, Prerequisite: (PSYC 100 or PSYC 103) and (MBG 101 or MBG 110). Aut (Ö. Yılmaz Kılıçaslan) Spr (M. M. Adams)

PSYC 230  Social Psychology
This course is a comprehensive introduction to the field of empirical research which examines the individual in a social setting. It covers areas such as social cognition, social perception, attitudes, conformity, and aggression. Credit units: 3 ECTS Credit Units: 6, Prerequisite: PSYC 100 or PSYC 103. Aut (G. Güneydön) Spr (E. Öncüler Yavaşlar)

PSYC 240  Developmental Psychology
The mind develops from conception right up to the end of life. In order to understand our nature and capabilities, it is important to know how the mind develops and what affects the course of this development. Main topics covered are Piaget's model of cognitive development and its critique, language acquisition, social interaction, attachment, parenting styles, and adolescent development. Credit units: 3 ECTS Credit Units: 6, Prerequisite: PSYC 100 or PSYC 103. Aut (J. W. P. Allen) Spr (H. Ilgaz)

PSYC 301  Laboratory in Psychological Research
This course follows the same system as the prerequisites PSY 201 and 202; the difference is that students form small groups in which to carry out research on a topic of their choice (from among a set of alternatives) and complete two such projects in the semester. They conduct all aspects of the research with supervision from the instructor, including design, analysis and report write-up. The statistics component of the course covers more advanced techniques than in the previous year such as factor analysis and multiple regression. Credit units: 4 ECTS Credit Units: 6, Prerequisite: PSYC 202. Aut (C. E. Nelson)

PSYC 310  Perception, Attention, and Action
The focus here is on perception, specifically visual perception. This is the part of cognitive psychology, where we know more than any other area about the brain's involvement. Thus, studying perception, and specifically vision, tells us much about the rest of our cognitive capacities. Main topics covered are physiological structure of vision, modularity, attentional influences, spatial vision, colour vision, perceptual learning, categorical perception, and motion perception. Credit units: 3 ECTS Credit Units: 6, Prerequisite: PSYC 200 and PSYC 220. Aut (Ö. Yılmaz Kılıçaslan)

PSYC 320  Cognitive Neuroscience
This course covers the techniques and findings that have allowed us to know much more about what happens in our brains when we see, hear, think, talk, and even dream. Recent technological advances such as fMRI brain imaging techniques are covered and findings from studies using such techniques are discussed. Credit units: 3 ECTS Credit Units: 6, Prerequisite: PSYC 200 and PSYC 220. Spr (Ö. Karakalın)
PSYC 330 Theory and Practice of Applied Social Psychology

Social psychology has accumulated a wealth of knowledge as well as theories to predict human behaviour in social settings. This knowledge is fast becoming crucial in understanding social problems such as immigration, national identity, inter-group relations, and conflict resolution. The course introduces studies and applications of social psychological findings to social issues and problems. Credit units: 3 ECTS Credit Units: 6, Prerequisite: PSYC 230. Aut (G. Güngenci)

PSYC 340 Learning, Remembering, and Thinking

A great deal of what we call cognition (knowing) is a direct result of our capacity to learn and remember. Scientists have long been interested to find out exactly how we learn, and what happens in our minds and brains when we do learn. Learning of course is not enough; we also need to remember what we have learned. How does memory work? What is the best way of remembering things we learn? How are memories processed before they become a part of our mental world? After remembering, we have to make use of those memories: we have to relate them with each other, see connections, and reach to conclusions. In other words, we have to think. Credit units: 3 ECTS Credit Units: 6, Prerequisite: PSYC 200 and PSYC 220. Spr (M. Besken)

PSYC 350 Cognitive and Social Development

This course elaborates on the previous year's developmental psychology course, providing a more in-depth analysis of problems and up-to-date findings in cognitive and social development. The object is to see the relationship between developmental processes and the adult mind. Main topics covered are development of logic and reasoning, memory, spatial cognition, perception, face recognition, prosocial behaviour, sociocultural approaches. Credit units: 3 ECTS Credit Units: 6, Prerequisite: PSYC 240. Spr (J. W. P. Allen)

PSYC 360 Individual Differences and Personality

While, the rest of psychology studies the similarities between people, this area looks at what makes each individual distinct from others. It investigates areas such as intelligence, aptitude, personality traits, and development of a self-concept, and tries to answer questions on why each individual turns out the way he/she does. One very important issue here is the famous nature-nurture debate: are we born like this or do we become what we are as we go through life? The course also looks at methods with which psychologists assess intelligence and personality. Credit units: 3 ECTS Credit Units: 6, Prerequisite: PSYC 230 and PSYC 240. Spr (N. Güngenci)

PSYC 391 Directed Research in Psychology

This course involves conducting an individual research project under the supervision of a faculty member. All phases of the research enterprise are covered including: a review of the literature, development of hypotheses, developing a methodology to test the hypotheses, conducting the research, analyzing the results, discussing the implications of their work and producing a 15-20 paper manuscript similar to one that would be submitted to a scholarly journal in American Psychological Association style. The course will be graded pass/fail. Credit units: 3 ECTS Credit Units: 6, Prerequisite: PSYC 100 or PSYC 103. Aut (C. E. Nelson) Spr (Staff)

PSYC 399 Summer Training

This course refers to the internship course which will need to be satisfied with an internship to be conducted in a relevant area during the summer at the end of the third year in the program. The course will be a non-credit (0 credit) course to be marked as S or U. Credit units: None ECTS Credit Units: 6. Aut (Staff) Spr (Staff)

PSYC 401 Senior Thesis I

This is a final year research project. Each student gets together with a supervisor, a member of academic staff whose research area is related to a topic of research he/she is interested in. Students spend a year to plan, design, conduct, analyse and write-up a research project. The role of the supervisor is minimal. The object is to acquire skills necessary to conduct an independent project. Students will have the opportunity to get together in tutorial groups with others and discuss common problems and difficulties and get instruction on these from a member of academic staff. Credit units: 3 ECTS Credit Units: 6, Prerequisite: PSYC 301. Aut (J. W. P. Allen) Spr (C. E. Nelson)

PSYC 402 Senior Thesis II

This is a final year research project. Each student gets together with a supervisor, a member of academic staff whose research area is related to a topic of research he/she is interested in. Students spend a year to plan, design, conduct, analyse and write-up a research project. The role of the supervisor is minimal. The object is to acquire skills necessary to conduct an independent project. Students will have the opportunity to get together in tutorial groups with others and discuss common problems and difficulties and get instruction on these from a member of academic staff. Credit units: 3 ECTS Credit Units: 6, Prerequisite: PSYC 301 and PSYC 401. Aut (J. W. P. Allen) Spr (C. E. Nelson)

PSYC 405 Introduction to FMRI

This course covers the basic principles of Functional Magnetic Resonance Imaging (fMRI), including the physical principles of signal generation in MRI and the relation of neuronal activity with the blood-oxygen-level-dependent (BOLD) signal. The course emphasizes techniques to conduct experiments investigating the functional activity of the nervous system, and statistical analysis of the fMRI data. Weekly hands-on sessions are held using
the in-campus MRI scanner. The objectives of the course are to gain a basic understanding of physical and biological concepts of fMRI; a basic knowledge of fMRI data collection and the operation of the scanner (through weekly hands-on sessions); a basic knowledge of fMRI experimental design. Credit units: 3 ECTS Credit Units: 6, Prerequisite: PSYC 200 and PSYC 220 and PSYC 320.

PSYC 410 Neuropsychology
This advanced course is a more in-depth study of the brain and the nervous system in relation to mind and behaviour. Specifically, here, disorders of the brain, lesions resulting from accidents and strokes, and the effects of these on mental capacity and behaviour are discussed. The implications of such findings are discussed particularly in relation to philosophical questions such as free-will and self determination. Credit units: 3 ECTS Credit Units: 6, Prerequisite: PSYC 220.

PSYC 415 Cognitive Aging
This course is designed to give students an accurate understanding of the behavioral/cognitive, physiological, and biological changes that people experience as they grow older. It will acquaint students with the underlying theories as to why these changes occur as well as possible interventions that might prevent these alterations. Students will read and present relevant research articles in order to understand the critical issues of later-life change. Credit units: 3 ECTS Credit Units: 6, Prerequisite: PSYC 200.

PSYC 420 Selected Topics in Cognitive Psychology
Members of academic staff cover a research topic that they are working on, presenting an in-depth, advanced understanding of the research problem, data that have been collected by the instructor or colleagues, and a discussion of these results in relation to the bigger questions. This course brings final year students up to date with a current research area and provides them an opportunity to continue academic study in this or other areas. Credit units: 3 ECTS Credit Units: 6, Prerequisite: (PSYC 100 or PSYC 103) and PSYC 200 and PSYC 220.

PSYC 421 Selected Topics in Social Psychology
Members of academic staff cover a research topic that they are working on, presenting an in-depth, advanced understanding of the research problem, data that have been collected by the instructor or colleagues, and a discussion of these results in relation to the bigger questions. This course brings final year students up to date with a current research area and provides them an opportunity to continue academic study in this or other areas. Credit units: 3 ECTS Credit Units: 6, Prerequisite: (PSYC 100 or PSYC 103) and PSYC 230. Spr (C. E. Nelson)

PSYC 422 Selected Topics in Developmental Psychology
Members of academic staff cover a research topic that they are working on, presenting an in-depth, advanced understanding of the research problem, data that have been collected by the instructor or colleagues, and a discussion of these results in relation to the bigger questions. This course brings final year students up to date with a current research area and provides them an opportunity to continue academic study in this or other areas. Credit units: 3 ECTS Credit Units: 6, Prerequisite: (PSYC 100 or PSYC 103) and PSYC 350.

PSYC 430 Clinical Psychology
The study of abnormal behaviour and mental disorder has led to techniques that have been developed by clinical psychologists to deal with such problems. This course provides an introduction to the most-well known application of psychology. It talks about how clinical psychology has developed ways of dealing with mental disorders and problems. In addition, it covers research and applications of a new, related field, health psychology which is related to psychological findings concerning a wider understanding of health than mental disorders. Credit units: 3 ECTS Credit Units: 6, Prerequisite: PSYC 360 and PSYC 433. Spr (N. Öztan)

PSYC 431 Psychological Testing and Measurement
This course is a training in techniques of psychological assessment in areas like intelligence testing and personality testing. Problems associated with “measuring” human mind and behaviour are discussed and methods in dealing with these covered. Credit units: 3 ECTS Credit Units: 6, Prerequisite: PSYC 202 or PSYC 205. Aut (N. Gungenci)

PSYC 433 Abnormal Psychology
This course is about the study of mental disorders and problems. It covers the history of the understanding of mental health, and introduces the advances made. It provides an in-depth understanding of various disorders such as schizophrenia, depression, phobias, addiction, and sexual health. Credit units: 3 ECTS Credit Units: 6, Prerequisite: PSYC 200 and PSYC 230 and PSYC 240. Aut (N. Öztan)

PSYC 434 Child and Adolescent Psychopathology
This course provides an overview of psychopathology in childhood through adolescence from various perspectives. DSM descriptions, etiology, phenomenology and diagnosis for major disorders are covered. Diagnoses include disruptive behavior disorders, anxiety disorders, affective disorders, attention disorders and psychotic disorders. Credit units: 3 ECTS Credit Units: 6, Prerequisite: PSYC 433. Spr (Y. Aker)
PSYC 435  Industrial and Organisational Psychology
This course introduces the student to the main advances of this relatively new field, which explore the psychological aspects of working in an organisation. What makes a good organisation? What are good strategies in dealing with the “human factor” in the workplace? Who is good for which job? How can people develop their careers? These are the kinds of questions that this course introduces. Credit units: 3 ECTS Credit Units: 6, Prerequisite: PSYC 100 or PSYC 103. Aut (C. E. Nelson)

PSYC 437  Program Evaluation
Program evaluation is an activity that organizations do routinely either formally or informally because they are concerned with how well human services programs serve people in need. In the course we will cover such topics as why evaluation, role of evaluator, methods of evaluation, utilization of evaluations and ethics in evaluation. Although the course will focus on social programs the course is equally relevant to the evaluation of educational programs, training programs and organizational change programs. Credit units: 3 ECTS Credit Units: 6, Prerequisite: PSYC 100 or PSYC 103.

PSYC 438  Interpersonal Relationships
The course examines interpersonal relationships primarily from a social psychological perspective, drawing on research from other fields of psychology including cognitive, developmental, clinical, and personality psychology as well as social-cognitive neuroscience. The central goal of the course is to familiarize students with cutting-edge theories and research in relationship science by defining and explaining the basic structure, functions, dynamics, and formation of human affectional ties. The course will survey a broad range of topics at the heart of relationship science, including interpersonal attraction and mate selection, formation of attachment bonds, social-cognitive processes in interpersonal relationships, jealousy and infidelity, relationship dissolution, loneliness, social rejection, and the effects of social relationships on mental and physical well-being. Credit units: 3 ECTS Credit Units: 6, Prerequisite: PSYC 100 or PSYC 103.

PSYC 439  Visual Neuroscience
Visual science, a model and reference for all other areas in neuroscience, has seen remarkable advances in the last decade. This course covers basics of the visual system in great detail through review of recent literature. Topics covered include retinal mechanisms, visual pathways, subcortical and cortical processing, lightness and color, motion perception, object recognition, eye movements and attention. Credit units: 3 ECTS Credit Units: 6, Prerequisite: PSYC 320.

PSYC 483  Theory of Mind
Theory of Mind (or ToM) is the name of the mental competence that enables humans (and possibly other primates) to represent and predict mental states, such as seeing, desiring, believing, thinking, and so on, whether they belong to others or themselves. This is a new discipline, barely 25 years old, which has rapidly become one of the most dynamic research areas in psychology, of central and increasing interest to developmental, comparative, cognitive and clinical psychology, as well as to cognitive science in general. There are several reasons for the importance of ToM: it is the mental competence directly involved in communication, socialization and the acquisition of culture; it is also the competence vitally implicated in the acquisition of language and of higher mental abilities, such as self-control, metarepresentation, introspection, and thinking about one’s own thoughts. The class will survey and analyze the evolution and development of ToM, in terms of basic experiments and observational results, both psychological and neuroscientific, will examine clinical conditions caused by ToM deficits, such as autism and schizophrenia, and explore the impact of ToM on other competencies, such as empathy, imitation, self-regulation, and more. The class will also discuss major positions and explanations of ToM, such as (the so-called) theory-theory, simulation, modularity, learning, the recently discovered mirror neurons, and so on. Credit units: 3 ECTS Credit Units: 6. Aut (H. Ilgaz)

PSYC 491  Introduction to Cognitive Psychology
Cognition is a process composed of various phases like transferring sensory information to memory, retention, reasoning, logic, and problem solving. This course is intended to provide an introductory overview of theories and findings in the field of cognitive psychology. The main topics will include perception, memory, language and thought, problem solving and neuroscience. Credit units: 3 ECTS Credit Units: 6.

PSYC 492  Developmental Psychology
This course focuses on developmental psychology which studies the stages and the lifelong development of human beings in the physical, cognitive, social and emotional domains. The main topics will include developmental research methods, Piaget’s stages of cognitive development; Erikson’s psychosocial stages of development; nature and nurture. Credit units: 3 ECTS Credit Units: 6.

PSYC 493  Learning: Theory and Practice
This course covers theories and findings about how we acquire and develop knowledge and skills. Topics will include the physiology of learning, learning theories and approaches (e.g. behavioral, cognitive, social-cognitive). Credit units: 3 ECTS Credit Units: 6.
PSYC 498 Senior Project I
This is a final year project course in which the students alone or with a small group work on a research project. These projects can be research based studies or applied work. The students will develop a proposal during this course and design their project. Credit units: 3 ECTS Credit Units: 6. Prerequisite: PSYC 205 and PSYC 206.

PSYC 499 Senior Project II
This course is a continuation of PSYC 498 (Senior Thesis 1). During this semester students carry out their studies, write a final report and present them at a departmental poster session. Credit units: 3 ECTS Credit Units: 6. Prerequisite: PSYC 498.

PSYC 501 Advanced Cognitive Psychology
This course covers various topics in cognitive psychology, such as perception, attention, memory, learning, metacognition, judgment and decision-making at an advanced level. The course is designed with three goals in mind. First, it gives breadth and depth of knowledge to students in certain cognitive processes. Secondly, it highlights methods and approaches used in cognitive psychology and gets students acquainted with the new trends. Last of all, the course initiates the process of scholarly activities for graduate students, such as critical reading of scholarly articles, literature search and academic writing. Credit units: 3 ECTS Credit Units: 8. Aut (M. Besken)

PSYC 502 Advanced Developmental Psychology
This course explores child development from infancy through middle childhood. Research in various areas of development including cognitive, social and emotional will be discussed and the topics will be analyzed from major theoretical perspectives in child psychology. Credit units: 3 ECTS Credit Units: 8. Aut (J. W. P. Allen)

PSYC 510 Advanced Social Psychology
The course aims to survey cutting-edge research at the heart of social psychology. Students will read selected social psychological articles from recent issues of top journals in the field. Through class discussions and weekly thought papers, the students will be encouraged to think critically about social psychological research and to identify strengths and weaknesses of research studies. Credit units: 3 ECTS Credit Units: 8. Spr (G. Günüaydın)

PSYC 515 Selected Topics in Psychology I
Credit units: 3 ECTS Credit Units: 8. Spr (C. E. Nelson)

PSYC 530 Advanced Research Methods and Statistics in Psychology I
This course will give students hands-on, applied experience designing empirical research studies and quantitatively analyzing data. Students will engage in an in-depth review of psychological research methodology, design an empirical study, collect and analyze quantitative data, and interpret these results within the context of the study hypotheses. Students will select the specific topic of their research project, but all students will (1) review both field- and laboratory-based research methods with a particular focus on experimental research design, (2) engage in a thorough review of primary research, (3) design an original empirical study, and (4) prepare an APA-style research report. Credit units: 3 ECTS Credit Units: 8. Aut (D. M. Lewis)

PSYC 535 Meta-analysis
Credit units: 3 ECTS Credit Units: 8. Prerequisite: PSYC 530. Spr (M. T. Brannick)

PSYC 575 Advanced Training in Psychological Research I
Credit units: 3 ECTS Credit Units: 8. Spr (Staff)

PSYC 591 Pro-Thesis Seminar I
Credit units: None ECTS Credit Units: 1. Spr (Staff)

PSYC 599 M.A. Dissertation
Credit units: None ECTS Credit Units: 56. Spr (Staff)
FACULTY OF EDUCATION

Mehmet Baray, Ph.D., Dean
Margaret K. Sands, Ph.D., Assoc. Dean
Halis Necmi Aksit, Ph.D., Assoc. Dean

The Faculty of Education, in conjunction with the Graduate School of Education offers:

- Department of Computer and Instructional Technology Teacher Education
- Graduate Programs in Curriculum and Instruction
- M.A. Program in Management in Education
- M.A. Program in Teaching English as a Foreign Language (TEFL)

In addition, sports courses are offered through the Faculty's Physical Education Unit.

ACADEMIC STAFF

Firdevs Tijen Aksit, Assistant Professor
Ph.D., Educational Sciences (educational administration and planning), Middle East Technical University, 2006. Educational management, English language teacher training, psychology of learning.

Halis Necmi Aksit, Assistant Professor
Ph.D., Educational Science, Middle East Technical University, 1998. Curriculum development, educational administration, teacher education.

Armağan Ateşkan, Instructor
Ph.D., Computer Education and Instructional Technologies, Middle East Technical University, 2008. Science and biology education, environmental issues.

Alipaşa Ayas, Visiting Professor

Reyyan Ayfer, Instructor
M.S., Computer Engineering, Middle East Technical University, 1981. Database management, programming languages, data structures, information ethics and security.

Erdat Çataloğlu, Visiting Associate Professor

Sencer Corlu, Assistant Professor
Ph.D., Curriculum and Instruction, Texas A&M University, 2012. Mathematics education, STEM education, advanced research methods.

Mutlu İslı Ergun, Instructor

İlker Kalender, Assistant Professor
Ph.D., Secondary Science and Mathematics Education, Middle East Technical University, 2011. Computerized adaptive testing procedures, detection of creating/aberrant response patterns through software, educational technology.

Engin Zafer Kıraçbedel, Vocational Specialist
B.S., Computer Technology and Information Bilkent University, 2006. Programming languages, operating systems, computer applications, data structures.

Ceylan Kızılduman Yazıcı, Instructor
Ph.D., Computer Education and Instructional Technology, Middle East Technical University, 2009. Instructional technology and design, development and evaluation, print and web-based learning material production, instructor training, project management and English language teaching.
Seyit Koçberber, Assistant Professor  
Ph.D., Computer Engineering and Information Science, Bilkent University, 1996. Information retrieval, database systems.

Ceylan Köse, Vocational Specialist  
M.S., Software Management, Middle East Technical University, 2010. Programming languages, database applications.

Can Kültür, Instructor (on leave)  
Ph.D., Computer Education and Instructional Technologies, Middle East Technical University, 2009. Software engineering, human computer interaction, instructional technology, distance education, instructional systems design, introduction to programming, multimedia.

Robin Ann Martin, Assistant Professor  
Ph.D., Curriculum and Instruction, Iowa State University, 2003. Educational psychology, curriculum development, instructional design, learning and development.

Julie Ann Mathews-Aydınli, Assistant Professor (on leave)  
Ph.D., McGill University, 2003. Literacy development, culture and identity in second language reading and writing, literature in the language classroom, curriculum development.

Hande İşıl Mengü, Instructor  
Ph.D., English Language Teaching, Hacettepe University, 2005.

John O’Dwyer, Assistant Professor  
Ph.D., Curriculum and Project-Evaluation, University of Surrey, 2005.

Deniz Ortaktepe, Assistant Professor  
Ph.D., Curriculum and Instruction, State University of New York, 2011. Second language socialization, professional development of teachers, social identity in ESL/EFL.

Rasim Özyürek, Assistant Professor  
Ph.D., Turkish Language Teaching, Baku State University, 1998.

Lori Rae Russell-Dağ, Instructor  
M.S., Computer Engineering, Atılım University, 2006. Object oriented programming, database management systems, computer applications.

Elif Şen, Instructor  
Ph.D., English Language Teaching, Middle East Technical University, 2002. English language teacher training, curriculum development, discourse analysis.

Kimberly D. Trimble, Visiting Associate Professor  

Sibel Uğurlubilek, Instructor  

Daryl York, Lecturer (on leave)  
M.S., English Language Teaching, Aston University, 1997. School management, curriculum development, discourse analysis.

PART-TIME ACADEMIC STAFF

Özgür Bayam, B.A., Turkish Language and Literature, Hacettepe University, 1993. Turkish language and literature teaching.

DEPARTMENT OF COMPUTER AND INSTRUCTIONAL TECHNOLOGY TEACHER EDUCATION

S. Koçberber (Chair), A. Ateşkan, R. Ayfer, E. Çataloğlu, İ. Kalender, C. Kızılduman Yazıcı, C. Kültür, L. R. Russell-Dağ, S. Üğurlubilek.


The program for Computer and Instructional Technology Teacher Education is designed to prepare well-qualified K-12 teachers, instructional technologists and computer science professionals to address and support the need for modernization in education through the meaningful and innovative integration of technology in formal and informal learning environments.

The program develops in students' technical skills required in today's modern classrooms and equips students with a strong background in both educational theories and computer science concepts. The program fosters students' development as whole persons through authentic activities, internships and community service projects where they start gaining valuable experience early in the program. During later semesters, as pre-service teachers, they spend one day per week in partner schools where they gain practical experience in up-to-date approaches to teaching.

The courses are a combination of theory and laboratory practice in up to date lab facilities. The curriculum is designed to equip students with strong problem solving abilities, critical thinking abilities and skills for lifelong learning which is achieved through collaborative project work, case studies, problem solving tasks, critiques and demonstrations.

CURRICULUM OF FOUR-YEAR B.A. PROGRAM

FIRST YEAR

Autumn Semester

CTE 111 Introduction to Programming I .......................... 5 / 10
CTE 113 Information Technologies in Education I ................... 4 / 5
CTE 115 Discrete Mathematics ....................................... 3 / 5
ENG 101 English and Composition I .................................. 3 / 6
GE 100 Orientation ..................................................... 1 / 1
TURK 101 Turkish I ...................................................... 2 / 2

Spring Semester

CTE 112 Introduction to Programming II .......................... 5 / 8
CTE 114 Information Technologies in Education II ................. 4 / 4
ENG 102 English and Composition II ............................... 3 / 6
MATH 105 Introduction to Calculus I ............................... 4 / 7
TE 116 Introduction to Education Science .......................... 3 / 4
TURK 102 Turkish II ..................................................... 2 / 2

SECOND YEAR

Autumn Semester

CTE 205 Computer Organization ..................................... 3 / 5
CTE 211 Programming Languages I .................................. 5 / 7
GE 250 Collegiate Activities Program I ............................. - / 1
HIST 200 History of Turkey .......................................... 4 / 8
PHYS 117 Basic Physics: Mechanics ................................. 3 / 6
TE 203 Educational Psychology ...................................... 3 / 5
TE 207 Introduction to Curriculum .................................. 3 / 5
Social Science Elective ................................................ 3 / 6

Spring Semester

CTE 212 Programming Languages II ................................ 4 / 6
CTE 216 Introduction to Web Technologies ........................ 3 / 5
CTE 218 Operating Systems .......................................... 4 / 5
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<th>Course Title</th>
<th>Credits / ECTS Credits</th>
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<tr>
<td>CTE 252</td>
<td>Instructional Design</td>
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<tr>
<td>GE 251</td>
<td>Collegiate Activities Program II</td>
<td>1 / 1</td>
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<td>PHYS 118</td>
<td>Basic Physics II</td>
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<tr>
<td>TE 204</td>
<td>Principles and Methods of Instruction</td>
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**THIRD YEAR**

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<th>Autumn Semester</th>
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<td>Community Service</td>
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<td>CTE 311</td>
<td>Database Management Systems</td>
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<td>CTE 317</td>
<td>Programming for the Internet I</td>
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<td>CTE 321</td>
<td>Human Computer Interaction</td>
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<tr>
<td>CTE 351</td>
<td>Material Design and Development in Education</td>
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<td>TE 318</td>
<td>Turkish Education System and School Management</td>
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<td>CTE 308</td>
<td>Information Ethics and Security</td>
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<td>CTE 316</td>
<td>Network Structures and Communication</td>
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<td>CTE 322</td>
<td>Multimedia Design and Development</td>
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<td>TE 307</td>
<td>Measurement and Evaluation</td>
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<td>TE 310</td>
<td>Computer Teaching Methods I</td>
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<td>TE 312</td>
<td>School Experience I</td>
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<td>TE 314</td>
<td>Classroom Management</td>
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**FOURTH YEAR**

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<td>Summer Training</td>
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<td>CTE 403</td>
<td>Research Methods in Education</td>
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<td>CTE 417</td>
<td>Programming for the Internet II</td>
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<tr>
<td>CTE 421</td>
<td>Project Management and Development I</td>
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<td>TE 402</td>
<td>Guidance</td>
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<td>Teaching Practice in Computer Teaching</td>
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**HCIV ELECTIVE COURSES**

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<td>HCIV 102</td>
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**CTE ELECTIVE COURSES**

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<td>COMD 204</td>
<td>Introduction to Communication Studies II</td>
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<td>COMD 205</td>
<td>Basic Photography</td>
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<td>COMD 206</td>
<td>Introduction to Digital Cinematography</td>
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<td>COMD 207</td>
<td>Film History</td>
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<td>COMD 210</td>
<td>Introduction to Screenwriting</td>
<td>3 / 6</td>
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<td>COMD 305</td>
<td>Digital Video Production I</td>
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<td>COMD 306</td>
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<td>COMD 310</td>
<td>Screenwriting</td>
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<td>COMD 321</td>
<td>Analysis of Moving Image</td>
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<tr>
<td>COMD 322</td>
<td>Film Theory and Criticism</td>
<td>3 / 6</td>
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<td>COMD 331</td>
<td>News Reporting and Writing</td>
<td>3 / 6</td>
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<td>COMD 333</td>
<td>News and Society</td>
<td>3 / 6</td>
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<td>COMD 341</td>
<td>Media and Society</td>
<td>3 / 6</td>
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<tr>
<td>COMD 342</td>
<td>Popular Culture</td>
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<td>COMD 346</td>
<td>Introduction to Advertising</td>
<td>3 / 6</td>
</tr>
<tr>
<td>COMD 347</td>
<td>Media Industries</td>
<td>3 / 6</td>
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PROJECT ELECTIVE COURSES

CPE 422 Project Management and Development II ................................. 4 / 8

COURSE DESCRIPTIONS

CTE 111 Introduction to Programming I
An introduction to programming using problem solving strategies. Theoretical principles and phases of problem solving. Basic properties of algorithms. Top down design. Structured programming techniques will be introduced using the C language. Topics include data representation, simple arithmetic expressions, basic problem solving concepts: selection and repetition, arrays, functions and modular programming, program testing and debugging. Credit units: 5 ECTS Credit Units: 10.

CTE 112 Introduction to Programming II
**CTE 113** Information Technologies in Education I  
An introduction to computers and computer applications. This course aims to familiarize the students with the basic terminology and skills needed to use a computer efficiently. Course topics include computer structure and terminology, the Internet, operating systems (Unix, DOS, and Windows). Applications covered include word processing, presentation, spreadsheet and databases applications. Students work with widely used application packages, MS Word, PowerPoint, Excel and Access. **Credit units:** 4 ECTS **Credit Units:** 5.

**CTE 114** Information Technologies in Education II  
This course is designed to introduce students to the fundamentals of the usage of the internet in education. Students will gain knowledge of the requirements of successful internet applications in different aspects of education, and become familiar with existing educational internet applications. The course includes an introduction to relevant educational topics. Following this, topics include internet applications used in education, such as blogs, forums and wikis. Students have the opportunity to apply the technologies in an educational context. **Credit units:** 4 ECTS **Credit Units:** 4. **Spr (L. R. Russell-Dag)**

**CTE 115** Discrete Mathematics  
The aim of this course is to develop logical reasoning ability of students. Topics include: elements of logic, set theory and operations on sets; DeMorgan’s rules, finite and infinite. Relations and functions. Logic circuits. Induction and recursion, pigeonhole principle. Permutations, combinations and probability of discrete events. Graphs and their representation in computing. **Credit units:** 3 ECTS **Credit Units:** 5.

**CTE 119** Information and Communication Technology  
This course aims to provide students with the ICT skills required for success in their academic and professional lives. The course covers basic concepts of information technology, Internet and web concepts, and the use of word processing, spreadsheet, and presentation software. At the end of the course, students should be able to effectively search for information using Internet, library and online database search tools, prepare professional and well formatted documents, prepare well-organized, professional presentations using presentation software, use spreadsheet tools to create charts and prepare spreadsheets that use basic formulas and functions. The course will include project-based assignments to give students hands on experience with various applications. **Credit units:** 3 ECTS **Credit Units:** 6. **Aut (Staff) Spr (Staff)**

**CTE 205** Computer Organization  
Introduction to digital computers. Logic gates. Boolean algebra. Number systems, complements, signed numbers. Von Neumann architecture. Bus structure and interconnection of components. Memory organization. CPU organization, ALU. Control Unit organization. Input/Output organization. **Credit units:** 3 ECTS **Credit Units:** 5. **Spr (S. Ugurlubilek)**

**CTE 211** Programming Languages I  
This course is designed as a first introduction to object-oriented design and programming concepts. Object-oriented concepts are taught using the Java programming language. The course teaches the fundamental concepts of OOP including classes and objects, encapsulation, inheritance, polymorphism, interfaces and abstract classes. Important Java packages, classes, file and database access and GUI design are also included. **Credit units:** 5 ECTS **Credit Units:** 7. **Prerequisite:** CTE 112.

**CTE 212** Programming Languages II  
The concept of object-oriented and event-driven programming. Designing effective GUIs using Visual Basic. Database access, the use of object linking and embedding. **Credit units:** 4 ECTS **Credit Units:** 6. **Prerequisite:** CTE 112.

**CTE 216** Introduction to Web Technologies  
The aim of this course is to provide students with skills necessary to construct well-designed web sites. The course provides an introduction to basic web design and implementation topics to create professional looking web pages. Topics include an introduction to HTTP and CGI web protocols, HTML, XHTML, cascading style sheets, coding standards and techniques accepted by popular Web browser programs, template development, principles of web page design and the implementation of web pages using web authoring tools. **Credit units:** 3 ECTS **Credit Units:** 5. **Aut (S. Ugurlubilek)**

**CTE 218** Operating Systems  
The course is designed to provide the fundamentals of operating systems and an introduction to the internal operations of modern operating systems (OS). Topics include: history and basic OS concepts, process management, memory management, file systems, input/output management, operating system security and protection and support for distributed systems. Also covered is the UNIX environment and shell scripts. Lab sessions: Unix/Linux Administration. **Credit units:** 4 ECTS **Credit Units:** 5. **Prerequisite:** CTE 205. **Spr (S. Ugurlubilek)**
CTE 252  Instructional Design
Principles and models of instructional design. Issues, concepts, and philosophical considerations behind uses of technology in education, with particular emphasis on teacher training resources. Analysis of content, learner, and resources. Selecting instructional objectives and sequencing instruction.  
Credit units: 3 ECTS Credit Units: 4.

CTE 308  Information Ethics and Security
Introduction to ethics and security in computer science. Topics include historical milestones; information ethics: privacy and anonymity, computer crime and malware, professional responsibility, intellectual property. Legal and licensing issues, licensing models, usability and authentication, security auditing.  
Credit units: 3 ECTS Credit Units: 4.  
Aut (R. Ayfer)

CTE 309  Community Service
This course aims to expose students to volunteer services in order to increase their awareness of the importance of volunteer work, and to gain hands-on volunteer experience. As part of the course, students will be expected to research and assess the needs of the community and, in doing so, participate in projects to gather information, develop community contacts, view ideas from different perspectives, and formulate solutions. To fulfill course requirements, students will be expected to participate in at least one volunteer project in the community. In addition, students will be expected to attend conferences, seminars, panels, participate in organizing activities, and work as members of related students clubs.  
Credit units: 3 ECTS Credit Units: 4.  
Aut (S. Uğurlubilek)

CTE 311  Database Management Systems
DBMS concepts, definitions, specifications and objectives. Topics include relational data model, SQL as a data manipulation language. Data base design considerations (ER Diagrams and normalization), concurrency control mechanisms, crash recovery concepts and an overview of current trends. Lab sessions include hands on experience using SQL, creating applications with a widely used database package.  
Credit units: 4 ECTS Credit Units: 5.  
Prerequisite: CTE 218.

CTE 316  Network Structures and Communication
The course aims to provide information about the fundamentals of data communications and contemporary computer network principles and applications. Topics include general information about networking terminology: ISO 7 layers, physical connections, switching and dedicated connection, packet switching vs. session switching, topologies, transmission protocols, routing, peer networks vs. client-server networks, services. Lab sessions: Unix/Linux networking.  
Credit units: 3 ECTS Credit Units: 4.  
Prerequisite: CTE 218.  
Aut (S. Uğurlubilek)

CTE 317  Programming for the Internet I
The aim of this course is to provide students with a background in the fundamentals of web-based computing. The course focuses on creating interactive web pages through client-side scripting technologies. Includes a discussion of difference between client-side and server-side technologies. DHTML and Java-scripting techniques will be introduced for use in web based graphical user interface design. Also included are new technologies such as web services, AJAX, XML, XSLT, and RSS.  
Credit units: 3 ECTS Credit Units: 4.  
Prerequisite: BIM 242 or CTE 216.  
Aut (S. Uğurlubilek)

CTE 321  Human Computer Interaction
This course focuses on human computer interaction (HCI) design processes and covers the underlying design principles, user interface design methodology, and the user-interface technologies used to implement HCI. The importance of good interfaces will be discussed and throughout the semester concepts and methods will be introduced. Students will complete small project to gain an understanding of HCI methods and concepts.  
Credit units: 3 ECTS Credit Units: 4.  
Prerequisite: (CTE 216 and CTE 211) or (CTE 216 and CTE 212).  
Aut (L. R. Russell-Dağ)

CTE 322  Multimedia Design and Development
Basic principles of design and development of interactive instructional computer applications. Students will complete several projects utilizing a representative multimedia authoring tool and will create a prototype instructional software. Analysis of teaching-learning process using multi-media techniques in education.  
Credit units: 3 ECTS Credit Units: 4.

CTE 351  Material Design and Development in Education
Students will focus on using and integrating technology into teaching-learning processes: visual teaching aids, technology integration issues and interactive materials will be covered from an instructional point of view. The production of such materials and the evaluation of these materials when used in teaching are expected from the student teachers.  
Credit units: 3 ECTS Credit Units: 4.  
Aut (C. Kızıldağ Yazarıcı)  
Spr (C. Kızıldağ Yazarıcı)

CTE 400  Summer Training
This course aims to provide students with the opportunity to take part in a professional work environment. This experience will allow for students to obtain a general view of the work environment, and to apply the knowledge and experience gained during their courses to real life problems. As well, students will be exposed to educational topics in technology, both from the technology development and teaching perspective, and may participate in the development of educational tools. Upon completion of the training students will then be able to identify learning
objectives in order enable them to effectively utilize their remaining education. This thirty day training period is undertaken during the summer break following the successful completion of the third year. Credit units: None. ECTS Credit Units: 9. Prerequisite: CTE 211 or CTE 212. Aut (S. Uğurlubilek)

CTE 403 Research Methods in Education
This course covers the fundamentals of educational research such as writing research questions, sampling, validity and reliability as well as research methods. Students will have hands on experience in research methods, basic statistics and writing a research proposal. Credit units: 3 ECTS Credit Units: 6. Aut (I. Kalender)

CTE 410 Community Service
This course aims to expose students to volunteer services in order to increase their awareness of the importance of volunteer work, and to gain hands-on volunteer experience. As part of the course, students will be expected to research and assess the needs of the community and, in doing so, participate in projects to gather information, develop community contacts, view ideas from different perspectives, and formulate solutions. To fulfill course requirements, students will be expected to participate in at least one volunteer project in the community. In addition, students will be expected to attend conferences, seminars, panels, participate in organizing activities, and work as members of related students clubs. Credit units: 2 ECTS Credit Units: 4. Aut (S. Uğurlubilek)

CTE 417 Programming for the Internet II
The aim of this course is to provide students with an understanding of the fundamentals of web-based computing, web clients and hyper text servers, the CGI standard and CGI programming techniques. Through server-side scripting languages such as PHP students will develop web-applications using accepted techniques and tools and interfacing to popular RDBMS servers. Credit units: 3 ECTS Credit Units: 4, Prerequisite: CTE 111 and CTE 216. Aut (L. R. Russell-Dağ)

CTE 421 Project Management and Development I
The course presents a comprehensive introduction to the systems design skills in information engineering that students, as future users or systems analysts, will need to work in a highly competitive computer-integrated business environment. It provides the students with the skills to identify business problems which may be solved by technology-based solutions, and determine requirements for information systems solutions. The course includes Systems Development Life Cycle (SDLC), Systems Analysis and Design Techniques (DFDs, Logical Modeling, E-R Diagrams, Object Oriented Modeling), review of Unified Modeling Language (UML), Project Management tools (CPM, GANTT, PERT) and evaluation of engineering standards such as MIL-STD-498, IEEE/EIA 12207 and ISO 9000-2000. Credit units: 3 ECTS Credit Units: 6.

CTE 422 Project Management and Development II
Students will be working as small teams under close supervision of a faculty member to produce a software system for educational purposes, or develop an "instructional system design" as a solution to an education related problem. Knowledge, structures, principles and methods from computer and/or education related courses from previous semesters will be used during the specification, analysis, design, development implementation, and evaluation phases of the project. Students' projects will be reviewed by a faculty committee. Credit units: 4 ECTS Credit Units: 8, Prerequisite: CTE 421. Aut (L. R. Russell-Dağ) Spr (L. R. Russell-Dağ)

CTE 502 Foundations of Distance Education
This course covers the historical development of distance education, uses of distance education and technologies used within distance education. Students will be involved in instructional design to build a leaving architecture for a purely online course as their final project. Credit units: 3 ECTS Credit Units: 5.

CTE 504 Material Design and Development
Students will focus on using and integrating technology into teaching-learning processes: visual teaching aids, technology integration issues and interactive materials will be covered from an instructional point of view. The production of such materials and the evaluation of these materials when used in teaching are expected from the student teachers. Credit units: 3 ECTS Credit Units: 5.
The Curriculum and Instruction programs offered in the Graduate School of Education include in-service M.A. and Ph.D. programs aimed at practising teachers. By providing higher degrees in Curriculum and Instruction, we are able to include in our in-service programs educators and teachers from all subject areas at all levels of educational institutions, from primary school to university level.

We also offer a pre-service Master's Curriculum and Instruction program combined with a Teaching Certificate (CITE) for graduates who wish to train as teachers in high schools.

Curriculum and Instruction is regarded as one of the major areas of education. It embraces all aspects of the teaching and learning which occurs in schools, both in the formal curriculum and the wider aspects of extra-curricular activities. Curriculum and Instruction is concerned with the foundations of school practice and improvement. It includes curriculum planning and development, implementation and evaluation, methods of instruction and learning, instructional leadership, international perspectives on curricula, managing the learning environment, and assessing student learning and progress. Curriculum issues raised during the study lend themselves to critical enquiry, discussion, interpretation, and reflection.

Master of Arts in Curriculum and Instruction

The program is designed for school teachers with at least two years teaching experience. They may be in positions of middle management, or intending shortly to move to such positions, and thus become educational leaders. It will enable participants to develop the knowledge and skills to improve their own practice and assist in the professional development of colleagues within their area. Those seeking positions of responsibility in a school will be able to offer an extended informed theoretical and practical background of relevance to their duties in such positions from their masters studies.

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<td>CI 606 Qualitative Research Methods</td>
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<td>CI 607 School and Society</td>
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Master of Arts in Curriculum and Instruction with Teaching Certificate

The two-year program in teacher education at Bilkent University Graduate School of Education awards a Masters degree in Curriculum and Instruction, together with a Teaching Certificate which qualifies graduates to teach in high schools. The courses to be followed include the formation courses laid down by the Higher Education Council (YOK) for qualified teacher status, further courses in education, and a thesis. Strong emphasis is given to international dimensions, including the International Baccalaureate and IGCSE curricula. Graduates also receive an IB Teacher Award, following recognition of the program by the International Baccalaureate Organisation.

Currently, the Graduate School of Education accepts students in four subject areas: Turkish Language and Literature, English, Biology and Mathematics.

A strong feature of the program is students’ experience in schools. Each semester students have an internship in leading high schools in Ankara, Istanbul and Izmir, observing classes and teaching. In addition they have a five-week internship at Cambridge University and schools in England. The teacher education courses of the program cover the required educational knowledge and skills. Subject-area and liberal arts courses broaden and extend students’ understanding of their subject area and educational philosophy.

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<td>CI 512 Written Academic Discourse I</td>
<td>3 / 7</td>
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<tr>
<td>CI 513 Statistics</td>
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<tr>
<td>CI 514 Curriculum Development and Evaluation</td>
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<tr>
<td>CI 515 Trends and Issues in Instruction and Assessment</td>
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<td>CI 522 Written Academic Discourse II</td>
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<tr>
<td>CI 599 Master’s Thesis</td>
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<tr>
<td>GE 590 Academic Practices</td>
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<tr>
<td>PHIL 521 History of Political and Educational Philosophy</td>
<td>3 / 7</td>
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<tr>
<td>Restricted Elective</td>
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RESTRICTED ELECTIVES

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<thead>
<tr>
<th>Courses</th>
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<tbody>
<tr>
<td>BTE 501 Biology Curriculum Review I</td>
<td>3 / 7</td>
</tr>
<tr>
<td>ETE 503 English Curriculum Review</td>
<td>3 / 7</td>
</tr>
<tr>
<td>MTE 501 Mathematics Curriculum Review I</td>
<td>3 / 7</td>
</tr>
<tr>
<td>TE 529 Turkish Language and Literature Curriculum Review</td>
<td>3 / 7</td>
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</tbody>
</table>

BIOLOGY TEACHING CERTIFICATE

FIRST YEAR

<table>
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<tr>
<th>Courses</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>Autumn Semester</td>
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</tr>
<tr>
<td>TE 509 Developmental Psychology</td>
<td>2 / 4</td>
</tr>
<tr>
<td>TE 510 Curriculum and Instruction</td>
<td>2 / 4</td>
</tr>
<tr>
<td>TE 519 Classroom Management</td>
<td>2 / 4</td>
</tr>
<tr>
<td>TE 528 Introduction to Educational Science</td>
<td>2 / 5</td>
</tr>
<tr>
<td>TE 532 Biology Teaching Methods I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>TE 552 School Experience I in Biology</td>
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<tr>
<td>Spring Semester</td>
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<tr>
<td>MBG 452 Practical Biology</td>
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<tr>
<td>TE 518 Measurement and Evaluation</td>
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### FACULTY OF EDUCATION

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<td>Instructional Technology and Material Design</td>
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<td>TE 525</td>
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<tr>
<td>TE 542</td>
<td>Biology Teaching Methods II</td>
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<td>TE 562</td>
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#### AUTUMN SEMESTER

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<td>TE 572</td>
<td>Teaching Practice in Biology</td>
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#### SPRING SEMESTER

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<tbody>
<tr>
<td>TE 524</td>
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#### ENGLISH TEACHING CERTIFICATE

##### FIRST YEAR

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<td>Introduction to Educational Science</td>
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<td>TE 531</td>
<td>English Teaching Methods I</td>
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<td>School Experience I in English</td>
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#### SPRING SEMESTER

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<td>TE 518</td>
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<td>TE 520</td>
<td>Instructional Technology and Material Design</td>
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<td>TE 525</td>
<td>Learning and Teaching: Theory and Approach</td>
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<td>English Teaching Methods II</td>
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#### SPRING SEMESTER

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#### MATHEMATICS TEACHING CERTIFICATE

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<td>Classroom Management</td>
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<td>TE 528</td>
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<tr>
<td>TE 535</td>
<td>Mathematics Teaching Methods I</td>
<td>3 / 6</td>
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<tr>
<td>TE 555</td>
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<td>Measurement and Evaluation</td>
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<td>TE 520</td>
<td>Instructional Technology and Material Design</td>
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<tr>
<td>TE 525</td>
<td>Learning and Teaching: Theory and Approach</td>
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<td>TE 545</td>
<td>Mathematics Teaching Methods II</td>
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### SECOND YEAR

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<td>Teaching Practice in Mathematics 5 / 8</td>
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<td>TE 524</td>
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### TURKISH LANGUAGE AND LITERATURE TEACHING CERTIFICATE

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<td>Classroom Management 2 / 4</td>
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<td>TE 528</td>
<td>Introduction to Educational Science 2 / 5</td>
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<td>TE 533</td>
<td>Turkish Language Teaching Methods 3 / 6</td>
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<td>TE 553</td>
<td>School Experience I in Turkish Language and Literature 3 / 6</td>
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<td>TE 520</td>
<td>Instructional Technology and Material Design 3 / 6</td>
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<td>TE 525</td>
<td>Learning and Teaching: Theory and Approach 2 / 4</td>
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<tr>
<td>TE 527</td>
<td>Literary Text Review in Teaching Literature 3 / 6</td>
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<td>TE 543</td>
<td>Turkish Literature Teaching Methods 3 / 6</td>
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#### SECOND YEAR

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<tr>
<td>TE 524</td>
<td>Guidance 2 / 6</td>
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</table>

### Doctor of Philosophy in Curriculum and Instruction

The Ph.D. in Curriculum and Instruction is for professional practitioners in education, including school teachers, who wish to continue their education while still working as educators. It is designed for practising educators with at least four years of teaching experience.

The program enables participants to develop knowledge and skills both to extend their own practice and also assist in the professional development of colleagues within their area. It expects participants to contribute to the advancement of knowledge and methods of enquiry through independent and original research, allowing them to make an effective and up-to-date contribution to quality education within the education sectors in Turkey.

Satisfactory completion of a scientific preparatory program is required before starting the Ph.D. program.

### CURRICULUM

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>CI 601</td>
<td>Instruction: Perspectives and Practice 3 / 8</td>
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<tr>
<td>CI 602</td>
<td>Curriculum: Perspectives and Practice 3 / 8</td>
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<td>CI 604</td>
<td>Educational Statistics 3 / 8</td>
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<tr>
<td>CI 690</td>
<td>Dissertation Seminar - / 40</td>
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<tr>
<td>CI 699</td>
<td>Ph.D. Dissertation - / 130</td>
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CI 502 Managing the Classroom ........................................... 3 / 7
CI 503 Educational Leadership and School Development .............. 3 / 7
CI 506 IB and IGCSE Curricula ............................................. 3 / 7
CI 508 Assessing Student Learning and Progress ...................... 3 / 7
CI 511 Curriculum in an International Context ....................... 3 / 7
CI 514 Curriculum Development and Evaluation ...................... 3 / 7
CI 515 Trends and Issues in Instruction and Assessment ............. 3 / 7
CI 516 Child and Adolescent Psychology ............................... 3 / 7
CI 517 Learning Theories and Practice ................................ 3 / 7
CI 532 Written Academic Discourse .................................... 3 / 7
CI 603 Practicum in Curriculum Development x Evaluation ........ 3 / 7
CI 606 Qualitative Research Methods ................................... 3 / 7
CI 607 School and Society .................................................. 3 / 7
CI 608 Current Trends and Issues in Educational Technology ..... 3 / 7
CI 611 Issues and Trends in Education .................................. 3 / 7

COURSE DESCRIPTIONS

TE 116 Introduction to Education Science
Basic concepts in education. Relationship of education to other disciplines (the philosophical, social, legal, psychological, economic and political foundations of education). History of educational science. Major trends in educational science in the 21st century; Research methods in educational science. Structure and characteristics of the Turkish Education System. Role of teachers in education. Characteristics of the teaching profession. Developments and practices in teacher education. Credit units: 3 ECTS Credit Units: 4. Aut (A. Ayas) Spr (E. Çataloğlu)

TE 203 Educational Psychology
The relationship between education and psychology, definition and functions of educational psychology. Basic concepts of learning and development. Physical, mental, emotional, social and ethical development. Theories of learning, a consideration of learning theories in relation to the teaching process. Effective learning. Factors affecting learning: motivation, individual characteristics, group dynamics; their effects on in-class teaching. Credit units: 3 ECTS Credit Units: 5. Aut (A. Michou)

TE 204 Principles and Methods of Instruction
The basic concepts of instruction. The principles of teaching and learning. The importance and benefits of instructional planning. The planning of instruction (yearly plans containing units, daily plans and sample activities). Teaching and learning strategies. Instructional methods and techniques, and their relation to practice. Instructional materials. The teacher's roles and responsibilities in improving the quality of instruction. Teacher competencies. Credit units: 3 ECTS Credit Units: 5. Spr (A. Ayas)

TE 207 Introduction to Curriculum
This course will introduce foundations of curriculum, and give a general overview of approaches to curriculum development, design, implementation and evaluation. Credit units: 3 ECTS Credit Units: 5. Spr (İ. Kalender)

TE 307 Measurement and Evaluation
Role and significance of measurement and evaluation in education, fundamental concepts of measurement and evaluation, desirable qualities of measurement tools (reliability, validity, practicality), measurement tools used in education and their characteristics. Traditional tools (written examinations, short-answer tests, true-false tests, multiple choice tests, matching, oral examinations, assignments). Tools which assess multiple facets of student performance (observation, interview, performance-based assessment, portfolios, research papers, research projects, peer assessment, self-assessment, attitude scales). Use of basic statistical tools to process the results of assessment, evaluating learner outcomes, grading, development of subject area specific assessment tools. Credit units: 3 ECTS Credit Units: 5. Spr (İ. Kalender)

TE 310 Computer Teaching Methods I
The course explores, with practical examples, and with reference to current research, the teaching of computer at 6-12 level. It considers all relevant teaching methods, and their application to a range of teaching/learning contexts. Students will engage in extensive reflection on the methods and applications considered. Credit units: 3 ECTS Credit Units: 6. Spr (A. Ateşkan)

TE 312 School Experience I
One day a week in a school under the daily supervision of an experienced school teacher who acts as mentor. Students use structured activities which involve lesson observation and interviews to understand the organization
and daily work of the school. They analyse particular teaching skills, and consider whole school issues. There is a one-hour seminar which consolidates the work done in school. Credit units: 3 ECTS Credit Units: 6. Aut (E. Çataloğlu) Spr (A. Ateşkan)

TE 314 Classroom Management
Classroom organization for effective learning. Development and implementation of effective systems for classroom management to maximize learning. Social and psychological factors which determine or affect students’ attitudes, motivation and behavior in schools. Group interactions. Behavioral problems. Techniques for meeting the needs of individual learners. The analysis of events and critical incidents in the classroom. Credit units: 2 ECTS Credit Units: 3. Spr (M. K. Sands)

TE 318 Turkish Education System and School Management
Aims and basic principles of the Turkish education system. Legal aspects of education. Structure and operation of the Turkish education system. Theories and processes of management. School organization and management. School administration related to staff, students, teaching and management. Community involvement in schools. Credit units: 2 ECTS Credit Units: 3. Aut (Ç. Kalender)

TE 402 Guidance
Fundamental concepts, student support services, the role of guidance and counseling in student support services. Principles of guidance, principles and development of guidance, types of guidance and counseling, services, techniques, organization and personnel. Recent developments in the field. Techniques for getting to know students, counselor-teacher cooperation, guidance duties of the teacher. Credit units: 3 ECTS Credit Units: 5. Aut (A. Michou) Spr (A. Michou)

TE 405 Computer Teaching Methods II
Continuation of Computer Teaching Methods I. Further understanding of the teaching and learning methods with may be used with different groups of school students, and of the context in which learning is set. Further practical applications including microteaching (Preparing lesson plans and teaching materials on selected topics from school curricula, teaching in the classroom environment, evaluating teaching according to the computer teacher competencies). Credit units: 3 ECTS Credit Units: 6. Aut (E. Çataloğlu)

TE 406 Teaching Practice in Computer Teaching
Students spend one or two days a week in a school, under the supervision of their school mentor and faculty supervisor. They work with teachers, they attend meetings and extra-curricular activities, they observe lessons, and teach full lessons in the department. There is a two-hour seminar which both assist students in the planning and evaluation of their school work and allows them to share experience. Credit units: 5 ECTS Credit Units: 8. Spr (E. Çataloğlu)

TE 407 School Experience II
One day a week in a school under the daily supervision of an experienced school teacher who acts as mentor. Students use structured activities which involve lesson observation and interviews to understand the organization and daily work of the school. They analyse particular teaching skills, and consider whole school issues. There is a one-hour seminar which consolidates the work done in school. Credit units: 3 ECTS Credit Units: 6.

TE 501 Introduction to Teaching Profession
Characteristics and principles of the teaching profession. The school as an organization. Management, leadership and decision-making in schools. School effectiveness and school improvement. Sociological, psychological and philosophical foundations of educational practice. Classroom and school environments. The curriculum. Learning theories. Domains of learning. The Turkish educational system, its history and current policies. Credit units: 3 ECTS Credit Units: 5. Aut (A. Ayas)

TE 502 Development and Learning
Physical, cognitive, psychological and social development of the individual. Learning theories and development. Application of learning theories to educational issues. Analysis of educational research with reference to the classroom and teaching/learning activities, the design of effective instruction. Credit units: 3 ECTS Credit Units: 5. Aut (Staff)

TE 503 Classroom Management
Classroom organization for effective learning. Development and implementation of effective systems for classroom management to maximize learning. Social and psychological factors which determine or affect students’ attitudes, motivation and behavior in schools. Group interactions. Behavioral problems. Techniques for meeting the needs of individual learners. The analysis of events and critical incidents in the classroom. Credit units: 3 ECTS Credit Units: 7.

TE 505 Guidance
General principles of guidance and counseling in schools. Nature and objectives of guidance services, and their role in education. Procedures to be observed. Special education: the special needs of individual school students, their assessment, and the education of students with such needs. Credit units: 3 ECTS Credit Units: 6. Aut (A. Michou) Spr (A. Michou)
TE 506 Planning and Assessment in Teaching
Concepts, processes and principles of curriculum planning and program development. Production of annual, unit and daily plans. Teaching methods and strategies, and the selection of appropriate teaching materials. Introduction to the field of assessment and testing, theoretical background, and practice in test and item construction. Functions and uses of assessment. Credit units: 3 ECTS Credit Units: 4. Spr (I. Kalender)

TE 509 Developmental Psychology

TE 510 Curriculum and Instruction
Basic concepts. Theoretical foundations of curriculum development in education (historical, philosophical, psychological and social foundations). Curriculum design in education and models. The process of curriculum development (planning, preparing a proposal, piloting and evaluating, ensuring continuity) Instructional principles. Importance and benefits of studying regularly and methodically. Planning instruction (unit by unit yearly plans, sample daily plans and activities). Instructional methods and techniques, and their delivery. New trends in education and instruction (for example, effective learning, multiple intelligences, constructivism, lifelong learning, creative thinking). Duties and responsibilities of teachers in improving the quality of teaching. Credit units: 2 ECTS Credit Units: 4. Aut (R. A. Martin)

TE 518 Measurement and Evaluation
Role and significance of measurement and evaluation in education, fundamental concepts of measurement and evaluation, desirable qualities of measurement tools (reliability, validity, practicality), measurement tools used in education and their characteristics. Traditional tools (written examinations, short-answer tests, true-false tests, multiple choice tests, matching, oral examinations, assignments). Tools which assess multiple facets of student performance (observation, interview, performance-based assessment, portfolios, research papers, research projects, peer assessment, self-assessment, attitude scales). Use of basic statistical tools to process the results of assessment, evaluating learner outcomes, grading, development of subject area specific assessment tools. Credit units: 2 ECTS Credit Units: 4. Spr (A. Ayas)

TE 519 Classroom Management
Fundamental concepts of classroom management, classroom communication and interactions. Definition of classroom management, various aspects of classroom management other than discipline. External and internal factors affecting the classroom climate. Models of classroom management, development and implementation of classroom rules. The physical arrangement of the classroom. Managing undesirable behavior, time management, class organization, developing a class environment conducive to learning (cases and suggestions). Credit units: 2 ECTS Credit Units: 4. Spr (A. Ateşkan)

TE 520 Instructional Technology and Material Design
Concepts of instructional technology, characteristics of various types of instructional technology. Role and use of instructional technology in teaching, identification of technology needs in the classroom/school. Appropriate planning and management of the use of technology. Using technology to develop 2-D and 3-D materials, developing teaching tools (worksheets, activities, OHP transparencies, slides, visual media tools such as DVD, VCD and computer based tools). Analyzing educational software, evaluating teaching tools of varying quality, internet and distance education, principles of visual design, research pertaining to the effectiveness of teaching materials. The state of instructional technology for teaching in Turkey and the wider world. Credit units: 3 ECTS Credit Units: 6. Spr (A. Ateşkan)

TE 524 Guidance
Fundamental concepts, student support services, the role of guidance and counseling in student support services. Principles of guidance, principles and development of guidance, types of guidance and counseling, services, techniques, organization and personnel. Recent developments in the field. Techniques for getting to know students, counselor-teacher cooperation, guidance duties of the teacher. Credit units: 2 ECTS Credit Units: 4. Spr (A. Michou)

TE 527 Literary Text Review in Teaching Literature
The course aims to enhance perception and interpretation skills in relation to modern theories of literature and criticism in literary text review. Textual analysis will be carried out based on theories focusing on author-text-reader. This is intended to improve critical thinking and the skills for using it in the teaching of literary texts. Methods for utilizing theories of criticism in literature teaching will be related to the Ministry of Education curriculum as well as explored and developed in the context of lifelong learning and the holistic education approach of the International Baccalaureate curriculum. Credit units: 3 ECTS Credit Units: 6. Spr (Ö. Bayam)

TE 528 Introduction to Educational Science
Basic concepts in education. Relationship of education to other disciplines (the philosophical, social, legal, psychological, economic and political foundations of education). History of educational science. Major trends in educational science in the 21st century; Research methods in educational science. Structure and characteristics
of the Turkish Education System. Role of teachers in education. Characteristics of the teaching profession. Developments and practices in teacher education. Credit units: 2 ECTS Credit Units: 5. Aut (E. Çataloğlu)

**TE 529 Turkish Language and Literature Curriculum Review**
This course provides students with knowledge and experience to assist them to become effective Turkish Language and Literature (TLL) teachers. The major areas of TLL taught in school will be reviewed in detail and related to high school curriculum and demands made on high school teachers and students. The skills covered include knowledge of the appropriate level of subject area content and relevancy, together with a working knowledge of school TLL text books, and the application of these skills in the classroom. National, IB and IGCSE curricula will be discussed. Credit units: 3 ECTS Credit Units: 7. Aut (Ö. Bayam)

**TE 531 English Teaching Methods I**
The course explores, with practical examples, and with reference to current research, the teaching of English at high school level. It considers all relevant teaching methods, and their application to a range of teaching/learning contexts. Students will engage in extensive reflection on the methods and applications considered. Credit units: 3 ECTS Credit Units: 6. Aut (H. N. Akpit)

**TE 532 Biology Teaching Methods I**
The course explores, with practical examples, and with reference to current research, the teaching of biology at high school level. It considers all relevant teaching methods, and their application to a range of teaching/learning contexts. Students will engage in extensive reflection on the methods and applications considered. Credit units: 3 ECTS Credit Units: 6. Aut (A. Ateşkan)

**TE 533 Turkish Language Teaching Methods**
The course explores, with practical examples, and with reference to current research, the teaching of Turkish language at high school level. It considers all relevant teaching methods, and their application to a range of teaching/learning contexts. Students will engage in extensive reflection on the methods and applications considered. Credit units: 3 ECTS Credit Units: 6. Ateşkan (R. Ozyürek)

**TE 535 Mathematics Teaching Methods I**
The course explores, with practical examples, and with reference to current research, the teaching of mathematics at high school level. It considers all relevant teaching methods, and their application to a range of teaching/learning contexts. Students will engage in extensive reflection on the methods and applications considered. Credit units: 3 ECTS Credit Units: 6. Ateşkan (S. Çorlu)

**TE 536 Computer Teaching Methods I**
The course explores, with practical examples, and with reference to current research, the teaching of computer at 6-12 level. It considers all relevant teaching methods, and their application to a range of teaching/learning contexts. Students will engage in extensive reflection on the methods and applications considered. Credit units: 3 ECTS Credit Units: 6. Ateşkan (A. Ateşkan)

**TE 541 English Teaching Methods II**
This course is a continuation of TE 531. It continues the developmental work of TE 531 in the teaching of English. Students gain further understanding of the teaching and learning methods which may be used with different groups of students, and of the context in which learning is set. There will be further practical applications and classroom experience. Credit units: 3 ECTS Credit Units: 6. Prerequisite: TE 531. Ateşkan (S. Çorlu)

**TE 542 Biology Teaching Methods II**
This course is a continuation of TE 532. It continues the developmental work of TE 532 in the teaching of biology. Students gain further understanding of the teaching and learning methods which may be used with different groups of students, and of the context in which learning is set. There will be further practical applications and classroom experience. Credit units: 3 ECTS Credit Units: 6. Ateşkan (J. F. Lane)

**TE 543 Turkish Literature Teaching Methods**
This course is a continuation of TE 533. It continues the developmental work of TE 533 in the teaching of Turkish language and literature. Students gain further understanding of the teaching and learning methods which may be used with different groups of students, and of the context in which learning is set. There will be further practical applications and classroom experience. Credit units: 3 ECTS Credit Units: 6. Prerequisite: TE 533. Ateşkan (N. Çalışkan)

**TE 544 Mathematics Teaching Methods II**
This course is a continuation of TE 535. It continues the developmental work of TE 535 in the teaching of mathematics. Students gain further understanding of the teaching and learning methods which may be used with different groups of students, and of the context in which learning is set. There will be further practical applications and classroom experience. Credit units: 3 ECTS Credit Units: 6. Prerequisite: TE 535. Ateşkan (U. E. Okbay)
TE 546  Computer Teaching Methods II
Continuation of Computer Teaching Methods I. Further understanding of the teaching and learning methods with may be used with different groups of school students, and of the context in which learning is set. Further practical applications including microteaching (Preparing lesson plans and teaching materials on selected topics from school curricula, teaching in the classroom environment, evaluating teaching according to the computer teacher competencies). Credit units: 3 ECTS Credit Units: 6.

TE 551  School Experience I in English
One day a week in a high school under the daily supervision of an experienced school teacher who acts as mentor. Students use structured activities which involve lesson observation and interviews to understand the organization and daily work of the school. They analyze particular teaching skills, and consider whole school issues. There is a one-hour seminar which consolidates the work done in school. Credit units: 3 ECTS Credit Units: 6. Aut (M. K. Sands)

TE 552  School Experience I in Biology
One day a week in a high school under the daily supervision of an experienced school teacher who acts as mentor. Students use structured activities which involve lesson observation and interviews to understand the organization and daily work of the school. They analyze particular teaching skills, and consider whole school issues. There is a one-hour seminar which consolidates the work done in school. Credit units: 3 ECTS Credit Units: 6. Aut (J. F. Lane)

TE 553  School Experience I in Turkish Language and Literature
One day a week in a high school under the daily supervision of an experienced school teacher who acts as mentor. Students use structured activities which involve lesson observation and interviews to understand the organization and daily work of the school. They analyze particular teaching skills, and consider whole school issues. There is a one-hour seminar which consolidates the work done in school. Credit units: 3 ECTS Credit Units: 6. Aut (M. K. Sands)

TE 555  School Experience I in Mathematics
One day a week in a high school under the daily supervision of an experienced school teacher who acts as mentor. Students use structured activities which involve lesson observation and interviews to understand the organization and daily work of the school. They analyze particular teaching skills, and consider whole school issues. There is a one-hour seminar which consolidates the work done in school. Credit units: 3 ECTS Credit Units: 6. Aut (S. Çörlü)

TE 556  School Experience I in Computer Teaching
One day a week in a high school under the daily supervision of an experienced school teacher who acts as mentor. Students use structured activities which involve lesson observation and interviews to understand the organization and daily work of the school. They analyze particular teaching skills, and consider whole school issues. There is a one-hour seminar which consolidates the work done in school. Credit units: 3 ECTS Credit Units: 6. Spr (A. Ateşkan)

TE 561  School Experience II in English
Students spend one day a week in a school, under the daily supervision of their mentor. They teach classes, as well as working on structured activities related to teaching and the school environment. There is a one-hour seminar which consolidates the work done in school. Credit units: 3 ECTS Credit Units: 7. Prerequisite: TE 551. Spr (C. Koçduman Yazıçı)

TE 562  School Experience II in Biology
Students spend one day a week in a school, under the daily supervision of their mentor. They teach classes, as well as working on structured activities related to teaching and the school environment. There is a one-hour seminar which consolidates the work done in school. Credit units: 3 ECTS Credit Units: 7. Prerequisite: TE 552. Spr (J. F. Lane)

TE 563  School Experience II in Turkish Language and Literature
Students spend one day a week in a school, under the daily supervision of their mentor. They teach classes, as well as working on structured activities related to teaching and the school environment. There is a one-hour seminar which consolidates the work done in school. Credit units: 3 ECTS Credit Units: 7. Prerequisite: TE 553. Spr (R. Özyürek)

TE 565  School Experience II in Mathematics
Students spend one day a week in a school, under the daily supervision of their mentor. They teach classes, as well as working on structured activities related to teaching and the school environment. There is a one-hour seminar which consolidates the work done in school. Credit units: 3 ECTS Credit Units: 7. Prerequisite: TE 555. Spr (S. Çörlü)

TE 566  School Experience II in Computer Teaching
One day a week in a high school under the daily supervision of an experienced school teacher who acts as mentor. Students use structured activities which involve lesson observation and interviews to understand the
organization and daily work of the school. They analyse particular teaching skills, and consider whole school
issues. There is one hour seminar which consolidates the work done in school. Credit units: 3 ECTS Credit
Units: 6.

TE 571 Teaching Practice in English
Students spend an extended period in a school, under the supervision of their school mentor and faculty
supervisor. Students become members of the school for this period. They work with teachers, they attend
meetings and extra-curricular activities, they observe lessons, and teach full lessons in the English department.
The course includes tutorials and seminars which assist students in the planning and evaluation of their school
work and allows them to share experience. Credit units: 5 ECTS Credit Units: 8. Prerequisite: TE 561. Aut (H.
N. Ateşkan)

TE 572 Teaching Practice in Biology
Students spend an extended period in a school, under the supervision of their school mentor and faculty
supervisor. Students become members of the school for this period. They work with teachers, they attend
meetings and extra-curricular activities, they observe lessons, and teach full lessons in the biology department.
The course includes tutorials and seminars which assist students in the planning and evaluation of their school
work and allows them to share experience. Credit units: 5 ECTS Credit Units: 8. Aut (A. Ateskan)

TE 573 Teaching Practice in Turkish Language and Literature
Students spend an extended period in a school, under the supervision of their school mentor and faculty
supervisor. Students become members of the school for this period. They work with teachers, they attend
meetings and extra-curricular activities, they observe lessons, and teach full lessons in the Turkish department.
The course includes tutorials and seminars which assist students in the planning and evaluation of their school
work and allows them to share experience. Credit units: 5 ECTS Credit Units: 8. Aut (R. Özyurek)

TE 576 Teaching Practice in Mathematics
Students spend an extended period in a school, under the supervision of their school mentor and faculty
supervisor. Students become members of the school for this period. They work with teachers, they attend
meetings and extra-curricular activities, they observe lessons, and teach full lessons in the mathematics department.
The course includes tutorials and seminars which assist students in the planning and evaluation of their school
work and allows them to share experience. Credit units: 5 ECTS Credit Units: 8. Aut (S. Čorlu)

TE 581 Principles and Methods of Instruction
The basic concepts of instruction. The principles of teaching and learning. The importance and benefits
of instructional planning. The planning of instruction (yearly plans containing units, daily plans and sample
activities). Teaching and learning strategies. Instructional methods and techniques, and their relation to practice.
Instructional materials. The teacher’s roles and responsibilities in improving the quality of instruction. Teacher
competencies. Credit units: 2 ECTS Credit Units: 4. Spr (R. A. Martin)

TE 590 Advanced Teaching Practice
Students participate in teaching/learning activities in schools in England over a period of five weeks. They
extend their pre-service teacher education studies at Cambridge University, and experience other approaches
to high school student learning in an independent school in England. Credit units: None ECTS Credit Units: 3,
Prerequisite: TE 571 or TE 572 or TE 573 or TE 575. Spr (M. K. Sands)

BTE 501 Biology Curriculum Review I
The major areas of biology will be reviewed in detail for ecology, animal physiology, and biological classification.
They will be related closely to the high school curriculum and the demands made on high school teachers and
students. Both the Ministry of Education and IGCSE syllabuses will be covered. Students will be required to
extend and update their subject knowledge by consideration of the school biology curriculum, advanced level
school test questions, and textbooks both in Turkish and English. Credit units: 3 ECTS Credit Units: 7. Aut (A.
Ateşkan)

MTE 501 Mathematics Curriculum Review I
This course provides students with knowledge and experience to assist them to become effective mathematics
teachers. The major areas of mathematics taught in school will be reviewed in detail and related to the high
school curriculum, focusing on grade 9 and grade 10. The skills covered include knowledge of the appropriate
level of mathematical content and relevancy, together with a working knowledge of school mathematics text
books, and the application of these skills in the classroom. National standards in mathematics will be discussed.
Credit units: 3 ECTS Credit Units: 7. Aut (S. Čorlu)
MTE 503  Computer Technology in Mathematics Education
The course will equip student-teachers with the skills to use computer technology to teach secondary mathematics. These skills will be used to create lesson plans, classroom demonstrations and teaching/learning materials that clarify topics in the mathematics curriculum. The topics covered will include algebra, geometry, trigonometry, calculus, probability, discrete math, and other areas. Credit units: 3 ECTS Credit Units: 6. Spr (İ. Kalender)

CI 402  Probability Theory

CI 403  Statistics

CI 501  Learning Development and Cultural Context for Teaching
The course will focus on the holistic development of student teachers in their current cultural context. Topics for study include the development of cognitive abilities, critical, creative, and imaginative thinking, Gardner’s multiple intelligences, and cognitive and affective taxonomies. The sociology of educability will be considered: the effect of the family and home environment on a child's development and ability to learn and achieve, as well as the impact of other social factors on development. Credit units: 3 ECTS Credit Units: 7. Aut (R. A. Martin)

CI 504  Contemporary Issues in Curriculum Development and Evaluation
The course will examine curriculum theory for elementary and high school courses of study. It will consider current trends and issues in curriculum development, the determinants of the curriculum, and conditions for curriculum change. The evaluation of the implementation of new curricula will be included. The role of the teacher, the school, other members of the school community, and the values and attitudes of society, in curriculum implementation will be studied. Credit units: 3 ECTS Credit Units: 7. Aut (J. F. Lane)

CI 507  Educational Research
The course is designed to introduce key concepts in quantitative and qualitative research in general. It will explore the different research methods used in educational research. Topics will include formulating research questions, reviewing the literature, synthesizing sources, selecting appropriate research designs, sampling, designing valid and reliable instruments for data gathering, and analyzing data. Action research as a qualitative approach to research will be given particular emphasis. Credit units: 3 ECTS Credit Units: 7. Spr (H. N. Aksüt)

CI 509  Thesis Seminar I
The first seminar of the two thesis seminars is intended to guide the Masters students in their thesis work. Research methods, literature reviews, elaboration of topics, organization of material in relation to each student’s research will be discussed, leading to a thorough consideration of, and guidance in, the preparation of the thesis. Students will make presentations of their research to date in order to share their progress and learn from each other. Credit units: None ECTS Credit Units: 2. Aut (Staff) Spr (Staff)

CI 510  Thesis Seminar II
The second seminar of the two thesis seminars is intended to guide the Masters students in their thesis work. Research methods, literature reviews, elaboration of topics, organization of material in relation to each student's research will be discussed, leading to a thorough consideration of, and guidance in, the preparation of the thesis. Students will make presentations of their research to date in order to share their progress and learn from each other. Credit units: None ECTS Credit Units: 2. Aut (Staff) Spr (Staff)

CI 511  Curriculum in an International Context
The course examines education, specifically education in schools and the school curriculum, in several countries. In particular, course participants study and compare the International Baccalaureate (IB) system of curricula and assessment from primary to high school, and the nature and role of international education. Such study includes the nature of the IB diploma program; planning, teaching and assessing IB courses; together with critical thinking and the theory of knowledge. The International General Certificate in Secondary Education (IGCSE) is also considered. International large scale comparative studies are included, particularly the findings from the Programme for International Student Assessment (PISA). Credit units: 3 ECTS Credit Units: 7. Spr (S. Çolun)

CI 512  Written Academic Discourse I
The course focuses on developing essential research and language skills. It provides opportunities for participants to learn the APA system of referencing, analyze research articles, and start preparing the introduction and literature review sections of their thesis. Credit units: None ECTS Credit Units: 2. Spr (R. A. Martin)

CI 513  Statistics
Descriptive statistics; measures of central tendency, measures of variability, measures of relative standing (percentile, z-scores), graphing data, sampling, point and interval estimation, sampling distributions, hypothesis
testing, one and two sample tests of hypothesis for means (t-tests), introduction to analysis of variance, statistical software applications. Credit units: 3 ECTS Credit Units: 7.

CI 514 Curriculum Development and Evaluation
This course is designed to examine approaches to curriculum development and evaluation. It considers curriculum theorizing, curriculum models and curriculum planning at different levels. The course also provides evaluation models and techniques to analyze curriculum and its components. Procedures and issues for curriculum development and evaluation, factors that impact curriculum, and curriculum decision making are also studied. Credit units: 3 ECTS Credit Units: 7. Aut (J. F. Lane) Spr (J. F. Lane)

CI 515 Trends and Issues in Instruction and Assessment
This course will provide participants with an understanding of current trends and issues in instruction and assessment. It will explore procedures for instructional design, delivery, and evaluation. The course will also survey current methods and techniques used to assess student performance. Participants will critically reflect on, and evaluate, current practices and future directions. Credit units: 3 ECTS Credit Units: 7. Aut (A. Ayas)

CI 516 Child and Adolescent Psychology
The course provides an introduction to the milestones of development from childhood through adolescence to adulthood. It covers developmental research methods, the biological and social contextual contributions to individual development, and the fundamental theories of cognitive and psychological development (such as those of Piaget and Erickson). These theories are integrated into a consideration of physical, cognitive, social and emotional development in childhood and adolescence. Aspects of developmental research which focus on the implications for parenting and education are discussed. Credit units: 3 ECTS Credit Units: 7. Spr (A. Michou)

CI 517 Learning Theories and Practice
The course focuses on theories of human learning and their implications for education, how we develop and acquire knowledge and skills. It will present behaviorist, social, cognitive and constructivist learning theories, and consider their contribution to teaching practices and to the understanding of students’ learning processes. Credit units: 3 ECTS Credit Units: 7.

CI 522 Written Academic Discourse II
Credit units: 3 ECTS Credit Units: 7. Prerequisite: CI 512.

CI 532 Written Academic Discourse
Credit units: 3 ECTS Credit Units: 7.

CI 599 Master’s Thesis
Credit units: None ECTS Credit Units: 60. Aut (Staff) Spr (Staff)

CI 601 Instruction: Perspectives and Practice
The course focuses on contemporary instructional theories and design models. Participants will also examine instructional strategies and effective delivery methods. Topics will include information processing, learning contracts, simulations, inquiry, learner-based instruction, and digital literacy. Credit units: 3 ECTS Credit Units: 8. Aut (R. A. Martin) Spr (R. A. Martin)

CI 602 Curriculum: Perspectives and Practice
The course examines major themes and concepts relevant to curriculum theory and research. Participants will critically analyze models of curriculum theory through philosophical, psychological, sociological and historical perspectives. Credit units: 3 ECTS Credit Units: 8. Aut (H. N. Aksit)

CI 603 Practicum in Curriculum Development x Evaluation
The course provides experience in developing and evaluating curricula. It introduces technical and non-technical approaches to development and evaluation. Participants will be expected to pursue a field study in their own schools. Credit units: 3 ECTS Credit Units: 7.

CI 604 Educational Statistics
This course introduces descriptive and inferential statistical concepts needed to conduct quantitative inquiry in educational statistics. Participants will be expected to analyze cases, and determine and apply appropriate statistical procedures, using the Statistical Package for Social Sciences (SPSS). They will also interpret and report the results. Credit units: 3 ECTS Credit Units: 8. Aut (S. Çorlu)

CI 605 Educational Research Methods
The course gives an introduction to the logic of social scientific inquiry and exposure to the methodology, techniques and ethics of research. Participants will focus on how to formulate research problems, collect and analyze data, and present findings, considering various research designs. The use of a theoretical framework in conducting research in educational settings will be emphasized. Credit units: 3 ECTS Credit Units: 8. Aut (A. Ayas)

CI 607 School and Society
The course involves a study of the ways in which formal schooling influences individuals and the ways in which society affects educational institutions. Participants will consider how social institutions and individual
experiences within these institutions affect educational processes and social development, and the educational and sociological issues which arise throughout the life of an individual. Credit units: 3 ECTS Credit Units: 7.

CI 608  **Current Trends and Issues in Educational Technology**
The aim of this course is to explore current trends and related issues in educational technology. The overall theme of the course considers the many different ways educational technology is used in education; types of available technology, teachers’ and students’ use of technology, and challenges for the education community at large will be included. Applications, such as Web 2.0, multimedia, and simulations will be considered in detail. Case studies of good practice, and critical evaluation utilizing related scientific research pertaining to the effectiveness of educational technology in teaching and learning will be studied. Sessions will include practical applications in the computer laboratory and students will also be expected to pursue applications relating to their field of expertise at their own time. Credit units: 3 ECTS Credit Units: 7. Spr (E. Çatal güçlü)

CI 611  **Issues and Trends in Education**
The course focuses on educational issues and trends at the national and global level. Participants will explore and discuss implications of policies affecting educational goals, processes and outcomes. The course involves an analysis of the micro- and macro-level issues nationally and internationally, including those concerned with structural and organizational issues, teacher-training, elementary education, secondary education, higher education, and the transitional problems between these levels. Credit units: 3 ECTS Credit Units: 7.

CI 690  **Dissertation Seminar**
The seminar is intended to guide doctoral students as they prepare their research proposal, which requires approval by the Ph.D. Committee. The seminar follows the qualifying exam and instructs the students in the preparation of the first three chapters of the dissertation. Participants are expected to formally present their work to the group and share their experiences. Credit units: None ECTS Credit Units: 40. Aut (Staff) Spr (Staff)

CI 699  **Ph.D. Dissertation**
Credit units: None ECTS Credit Units: 130. Aut (Staff) Spr (Staff)
The M.A. in Education Management is offered as a part-time program consisting of three modules: managing the organization; managing the curriculum; and managing teaching.

Program Goals

The program is designed for administrators currently working in positions of responsibility in educational institutions and for practising teachers considering such positions. It will enable participants to develop the knowledge and skills to play a key role in school management, curriculum management and staff development, as well as to develop effective teaching skills to a high level. The program aims:

- to give participants the necessary knowledge, skills, and practice to meet the needs of educational institutions and students in the university, secondary and primary education sectors in Turkey;
- to allow participants to make an effective and contemporary contribution to quality education within the institutions in which they work;
- to permit participants to continue working in their institutions and obtain a higher degree through extended, modular study.

In the longer term the program aims to exchange students and teachers with European universities as part of a linked network in the Socrates-Erasmus European program.

CURRICULUM

FIRST YEAR

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<td>EM 527</td>
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<td>EM 502</td>
<td>Human Resources Management 3 / 6</td>
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<td>EM 513</td>
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EM 506 Research Methods in Education ............................................ 3 / 6

COURSE DESCRIPTIONS

EM 501 Managing Organizational Processes
This course provides candidates with insights into managing the school as an organization and looks at defining goals and objectives for the school as well as how to carry out strategic and operational planning. The course will explore ways of creating an effective learning and teaching environment from an administrative perspective. Emphasis will be given to the process of introducing successful innovation within schools and improving the processes of decision making and communication. Credit units: 3 ECTS Credit Units: 6. Spr (J. O'Dwyer)

EM 502 Human Resources Management
This course looks at theories of effective organizations, particularly schools, and relates these to effective human resource management. Areas for study will include leadership, motivation, training and development, team work, as well as the issues of accountability, job planning and description, appraisal systems, recruitment and induction. Credit units: 3 ECTS Credit Units: 6. Spr (F. T. Aksit)

EM 503 Accounting, Financial Management and School Administration
This course looks at financial resource management, accounting principles, budget planning and monitoring and putting these into practice. In addition, the marketing of the school with parents, and other stakeholders, project management, management evaluation, as well as practical skills to do with meetings, time management, and presentations will be covered. Credit units: 3 ECTS Credit Units: 6. Aut (J. O'Dwyer)

EM 506 Research Methods in Education
This course introduces basic concepts in educational research; scientific and interpretive paradigms in educational research and of their characteristics; the key components in research design and of the relationships among these; devising effective research questions; the purposes of a literature review; different approaches to educational research; procedures for conducting ethical research; the role of sampling in educational research; procedures for collecting data; analysing quantitative and qualitative data; strategies for enhancing the quality of educational research; strategies for effectively disseminating research findings. Credit units: 3 ECTS Credit Units: 6. Aut (J. O'Dwyer)

EM 513 Managing the Curriculum II
A basic introduction to the field of testing and evaluation. The course covers principles, concepts and processes behind evaluation and test construction and is intended to help develop the performance competencies needed to engage in decision-making for school improvement. Credit units: 3 ECTS Credit Units: 6. Prerequisite: ME 512.

EM 526 Classroom Management in Action
This course requires candidates to teach one full day, or two half days per week, for a minimum of 12 weeks in a selected school, and to take part in post-conference meetings with their tutor to evaluate the lessons taught and share teaching experiences. Taught lessons will be observed by the visiting tutor. Credit units: 4 ECTS Credit Units: 7. Aut (F. T. Aksit)

EM 531 Masters Project
This project enables candidates to carry out research into an area of their choosing in consultation with the tutor related to one or more of the areas covered during the M.A. programme. Candidates are expected to carry out research into an area of their choosing in consultation with the tutor related to one or more of the areas covered during the M.A. programme. Candidates are expected to review the literature related to their chosen topic, to collect and analyse data, and to write up their findings and conclusions. Credit units: None ECTS Credit Units: 24. Spr (J. O'Dwyer)
M.A. PROGRAM IN TEACHING ENGLISH AS A FOREIGN LANGUAGE

H. N. Akşit (Head), J. A. Mathews-Aydınlı, D. Ortaç tepe, K. D. Trimble.

Master of Arts Program In Teaching English as a Foreign Language (TEFL)

The M.A. TEFL Program is designed to help experienced teachers of English as a foreign language develop professionally by increasing their knowledge of foreign language instruction theory and practice. Students in the program examine the following:

- Linguistics, sociolinguistics, and analysis of the English language;
- Second language acquisition and TEFL research;
- Language teaching methodology, curriculum and materials development, and testing.

M.A. TEFL students discuss and apply instructional models and linguistic theories which relate classroom experiences of EFL students to real-life communicative needs. They also improve their skills in understanding and conducting research in foreign language education.

Admission: Applicants are required to have a B.A. or B.S. degree in Linguistics, English Language Teaching, English, or American Studies. In addition, they are expected to have two years of teaching experience. Applicants must also successfully pass an entrance examination administered as part of the applicant screening process. The exact date and place of the examination is announced each year by the M.A. TEFL Program. (Also refer to the “Graduate Admissions” section in the introduction of this catalog for general graduate admission requirements.)

Degree Requirements:

- Satisfactory completion of at least 30 credit units of course work;
- A thesis approved by a faculty committee.

Criteria for satisfactory completion of courses are described by each instructor at the beginning of each semester. Criteria for successfully completing theses are presented in three research-based courses. To a considerable extent, instruction is individualized and many opportunities are provided during the M.A. program to allow students to improve work which does not meet the criteria. Failure in one course or failure to complete the program in the allotted time, however, will result in no degree being granted. A grade point average of 3.00 is required to graduate.

CURRICULUM

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<td>TEFL 503 Linguistics: the Nature of Language</td>
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RESTRICTED ELECTIVES

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<tr>
<td>CI 501</td>
<td>Learning Development and Cultural Context for Teaching</td>
<td>3/7</td>
<td>Spr</td>
</tr>
<tr>
<td>CI 503</td>
<td>Educational Leadership and School Development</td>
<td>3/7</td>
<td>Aut</td>
</tr>
<tr>
<td>CI 504</td>
<td>Contemporary Issues in Curriculum Development and Evaluation</td>
<td>3/7</td>
<td>Spr</td>
</tr>
<tr>
<td>CI 511</td>
<td>Curriculum in an International Context</td>
<td>3/7</td>
<td>Spr</td>
</tr>
<tr>
<td>CI 513</td>
<td>Statistics</td>
<td>3/7</td>
<td>Spr</td>
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<tr>
<td>CI 514</td>
<td>Curriculum Development and Evaluation</td>
<td>3/7</td>
<td>Spr</td>
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<tr>
<td>CI 515</td>
<td>Trends and Issues in Instruction and Assessment</td>
<td>3/7</td>
<td>Spr</td>
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<tr>
<td>CI 606</td>
<td>Qualitative Research Methods</td>
<td>3/7</td>
<td>Aut</td>
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<tr>
<td>CI 608</td>
<td>Current Trends and Issues in Educational Technology</td>
<td>3/7</td>
<td>Aut</td>
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<td>ETE 504</td>
<td>Literature for Young Learners</td>
<td>3/7</td>
<td>Spr</td>
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<tr>
<td>TEFL 506</td>
<td>Sociolinguistics</td>
<td>3/7</td>
<td>Aut</td>
</tr>
<tr>
<td>TEFL 556</td>
<td>Seminar in TEFL</td>
<td>3/7</td>
<td>Aut</td>
</tr>
</tbody>
</table>

COURSE DESCRIPTIONS

TEFL 501 Second Language Acquisition
Theories of second language acquisition. Students analyze both qualitative and quantitative research studies done in this field during the past 30 years. Credit units: 3 ECTS Credit Units: 6. Aut (D. Ortacetepe)

TEFL 503 Linguistics: the Nature of Language
Foundations in linguistics with an emphasis on basic terminology, concepts, and analysis. Main topics include phonetics, phonology, morphology, syntax, semantics, and pragmatics. Discussion focuses on their relevance and application to second language acquisition and foreign language teaching. Credit units: 3 ECTS Credit Units: 6. Aut (K. D. Trimble)

TEFL 506 Sociolinguistics
Examination of linguistic variation in English among social groups due to region, socio-economic status, gender, ethnicity, and age, especially as this variation relates to language learning. Linguistic registers, standard and non-standard dialects, language attitudes, and attitudes toward language learning are also treated. Credit units: 3 ECTS Credit Units: 7. Spr (D. Ortacetepe)

TEFL 510 Language Testing
Theoretical and practical considerations in the construction, use, and critical evaluation of both classroom and standardized tests of language proficiency. Students are acquainted with basic concepts of validity and reliability, as well as a variety of different kinds of tests and testing techniques. Credit units: 3 ECTS Credit Units: 6. Spr (D. Ortacetepe)

TEFL 521 EFL Methodology I
Discussion of the major foreign language teaching methods in their historical contexts, as well as individual language skills and integrated skills. Current areas of concern in ESL/EFL are also examined, and key EFL/ESL terminology is reviewed. Credit units: 3 ECTS Credit Units: 6. Spr (D. Ortacetepe)

TEFL 528 Curriculum Development and Evaluation
Principles of course design, implementation, and evaluation. The role of the teacher in the curriculum process is central to the course. Small projects and papers relating to students' experiences will provide skills in developing and evaluating curricula. Credit units: 3 ECTS Credit Units: 6. Spr (K. D. Trimble)

TEFL 530 Materials Development
Selection, adaptation, development, evaluation, and implementation of lesson plans, textbooks, and other materials for different teaching situations. Students become familiar with a variety of materials. Opportunities are provided for critiquing, developing, and adapting materials for a wide range of contexts and target groups. Credit units: 3 ECTS Credit Units: 6. Spr (K. D. Trimble)

TEFL 531 Research Methods in Linguistics I
Introduction to skills in library research and applied linguistics research methodology including the collection, analysis, and processing of data. Issues of research methodology are examined for their applicability to critiquing published research and to conducting original research in language-learning environments. Quantitative, qualitative, and mixed-methods research traditions are examined. Credit units: 3 ECTS Credit Units: 7. Aut (D. Ortacetepe)

TEFL 532 Research Methods in Linguistics II
This course is a continuation of Research Methods in Linguistics I, and includes further detailed examination of theoretical and methodological topics in the contemporary literature on qualitative, quantitative, and mixed-methods research designs. It also explores topics in the ongoing development of applied linguistics research
methodology in particular, and provides students with additional practice in the critical reading, understanding, and assessing of published research. Credit units: 3 ECTS Credit Units: 7. Spr (D. Ortacetepe)

TEFL 550   **Thesis Seminar**  
Credit units: None ECTS Credit Units: 2. Spr (Staff)

TEFL 554   **Thesis Writing**  
Focus on presenting aspects of research findings in an organised and coherent manner. Students receive critical feedback from their peers and their instructor on their theses. The emphasis is on the improvement of academic discourse in order to complete the program thesis successfully. Credit units: None ECTS Credit Units: 55. Aut (Staff) Spr (Staff)

TEFL 555   **Written Academic Discourse**  
Focus on developing essential skills for effective presentation of academic language in written discussion. Meta-discussion of reading and exercises will help develop students’ own abilities to teach academic writing. Credit units: 3 ECTS Credit Units: 6. Aut (K. D. Trimble)

TEFL 556   **Seminar in TEFL**  
In-depth exploration of and innovative approaches to topics of importance in the field of TEFL. The course may be divided into two eight-week seminars to allow expanded coverage of the issues. Specific topics to be determined by the instructor(s). Credit units: 3 ECTS Credit Units: 7.
FACULTY OF ENGINEERING

Levent Onural, Ph.D., Dean
Mustafa Çelebi Pınar, Ph.D., Assoc. Dean
Ezhan Karasän, Ph.D., Assoc. Dean

The Faculty of Engineering comprises four academic departments:

- Computer Engineering
- Electrical and Electronics Engineering
- Industrial Engineering
- Mechanical Engineering

The Departments of Computer Engineering, Electrical and Electronics Engineering, Industrial Engineering, and Mechanical Engineering offer both graduate and undergraduate programs leading to B.S., M.S. and Ph.D. degrees. In addition, the Faculty contributes to interdisciplinary graduate programs that offer M.S. and Ph.D. degrees in the areas of Materials Science and Nanotechnology and Neuroscience.

The mission of the Faculty of Engineering is not only to impart contemporary engineering and scientific knowledge in the four engineering disciplines but also to inculcate creativity, research techniques, and self development. The graduates of engineering programs are expected to acquire dynamic learning skills and to readily adapt to technological changes as well as to solve fast growing problems of the modern society.

The programs of study in engineering aim to achieve a productive balance between depth of knowledge acquired in technical areas and breadth of knowledge acquired through humanities, arts and social sciences. Depth involves the intensive study of a subject through specialization in a major field; breadth on the other hand plays an important role to equip the graduate in pursuit of a richer personal and professional life. Hence, the curriculum provides a firm background in the basic sciences through courses in mathematics, computer science, physics, and chemistry. It has a solid syllabus of engineering that leads to specialized courses that are primarily of a technical nature. In order to provide the student with a broad intellectual spectrum, elective courses are offered through the other faculties of the university.

An integral component of engineering profession is centered upon various forms of communication. Therefore, a primary goal in engineering education is to equip prospective engineers with strong communication skills. Language and communications courses are integrated into the curriculum to reach such a target.

Engineering education is an evolutionary process driven by advances in technology. Hence, the aim of the programs is to develop the ability to learn on a career-long basis.

Physical, mathematical and engineering sciences courses are intended to provide the students with the necessary capability to model and analyze the real world. The courses with design components are to increase innovation and synthesis capability whereas the project courses are to enhance the integration capability of the students. Students are expected to utilize, integrate and advance their accumulated knowledge skills and engineering concepts during their semester-long specialized projects. Knowledge in humanities, arts and social science will contribute to students’ understanding of the society and environment in which the engineering is practiced.

ACADEMIC STAFF

Nail Akar, Professor
Ph.D., Electrical and Electronics Engineering, Bilkent University, 1994. Teletraffic analysis, performance evaluation, high-speed telecommunication networks, Internet technologies.
Adnan Akay, Professor

Alp Eren Akçay, Assistant Professor

Varol Akman, Professor
Ph.D., Electrical, Computer, and Systems Engineering, Rensselaer Polytechnic Institute, 1985. Artificial intelligence, logic, philosophy of language, philosophy of mind, pragmatics, the Internet and society.

Selim Aksoy, Associate Professor

Mehmet Selim Aktürk, Professor

Can Alkan, Assistant Professor
Ph.D., Computer Science, Case Western Reserve University, 2005. Bioinformatics, genomics, computational biology.

Ayhan Altıntaş, Professor (on leave)

Erdal Arıkkan, Professor
Ph.D., Electrical Engineering and Computer Science, Massachusetts Institute of Technology, 1985. Information theory.

Orhan Arıkkan, Professor
Ph.D., Electrical and Computer Engineering, University of Illinois at Urbana-Champaign, 1990. Signal processing, remote sensing, communications.

Abdullah Atalar, Professor

Ergin Atalar, Professor
Ph.D., Electrical and Electronics Engineering, Bilkent University, 1991. Image guided medical interventions, magnetic resonance imaging, antenna design for MRI.

Erman Ayday, Assistant Professor
Ph.D., Electrical and Computer Engineering Department, Georgia Institute of Technology, 2011. Security, privacy, big data analytics.

Cevdet Aykanat, Professor

Orhan Aytür, Professor

Mehmet Baray, Professor
Billur Barshan, Professor

Mehmet Zeyyad Baykara, Assistant Professor

Fazlı Can, Visiting Professor
Ph.D., Computer Engineering, Middle East Technical University, 1985. Information Retrieval, data mining, machine learning.

Melih Çakmakçı, Assistant Professor
Ph.D., Mechanical Engineering, University of Michigan, 2009. Dynamic systems and control. Multivariable control systems, nonlinear systems and control, vehicle control systems and smart mechatronic components.

Özlem Çavuş, Assistant Professor

Ahmet Enis Çetin, Professor

Barbaros Çetin, Assistant Professor
Ph.D., Mechanical Engineering, Vanderbilt University, 2009. Microfluidics, lab-on-a-chip technology, electrokinetic transport at microscale, heat transfer at microscale.

Tolga Çukur, Assistant Professor
Ph.D., Electrical Engineering, Stanford University, 2009. Biomedical imaging, magnetic resonance imaging (MRI), signal processing, computational neuroscience.

David Davenport, Lecturer
Ph.D., Electrical Engineering, University of Birmingham, 1980. Artificial intelligence, cognitive science, information retrieval, computer and education, Internet-related issues.

Aynur Dayanık, Instructor
Ph.D., Computer Science, Rutgers University, 2006. Machine Learning, information retrieval, text mining, bioinformatics, data mining.

Savaş Dayanık, Associate Professor

Tuğrul Dayar, Professor

Hilmi Volkan Demir, Associate Professor
Ph.D., Electrical Engineering, Stanford University, 2004. Light-emitting diodes (LEDs), photovoltaics (PV), semiconductor nanocrystal optoelectronics, energy transfer driven devices and sensors, nanoparticles/nanocomposites, nanophotonics, RF sensing bioimplants and medical devices.

Üğur Doğrusöz, Associate Professor
Ph.D., Computer Science, Rensselaer Polytechnic Institute, 1995. Graph visualization, bioinformatics, combinatorial algorithms, and graph theory.
Robin Ann Downey, Instructor
Ph.D., Communication Studies, University of Calgary, 2009. Social shaping of technology theories, stakeholder analysis, technology assessment, technological controversies, risk studies, biotechnology, responsible innovation.

Tolga Mete Duman, Professor
Ph.D., Electrical and Computer Engineering, Northeastern University, 1998. Wireless and mobile communications, channel coding, turbo codes.

Pınar Duygulu Şahin, Assistant Professor (on leave)
Ph.D., Computer Engineering, Middle East Technical University, 2003. Multimedia data mining, information retrieval, computer vision, statistical machine learning, visual perception.

Emine Yegan Erdem, Assistant Professor

Nesim Erkip, Professor

Vakur Behçet Ertürk, Associate Professor

Hakan Ferhatosmanoğlu, Associate Professor
Ph.D., Computer Science, University of California, Santa Barbara, 2001. Database systems, data mining, bioinformatics.

Buğra Gedik, Assistant Professor
Ph.D., Computer Science, Georgia Institute of Technology, College of Computing, 2006. Data intensive distributed systems, distributed systems, data bases, and cloud computing.

Sinan Gezici, Associate Professor

Kağan Gökbayrak, Assistant Professor

Kemal Göler, Visiting Instructor
Ph.D., Social Science, Caltech, 1990. Game theory, applied auction/mechanism/incentive design, structural econometrics, pricing and revenue management.

Uğur Güdükbay, Professor
Ph.D., Computer Engineering and Information Science, Bilkent University, 1994. Computer graphics, physically-based modeling and animation, deformable models, multimedia databases, computational geometry.

Çiğdem Gündüz Demir, Associate Professor
Ph.D., Computer Science, Rensselaer Polytechnic Institute, 2005. Medical image analysis, computational biology, pattern recognition, machine learning, computer vision.

Ülkü Gürler, Professor

H. Altay Güvenir, Professor
Ph.D., Computer Engineering and Science, Case Western Reserve University, 1987. Artificial intelligence, machine learning, data mining, intelligent data analysis.
Mehmet Selim Hanay, Assistant Professor
Ph.D., Physics, California Institute of Technology (Caltech), 2011. Nanoelectromechanical systems, mass sensing.

Yusuf Ziya Ider, Professor
Ph.D., Biomedical Engineering, Northwestern University, 1979. Electrical impedance tomography, magnetic resonance imaging, acquisition and processing of physiological signals, PC based instrumentation.

Fatih Ömer İdaly, Associate Professor

Ezhan Kararşan, Professor
Ph.D., Electrical and Computer Engineering, Rutgers University, 1995. Broadband integrated networks, traffic and switching theory, optical networks, information and coding theory.

Oya Kararşan, Associate Professor

Yiğit Karpat, Assistant Professor

Özlem Karsu, Assistant Professor

Ayşe Selin Kocaman, Assistant Professor

Süleyman Serdar Kozat, Associate Professor

İbrahim Körpeoğlu, Associate Professor (on leave)

Hayrettin Köymen, Professor
Ph.D., Electrical Engineering, University of Birmingham, 1979. Acoustic imaging, linear and finite amplitude acoustics, medical instrumentation, processing and modeling of physiological signals.

Ömer Morgül, Professor

Ayşe Semra Mumcu, Instructor
M.S., Electrical and Electronics Engineering, Middle East Technical University, 1990. Computer architecture, technical computing.

Emre Nadar, Assistant Professor

Osman Öğuz, Associate Professor
Ph.D., Management Sciences, University of Waterloo, 1978. Mathematical programming, linear and integer programming, scheduling.
Ali Kemal Okyay, Assistant Professor  
Ph.D., Electrical Engineering, Stanford University, 2007. Photovoltaics (PV), semiconductor devices and sensors, nanophotonics, nano-biosensors, plasmonics enhanced nanodevices, nanoparticles/nanocomposites, thin film transistors (TFTs) and memory devices, flexible optoelectronics.

Levent Onural, Professor  
Ph.D., Electrical and Computer Engineering, State University of New York at Buffalo, 1985. Signal and image processing, video processing, holography, diffraction, signal processing for diffraction and holography, 3DTV.

Özay Oral, Professor  
Ph.D., Electrical Engineering, Middle East Technical University, 1971. Design of multivariable control systems, stabilization of large scale systems, systems theory, formulation of networks and systems.

Hilmi Öncü, Instructor  

Haldun Özaktas, Professor  
Ph.D., Electrical Engineering, Stanford University, 1991. Optical information processing, signal and image processing, optoelectronic and optically interconnected computing systems.

Ekmel Özbay, Professor  

Hitay Özay, Professor  
Ph.D., Control Sciences and Dynamical Systems, University of Minnesota, 1989. Robust control, distributed parameter systems, applications of control theory in various engineering fields.

Onur Özcan, Assistant Professor  

Bülent Özgüç, Professor  

Arif Bülent Özgüler, Professor  

Özcan Öztürk, Associate Professor (on leave)  
Ph.D., Computer Science and Engineering, Pennsylvania State University, 2007. Multicores and manycores, cloud computing, high performance computing, compiler optimizations, computer architecture.

Mustafa Celebi Pınar, Professor  

Taner Reyhan, Senior Lecturer  
Ph.D., Electrical Engineering, University of Birmingham, 1981. Radio communication, RF design, thermal imaging, electro-optics, space communications.

Emine Ülkü Sartas, Assistant Professor  
Ph.D., Electrical Engineering, Stanford University, 2009. Biomedical imaging, magnetic resonance imaging (MRI), magnetic particle imaging (MPI), signal and image processing, safety limits of magnetic fields in medical imaging systems.
William Sawyer, Instructor (on leave)
M.S., Electrical Engineering, Northeastern University, 1988. Digital design, CAD tools, computer architecture.

İpek Sözen, Instructor
M.S., Computer Engineering, Middle East Technical University, 1989. Programming languages, data structures, information systems.

Nil Şahin, Instructor
Ph.D., Mathematics, Middle East Technical University, 2012.

Alper Şen, Associate Professor (on leave)
Ph.D., Business Administration, University of Southern California, 2000. Revenue management, inventory theory, supply chain management, machine scheduling.

Özgür Taştınan Okan, Assistant Professor

Cem Tekin, Assistant Professor
Ph.D., Electrical Engineering and Computer Science, University of Michigan, 2013. Online learning, data mining, multi-armed bandits, multi-agent systems, healthcare informatics, recommender systems, dynamic spectrum access.

Bedir Tekinerdoğan, Assistant Professor
Ph.D., Computer Science, University of Twente, 2000. Software engineering, software architecture design, software product line engineering, model-driven software development, aspect-oriented software development.

İlker Temizer, Associate Professor
Ph.D., Mechanical Engineering, University of California, Berkeley, 2005. Computational mechanics, thermodynamics of homogenization, contact mechanics, multiscale modeling.

Ayşegül Toptal Bilhan, Assistant Professor (on leave)

Özgür Ulusoy, Professor
Ph.D., Computer Science, University of Illinois at Urbana-Champaign, 1992. Database systems, web information retrieval, mobile and peer to peer systems.

Ash Üstün, Instructor
M.S., Mechanical Engineering, University of New Hampshire, USA, 1993. CAD design and analysis, engineering computation tools.

Hande Yaman Paternotte, Professor
Ph.D., Operations Research, Université Libre de Bruxelles, 2002. Integer programming, polyhedral theory, location and network design, robust optimization.

Bahar Yetiş, Associate Professor
Ph.D., Industrial Engineering, Bilkent University, 1999. Hub location problems, hazardous materials transportation, bilevel optimization, mathematical programming.

Yıldız Yıldız, Assistant Professor
Ph.D., Mechanical Engineering, Massachusetts Institute of Technology, 2009. System dynamics and control, reinforcement learning, game theory, aerospace, automotive and robotics applications.

ACADEMIC COORDINATORS

Nermin Fenmen, M.S., Chemical Engineering, Middle East Technical University, 1982.


LABORATORY COORDINATORS

Şakir Baytaroğlu, Ph.D., Metallurgy Department, Yıldız Technical University, 1996.
RESEARCH FELLOWS

Kadir Akbudak, M.S., Computer Engineering, Bilkent University, 2008.

PART-TIME ACADEMIC STAFF

Hidayet Aksu, Ph.D., Computer Engineering, Bilkent University, 2014. Social network analysis, big data systems particularly hadoop/HBase, big data analytics, data mining, cloud computing, wireless sensor networks.
Ömer Aka Anlağan, Ph.D., Machine Tool Technology Division, University of Manchester Institute of Science and Technology (UMIST), 1975.
Şerif Faruk Arıç, Ph.D., Nuclear Engineering, North Carolina State University, 1976.
Tayfun Aytaç, Ph.D., Electrical and Electronics Engineering, Bilkent University, 2006. Infrared and optical sensing, electronic warfare in infrared band, target detection, target tracking, target classification, hardware/man in the loop systems, multi-sensor fusion.
Hayredin Bahşi, Ph.D., Electronics Engineering and Computer Science, Sabancı University, 2010.
Sakir Baytaroğlu, Ph.D., Metallurgy Department, Yıldız Technical University, 1996.
Ali Cengiz Beğen, Ph.D., Electrical and Computer Engineering, Georgia Institute of Technology, 2006. Itimedia networking and communications, reliable and scalable video transport and distribution over IP, media clouds.
Arda Çetin, Ph.D., Department of Metallurgical and Materials Engineering, METU, 2008.
Hasan Semih Ergür, Ph.D., Mechanical Engineering, University of Manchester, 1984.
Murat Kahraman Güngör, Ph.D., Computer and Information Science, Syracuse University, 2006.
Orhan Karasakal, Ph.D., Industrial Engineering, Middle East Technical University, 2004. Military operations research, multiple-criteria decision making, facility location.
Ali Taha Koç, Ph.D., Electrical Engineering, University of Texas at Dallas, 2013.
Mustafa Tuğrul Kozak, Ph.D., Mechanical Engineering, Middle East Technical University, 2014. Structural mechanics, mechanical vibrations, finite element model updating, aeroelasticity.
Yavuz Oruç, Ph.D., Syracuse University, 1983.
Adnan Özsoy, Ph.D., Computer Science, Indiana University, 2014.
Ertuğrul Kartal Tabak, Ph.D., Computer Engineering, Bilkent University, 2013.
Müjdat Tohumcu, Ph.D., Electrical and Electronics Engineering, Middle East Technical University, 1985.
Eray Tütün, Ph.D., Information Systems, Middle East Technical University, 2014.
İsmail Enis Urgan, Ph.D., Electrical and Electronics Engineering, Middle East Technical University, 1996.
Oğuzhan Vicil, Ph.D., School of Operations Research and Information Engineering, Cornell University, 2006.
DEPARTMENT OF COMPUTER ENGINEERING


The Computer Engineering Department offers programs that lead to B.S., M.S., and Ph.D. degrees.

UNDERGRADUATE PROGRAM

Bilkent University has been founded with the aim of establishing a center of excellence in higher education and research. The Department of Computer Engineering is responsible for the implementation of this mission in the area of computer engineering, and is dedicated to serving society and the advancement of knowledge through excellent teaching and scholarship.

As its educational objectives, our department is committed to prepare our alumni to

1. Pursue advanced studies and/or
2. Have successful careers in industry, government, or academia.

Beyond the educational objectives, we expect our alumni to be known for their

1. Intellectual maturity in problem solving, design, creativity and analytical/critical thinking.
2. Possession of a strong background in the principles and practices of computer engineering.
3. Knowledge that is relevant technological needs in a competitive global environment.
4. Continuing efforts to learn throughout their career.
5. Collaboration with others.
6. Strong written and oral communication skills.
7. Professional and ethical responsibility.

The program aims to provide students with the fundamental knowledge and interdisciplinary problem solving skills for a fulfilling career in high quality engineering work and advanced research, required in the information based society of the 21st century. The program emphasizes a solid background in basic science and mathematics, a strong preparation in hardware, software and theory towards the analysis, design and application of computers and information-processing techniques to the solution of real world problems. The courses are complemented with laboratory practice with state-of-the-art computing systems. With the help of two summer trainings each of which must be at least four weeks long, junior and senior students practice their knowledge, learn to function in a collaborative and most of the time multi-disciplinary environment, and improve their communication skills. The program also provides the students with a broad intellectual spectrum by including various elective courses in economics, social sciences, humanities and arts. For two semesters in the senior year, students work on a design project that requires creative thinking and present their work at the end of their study in the department.

### UNDERGRADUATE CURRICULUM

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Autumn Semester</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>CS 101</td>
<td>Algorithms and Programming I</td>
</tr>
<tr>
<td>ENG 101</td>
<td>English and Composition I</td>
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<tr>
<td>GE 100</td>
<td>Orientation</td>
</tr>
<tr>
<td>MATH 101</td>
<td>Calculus I</td>
</tr>
<tr>
<td>MBG 110</td>
<td>Introduction to Modern Biology</td>
</tr>
<tr>
<td>TURK 101</td>
<td>Turkish I</td>
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<thead>
<tr>
<th>Spring Semester</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>CS 102</td>
<td>Algorithms and Programming II</td>
</tr>
<tr>
<td>ENG 102</td>
<td>English and Composition II</td>
</tr>
<tr>
<td>MATH 102</td>
<td>Calculus II</td>
</tr>
<tr>
<td>TURK 102</td>
<td>Turkish II</td>
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**SECOND YEAR**

<table>
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<tr>
<th>Autumn Semester</th>
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<tbody>
<tr>
<td>CS 201</td>
<td>Fundamental Structures of Computer Science I</td>
</tr>
<tr>
<td>CS 223</td>
<td>Digital Design</td>
</tr>
<tr>
<td>GE 250</td>
<td>Collegiate Activities Program I</td>
</tr>
<tr>
<td>HIST 200</td>
<td>History of Turkey</td>
</tr>
<tr>
<td>HUM 111</td>
<td>Cultures Civilizations and Ideas I</td>
</tr>
<tr>
<td>PHYS 101</td>
<td>General Physics I</td>
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<th>Spring Semester</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>CS 202</td>
<td>Fundamental Structures of Computer Science II</td>
</tr>
<tr>
<td>CS 224</td>
<td>Computer Organization</td>
</tr>
<tr>
<td>HUM 112</td>
<td>Cultures Civilizations and Ideas II</td>
</tr>
<tr>
<td>MATH 225</td>
<td>Linear Algebra and Differential Equations</td>
</tr>
<tr>
<td>PHYS 102</td>
<td>General Physics II</td>
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**THIRD YEAR**

<table>
<thead>
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<th>Autumn Semester</th>
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<tbody>
<tr>
<td>CS 299</td>
<td>Summer Training I</td>
</tr>
<tr>
<td>CS 315</td>
<td>Programming Languages</td>
</tr>
<tr>
<td>CS 319</td>
<td>Object-Oriented Software Engineering</td>
</tr>
<tr>
<td>GE 301</td>
<td>Science Technology and Society</td>
</tr>
<tr>
<td>MATH 230</td>
<td>Probability and Statistics for Engineers</td>
</tr>
<tr>
<td></td>
<td>Humanities and Social Sciences Elective</td>
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</table>

<table>
<thead>
<tr>
<th>Spring Semester</th>
<th>Credits / ECTS Credits</th>
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</thead>
<tbody>
<tr>
<td>CS 342</td>
<td>Operating Systems</td>
</tr>
<tr>
<td>CS 353</td>
<td>Database Systems</td>
</tr>
<tr>
<td>EEE 391</td>
<td>Basics of Signals and Systems</td>
</tr>
<tr>
<td>ENG 401</td>
<td>Technical Report Writing and Presentation</td>
</tr>
<tr>
<td></td>
<td>Humanities and Social Sciences Elective</td>
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</tbody>
</table>

**FOURTH YEAR**

<table>
<thead>
<tr>
<th>Autumn Semester</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>CS 399</td>
<td>Summer Training II</td>
</tr>
<tr>
<td>CS 473</td>
<td>Algorithms I</td>
</tr>
<tr>
<td>IE 400</td>
<td>Principles of Engineering Management</td>
</tr>
</tbody>
</table>
A list of approved elective courses is announced at the beginning of each semester by the Department.

**Technical Electives**

- CS 411 Software Architecture Design ........................................... 3 / 6
- CS 413 Software Engineering Project Management .......................... 3 / 6
- CS 415 Software Product Line Engineering ................................. 3 / 6
- CS 421 Computer Networks ...................................................... 3 / 6
- CS 423 Computer Architecture .................................................. 3 / 6
- CS 426 Parallel Computing ....................................................... 3 / 6
- CS 432 Machine-to-Machine (M2M) Systems ............................... 3 / 6
- CS 442 Distributed Systems and Algorithms ............................... 3 / 6
- CS 443 Cloud Computing and Mobile Applications ..................... 3 / 6
- CS 453 Application Lifecycle Management ................................. 3 / 6
- CS 484 Image Analysis ............................................................ 3 / 6
- CS 502 Algorithms II ............................................................... 3 / 7.5
- EEE 424 Digital Signal Processing ............................................. 4 / 7
- EEE 436 Wireless Networking Technologies and Applications ........ 3 / 6
- EE 443 Neural Networks ............................................................ 3 / 6
- IE 325 Stochastic Models .......................................................... 3 / 6
- IE 420 Heuristics in Optimization ............................................. 3 / 6
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- MATH 202 Complex Analysis ..................................................... 3 / 6
- MATH 213 Advanced Calculus .................................................... 3 / 6
- MATH 215 Mathematical Analysis .............................................. 3 / 6
- MATH 253 Introduction to Number Theory .................................. 3 / 6
- MATH 313 Real Analysis I ........................................................... 3 / 6
- MATH 314 Real Analysis II .......................................................... 3 / 6
- MATH 324 Algebra II ................................................................. 3 / 6
- MATH 420 Introduction to Cryptography ..................................... 3 / 6
- MATH 453 Algebraic Number Theory .......................................... 3 / 6
- MATH 501 Real Analysis I ............................................................ 3 / 7.5
- MBG 209 Principles of Genetics ................................................ 3 / 6
- MBG 210 Genetics ................................................................. 4 / 7
- MBG 222 Fundamentals of Molecular Genetics ............................ 3 / 6
- MBG 324 Molecular Biology of the Gene .................................... 4 / 7
GRADUATE PROGRAMS

The Department of Computer Engineering offers M.S. and Ph.D. degree programs with the possibility of specialization in different areas of research in computer engineering. Current research areas are artificial intelligence, logic, computer vision, data mining, machine learning, pattern recognition, big data, data stream processing systems, data intensive distributed systems, bioinformatics, computational biology, genomics, database systems, distributed database systems, object-oriented systems, information storage and retrieval, software engineering, software architecture design, computer graphics, physically based animation, ray tracing, radiosity, user interfaces, image analysis, parallel processing, parallel algorithm design, task assignment, simulation of various applications on multi-computer architectures, multicores and manycores, cloud computing, high performance computing, parallel methods for scientific computing, computer networks, mobile and wireless networking, combinatorial algorithms, graph theory, graph drawing, graph coloring, computational geometry, graph visualization, capacity planning for web services, performance modeling.

Master of Science in Computer Engineering

Admission: All applicants are required to have a B.S. degree in computer engineering, computer science, or in a related field of science or engineering. Students with a B.S. degree in areas other than computer engineering may be requested to take several undergraduate courses in the field to acquire the necessary background. Evaluation of applicants is based on their ALES (Akademik Personel ve Lisansüstü Eğitim İçi Sınav - Academic Personnel and Postgraduate Education Entrance Examination) scores, past academic records, reference letters and an interview. Applicants who are not Turkish citizens and Turkish citizen applicants who are residents of another country may take GRE instead of ALES. All non-native speakers of English are required to submit a proof of satisfactory knowledge of English.

Degree Requirements: In addition to at least 24 credit units of course work, the M.S. degree candidate must prepare and successfully defend a thesis. Expected duration to complete the M.S. program is four semesters; the maximum duration is six semesters.

CURRICULUM

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>CS 590 Research Seminar I</td>
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<tr>
<td>CS 699 Master’s Thesis</td>
<td>- / 56</td>
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<tr>
<td>GE 690 Academic Practices</td>
<td>- / 12</td>
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<tr>
<td>Graduate Electives (7)</td>
<td>21 / 52.5</td>
</tr>
<tr>
<td>Technical Elective</td>
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</tr>
</tbody>
</table>

The descriptions provided here for different elective course groups are only for guidance. The complete list of courses in each elective group are given in the electronic registration system.

Graduate Elective Courses: All 5XX or higher level courses with at least 3 credits offered by Graduate School of Engineering and Science.*

Technical Elective Courses: All 3XX and higher level CS coded or 2XX, 3XX, 4XX level CHEM, EEE, IE, MATH, MBG, ME, PHYS coded courses with at least 3 credits and ECON 513.

*Graduate School of Engineering and Science comprises graduate programs of the departments of Computer Engineering, Electrical and Electronics Engineering, Industrial Engineering, Mechanical Engineering, Chemistry, Mathematics, Molecular Biology and Genetics, Physics, and the interdisciplinary graduate programs Material Science and Nanotechnology, and Neuroscience.
Doctor of Philosophy in Computer Engineering

Admission: All applicants are required to have a B.S. degree in computer engineering, or in a related field of science or engineering. Evaluation of applicants is based on their ALES (Akademik Personel ve Lisansüstü Eğitimî Girişî Sûnavî - Academic Personnel and Postgraduate Education Entrance Examination) scores, past academic records, reference letters and an interview. Applicants who are not Turkish citizens and Turkish citizen applicants who are residents of another country may take GRE instead of ALES. All non-native speakers of English are required to submit a proof of satisfactory knowledge of English.

Degree Requirements: 24 credit units of course work beyond the M.S. level or 48 credits of course work beyond the B.S. level is required. Ph.D. candidates must pass a qualifying exam typically on their fourth semester, and then must prepare a thesis work proposal. Preparing and defending a dissertation based on original research is the essence of the program. A dissertation based on original research is the essence of the program. The expected duration to complete the Ph.D. program is eight semesters for students who enter the program after an M.S. degree, and ten semesters for those who enter after a B.S. degree. The maximum durations are 12 and 14 semesters, respectively.

Doctor of Philosophy in Computer Engineering

CURRICULUM

Courses Credits / ECTS Credits
CS 690 Research Seminar II ......................................................... 2 / 1
CS 699 Ph.D. Dissertation ........................................................... 140 / 1
GE 690 Academic Practices ......................................................... 24 / 24
Graduate Electives (8) .............................................................. 24 / 60

Doctor of Philosophy in Computer Engineering (After a Bachelor's Degree)

CURRICULUM

Courses Credits / ECTS Credits
CS 590 Research Seminar I ........................................................ 2 / 1
CS 690 Research Seminar II ......................................................... 2 / 1
CS 699 Ph.D. Dissertation ........................................................... 140 / 1
GE 690 Academic Practices ......................................................... 24 / 24
Graduate Electives (16) ............................................................. 48 / 120

The descriptions provided here for different elective course groups are only for guidance. The complete list of courses in each elective group are given in the electronic registration system.

Graduate Elective Courses: All 5XX or higher level courses with at least 3 credits offered by Graduate School of Engineering and Science.*

COURSE DESCRIPTIONS

CS 101 Algorithms and Programming I
Basic computer literacy: terminology, system components and operation. Fundamentals of computer programming: top-down structured design, sequence, decision, repetition, syntax, compilation, debugging and maintenance, object-oriented programming with Java, objects classes, methods, parameters, arrays, layout and style. The emphasis is on an engineering “right-first-time” approach to solving large problems using computers.
Credit units: 4 ECTS Credit Units: 7. Aut (D. Davenport, A. Dayanik) Spr (H. Ferhatosmanoğlu, H. A. Güvenir)

CS 102 Algorithms and Programming II

*Graduate School of Engineering and Science comprises graduate programs of the departments of Computer Engineering, Electrical and Electronics Engineering, Industrial Engineering, Mechanical Engineering, Chemistry, Mathematics, Molecular Biology and Genetics, Physics, and the interdisciplinary graduate programs Material Science and Nanotechnology, and Neuroscience.
Files. Searching and sorting. Hashing. Time and space considerations. Students undertake a large design project involving teamwork, independent learning, writing and presenting of requirements, user-interface design, and project documentation. **Credit units: 4 ECTS Credit Units: 7, Prerequisite: CS 101 or CS 111.** Aut (U. Güdükbay, M. K. Günsür, O. Taştan Okan) Spr (H. Aksu, E. Ayday, D. Davenport, Ö. Öztürk)

**CS 113 Introduction to Computing for Engineers**

**CS 114 Introduction to Programming for Engineers**
Introduction to programming with Java. Data and Expressions: character strings, variables and assignments, primitive data types, expressions, data conversion. Using classes and objects: creating objects, the String class, the Random class, the Math class, formatting output, enumerated types. Writing classes: classes and objects, anatomy of a class, encapsulation, anatomy of a method. Conditionals and loops: Boolean expressions, the if statement, comparing data, the switch statement, the while statement, iterators, the do statement, the for statement. Arrays: array elements, declaring and using arrays, arrays of objects, command-line arguments, variable length parameter lists, two-dimensional arrays, the ArrayList class, Recursion: recursive thinking, recursive programming, using recursion. **Credit units: 4 ECTS Credit Units: 7.** Prerequisite: CS 111 or CS 113. Aut (A. Özsoy, I. Sözen) Spr (A. Dayanık, L. R. Russell-Dağ, I. Sözen)

**CS 121 Introduction to Computing for Social Sciences**
Fundamental office tools. Word processing, document formatting, paragraph formats, styles, hyphenation, spelling and grammar checking, outline, table of contents, indexes, citations, captions and bibliography; creating master document and subdocuments, tracking changes in a document; multiple user editing, versioning, mail merge and mailing labels. Introduction to spreadsheet concepts, formatting worksheets, managing worksheets; writing formulas and use of built-in functions and auditing; conditional formatting; common mistakes in writing formulas, circular reference, missing reference in formulas; charts. Database concepts. Preparing presentations, templates, use of multimedia. **Credit units: 3 ECTS Credit Units: 6.** Aut (A. S. Mumcu, H. Öncü) Spr (A. S. Mumcu, H. Öncü)

**CS 123 Introduction to Computing and Programming for Social Sciences**
Introduction to spreadsheet concept. Formatting and managing worksheets. Entering data into cells, formulas and commonly-used functions, creating charts using Excel data. Relative and absolute addresses. Database query concept. Basic programming concepts. Array operations in MATLAB. Conditional statements and loops. Two-dimensional plots in MATLAB. **Credit units: 3 ECTS Credit Units: 6.** Aut (L. R. Russell-Dağ, I. Sözen) Spr (I. Sözen)

**CS 153 Introduction to Computing I**

**CS 154 Introduction to Computing II**
Continuation of CS 153. Basics of Internet, World Wide Web, HTML tags, URLs (Uniform Resource Locaters), multimedia files, forms, image maps, CGI (Common Gateway Interface), Java language. **Credit units: 3 ECTS Credit Units: 6, Prerequisite: CS 153.** Spr (L. Y. Ince)

**CS 155 Multimedia Authoring System and Standards**
Multimedia programming: basic tools and hypertext mark-up language (HTML), innovative applications and multitasking in the multimedia environment. Introduction to authoring systems: Currently used authoring systems. Paradigm structure of the authoring systems: Authoring and script paradigm, iconic/flow paradigm, frame paradigm. card/scripting paradigm and hypermedia linkage paradigm. Authoring process and interface metaphors, multimedia scripting and scripting languages. Communication through multimedia applications: Audio, motion, graphics and user interaction. **Credit units: 3 ECTS Credit Units: 6, Prerequisite: CS 154.** Aut (L. Y. Ince)
CS 201  Fundamental Structures of Computer Science I

CS 202  Fundamental Structures of Computer Science II

CS 223  Digital Design

CS 224  Computer Organization

CS 281  Computers and Data Organization

CS 299  Summer Training I
Conducted in a company setting with involvement in real projects for a minimum of four weeks (20 working days). Application of knowledge and skills learned at school to solve engineering problems related to computer systems in the real-world. Familiarization with professional and ethical responsibility while working in multidisciplinary teams. Understanding the impact of engineering solutions in a global, economic, environmental and societal context. Learning to find relevant resources to access information. Observation of the use of contemporary tools, techniques, standards and methods. Preparing technical documentation. Credit units: None ECTS Credit Units: 6, Prerequisite: CS 202. Aut (Staff) Spr (H. A. Gönervi)

CS 315  Programming Languages

CS 319  Object-Oriented Software Engineering
Principles and stages of object-oriented software development. Overview of object-oriented software modeling with Unified Modeling Language and exposure to CASE tools for object-oriented development. Experience with such tools and environments through programming assignments and/or a term project. Credit units: 4 ECTS Credit Units: 6, Prerequisite: CS 102 and CS 201. Aut (C. Alkan, U. Doğrusoz, B. Tekinerdoğan) Spr (E. K. Tabak, Ö. Tan)

CS 342  Operating Systems
Introduction to computer operating systems; processes, threads, interprocess communication, process scheduling, process synchronization, deadlocks, memory management and virtual memory, file systems - interface and implementation, mass-storage structure and management, input/output systems, examples from operating systems such as Linux and Windows. Credit units: 4 ECTS Credit Units: 6, Prerequisite: CS 202 and CS 224. Aut (S. Aksoy) Spr (I. Köprüoğlu)
CS 353  Database Systems

CS 399  Summer Training II
Conducted in a company setting with involvement in real projects for a minimum of four weeks (20 working days). Application of knowledge and skills learned at school to solve engineering problems related to computer systems in the real-world. Familiarization with professional and ethical responsibility while working in multidisciplinary teams. Understanding the impact of engineering solutions in a global, economic, environmental, and societal context. Learning to find relevant resources to access information. Observation of the use of contemporary tools, techniques, standards and methods. Preparing technical documentation. Credit units: None ECTS Credit Units: 6, Prerequisite: CS 299. Aut (Staff) Spr (H. A. Güvenir)

CS 411  Software Architecture Design
Basic concepts, methods and techniques for designing software architectures; rationale for software architecture design, modeling software architecture design, architectural styles/patterns, architectural requirements analysis, comparison and evaluation of architecture design methods, synthesis-based software architecture design, software product-line architectures, domain modeling, domain engineering and application engineering, software architecture implementation, evaluating software architecture designs. Credit units: 3 ECTS Credit Units: 6, Prerequisite: CS 319.

CS 413  Software Engineering Project Management
Software development process models. Project planning techniques, developing an architecture decomposition view, Work Breakdown Structure (WBS), creating project schedule, resource profiles and Gannt charts. Software project effort and cost estimation techniques and software product size measures. Software metrics, measuring and controlling software products and processes. Risk management, teamwork, leadership, communication and organisational issues. Credit units: 3 ECTS Credit Units: 6, Prerequisite: CS 319. Spr (B. Akporay)

CS 415  Software Product Line Engineering
Software reuse, SPL methods, domain engineering, application engineering, commonality and variability analysis, variability modeling, reference architecture, application architecture, software product portfolio management, software product line scoping, testing in SPL, organization structures for SPL, risks of SPL, adoption strategies for SPL. Credit units: 3 ECTS Credit Units: 6, Prerequisite: CS 319. Aut (B. Tekinerdoğan)

CS 421  Computer Networks
Introduction to computer networks and the Internet. Application layer: HTTP, FTP, SMTP, DNS. Socket programming; client/server model; peer-to-peer networking. Transport layer protocols: TCP, UDP. Congestion control and congestion control in TCP. Network layer protocols: IP. Internet routing. Link layer: error control, multiple access. Data link layer protocols: Ethernet. Local area networks. Credit units: 3 ECTS Credit Units: 6, Prerequisite: (CS 102 or CS 112 or CS 114) and (MATH 230 or MATH 250 or MATH 255). Aut (T. Dayar, E. Karaşan) Spr (T. Dayar, C. Tekin)

CS 423  Computer Architecture

CS 426  Parallel Computing
CS 432  Machine-to-Machine (M2M) Systems
Introduction to Machine-to-Machine (M2M), Internet of Things (IoT), M2M node manufacturing, M2M node programming, sensors and sensor programming, Global System for Mobile (GSM) modules, GSM programming, Global Positioning System (GPS) module and GPS programming, Smart Cities, Intelligent Operations, End-to-End (E2E) testing. Credit units: 3 ECTS Credit Units: 6, Prerequisite: CS 342. Spr (Ö. Öztürk)

CS 442  Distributed Systems and Algorithms
Fundamentals of distributed systems and algorithms. Theoretical aspects, such as proving program properties, time synchronization, logical clocks, distributed global snapshots, mutual exclusion, consensus, and fault-tolerance. Practical aspects, such as remote procedure calls (RPC), distributed objects, message passing interface (MPI), distributed shared memory (DSM), tuple spaces, distributed file systems such as NFS, web-based systems (DNS, web caching, and content distribution networks (CDNs)), map-reduce systems, key/value stores, BSP (bulk-synchronous processing) style computation, and peer-to-peer systems. Credit units: 3 ECTS Credit Units: 6, Prerequisite: CS 342.

CS 443  Cloud Computing and Mobile Applications
Hands-on introduction to cloud computing and developing mobile applications. Cloud computing services and infrastructures (virtualization, datacenter networking, wide-area storage/replication, distributed file systems), development tools (MapReduce, Hadoop, OpenStack), fundamental tradeoffs and algorithms (CAP theorem, NoSQL systems, Paxos) and applications (big-data analysis, real-time data systems, large-scale webservices), iOS and Android programming and programming to develop mobile applications with backend storage and computing components running on the cloud (Amazon AWS, Microsoft Azure, or Google AppEngine). Credit units: 3 ECTS Credit Units: 6, Prerequisite: CS 342.

CS 453  Application Lifecycle Management
Application lifecycle management process, software development in large-scale IT organizations, software development productivity, agile software development, project management, requirements management, architecture and design, software development, software test management, software configuration management, change management, and build management. Credit units: 3 ECTS Credit Units: 6, Prerequisite: CS 319. Aut (Staff)

Spr (E. Tüzen)

CS 458  Software Verification and Validation
Introduction and motivation for verification and validation; software testing overview, fundamentals of test process, general principles of testing, definitions and concepts, testing in software development life cycle, types of testing, levels of testing, test metrics; software inspection and code reviews, technical reviews, pair programming; specification-based testing, input-based partitioning, equivalence class partitioning, boundary value analysis, state transition test, decision table technique, used case testing; structural testing, graph coverage, logic coverage, syntax-based testing, statement coverage, branch coverage, condition coverage, path coverage, instrumentation and tool support; system, acceptance, and regression testing; model-based testing; run-time verification; model-checking, temporal logic in finite-state verification, computational tree logic; safety analysis and software reliability engineering. Credit units: 3 ECTS Credit Units: 6, Prerequisite: CS 319.

CS 461  Artificial Intelligence

CS 464  Introduction to Machine Learning
Bayesian decision theory, parametric methods, nonparametric methods, decision trees, linear discrimination, multilayer perceptrons, unsupervised learning and clustering, hidden Markov models, reinforcement learning. Credit units: 3 ECTS Credit Units: 6. Aut (Ö. Taştan Okan) Spr (Ö. Taştan Okan)

CS 465  Computer Graphics I

CS 470  Introduction to Applied Cryptography
Fundamental concepts of cryptography, block ciphers, stream ciphers, cryptographic hash functions, public key encryption, digital signatures, key distribution protocols, authentication systems, security protocol pitfalls, Ker-
CS 473 Algorithms I

CS 476 Automata Theory and Formal Languages
Finite automata, regular expressions, regular languages and their properties. The pumping lemma. Context free grammars and languages, normal forms, pushdown automata, the pumping lemma for the CFLs. Turing machines and their properties. Decidability and undecidable languages. Complexity theory, NP-completeness. Credit units: 3 ECTS Credit Units: 6, Prerequisite: CS 201. Aut (C. Alkan) Spr (C. Alkan)

CS 479 Introduction to Cyber Security
Basic definitions of cyber security, overview of cyber threats, network basics, overview of TCP/IP, network attacks, security of basic network services, cyber threat prevention mechanisms, network forensics, penetration testing methodologies and tools, advanced persistent threats, application security, secure software development life cycle, malware analysis and overview of computer forensics, overview of information security management concept, cyber security posture: The World and Turkey, social science aspects of cyber security. Credit units: 3 ECTS Credit Units: 6, Prerequisite: CS 202.

CS 481 Bioinformatics Algorithms

CS 484 Image Analysis

CS 490 Introduction to Research in Computer Engineering and Science
Introduction to research techniques in computer engineering and science. Working on a research topic as an independent study, under the supervision of a faculty member. Preparation of academic papers to present the results of the study. Credit units: 3 ECTS Credit Units: 6, Prerequisite: CS 315 and CS 319 and CS 342 and CS 353 and EEE 391 and ENG 401 and GE 301 and MATH 230. Aut (Staff) Spr (H. A. Güvenir)

CS 491 Senior Design Project I
Capstone design project. Technical and innovative group project emphasizing engineering design principles on a specific topic in any field of computer science and engineering. Documentation on the specifications, analysis and the high level design of the project. Credit units: 3 ECTS Credit Units: 6, Prerequisite: CS 202 and CS 319. Aut (Staff) Spr (H. A. Güvenir)

CS 492 Senior Design Project II
Continuation of the capstone design project started in the CS 491 course, with the same team. Technical and innovative group project emphasizing engineering design principles on a specific topic in any field of computer science and engineering. Documentation on the low level design and the implementation of the project and an oral presentation, including a demo. Credit units: 3 ECTS Credit Units: 6, Prerequisite: CS 491. Aut (Staff) Spr (H. A. Güvenir)

CS 502 Algorithms II

CS 510 Networked Entertainment
Introduction to the key concepts involved with networked entertainment; concepts in generating, delivering and consuming multimedia content. Theory and principles in coding, packaging and securing multimedia data, with a focus on the methods for reliable and scalable transport over IP networks in the context of IPTV, video-on-demand.
and streaming applications. The best practices in network and operating system support for media transport, and the state-of-the-art in current deployments. Credit units: 3 ECTS Credit Units: 7.5. Spr (A. C. Beğen)

**CS 513 Implications of the Internet**

**CS 515 Mobile and Wireless Networking**

**CS 527 Advances in Switching Networks**

**CS 528 Advances in Switching Networks II**

**CS 531 Advances in Data Management Research**
High dimensional data management (indexing, similarity search, data analytics); bitmap indexing (compression, query processing), data streams, mining multimedia, time-series, and biological data. Credit units: 3 ECTS Credit Units: 7.5. Aut (H. Ferhatosmanoğlu)

**CS 532 Information Retrieval Systems**
Introduction to information storage and retrieval (IR). IR vs. DBMS. User perspective, search models, evaluation of IR systems. Formal IR models. Data structures and techniques including, inverted files, signature files, information filtering, clustering and cluster-based retrieval, hypertext and multimedia systems. IR and the Internet, browsing strategies, search engines, web robots and intelligent agents. Credit units: 3 ECTS Credit Units: 7.5. Spr (F. Can)

**CS 541 Chip Multiprocessors**
Introduction to chip multiprocessor (CMP), multicore and manycore architectures. Instruction level parallelism, Explicit parallelism: Shared instruction processors (SIMD) shared sequencer processors (VLIW), shared network processors (MPP), shared memory processors (SMP). The march to multicore and manycore: Power efficiency, DRAM access latency. Network interfaces: Network topologies, buses, switches, multistage networks, hypercubes. Parallel programming: PThreads, MPI, multicore programming, OpenMP. Parallel programming concepts: Coverage, granularity, locality. Graphics processing unit (GPU): Hardware overview, performance, software environment, programming models, GPU Memory, CUDA, OpenCL. Credit units: 3 ECTS Credit Units: 7.5.

**CS 545 Fundamentals of Stream Processing**
Fundamental concepts of stream processing, data flow programming (static, dynamic, and nested composition), large-scale streaming application development (modularity, extensibility, distribution, debugging, and visualization), software architecture for streaming middleware, design principles and patterns for streaming applications (including non-functional topics such as parallelization, load balancing, load shedding, and fault tolerance), and basic stream processing and mining algorithms. Credit units: 3 ECTS Credit Units: 7.5.

**CS 550 Machine Learning**

**CS 551 Pattern Recognition**
CS 553  Intelligent Data Analysis
Differences between data and knowledge, assessing knowledge; Data analysis process, methods, tasks and tools; Practical data analysis; Data understanding, attribute understanding, data quality, data visualization, correlation analysis, outlier detection, missing values; Principles of modeling, model classes, fitting criteria and score functions, model fitting, types of errors; Data preparation, feature selection, dimensionality reduction, record selection, improving data quality; Use of machine learning and data mining techniques in intelligent data analysis. Credit units: 3 ECTS Credit Units: 7.5.

CS 554  Computer Vision
Basic concepts in computational vision. Relation to human visual perception. The analysis and understanding of image and video data. Mathematical foundations, image formation and representation, segmentation, feature extraction, contour and region analysis, camera geometry and calibration, stereo, motion, 3-D reconstruction, object and scene recognition, object and person tracking, human activity recognition and inference. Credit units: 3 ECTS Credit Units: 7.5.

CS 557  Computational Systems Biology
Short introduction to molecular biology and systems biology, gene; protein, function, biological data types; machine learning overview; analyzing and reconstructing biological networks, inferring protein signaling networks, inferring transcriptional regulatory networks, predicting host-pathogen networks; metabolic networks; regulatory motif finding; comparing and searching interaction networks, dynamical networks; annotating and predicting gene function. Credit units: 3 ECTS Credit Units: 7.5. Spr (Ö. Taştan Okan)

CS 564  Computational Geometry
Algorithmic background, data structures, geometric preliminaries, models of computation. Geometric searching, point-location problems, range-searching problems. Convex hulls, problem statement and lower bounds, convex hull algorithms in the plane, graham's scan, Jarvis's march, QUICKHULL techniques, dynamic convex hull, convex hull in 3D. Proximity problem, a collection of problems, a computational prototype: element uniqueness, lower bounds, the closest-pair problem: a divide-and-conquer approach, the Voronoi diagram, proximity problems solved by the Voronoi diagram triangulation, planar triangulations, Delaunay triangulation, intersections, application areas, planar applications: intersection of convex polygons, star-shaped polygons; intersection of line-segments. 3D applications: intersection of 3D convex polyhedra; intersection of half-spaces. Credit units: 3 ECTS Credit Units: 7.5. Spr (U. Gündükbay)

CS 555  Application of Computer Graphics

CS 556  Advanced Topics in Computer Graphics
Advanced topics in computer graphics. Physical simulation of natural phenomena. Cloth and membrane simulation. Hydrodynamics (fire and liquid) simulation and rendering. Motion capture. Deformation and fracture simulation. Particle systems. Credit units: 3 ECTS Credit Units: 7.5. Spr (B. Özgüç)

CS 573  Algorithms I

CS 577  Data Privacy
Introduction to privacy, economics and incentives, crypto-based solution for privacy, hiding data from the database user, hiding access patterns from the database owner, anonymous routing and TOR, privacy in online social networks, privacy in cellular and Wi-Fi networks, location privacy, privacy in e-cash systems, privacy in e-voting, genomic privacy. Credit units: 3 ECTS Credit Units: 7.5. Spr (E. Ayday)

CS 586  Aspect-Oriented Software Development
Advanced software design principles; separations of concerns; coupling and cohesion; software evolution problems; component-oriented software development; examples of crosscutting aspects; aspect-oriented programming using Aspect-J, Composition Filters, Hyper J, Cosmos and Demeter; aspect-oriented modeling; aspects at the requirements and architecture design level; reflection and delegation techniques; composition anomalies; language-based vs. framework-based AOP; interference of aspects Credit units: 3 ECTS Credit Units: 7.5.
CS 587  Model-Driven Software Development
Software evolution problems, motivation for Model-Driven Software Development (MDSD), domain modeling, meta-modeling, model-driven architecture (MDA), model-driven engineering methods, model-to-text transformations, model-to-model transformations, domain specific languages, software factories, MDSD tools, Architecture-Driven Modernization (ADM), adaption strategies for setting up a model-driven approach, obstacles of MDSD.  
Credit units: 3 ECTS Credit Units: 7.5.

CS 590  Research Seminar I
Presentation on the preliminary results of the graduate thesis work. Participation in the presentations given by other classmates.  
Credit units: None ECTS Credit Units: 1. Aut (B. Tekinerdoğan, Ö. Ulusoy) Spr (U. Gündükbay, İ. Kürşad Yılmaz)

CS 599  Master’s Thesis
Credit units: None ECTS Credit Units: 56. Aut (Staff) Spr (Staff)

CS 681  Advanced Topics in Computational Biology
Credit units: 3 ECTS Credit Units: 7.5.

CS 683  Cloud Computing
Cloud computing introduction, definition and types; fundamental tradeoffs and distributed algorithms, CAP theorem, consensus, Paxos; cloud computing platforms and infrastructures, datacenter networking, virtualization; algorithms, resource allocation, load-balancing, scheduling; distributed file systems, wide-area storage, NoSQL, replication; programming frameworks, MapReduce; practical systems, Dynamo, BigTable, Dryad, Hadoop; cloud computing providers, applications and services.  
Credit units: 3 ECTS Credit Units: 7.5. Spr (İ. Kürşad Yılmaz)

CS 690  Research Seminar II
Presentation on the preliminary results of the Ph.D. thesis work. Participation in the presentations given by other classmates.  
Credit units: None ECTS Credit Units: 1. Aut (B. Tekinerdoğan, Ö. Ulusoy) Spr (U. Gündükbay, İ. Kürşad Yılmaz)

CS 699  Ph.D. Dissertation
Credit units: None ECTS Credit Units: 140. Aut (Staff) Spr (Staff)
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING


The Department of Electrical and Electronics Engineering offers programs that lead to B.S., M.S., and Ph.D. degrees.

UNDERGRADUATE PROGRAM

Electrical and Electronics Engineering Department has the vision to provide a program of the highest quality to produce leader engineers who can address the challenges of the new century and excel at an international level.

With this vision, the mission is to provide our graduates with the knowledge and skills needed for high quality engineering work as well as advanced engineering research and to equip them with a broad intellectual spectrum in order to prepare them for diverse and competitive career paths.

As individuals and as members of a team, our majors will have successful careers in the academic environment, industrial or government organizations. They will be able to pursue advanced degrees in diverse fields and continue professional development. We prepare our graduates to be able to function in national/international/multi-cultural corporations and organizations.

To meet these objectives, our undergraduate program is built upon a strong analytical foundation in mathematics, science and engineering courses. Upon this foundation, core electrical and electronics engineering background is established. A variety of elective courses are offered in order to serve technical needs and objectives of students. The program is enriched by providing the student with courses in social sciences, humanities and economics to broaden their intellectual spectrum. In addition, our students are exposed to the professional life with the help of two summer practices. Also, a capstone design sequence is offered to students in the senior year to consolidate their technical knowledge by developing an engineering solution to a problem with multiple realistic constraints.

The Electrical and Electronics Engineering program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.

UNDERGRADUATE CURRICULUM

FIRST YEAR

<table>
<thead>
<tr>
<th>Credits / ECTS Credits</th>
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<td>Autumn Semester</td>
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<td>CS 101 Algorithms and Programming I</td>
<td>4 / 7</td>
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<tr>
<td>ENG 101 English and Composition I</td>
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<td>GE 100 Orientation</td>
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<td>MATH 101 Calculus I</td>
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<td>PHYS 101 General Physics I</td>
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<td>TURK 101 Turkish I</td>
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<td>Spring Semester</td>
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<tr>
<td>CS 102 Algorithms and Programming II</td>
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</tr>
<tr>
<td>ENG 102 English and Composition II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 102 Calculus II</td>
<td>4 / 7</td>
</tr>
<tr>
<td>PHYS 102 General Physics II</td>
<td>4 / 6</td>
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<tr>
<td>TURK 102 Turkish II</td>
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SECOND YEAR

<table>
<thead>
<tr>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>Autumn Semester</td>
<td></td>
</tr>
<tr>
<td>EEE 102 Introduction to Digital Circuit Design</td>
<td>4 / 7</td>
</tr>
<tr>
<td>EEE 211 Analog Electronics</td>
<td>4 / 7</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
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<tr>
<td>------------</td>
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</tr>
<tr>
<td>GE 250</td>
<td>Collegiate Activities Program I</td>
</tr>
<tr>
<td>HIST 200</td>
<td>History of Turkey</td>
</tr>
<tr>
<td>HUM 111</td>
<td>Cultures and Ideas I</td>
</tr>
<tr>
<td>MATH 241</td>
<td>Engineering Mathematics I</td>
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**Spring Semester**

<table>
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<tr>
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<tbody>
<tr>
<td>EEE 202</td>
<td>Circuit Theory</td>
<td>4 / 7</td>
</tr>
<tr>
<td>EEE 212</td>
<td>Microprocessors</td>
<td>4 / 7</td>
</tr>
<tr>
<td>GE 251</td>
<td>Collegiate Activities Program II</td>
<td>1 / 1</td>
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<tr>
<td>HUM 112</td>
<td>Cultures and Ideas I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 242</td>
<td>Engineering Mathematics II</td>
<td>4 / 6</td>
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**THIRD YEAR**

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<tbody>
<tr>
<td>EEE 299</td>
<td>Summer Training I</td>
<td>- / 6</td>
</tr>
<tr>
<td>EEE 313</td>
<td>Electronic Circuit Design</td>
<td>4 / 7</td>
</tr>
<tr>
<td>EEE 321</td>
<td>Signals and Systems</td>
<td>4 / 7</td>
</tr>
<tr>
<td>EEE 351</td>
<td>Engineering Electromagnetics</td>
<td>3 / 6</td>
</tr>
<tr>
<td></td>
<td>Humanities or Social Science Elective</td>
<td>3 / 6</td>
</tr>
<tr>
<td></td>
<td>Mathematics / Science Elective</td>
<td>3 / 6</td>
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<thead>
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<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>EEE 342</td>
<td>Feedback Control Systems</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ENG 401</td>
<td>Technical Report Writing and Presentation</td>
<td>2 / 4</td>
</tr>
<tr>
<td>MATH 255</td>
<td>Probability and Statistics</td>
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<tr>
<td>EEE Elective</td>
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<td>3 / 6</td>
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<tr>
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<td>Humanities or Social Science Elective</td>
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**Autumn Semester**

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<tbody>
<tr>
<td>EEE 399</td>
<td>Summer Training II</td>
<td>- / 6</td>
</tr>
<tr>
<td>GE 301</td>
<td>Science Technology and Society</td>
<td>2 / 3</td>
</tr>
<tr>
<td>EEE Elective</td>
<td></td>
<td>3 / 6</td>
</tr>
<tr>
<td>EEE Restricted Elective</td>
<td></td>
<td>3 / 6</td>
</tr>
<tr>
<td>Project Elective-I</td>
<td></td>
<td>3 / 6</td>
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**Spring Semester**

<table>
<thead>
<tr>
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<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>GE 304</td>
<td>Technology Society and Professional Development Seminar</td>
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<tr>
<td>EEE Expanded Electives (2)</td>
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<tr>
<td>EEE Restricted Elective</td>
<td></td>
<td>3 / 6</td>
</tr>
<tr>
<td>Project Elective-II</td>
<td></td>
<td>3 / 6</td>
</tr>
<tr>
<td>Unrestricted Elective</td>
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<td>3 / 6</td>
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</table>

**PROJECT ELECTIVE-I**

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>EEE 491</td>
<td>Electrical and Electronics Engineering Design I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>EEE 493</td>
<td>Industrial Design Project I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>GE 401</td>
<td>Innovative Product Design and Development I</td>
<td>3 / 6</td>
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**PROJECT ELECTIVE-II**

<table>
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>EEE 494</td>
<td>Industrial Design Project II</td>
<td>3 / 6</td>
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<tr>
<td>EEE 495</td>
<td>Electrical and Electronics Engineering Design II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>GE 402</td>
<td>Innovative Product Design and Development II</td>
<td>3 / 6</td>
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</table>

**EEE ELECTIVE**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>CS 421</td>
<td>Computer Networks</td>
<td>3 / 6</td>
</tr>
<tr>
<td>CS 423</td>
<td>Computer Architecture</td>
<td>3 / 6</td>
</tr>
<tr>
<td>EEE 314</td>
<td>Digital Electronics</td>
<td>4 / 7</td>
</tr>
</tbody>
</table>
### DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

**GRADUATE PROGRAMS**

Graduate programs focus on those fields which are heavily in demand worldwide. Current research areas are signal and image processing, electronics, optics, acoustics, electromagnetics, nanotechnology, robotics, telecommunications and networks, biomedical engineering, and system and control theory. The department emphasizes research with the support of excellent laboratories, computing facilities, and libraries. These facilities are continuously upgraded through various grants from national and international resources. Currently there are image processing, signal processing, optics, electronics, telecommunications, robotics and control, microwaves and antennas, nanophotonics, and biomedical laboratories.

**Master of Science in Electrical and Electronics Engineering**

**Admission:** All applicants are required to have a B.S. degree in electrical and electronics engineering, or in a related field of science or engineering. Students with a B.S. degree in areas other than electronics and electronics engineering may be requested to take several undergraduate courses in the field to acquire the necessary background. Evaluation of applicants is based on their ALES (Akademik Personel ve Lisansüstü Eğitimi Giriş Sınavı - Academic Personnel and Postgraduate Education Entrance Examination) scores, past academic records, reference letters and an interview. Applicants who are not Turkish citizens and Turkish citizen applicants who are residents of another country may take GRE instead of ALES. All non-native speakers of English are required to submit a proof of satisfactory knowledge of English.

**Degree Requirements:** In addition to at least 24 credit units of course work, the M.S. degree candidate must prepare and successfully defend a thesis. Expected duration to complete the M.S. program is four semesters; the maximum duration is six semesters.

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>EEE 352</td>
<td>Applied Electromagnetics</td>
<td>3 / 6</td>
</tr>
<tr>
<td>EEE 411</td>
<td>Telecommunication Electronics</td>
<td>4 / 7</td>
</tr>
<tr>
<td>EEE 412</td>
<td>Microwave Electronics</td>
<td>4 / 7</td>
</tr>
<tr>
<td>EEE 414</td>
<td>Introduction to CMOS VLSI Design</td>
<td>3 / 6</td>
</tr>
<tr>
<td>EEE 415</td>
<td>Analog CMOS Integrated Circuits</td>
<td>3 / 6</td>
</tr>
<tr>
<td>EEE 418</td>
<td>Principles of Electronic Devices</td>
<td>4 / 7</td>
</tr>
<tr>
<td>EEE 419</td>
<td>Power Electronics</td>
<td>3 / 6</td>
</tr>
<tr>
<td>EEE 424</td>
<td>Digital Signal Processing</td>
<td>4 / 7</td>
</tr>
<tr>
<td>EEE 428</td>
<td>Optics</td>
<td>4 / 7</td>
</tr>
<tr>
<td>EEE 429</td>
<td>Photonics</td>
<td>3 / 6</td>
</tr>
<tr>
<td>EEE 431</td>
<td>Telecommunications I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>EEE 432</td>
<td>Telecommunications II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>EEE 436</td>
<td>Wireless Networking Technologies and Applications</td>
<td>3 / 6</td>
</tr>
<tr>
<td>EEE 441</td>
<td>Optimal Control Theory and its Applications</td>
<td>3 / 6</td>
</tr>
<tr>
<td>EEE 442</td>
<td>Nonlinear Systems</td>
<td>3 / 6</td>
</tr>
<tr>
<td>EEE 443</td>
<td>Neural Networks</td>
<td>3 / 6</td>
</tr>
<tr>
<td>EEE 444</td>
<td>Robust Feedback Theory</td>
<td>3 / 6</td>
</tr>
<tr>
<td>EEE 446</td>
<td>Control and Optimization of Stochastic Systems</td>
<td>3 / 6</td>
</tr>
<tr>
<td>EEE 447</td>
<td>Introduction to Robotics</td>
<td>3 / 6</td>
</tr>
<tr>
<td>EEE 451</td>
<td>Microwave Engineering</td>
<td>4 / 7</td>
</tr>
<tr>
<td>EEE 452</td>
<td>Antenna Engineering</td>
<td>4 / 7</td>
</tr>
<tr>
<td>EEE 473</td>
<td>Medical Imaging</td>
<td>3 / 6</td>
</tr>
<tr>
<td>EEE 474</td>
<td>Foundations of Magnetic Resonance Imaging</td>
<td>3 / 6</td>
</tr>
<tr>
<td>EEE 480</td>
<td>Advanced Optoelectronics: Innovative Design</td>
<td>3 / 6</td>
</tr>
<tr>
<td>EEE 481</td>
<td>Biomedical Signals and Instrumentation</td>
<td>3 / 7</td>
</tr>
<tr>
<td>EEE 482</td>
<td>Computational Neuroscience</td>
<td>3 / 6</td>
</tr>
<tr>
<td>EEE 492</td>
<td>Senior Project</td>
<td>3 / 6</td>
</tr>
<tr>
<td>EEE 497</td>
<td>Digital Signal Processing Laboratory</td>
<td>3 / 6</td>
</tr>
</tbody>
</table>

Students may take at most two EEE 500 or higher coded courses.
CURRICULUM

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>EEE 599 Master’s Thesis</td>
<td>- / 56</td>
</tr>
<tr>
<td>GE 590 Academic Practices</td>
<td>- / 12</td>
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<tr>
<td>Core graduate course</td>
<td>3 / 7.5</td>
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<tr>
<td>EEE Graduate Seminar</td>
<td>- / 1</td>
</tr>
<tr>
<td>Graduate Electives (2)</td>
<td>6 / 15</td>
</tr>
<tr>
<td>Restricted graduate electives (5)</td>
<td>15 / 37.5</td>
</tr>
</tbody>
</table>

The descriptions provided here for different elective course groups are only for guidance. The complete list of courses in each elective group are given in the electronic registration system.

Core Graduate Courses: EEE 501, EEE 525, EEE 533, EEE 560, EEE 603
Graduate Elective Courses: All 5XX or higher level courses with at least 3 credits offered by Graduate School of Engineering and Science.*
Restricted Graduate Elective Courses: All 5XX or higher level CS, EEE, IE, MATH, ME, PHYS coded courses with at least 3 credits and MSN 551.

Master of Science in Electrical and Electronics Engineering - Telecommunications and Networking

Non-thesis M.S. program on Telecommunications and Networking (MSTN) is an interdisciplinary program specifically focusing on the constantly evolving field of information technologies. Graduates of this program are expected to find employment in a broad range of businesses including telecommunications equipment/software manufacturers, internet service providers, wireless network operators, mobile application development businesses, telecommunication chip manufacturers, telecommunications regulatory agencies, and military telecommunication systems development companies. The program is intended for recent graduates as well as engineers who are currently employed by these businesses/organizations and wish to obtain a specialized advanced degree in telecommunications and networking. Students in this program will learn how to become leader engineers in the ever changing world of global information networking, wireless/optical telecommunication systems and technologies. In order to get the MSTN degree, students are required to successfully complete courses from a wide range of subjects in telecommunications, networking, computer science, operations research, management and law related to information technologies.

Admission: All applicants are required to have a B.S. degree in electrical and electronics engineering, or in a related field of science or engineering. Evaluation of applicants is based on their ALES (Akademik Personel ve Lisansüstü Eğitimi Giriş Sınavı - Academic Personnel and Postgraduate Education Entrance Examination) scores, past academic records, reference letters and an interview. Applicants who are not Turkish citizens and Turkish citizen applicants who are residents of another country may take GRE instead of ALES. All non-native speakers of English are required to submit a proof of satisfactory knowledge of English.

Degree Requirements: Students are expected to complete at least ten courses equivalent to at least 30 credit units of course work. Up to three of these courses can be selected from the undergraduate courses in related fields. In addition to these courses, the students should also complete a one-semester project under the supervision of a faculty member in the Department of Electrical and Electronics Engineering. Expected duration to complete the MSTN study is four semesters, and the maximum duration is six semesters.

*Graduate School of Engineering and Science comprises graduate programs of the departments of Computer Engineering, Electrical and Electronics Engineering, Industrial Engineering, Mechanical Engineering, Chemistry, Mathematics, Molecular Biology and Genetics, Physics, and the interdisciplinary graduate programs Material Science and Nanotechnology, and Neuroscience.
## CURRICULUM

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<th>Courses</th>
<th>Credits / ECTS Credits</th>
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<tr>
<td>EEE 530 Digital Communications Theory</td>
<td>3 / 7.5</td>
</tr>
<tr>
<td>EEE 533 Random Processes</td>
<td>3 / 7.5</td>
</tr>
<tr>
<td>EEE 536 Internet Architecture and Protocols</td>
<td>3 / 7.5</td>
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<tr>
<td>EEE 596 Graduate Research Project in Telecommunications and Networking</td>
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<tr>
<td>Broad Elective</td>
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<td>Technical Graduate Electives (2)</td>
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<tr>
<td>Technical Graduate Elective or Non-Technical Graduate Electives (2)</td>
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</table>

The descriptions provided here for different elective course groups are only for guidance. The complete list of courses in each elective group are given in the electronic registration system.

**Broad Elective Courses**: Selected 4XX or higher level CS, EEE, LAW, MATH and MBA coded courses with at least 2 credits.

**Technical Graduate Elective Courses**: Selected 5XX or higher level CS, EEE and IE coded courses with at least 3 credits.

**Technical Graduate Elective or Non-Technical Graduate Elective Courses**: Selected 5XX or higher level CS, EEE, IE, LAW and MBA coded courses with at least 3 credits.

**Technical Graduate Elective or Undergraduate Elective Courses**: Selected 4XX or higher level CS, EEE, IE and MATH coded courses with at least 3 credits and MATH 255.

### Doctor of Philosophy in Electrical and Electronics Engineering

**Admission**: All applicants are required to have a B.S. degree in electrical and electronics engineering, or in a related field of science or engineering. Evaluation of applicants is based on their ALES (Akademik Personel ve Lisansüstü Eğitimi Giriş Sınavı - Academic Personnel and Postgraduate Education Entrance Examination) scores, past academic records, reference letters and an interview. Applicants who are not Turkish citizens and Turkish citizen applicants who are residents of another country may take GRE instead of ALES. All non-native speakers of English are required to submit a proof of satisfactory knowledge of English.

**Degree Requirements**: 24 credit units of course work beyond the M.S. level or 48 credits of course work beyond the B.S. level is required. Ph.D. candidates must pass a qualifying exam typically on their fourth semester, and then must prepare a thesis work proposal. Preparing and defending a dissertation based on original research is the essence of the program. A dissertation based on original research is the essence of the program. The expected duration to complete the Ph.D. program is eight semesters for students who enter the program after an M.S. degree, and ten semesters for those who enter after a B.S. degree. The maximum durations are 12 and 14 semesters, respectively.

**Doctor of Philosophy in Electrical and Electronics Engineering (After a Bachelor's Degree)**

<table>
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<tr>
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<tr>
<td>EEE 699 Ph.D. Dissertation</td>
<td>- / 140</td>
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<tr>
<td>GE 690 Academic Practices</td>
<td>- / 24</td>
</tr>
<tr>
<td>EEE Graduate Seminar</td>
<td>- / 1</td>
</tr>
<tr>
<td>Graduate Electives (5)</td>
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<tr>
<td>Restricted graduate electives (3)</td>
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### CURRICULUM

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<tr>
<td>EEE 699 Ph.D. Dissertation</td>
<td>- / 140</td>
</tr>
<tr>
<td>GE 690 Academic Practices</td>
<td>- / 24</td>
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Core graduate course .......................................................... 3 / 7.5
EEE Graduate Seminars (2) .................................................. 1 / 2
Graduate Electives (7) .......................................................... 21 / 52.5
Restricted graduate electives (8) ........................................... 24 / 60

The descriptions provided here for different elective course groups are only for guidance. The complete list of courses in each elective group are given in the electronic registration system.

**Graduate Elective Courses:** All 5XX or higher level courses with at least 3 credits offered by Graduate School of Engineering and Science.*

**Restricted Graduate Elective Courses:** All 5XX or higher level CS, EEE, IE, MATH, ME, PHYS coded courses with at least 3 credits and MSN 551.

**Core Graduate Courses:** EEE 501, EEE 525, EEE 533, EEE 560, EEE 603

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**COURSE DESCRIPTIONS**

**EEE 102**  Introduction to Digital Circuit Design
Number systems and conversions, data representation, analysis and design of combinational logic circuits, Boolean algebra, logic gates, minimization techniques, HDL, sequential logic, flip-flops, registers, clocked circuits, clock generation, counters, shift registers, arithmetic circuits. **Credit units: 4 ECTS Credit Units: 7, Prerequisite:** CS 101. Aut (E. Atalar) Spr (S. S. Kozat, C. Tekin)

**EEE 202**  Circuit Theory
Resistive circuits. Matrix formulation of KCL, KVL. Two ports, circuit theorems, Thevenin and Norton equivalent circuits, superposition. Simple nonlinear circuits. Operational amplifiers. 1st and 2nd order circuits. General circuit analysis. Sinusoidal steady state. Application of Laplace transform to circuits. **Credit units: 4 ECTS Credit Units: 7, Prerequisite:** EEE 211 and MATH 241. Aut (T. Çukur) Spr (F. Ö. İlday, Ö. Morgül)

**EEE 211**  Analog Electronics
Design of an HF radio transceiver using the following topics in the frequency range 100 Hz - 30 MHz: Block diagram concept, passive electronic components (R, L, C, diode, crystals, etc.) and integrated circuits, as active devices; filters, power supplies, audio amplifiers, speakers, microphones, radio amplifiers, oscillators, mixers, noise intermodulation, and antennas. **Credit units: 4 ECTS Credit Units: 7, Prerequisite:** PHYS 102. Aut (A. Atalar, E. Ü. Sanıat) Spr (E. Ü. Sanıat)

**EEE 212**  Microprocessors
Introduction to microprocessors and microcontrollers. 8051 microcontroller. 8051 Assembly Language. Input/output interfacing. Timers. Serial Port. Interrupt programming. External Memory Interfacing. **Credit units: 4 ECTS Credit Units: 7, Prerequisite:** CS 223 or EEE 102. Aut (S. Gezici) Spr (N. Akar, M. Eren)

**EEE 299**  Summer Training I
A minimum of four weeks summer practice in a company working on fundamental areas of electrical and electronics engineering; observation of company in its original settings and working on projects relevant to the company; submission of a written report. **Credit units: None ECTS Credit Units: 6. Aut (Staff) Spr (Staff)**

**EEE 313**  Electronic Circuit Design

**EEE 314**  Digital Electronics

*Graduate School of Engineering and Science comprises graduate programs of the departments of Computer Engineering, Electrical and Electronics Engineering, Industrial Engineering, Mechanical Engineering, Chemistry, Mathematics, Molecular Biology and Genetics, Physics, and the interdisciplinary graduate programs Material Science and Nanotechnology, and Neuroscience.*
EEE 321 Signals and Systems
Basic discrete and continuous signals and systems, linear time-invariant systems, Fourier analysis for continuous and discrete signals and systems, filtering, sampling of continuous time signals, FIR and IIR filters, z-transform, elementary modulation techniques. Credit units: 4 ECTS Credit Units: 7, Prerequisite: EEE 202. Aut (H. Özaktas) Spr (S. S. Kozat)

EEE 342 Feedback Control Systems

EEE 351 Engineering Electromagnetics
Review of vector analysis, Static electric fields, electric potential, boundary conditions and capacitances, Steady electric currents, Static magnetic fields, vector magnetic potential, boundary conditions and inductances. Faraday's law of electromagnetic induction, Maxwell's equations, Time-harmonic fields, Plane electromagnetic power and Pointing vector, Reflection of plane waves from plane boundaries. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MATH 242 and PHYS 102. Aut (T. Çukur, V. B. Ertekin) Spr (E. Atalar, V. B. Ertekin)

EEE 352 Applied Electromagnetics
Review of static electric and magnetic fields, Dielectric and magnetic materials, Electrostatic and magnetostatic energy and forces, Magnetic circuits, transformers and electromagnetic energy conversion, Basic of electric machinery, Review of Maxwell's equations and plane waves, Reflection and transmission of plane waves at plane boundaries, Transmission lines, Smith chart and impedance matching, Waveguides and cavity resonators, Electromagnetic radiation and antennas, Antenna arrays, effective aperture, Friis transmission formula and radar equation. Credit units: 3 ECTS Credit Units: 6, Prerequisite: EEE 351. Spr (V. B. Ertekin)

EEE 391 Basics of Signals and Systems
Basics of discrete- and continuous-time signals and systems, sinusoids and complex exponentials, phasor representation, spectrum representation, sampling and aliasing, Shannon/Nyquist sampling theorem, finite impulse response (FIR) filters, frequency response of FIR filters, z-transforms, infinite impulse response (IIR) filters, continuous-time signals and systems, linearity, time-invariance, linear time-invariant (LTI) systems, convolution, causality, frequency response of systems, continuous-time Fourier transform. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MATH 102. Aut (B. Barshan) Spr (T. Aytac, B. Barshan)

EEE 399 Summer Training II
A minimum of four weeks summer practice in a company working on fundamental areas of electrical and electronics engineering; observation of company in its original settings and working on projects relevant to the company; submission of a written report. Credit units: None ECTS Credit Units: 6, Prerequisite: EEE 299. Aut (Staff) Spr (Staff)

EEE 411 Telecommunication Electronics
Nonlinear controlled sources: piece-wise linear, square law, exponential and differential pair characteristics, Low level amplitude modulation and analog multiplication, Nonlinear loading of tuned circuits, Sinusoidal oscillators, Frequency mixers, High level amplitude modulation techniques. Credit units: 4 ECTS Credit Units: 7, Prerequisite: EEE 313.

EEE 412 Microwave Electronics
Microstrip and stripline techniques, Transistor and amplifier measurement techniques, Small and large signal high frequency amplifier design, Noise considerations in amplifiers, RF power amplifiers, Neutralization in RF amplifiers, Computer-aided design of amplifiers. Credit units: 4 ECTS Credit Units: 7, Prerequisite: EEE 313 and EEE 351.

EEE 414 Introduction to CMOS VLSI Design
Introduction to CMOS circuits, MOS transistor theory, CMOS processing technology, CMOS circuit characterization, CMOS VLSI circuit design, clocking strategies, case studies. Credit units: 3 ECTS Credit Units: 6, Prerequisite: EEE 313.

EEE 415 Analog CMOS Integrated Circuits
Review of MOS device physics, single stage amplifiers, differential amplifiers, current mirrors, frequency response of amplifiers, Miller effect, noise in amplifiers, feedback, operational amplifiers, slew rate, power supply rejection, stability and frequency compensation, Band gap references, switched capacitor circuits, nonlinearities, linearization, offset, oscillators, phase locked loops. Credit units: 3 ECTS Credit Units: 6, Prerequisite: EEE 313. Spr (A. Atalar)

EEE 418 Principles of Electronic Devices
Crystal structure and Growth techniques, Foundations of modern electronics, Energy bands in solids, Tunneling, Carrier concentrations and transport properties in semiconductors. Equilibrium states of PN junctions. Transient
analysis of PN junction diodes. SS, MS, SIS junction characteristics and principles of special purpose diodes. BJT equilibrium states and Ebers-Moll static model. Secondary effects and transient states in BJTs. Small signal model. JFET characteristics and equilibrium states. Principles of metal-insulator-semiconductor transistors and dc characteristics. Credit units: 4 ECTS Credit Units: 7, Prerequisite: EEE 202 and EEE 211 and PHYS 102. Aut (A. K. Okyay)

EEE 419 Power Electronics
Analysis and design of linear regulators, inverters, DC-DC converters, different topologies of converters, efficiencies of power conversion circuits, transformers and magnetic design, power semiconductor devices, power factor and power factor correction. Credit units: 3 ECTS Credit Units: 6, Prerequisite: EEE 313.

EEE 424 Digital Signal Processing
Discrete-time signals and systems. Review of the z-transform. DFT and its compilation. Some other linear transform. DCT, DST, Hartley, Hilbert, Walsh, Hadamard, etc. Digital filters (FIR and IIR) and filtering. Introduction to multirate signal processing. Introduction to time-frequency representations. Inverse problems. Credit units: 4 ECTS Credit Units: 7, Prerequisite: EEE 321 and MATH 255. Aut (S. S. Kozat) Spr (A. E. Çetin)

EEE 428 Optics
Geometrical, scalar wave, and electromagnetic wave theories of light. Gaussian beam propagation. Signals and systems concepts for analyzing optical systems (Fourier optics). Interference, diffraction, imaging, frequency domain filtering, and holography. Polarization, propagation in anisotropic media, optical waveguides, fibers, resonators, and their applications. Temporal and spatial coherence. Credit units: 4 ECTS Credit Units: 7, Prerequisite: EEE 321 and EEE 351. Aut (O. Aytür)

EEE 429 Photonics

EEE 431 Telecommunications I

EEE 432 Telecommunications II

EEE 436 Wireless Networking Technologies and Applications

EEE 441 Optimal Control Theory and its Applications
Calculus of variations, necessary conditions of optimality for unconstrained control systems, Pontryagin maximum principle (PMP), numerical solution of two-point boundary-value problems arising from optimal control, multistage systems, discrete-time control systems and optimality conditions, discretization of optimal control problems, implementation with software, dynamic programming, Hamilton-Jacobi-Bellman approach, time-optimal control, bang-bang control, state- and control-constrained optimal control. Credit units: 3 ECTS Credit Units: 6, Prerequisite: EEE 431.

EEE 442 Nonlinear Systems

EEE 443 Neural Networks

EEE 444 Robust Feedback Theory

EEE 446 Control and Optimization of Stochastic Systems
Stochastic stability of dynamical and distributed systems under probabilistic uncertainty. Optimal control problems and dynamic programming. Partially observed models; introduction to filtering and average cost minimization problems. Team decision theory and information structures; static and dynamic teams. Networked control systems, stabilization and optimization. Credit units: 3 ECTS Credit Units: 6, Prerequisite: EEE 342 and MATH 255.

EEE 447 Introduction to Robotics
Robot arm kinematics (forward and inverse kinematics); robot arm dynamics (equations of motion, equivalent formulations); planning of manipulator trajectories; range sensing (time-of-flight and triangulation systems, known target size, optical flow), proximity sensing (optical, magnetic, capacitive, inductive, ultrasonic), tactile (touch) sensing, force and torque sensing, dead reckoning (odometry and inertial sensing); mobile robots (localization, mapping, path planning, navigation, obstacle avoidance, object classification); multi-sensor data fusion. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MATH 241 and PHYS 102. Aut (B. Barshan)

EEE 451 Microwave Engineering

EEE 452 Antenna Engineering

EEE 473 Medical Imaging
Fundamentals and applications of four medical imaging techniques: magnetic resonance imaging, ultrasound, nuclear medicine X-ray computed tomography. Credit units: 3 ECTS Credit Units: 6, Prerequisite: EEE 321. Spr (E. Ü. Sarıtaş)

EEE 474 Foundations of Magnetic Resonance Imaging
Basic principles of magnetic resonance imaging (MRI), instrumentation, and various methods used in MRI. Various research areas in this highly active field are discussed. Credit units: 3 ECTS Credit Units: 6, Prerequisite: EEE 321.

EEE 480 Advanced Optoelectronics: Innovative Design

EEE 481 Biomedical Signals and Instrumentation
Biophysics of cell membranes, models of neuron membrane potential, Hodgkin-Huxley equations for the action potential, propagation of the action potential, neurocommunication, simple neural networks which explain behavior, volume conductor fields, theory of Electrocardiography (ECG), ECG amplifiers and instrumentation ECG signal processing, EEG, EMG, and other bioelectric signals, model of the cardiovascular system, model of the respiratory system, model of the neurocardiac control system, transducers for bioelectric, cardiovascular and respiratory measurements, preconditining circuits and instrumentation techniques. Credit units: 3 ECTS Credit Units: 7, Prerequisite: EEE 313 and EEE 321 and EEE 351. Aut (Y. Z. İder)

EEE 482 Computational Neuroscience
EEE 491  Electrical and Electronics Engineering Design I
Senior design project involving design and implementation of a complete electrical and electronics engineering system. Development involving multiple areas of electrical and electronics engineering. Simulations. Prototype development and testing. Technical communications and teamwork skills enrichment. Credit units: 3 ECTS Credit Units: 6. Prerequisite: EEE 212 and EEE 313 and EEE 321. Aut (T. M. Duman, İ. E. Ungan) Spr (T. M. Duman, İ. E. Ungan)

EEE 492  Senior Project
A technical project emphasizing engineering design principles on a specific topic in any field of electrical engineering to be carried out by the senior student under the supervision of a faculty member. Credit units: 3 ECTS Credit Units: 6. Aut (Staff) Spr (Staff)

EEE 493  Industrial Design Project I
Conducting team based research and development on projects with industrial significance. Design process components: research, concept, feasibility, simulations, specifications, benchmarking, proposal generation and critical design review. Technical communications and team skills enrichment. Credit units: 3 ECTS Credit Units: 6. Prerequisite: EEE 212 and EEE 313 and EEE 321. Aut (O. Arıkan)

EEE 494  Industrial Design Project II
Continuation of EEE 493. Implementation, evaluation and documentation of designs developed in EEE 493. Social, economic and safety considerations. Technical communications and team skills enrichment. Preparing a detailed report on the project. Credit units: 3 ECTS Credit Units: 6. Prerequisite: EEE 493. Spr (O. Arıkan)

EEE 495  Electrical and Electronics Engineering Design II
Senior design project involving design and implementation of a complete electrical and electronics engineering system. Major design experience which is based on integration of previously gained knowledge. Simulations. Prototype development and testing. Technical communications and teamwork skills enrichment. Credit units: 3 ECTS Credit Units: 6, Prerequisite: EEE 212 and EEE 313 and EEE 321. Aut (T. Reyhan) Spr (T. Reyhan)

EEE 497  Digital Signal Processing Laboratory
Fundamentals of operating and analyzing real time digital signal processing systems, including the required theory, the hardware used to sample and process the signals, and real time software development environments. Implementation of a project that develops system-level design skills. Project work covering design and implementation of FIR and IIR filters, and applications of the discrete Fourier transformation. Credit units: 3 ECTS Credit Units: 6. Prerequisite: EEE 321 or EEE 342 or MATH 255. Aut (A. E. Çetin)

EEE 501  Linear System Theory

EEE 511  Telecommunication Electronics

EEE 512  Microwave Electronics

EEE 514  Introduction to CMOS VLSI Design
Introduction to CMOS circuits, MOS transistor theory, CMOS processing technology, CMOS circuit characterization. CMOS VLSI circuit design, clocking strategies, case studies. Recent topics and developments in Introduction to CMOS VLSI Design. Credit units: 3 ECTS Credit Units: 7.5.

EEE 515  Analog CMOS Integrated Circuits
Review of MOS device physics, single stage amplifiers, differential amplifiers, current mirrors, frequency response of amplifiers, Miller effect, noise in amplifiers, feedback, operational amplifiers, slew rate, power supply rejection, stability and frequency compensation, bandgap references, switched capacitor circuits, nonlinearities, linearization, offset, oscillators, phase locked loops. Recent topics in CMOS design. Credit units: 3 ECTS Credit Units: 7.5. Spr (A. Atalar)
EEE 518 Principles of Electronic Devices

EEE 519 Power Electronics
Analysis and design of linear regulators, inverters, DC-DC converters, different topologies of converters, efficiencies of power conversion circuits, transformers and magnetic design, power semiconductor devices, power factor and power factor correction. Credit units: 3 ECTS Credit Units: 7.5.

EEE 520 Multirate Signal Processing and Wavelet Theory

EEE 521 Introduction to Radar Signal Processing

EEE 522 Optical Information Processing
Two-dimensional signals and systems. Space-frequency representations. Signal transformations. Linear system formulation of propagation of light through free space, lenses, and lens-like media and their analogy with electrical systems. Analog signal and image processing with optical systems, including transformations, filtering, etc. Alternative mathematical formulations of optical propagation: geometrical optics, scalar wave theory, phase-space approaches, variational and Hamiltonian formulation, operator algebras. Invariants and conservation laws. Credit units: 3 ECTS Credit Units: 7.5.

EEE 523 Speech Processing
Modeling of speech production, short-time Fourier analysis of speech, linear predictive coding (LPC), pitch estimation, code excited linear prediction (CELP) speech synthesis, introduction to speech recognition. Credit units: 3 ECTS Credit Units: 7.5.

EEE 525 Advanced Signal Processing
Signal spaces, signal representation and approximation, wavelets, signal modeling: AR, MA, ARMA models, adaptive filters, iterative and recursive methods in signal processing, spectrum estimation, beam forming and array processing, inverse problems. Credit units: 3 ECTS Credit Units: 7.5. Spr (O. Aytür)

EEE 527 Digital Coding of Waveforms
Sampling of band limited waveforms; characteristics of speech and image waveforms; quantization of discrete time signals. Pulse code modulation (PCM), differential PCM. Vector quantization, tree and Trellis coders. Subband coding, KL transform, DCT, DHT, OWHT, transform coding. Run-length coding of binary waveforms. Credit units: 3 ECTS Credit Units: 7.5.

EEE 528 Optical
Geometrical, scalar wave and electromagnetic wave theories of light. Gaussian beam propagation. Signals and systems concepts for analyzing optical systems (Fourier optics). Interference, diffraction, imaging, frequency domain filtering, and holography. Polarization, propagation in anisotropic media, optical waveguides, fibers, resonators, and their applications. Temporal and spatial coherence. recent topics and developments in optics. Credit units: 3 ECTS Credit Units: 7.5. Aut (O. Aytür)

EEE 529Photronics

EEE 530 Digital Communications Theory
EEE 533 Random Processes

EEE 534 Wireless Communications

EEE 536 Internet Architecture and Protocols

EEE 538 Communication Network Analysis

EEE 539 Detection and Estimation Theory

EEE 541 Optimal Control Theory and its Applications
Calculus of variations, necessary conditions of optimality for unconstrained control systems, Pontryagin maximum principle (PMP), numerical solution of two-point boundary-value problems arising from optimal control, multistage systems, discrete-time control systems and optimality conditions, discretization of optimal control problems, implementation with software, dynamic programming, Hamilton-Jacobi-Bellman approach, time-optimal control, bang-bang control, state- and control-constrained optimal control. Credit units: 3 ECTS Credit Units: 7.5.

EEE 542 Nonlinear Systems

EEE 543 Neural Networks

EEE 544 Robust Feedback Theory

EEE 545 Control and Optimization of Stochastic Systems
Stochastic stability of dynamical and distributed systems under probabilistic uncertainty. Optimal control problems and dynamic programming. Partially observed models; introduction to filtering and average cost minimization problems. Team decision theory and information structures; static and dynamic teams. Networked control systems, stabilization and optimization. Credit units: 3 ECTS Credit Units: 7.5.

EEE 547 Introduction to Robotics
Robot arm kinematics (forward and inverse kinematics); robot arm dynamics (equations of motion, equivalent formulations); planning of manipulator trajectories; range sensing (time-of-flight and triangulation systems, known target size, optical flow), proximity sensing (optical, magnetic, capacitive, inductive, ultrasonic), tactile (touch) sensing, force and torque sensing, dead reckoning (odometry and inertial sensing); mobile robots (localization, mapping, path planning, navigation, obstacle avoidance, object classification); multi-sensor data fusion. Credit units: 3 ECTS Credit Units: 7.5. Aut (B. Barshan)
EEE 549  Nanoscale Fabrication Technologies for Semiconductors
Nanoscale fabrication methods used for semiconductor devices and VLSI technology. Review of Semiconductor Technology, Review of Semiconductor Device Physics, Outline of a nanoscale CMOS fabrication process, Crystal Growth, Semiconductor Manufacturing, Cleanrooms and wafer cleaning, Nanolithography, Oxidation, Diffusion, Ion Implantation, Thin film deposition, Etching, and Backend technology. Credit units: 3 ECTS Credit Units: 7.5. Aut (E. Özbay)

EEE 550  Nanoelectronic Devices: Physics and Technology
Semiconductor electronics technology, overview of fabrication methods, physics of semiconductors in equilibrium and non-equilibrium, movement of free carriers in semiconductors, p-n and metal-semiconductor junctions, heterojunctions and quasi-electric fields, basic quantum mechanics for nanoscale semiconductor structures and quantum-effect devices, metal-oxide-semiconductor capacitor and MOS transistors, bipolar junction transistors, field effect transistors and nanowire FETS, high electron mobility transistors, resonant tunneling in semiconductor nanostructures, transistor scaling issues, ballistic transport and ballistic transistors, graphene transistors. Credit units: 3 ECTS Credit Units: 7.5. Spr (E. Özbay)

EEE 551  Microwave Engineering

EEE 552  Antenna Engineering

EEE 554  High Frequency Techniques in Electromagnetics
High frequency solutions to Maxwell's equations. Geometrical optics (GO), the geometrical theory of diffraction (GTD), the uniform geometrical theory of diffraction (UTD), equivalent current methods (ECM) and their applications. Aperture integration, physical theory of diffraction (PTD). Curved surface diffraction. Credit units: 3 ECTS Credit Units: 7.5.

EEE 555  Computational Methods in Electromagnetics

EEE 557  Acoustic Waves and Devices
Plane waves in fluids, acoustic wave equation; transient and steady-state reflection and transmission; lumped elements; refraction; strings, membranes, and cavities; ray acoustics; absorption and dispersion; source theory; vibrating piston, transducers; diffraction. Credit units: 3 ECTS Credit Units: 7.5. Spr (H. Köymen)

EEE 558  Electroacoustic Transduction

EEE 560  Nanoengineering and Nanodevices
Fundamentals of nanophotonics and nanoelectronics, with emphasis on applications in modern semiconductor devices based on quantum properties of light and matter. Review of Maxwell's equations, light propagation, and reflection from dielectrics, plasmonics, surface plasmons, localized plasmons, plasmonic devices and sensors, plasmonic waveguides, photonic crystals, elements of quantum mechanics, quantum confined structures, simple periodic structures, tunneling, semiconductor fundamentals, particle motion and effective mass, carrier statistics, basic field effect transistor (FET) operation, FET scaling issues, modern FETS and architectures, thin film transistors (TFTs). Credit units: 3 ECTS Credit Units: 7.5. Spr (A. K. Okyay)

EEE 573  Medical Imaging
Fundamentals and applications of four medical imaging techniques: magnetic resonance imaging, ultrasound, nuclear medicine X-ray computed tomography. Credit units: 3 ECTS Credit Units: 7.5. Spr (E. Ü. Santap)

EEE 574  Foundations of Magnetic Resonance Imaging
Basic principles of magnetic resonance imaging (MRI), instrumentation, and various methods used in MRI. Various research areas in this highly active field are discussed. Credit units: 3 ECTS Credit Units: 7.5.
EEE 580  Advanced Optoelectronics: Innovative Design  

EEE 581  Biomedical Signals and Instrumentation  
Biophysics of cell membranes, models of neuron membrane potential, Hodgkin-Huxley equations for the action potential, propagation of the action potential, neurocommunication, simple neural networks which explain behavior, volume conductor fields, theory of Electrocardiography (ECG), ECG amplifiers and instrumentation, ECG signal processing, EEG, EMG, and other bioelectric signals, model of the cardiovascular system, model of the respiratory system, model of the neurocardiac control system, transducers for bioelectric, cardiovascular an respiratory measurements, preconditioning circuits and instrumentation techniques. Recent topics and developments in biomedical signals and instrumentation. Credit units: 3 ECTS Credit Units: 7.5. Aut (Y. Z. Ider)

EEE 582  Computational Neuroscience  

EEE 591  Graduate Seminar I  
Seminars on recent topics in electrical and electronics engineering. Credit units: None ECTS Credit Units: 1. Aut (E. Ü. Sarıtaş) Spr (T. Çukur)

EEE 592  Graduate Seminar II  
Seminars on recent topics in electrical and electronics engineering. Credit units: None ECTS Credit Units: 1. Aut (E. Ü. Sarıtaş) Spr (T. Çukur)

EEE 596  Graduate Research Project in Telecommunications and Networking  
A technical project emphasizing engineering design principles on telecommunications or networks to be carried out by the graduate student under the supervision of a faculty member. Credit units: None ECTS Credit Units: 15. Spr (Staff)

EEE 599  Master's Thesis  
Credit units: None ECTS Credit Units: 56. Aut (Staff) Spr (Staff)

EEE 603  Advanced Electromagnetic Theory I  

EEE 604  Advanced Electromagnetic Theory II  

EEE 633  Coding Theory  
Error correction techniques used to protect digital information against noise. (i) Algebraic coding techniques, including BCH and RS codes and the Berlekamp-Massey decoding algorithm. (ii) Convolutonal codes and the Viterbi decoding algorithm. (iii) Turbo and LDPC codes and the message passing decoding algorithm. Credit units: 3 ECTS Credit Units: 7.5. Aut (E. Arıkan)

EEE 634  Information Theory  

EEE 699  Ph.D. Dissertation  
Credit units: None ECTS Credit Units: 140. Aut (Staff) Spr (Staff)
DEPARTMENT OF INDUSTRIAL ENGINEERING


The Department of Industrial Engineering offers B.S., M.S. and Ph.D. degrees in Industrial Engineering.

UNDERGRADUATE PROGRAM

Industrial Engineering (IE) is the scientific discipline that is concerned with how best to organize people, information, money, and materials to produce and distribute services and products efficiently. It draws upon specialized knowledge and skills in the mathematical, physical, and social sciences together with the principles and methods of engineering analysis and design to specify, predict, and evaluate the results to be obtained from such systems.

The mission of the Industrial Engineering Program is to foster a world-class academic environment for industrial engineering research and education in collaboration with industry. The department is committed to graduate competent industrial engineers equipped with the proficiency to adapt to technological and societal changes, and who are poised to excel in the field. The educational objectives are: 1) Graduates will solve problems in their respective professional domains by applying industrial engineering knowledge and skills, such as analytical and systems thinking. 2) Graduates will participate actively in functions such as analysis, design, implementation and improvement of systems in manufacturing or service sectors. 3) Graduates will engage in advanced degree programs or continue professional development via workshops, training programs, license certifications, or independent studies.

The Industrial Engineering program is accredited by the Engineering Accreditation Commission of ABET, http://www.abet.org.

A necessary condition for the realization of this goal is to provide a solid preparation in foundations through courses in mathematics, computers, and basic sciences. The undergraduate IE curriculum is well supplemented in such foundational courses. To this is added a solid preparation in fundamentals of engineering through various specialized courses. Through the course work, the student acquires the necessary skills in modeling and analysis of engineering systems and learns to develop insightful approaches to problem solving. With a number of technical elective courses, students build up additional strength in engineering. To provide the student with a broad intellectual spectrum, electives in economics, social sciences and humanities are offered. Additional courses in communication, history, and professional ethics help develop self-confidence, articulation skills, and professional attitude in business and social environments. A special research course at the senior level allows higher achieving students to participate in a research project under the guidance of a faculty member. Design experience is incorporated in the courses as the student progresses through the program. A capstone two course sequence in system design in the fourth year gives the student the experience of how to integrate and use in creative ways the various modeling skills and analysis techniques he/she has acquired in designing real world manufacturing or service systems. This course sequence addresses real world problems supplied each year to the department by various companies in Turkey. These problems are studied and solved by students under the guidance of company officials and faculty members from the department. This hands-on experience gives students the unique opportunity to work on challenging problems and produce solutions of good quality within an imposed deadline.
## UNDERGRADUATE CURRICULUM

### FIRST YEAR

#### Autumn Semester

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### SECOND YEAR

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### THIRD YEAR

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### FOURTH YEAR

#### Autumn Semester

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<tr>
<td>Humanities and Social Science Elective</td>
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ELECTIVE COURSES

A list of approved elective courses is announced at the beginning of each semester by the department. Humanities/Social Sciences electives are any approved courses offered by the Faculty of Humanities and Letters or the Faculty of Art, Design and Architecture or the Faculty of Economics, Administrative, and Social Sciences. Breadth electives are any approved courses offered by the Faculty of Engineering, Faculty of Science, Faculty of Economics, Administrative, and Social Sciences or the Faculty of Business Administration.

GRADUATE PROGRAMS

The overall objective of the graduate programs in the department is to conduct fundamental research in industrial engineering and operations research in accordance with scientific and technological developments, and to provide the students with a strong analytical basis for advanced theoretical work or for development of new approaches to applications. Current research areas are optimization theory/mathematical programming (linear and non-linear optimization, combinatorial and integer optimization, graph theory and network optimization, large scale optimization, optimization under uncertainty), stochastic systems (queueing models, maintenance, inventory control, modeling and optimization), simulation, statistics (estimation in stochastic systems, nonparametric analysis, Bayesian methods, data analysis), manufacturing systems (advanced manufacturing technologies, robotics, flexible manufacturing systems, micro/nano technologies, modeling and analysis of production systems), supply chain management and logistics, pricing and revenue optimization, scheduling, production planning and control systems, operations research methods in finance and energy, sustainable operations.

Master of Science in Industrial Engineering

Admission: All applicants are required to have a B.S. degree in industrial engineering, or in a related field of science or engineering. Students with a B.S. degree in areas other than industrial engineering may be requested to take several undergraduate courses in the field to acquire the necessary background. Evaluation of applicants is based on their ALES (Akademik Personel ve Lisansüstü Eğitim-İnternatıonl Eğitim Giriş Sınavı - Academic Personnel and Postgraduate Education Entrance Examination) scores, past academic records, reference letters and an interview. Applicants who are not Turkish citizens and Turkish citizen applicants who are residents of another country may take GRE instead of ALES. All non-native speakers of English are required to submit a proof of satisfactory knowledge of English.

Degree Requirements: In addition to at least 24 credit units of course work, the M.S. degree candidate must prepare and successfully defend a thesis. Expected duration to complete the M.S. program is four semesters; the maximum duration is six semesters.

CURRICULUM

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<th>Courses</th>
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<td>Mathematics of Operations Research</td>
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<td>IE 505</td>
<td>Mathematical Programming</td>
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<td>IE 523</td>
<td>Probabilistic Analysis</td>
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<td>IE 599</td>
<td>Master's Thesis</td>
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Doctor of Philosophy in Industrial Engineering

Admission: All applicants are required to have a B.S. degree in industrial engineering, or in a related field of science or engineering. Evaluation of applicants is based on their ALES (Akademik Personel ve Lisansüstü Eğitimi Giriş Sınavı - Academic Personnel and Postgraduate Education Entrance Examination) scores, past academic records, reference letters and an interview. Applicants who are not Turkish citizens and Turkish citizen applicants who are residents of another country may take GRE instead of ALES. All non-native speakers of English are required to submit a proof of satisfactory knowledge of English.

Degree Requirements: 24 credit units of course work beyond the M.S. level or 48 credits of course work beyond the B.S. level is required. Ph.D. candidates must pass a qualifying exam typically on their fourth semester, and then must prepare a thesis work proposal. Preparing and defending a dissertation based on original research is the essence of the program. A dissertation based on original research is the essence of the program. The expected duration to complete the Ph.D. program is eight semesters for students who enter the program after an M.S. degree, and ten semesters for those who enter after a B.S. degree. The maximum durations are 12 and 14 semesters, respectively.

Doctor of Philosophy in Industrial Engineering

CURRICULUM

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<td>IE 521 Stochastic Processes</td>
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Doctor of Philosophy in Industrial Engineering (After a Bachelor's Degree)

CURRICULUM

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*Graduate School of Engineering and Science comprises graduate programs of the departments of Computer Engineering, Electrical and Electronics Engineering, Industrial Engineering, Mechanical Engineering, Chemistry, Mathematics, Molecular Biology and Genetics, Physics, and the interdisciplinary graduate programs Material Science and Nanotechnology, and Neuroscience.
Graduate Elective Courses: All 5XX or higher level courses with at least 3 credits offered by Graduate School of Engineering and Science* and selected 5XX ECON and MAN coded courses.

IE Graduate Elective Courses: All 5XX or higher level IE coded courses with at least 3 credits.

IE Restricted Graduate Elective Courses: IE 513, IE 518, IE 614

**COURSE DESCRIPTIONS**

**IE 102 A Process Outlook for Industrial Engineering**
Familiarize the IE freshmen with the profession by introducing the basic notion of process. Design of processes and process improvements. Notions of performance evaluation. Processes, performance and their relations to decision making. Mathematical representation of the decision making. Demonstration using simple examples from daily life as well as more complicated examples from industry. Credit units: 3 ECTS Credit Units: 6. Spr (E. Z. Demirci, N. Erkip)

**IE 202 Introduction to Modeling and Optimization**

**IE 262 Manufacturing Processes**
Survey of machining, welding and finishing processes. Analysis of product and process design together with material selection for manufacturing. Special emphasis given to economics of metal cutting. Introduction to numerical control, automation and manufacturing systems. Laboratory use of traditional manufacturing processes, CNC programming, robotics, FMS cell controller, and related software. Credit units: 4 ECTS Credit Units: 6. Aut (A. E. Akçay, Y. Karpat) Spr (A. E. Akçay)

**IE 271 Operations Analysis and Design**
Introduction to traditional industrial engineering. Concepts and functions in the design, improvement, and analysis of man - machine systems mainly in the context of a manufacturing environment. Design and improvement of manufacturing systems. Time study, work measurement, material handling systems, and layout design. A term project on simulating manufacturing systems. Credit units: 3 ECTS Credit Units: 6, Prerequisite: IE 262. Aut (A. S. Kocaman) Spr (Y. Karpat, A. S. Kocaman)

**IE 299 Summer Training I**
A minimum of four weeks summer practice in a manufacturing organization; observation of organization in its original settings; written report. Credit units: None ECTS Credit Units: 6, Prerequisite: IE 271. Aut (E. Nadar) Spr (E. Nadar)

**IE 303 Modeling and Methods in Optimization**
Extension of linear programming to different methodologies including network models, integer programming and dynamic programming. Discrete optimization: local search heuristics. Credit units: 3 ECTS Credit Units: 6, Prerequisite: IE 202. Aut (M. Ç. Pınar, H. Yaman Paternotte) Spr (M. Ç. Pınar, H. Yaman Paternotte)

**IE 324 Simulation**
Use and misuse of simulation as a decision tool. The design and analysis of simulation. The use of simulation for estimation, and comparison of policies. Emphasis is primarily on applications in the areas of production management. Topics include modeling and programming simulations, random number and variate generation, *

*Graduate School of Engineering and Science comprises graduate programs of the departments of Computer Engineering, Electrical and Electronics Engineering, Industrial Engineering, Mechanical Engineering, Chemistry, Mathematics, Molecular Biology and Genetics, Physics, and the interdisciplinary graduate programs Material Science and Nanotechnology, and Neuroscience.
IE 325 Stochastic Models
Markov chains. Basic queuing models and applications. Stochastic inventory models: periodic and continuous review. Introduction to stochastic maintenance models. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MATH 250. Aut (Ö. Çavuş, S. Dayanık) Spr (S. Dayanık)

IE 342 Engineering Economic Analysis
Analysis of engineering decisions; principles and methodology of comparing decision alternatives, such as various engineering designs, manufacturing equipment, or industrial projects. Dealing with uncertainty and risk, rational decision making when future outcomes are uncertain. Concepts of time value of money. Effects of depreciation, inflation, and taxation on economic decisions. Cost-benefit analysis of public projects. Replacement analysis. Introduction to financial engineering. Credit units: 3 ECTS Credit Units: 6. Aut (E. Z. Demirci, O. Vicil) Spr (O. Öğuz, O. Vicil)

IE 375 Production Planning
Design of production planning systems using mathematical, computational and other modern analytical techniques. Areas investigated will include forecasting, integrated production-inventory systems; deterministic inventory and lot-sizing models; multi-echelon supply networks; machine scheduling and capacity planning. Credit units: 3 ECTS Credit Units: 6, Prerequisite: IE 202. Aut (N. Erkip, O. Özgüç, B. Yetiş) Spr (N. Erkip)

IE 376 Production Information Systems
The role of computers and data bases in production systems. Fundamental concepts in developing integrated production management systems including ERP, lean production and JIT with emphasis on inventory, lead time, work-order management, shop floor control and group technology based parts classification and coding systems. Credit units: 3 ECTS Credit Units: 7, Prerequisite: IE 375. Spr (M. S. Akkurt, O. Karsu)

IE 380 Quality Assurance and Reliability
Concepts and statistical methods employed in the assurance of product conformance to specification limits. Emphasis is placed on statistical process control, total quality management, acceptance sampling, process design and reliability. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MATH 260. Aut (E. Nadar) Spr (Ö. Gürler, E. Nadar)

IE 399 Summer Training II
A minimum of four weeks summer practice in a manufacturing or service organization; formulation of an IE problem and propose solutions to it; written report. Credit units: None ECTS Credit Units: 6, Prerequisite: IE 299. Aut (Ö. Çavuş) Spr (Ö. Çavuş)

IE 400 Principles of Engineering Management
Introduction to management analysis such as management layers, network analysis, project management via CPM/PERT networks, optimization concepts, linear programming, integer programming, and decision analysis; and economic concepts such as cash flow, interest rates, rate of return, demand supply relations, product pricing, taxes, inflation, and related subjects. Credit units: 3 ECTS Credit Units: 6. Aut (Ö. Çavuş, Ö. Karsu) Spr (B. Yetiş)

IE 423 Forecasting Methods and Applications
Basic quantitative methods of forecasting, time series decomposition, regression methods, exponential smoothing, moving average (MA), autoregressive (AR) and autoregressive integrated moving average (ARIMA) models, brief introduction to autoregressive conditional heteroskedasticity (ARCH) and generalized ARCH (G-ARCH) models. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MATH 260. Aut (Ü. Gürler)

IE 427 Introduction to Defense Analysis
Introduction to military operations research; firing theory, detection, sensors, search and screening, target defense, attrition models, force disposition and unmanned aerial vehicles. Contemporary issues such as the effect of information and technology in the presence of guided munitions and sensors. Credit units: 3 ECTS Credit Units: 6, Prerequisite: IE 202. Spr (O. Karasakal)

IE 428 Project Scheduling
Introduction to project network analysis with CPM and PERT. Time-cost trade-off and learning curve analysis in relation to makespan minimization. Mathematical programming models for resource allocation and scheduling under resource constraints. Financial aspects including cash flow management. Exact and heuristic methods for solving the scheduling and resource management problems. Credit units: 3 ECTS Credit Units: 6, Prerequisite: IE 202

IE 432 Quantitative Risk Management
Basic concepts and methods of risk management; the structure of risk and copulas; how to measure risk: VaR, coherent measures of risk, expected utility theory, the concept of stochastic dominance; extreme value theory;
how to incorporate risk measures into stochastic optimization problems; applications in management, finance, and energy. Credit units: 3 ECTS Credit Units: 6. Spr (O. Çavuş)

IE 436 Simulation Experiment Design and Analysis
Data analysis for input modeling; statistical design and analysis of simulation experiments; introduction to response surface models and simulation metamodeling; simulation-based optimization; applications in manufacturing systems, service operations, and supply chain management. Credit units: 3 ECTS Credit Units: 6. Prerequisite: IE 324. Aut (A. E. Akçay)

IE 440 Introduction to Financial Engineering
Financial markets (bonds, stocks, futures, forwards, options, interest rates and their term structures), models of security prices (Brownian motion, geometric Brownian motions, Ornstein-Uhlenbeck processes, Cox-Ross-Rubinstein binomial model, Merton-Black-Scholes model), pricing and hedging financial derivatives (Itô’s rule, stochastic integration, diffusion processes, probabilistic solutions of PDEs, no-arbitrage pricing in a complete market of futures, forwards, European and American type options, pricing in incomplete markets), Hedging with futures and options, bond hedging, numerical methods (pricing using trees, Monte-Carlo simulations, finite-difference methods), mean-variance analysis of portfolios, value at risk, optimal consumption and portfolio strategies (formulations and solutions of appropriate dynamic programming models and Hamilton-Jacobi-Bellman equations). Credit units: 3 ECTS Credit Units: 6. Prerequisite: MATH 250.

IE 441 Cost Analysis and Control

IE 443 Multi-Objective Decision Analysis
Quantitative decision analysis. Structuring of objectives and value hierarchies, and determination of value functions. Introduction to consistent characterization of preferences under certainty. Value analysis under uncertainty including expected value analysis, utility theory, multi-attribute risk aversion, certainty equivalent calculations and the analytical hierarchy process. Credit units: 3 ECTS Credit Units: 6. Prerequisite: IE 202. Aut (Staff)

IE 444 Operations Research in Finance
Bonds, interest rates, duration and convexity, bond portfolios, options, binomial model, early exercise options, dynamic programming in finance, portfolio optimization value-at-risk, robust portfolio optimization. Credit units: 3 ECTS Credit Units: 6. Spr (M. Ç. Pınar)

IE 448 Financial Issues in Engineering Projects
Analysis of investment and financial decisions from the perspective of top management in a corporation; financing methods and techniques including working capital, project finance, shareholder, export credit agency loans and derivatives; optimization of debt/equity ratios; business and risk analysis to meet the requirements of the financiers; corporate valuation methods and business plans; mergers and acquisitions. Case studies covering topics such as energy, infrastructure, privatizations and buyouts. Credit units: 3 ECTS Credit Units: 6. Prerequisite: IE 342. Aut (H. S. Ergür) Spr (H. S. Ergür)

IE 451 Applied Data Analysis
Introduction to exploratory data analysis, multivariate regression, semiparametric regression, scatterplot smoothing, linear mixed models, generalized linear models, recursive partitioning, and hidden Markov models through the applications on real data sets using the statistical software R. Applications to consumer choice models, modeling the number of emergency room visits, building e-mail spam filters, detecting fraudulent transactions, and other applications from manufacturing and service systems illustrating big data analytics. Credit units: 3 ECTS Credit Units: 6. Prerequisite: MATH 260. Spr (S. Dayanık)

IE 453 Energy Systems Planning
Historical trends of energy supply and demand; alternative energy resources and related technologies. Global climate change, security, reliability and economic issues in energy operations and planning problems. Energy demand and supply forecasting, energy modeling under uncertainty, intermittency and role of storage, grid operations and reliability, smart grid, and generation expansion planning. Case studies and problem solving techniques and methods applied in the pursuit of improved decision making in energy systems. Credit units: 3 ECTS Credit Units: 6. Prerequisite: IE 202. Aut (A. S. Kocaman)

IE 455 Service Systems
Service industries, managing service systems, design and analysis of service systems using Operations Management/Operations Research (OM/OR) techniques, evaluation and optimization of the performance of service systems, service industry applications. Credit units: 3 ECTS Credit Units: 6.
IE 457 Sustainable Operations

IE 460 Quantitative Models in Supply Chain Management
Economies of scale in the supply chain, quantity and transportation discounts. Multi-stage inventory and production systems, risk pooling, decentralized and centralized modeling approaches, bullwhip effect. Supply chain coordination, strategic games in supply chains, and contracting. More complicated examples from industry. Credit units: 3 ECTS Credit Units: 6, Prerequisite: IE 375.

IE 463 Operations Scheduling
Introduction to scheduling. Exact and approximate techniques and approaches to modeling and solving problems from a variety of manufacturing and service applications including production scheduling, assembly systems, reservation systems, timetabling problems, and workforce and crew scheduling. Overview of the current trends and future directions. Credit units: 3 ECTS Credit Units: 6, Prerequisite: IE 303 and IE 375.

IE 464 Inventory Planning Models
Inventory control problems in service and manufacturing environments. Introduction to single-item and multi-item inventory models. Extensions of economic-order-quantity model, power-of-two type policies, coordinated replenishment, economic lot scheduling problem, (r, Q) policies, (s, S) policies, models with lost sales, exchange curves, and multi-period problems. Credit units: 3 ECTS Credit Units: 6, Prerequisite: IE 375.

IE 467 Emerging Trends in Manufacturing
Advanced manufacturing processes such as micro/nano manufacturing from industrial engineering perspective is the main subject of this course. Emphasis is given on process modeling and optimization. Sustainability, a recent challenge in manufacturing is also covered through illustrative case studies. Credit units: 3 ECTS Credit Units: 6, Spr (Y. Karpat)

IE 468 Pricing and Revenue Optimization
Pricing and revenue optimization focuses on how a firm should set and update pricing and product availability decisions in order to maximize its profitability. This course introduces the theory, concepts and applications of pricing and revenue optimization. The topics include a review of price-demand functions, price differentiation, pricing under constrained supply, revenue management, capacity allocation, multi-item revenue management, overbooking and dynamic pricing and markdown management. Credit units: 3 ECTS Credit Units: 6, Prerequisite: IE 202 and MATH 260. Spr (K. Göüler)

IE 469 Industrial Applications of Operations Research
Survey of optimization models in manufacturing, logistics and project management. Applications to real production contexts in project management, lot sizing, location, finite-capacity scheduling, and cutting stock. Use of Excel optimization tools. Credit units: 3 ECTS Credit Units: 6.

IE 477 Production Systems Design-Synthesis
Project team-work dealing with open-ended, interdisciplinary real-world problems. Analysis of real-world problems; design, implementation and testing procedures. Project skills, including problem definition, functional design specifications, conceptualization, analysis, and solution methods. Team dynamics, communication skills, time-management issues. Credit units: 3 ECTS Credit Units: 6, Prerequisite: IE 325 and IE 375. Aut (K. Gökbayrak, K. Göüler, O. Öğüz)

IE 478 Production Systems Design-Practice
Continuation of the IE 477 course. Validation, verification and implementation of the developed methodologies. Credit units: 3 ECTS Credit Units: 6, Prerequisite: IE 477. Spr (K. Gökbayrak, K. Göüler, O. Öğüz)

IE 479 Distribution Logistics
Logistics network design; strategic, tactical, operational level decision making; location models, planning and controlling freight transportation; long-haul, short-haul, practical examples; projects and case studies. Credit units: 3 ECTS Credit Units: 6, Prerequisite: IE 202. Aut (B. Yetiş)

IE 482 Humanitarian Logistics
Introduction to humanitarian operations; decision problems related to meeting the ongoing needs of the society; relief logistics; disaster management cycle; decision problems faced in preparing for, responding to, and recovering from disasters; the activities and challenges in the supply chain for the procurement, delivery, warehousing and distribution of the aid; practical examples, projects and case studies. Credit units: 3 ECTS Credit Units: 6.
IE 485  Decision Making in Health Care
Applications of decision sciences in health-care industry; methods to allocate health-care resources; decision
making for health economics and medicine; decision analysis using Markov processes, Monte Carlo simulations;
cost-effectiveness analysis; quality-adjusted life years. Credit units: 3 ECTS Credit Units: 6. Aut (Ö. Karsu)

IE 490  Introduction to Research in IE and OR
Introduction to research techniques in industrial engineering and operations research. Independent study under
the supervision of a departmental faculty member. Written and oral presentations to report research findings.
Credit units: 3 ECTS Credit Units: 6. Aut (A. E. Akçay) Spr (A. E. Akçay)

IE 491  Introduction to Research in IE and OR II
Continuation of IE490 Introduction to Research in IE and OR. The same research problem under the supervision
of the same faculty advisor as in IE490 investigated to get deeper and extended results. Credit units: 3 ECTS
Credit Units: 6. Prerequisite: IE 490. Spr (A. E. Akçay)

IE 496  Seminar in Production Systems
A series of seminars on issues of current interest to the practice of industrial engineering. Credit units: None
ECTS Credit Units: 1, Prerequisite: Senior standing in IE. Aut (M. S. Aktürk, K. Gökbayrak, O. Öğüz) Spr (M. S.
Aktürk)

IE 500  Mathematics of Operations Research
Introduction to methods of proof, sets and functions, metric spaces, functions on metric spaces, differential and
integral equations, fundamentals of linear algebra. Credit units: 3 ECTS Credit Units: 7.5. Aut (N. Şahin)

IE 505  Mathematical Programming
Fermat rule, lagrange multipliers, duality theory, Karush-Kuhn-Tucker conditions, convexity, conic optimization,
linear optimization, networks, integer programming. Credit units: 3 ECTS Credit Units: 7.5. Aut (M. Ç. Pınar)

IE 513  Linear Programming
Theory, algorithms, and computational aspects of linear programming. Formulation of problems as linear pro-
grams. Development of simplex algorithm, geometry of simplex method, duality theory, and economic interpreta-
tions. Sensitivity analysis. Variants of simplex method. Credit units: 3 ECTS Credit Units: 7.5. Spr (O. Karasän)

IE 514  Network Flows
Flow problems on networks. Transportation and assignment problems, special purpose algorithms and advanced
computational techniques. Maximum flow problem, theory, algorithms, and applications. Shortest paths. Mini-
3 ECTS Credit Units: 7.5. Aut (O. Karasän)

IE 515  Convex Analysis
Convex sets in IR and their basic properties, separation of convex sets, properties of convex polyhedra (and
polytopes). Convex functions continuity and differentiability properties, subdifferentiability, duality of convex sets,
Fenchel dual of a convex function, bipolar theorem. Convex programming, dual convex programs, perturbation
and lagrangian approaches to duality, the connection between the two approaches, saddle point theorems.
Applications of convex analysis: inequalities, interior-point methods, approximation, merit functions. Credit units:
3 ECTS Credit Units: 7.5.

IE 518  Discrete Optimization
The models and methods of integer optimization. Structure of integer programs, pure integer and mixed integer
programming problems. Zero-one programming, branch and bound methods. Cutting plane and polyhedral
approach. Lagrangian relaxation. Applications to combinatorial optimization, heuristic methods and dynamic
programming. Applications in resource allocation, facility location, scheduling, capital budgeting. Computer
implementation. Credit units: 3 ECTS Credit Units: 7.5.

IE 519  Approximation Algorithms
The course covers combinatorial and mathematical programming techniques to derive approximation algorithms
for np-hard optimization problems. Possible topics include greedy algorithms for vertex/set cover, approximation
schemes via dynamic programming, rounding LP relaxations of integer programs, and semi definite relaxations.
The course is complemented by the implementation of selected algorithms using a high-level language such as
matlab. Credit units: 3 ECTS Credit Units: 7.5.

IE 521  Stochastic Processes
Stochastic processes with independent increments, Wiener process and Poisson process. Non-homogeneous
and compound Poisson processes. Discrete time Markov chains (classification of states, ergodic properties),
Birth and death processes, applications to Markov queueing models. Non-Markov processes, renewal process,
Applications in reliability and inventory models. Selected topics from stationary processes and time-series.
Credit units: 3 ECTS Credit Units: 7.5. Spr (Ü. Gürler)
IE 522  **Queueing Systems**

IE 523  **Probabilistic Analysis**
Axiomatic construction of probability theory, properties of probability, conditional probability, independence. Discrete and continuous random variables and vectors (distribution function, expectation, variance, moments). Chebyshev inequality and law of large numbers. Conditional expectation. Transformations of random variables. Generating and characteristics functions. Asymptotic methods in probability theory, types of convergence of random variables. Sums of independent random variables, central limit theorem, Poisson theorem. Selected topics. **Credit units: 3 ECTS Credit Units: 7.5.** Aut (Ü. Gürler)

IE 524  **Simulation**
The design and analysis of simulations. The use of simulation for estimation, comparison of policies, and optimization. Variance estimation techniques including the regenerative methods, time series methods, and batch means. Variance reduction. Statistical analysis of output of simulations, applications to modeling stochastic systems in computer science, engineering and operations research. **Credit units: 3 ECTS Credit Units: 7.5.**

IE 528  **Dynamic Programming**
Deterministic and discrete-time stochastic dynamic programming. Markov Decision Process under discounted and average payoff criteria. Adaptive Control Processes, bandit problems, stochastic games, and applications. **Credit units: 3 ECTS Credit Units: 7.5.**

IE 530  **Advanced Logistics Modeling and Optimization**
Modeling advanced logistics problems. Extensions of network design, location and routing problems and formulations. Solution methodologies. **Credit units: 3 ECTS Credit Units: 7.5.** Aut (E. Nader)

IE 535  **Stochastic and Risk-Sensitive Optimization**
Models, solution methods, and theory for optimization problems under uncertainty and risk. Introduction to stochastic programming, optimization problems with probabilistic constraints, two-stage and multi-stage stochastic programming problems, Markov decision processes, utility functions, mean-risk optimization models, coherent measures of risk, and concept of stochastic dominance. **Credit units: 3 ECTS Credit Units: 7.5.**

IE 540  **Introduction to Financial Engineering**
Financial markets (bonds, stocks, futures, forwards, options, interest rates and their term structures), models of security prices (Brownian motion, geometric Brownian motions, Ornstein-Uhlenbeck processes, Cox-Ross-Rubinstein binomial model, Merton-Black-Scholes model), pricing and hedging financial derivatives (Ito's rule, stochastic integration, diffusion processes, probabilistic solutions of PDEs, no-arbitrage pricing in a complete market of futures, forwards, European and American type options, pricing in incomplete markets), Hedging with futures and options, bond hedging, numerical methods (pricing using trees, Monte-Carlo simulations, finite-difference methods), mean-variance analysis of portfolios, value at risk, optimal consumption and portfolio strategies (formulations and solutions of appropriate dynamic programming models and Hamilton-Jacobi-Bellman equations). **Credit units: 3 ECTS Credit Units: 7.5.**

IE 543  **Multiple Criteria Decision Making**
Discrete and continuous multiple criteria problems. Solution methods for multiple criteria decision making problems. Methods of generating nondominated solutions. Interactive approaches: Multiple criteria ranking and sorting techniques. Multiple criteria decision making applications. **Credit units: 3 ECTS Credit Units: 7.5.** Spr (Ö. Karsu)

IE 551  **Applied Statistics**
Exploratory data analysis, kernel density estimation, multivariate regression, nonparametric and semiparametric regression, scatterplot smoothing, linear mixed models, logistic regression, recursive partitioning, anova, ancova, hidden Markov models, dynamic linear models, graphical models, principal component analysis. Applications on real datasets using statistical software. **Credit units: 3 ECTS Credit Units: 7.5.**

IE 563  **Game Theory with Applications in Operations Management**
Introduction to Game Theory: Pre-commitment, the normal form, the extensive form; static games with complete information: pure strategy Nash equilibrium, mixed strategy Nash equilibrium; dynamic games with complete information: sub-game perfect equilibrium; games with incomplete information: Bayesian Nash equilibrium, perfect Bayesian Nash equilibrium; applications: oligopoly, supply chain management, queuing, competitive location. **Credit units: 3 ECTS Credit Units: 7.5.** Prerequisite: IE 303 and MATH 250. Aut (K. Göler)
IE 571 Analytical Models for Supply Chain Management
Theoretical and practical issues in the design and management of the supply chain. Logistic network configuration, risk pooling and multi-echelon inventory systems, value of information and bullwhip effect in supply chains, coordination of the supply chain using contracts, distribution strategies and strategic alliances for the supply chain and product design for supply chain efficiency. Credit units: 3 ECTS Credit Units: 7.5.

IE 573 Theory of Machine Scheduling

IE 577 Facility Location on Networks
Applications, modeling, and algorithms for optimal location of service facilities on distribution, transportation, communication networks. The course progresses from simple models to complex models. Well known median and center problems as well as other models will be covered. The course ends with a discussion of areas open to research. Credit units: 3 ECTS Credit Units: 7.5.

IE 583 Advanced Operations Research Models in Health Care
Operations research applications in health-care industry. Utilization of stochastic OR models, Markov decision processes in medical decision making; applications of operations research on health care operations management, clinical decision analysis, and health policy. Optimization applications in influenza vaccination, radiation therapy treatment planning, breast cancer screening, organ transplantation, infectious diseases; capacity planning and management in hospitals, ambulance service planning. Credit units: 3 ECTS Credit Units: 7.5.

IE 586 Computational Optimization
Strong models and valid inequalities. Extended formulations. Cutting plane and column generation algorithms. Decomposition approaches in deterministic and stochastic optimization. Applications in production planning, network design and logistics. Credit units: 3 ECTS Credit Units: 7.5. Spr (H. Yaman Paternotte)

IE 590 Research Topics in IE and OR
Seminars on research topics in industrial engineering and operations research. Credit units: None ECTS Credit Units: 1. Aut (H. Yaman Paternotte) Spr (H. Yaman Paternotte)

IE 599 Master's Thesis
Credit units: None ECTS Credit Units: 56. Aut (Staff) Spr (Staff)

IE 614 Nonlinear Programming

IE 616 Combinatorial Optimization
Polyhedral combinatorics, integral polyhedra, polarity, blocking and anti-blocking theory, total dual integrality, matroids, matchings, Travelling Salesman Problem (TSP), vehicle routing, linear ordering, polyhedral approach to NP-Hard problems. Credit units: 3 ECTS Credit Units: 7.5.

IE 690 Advanced Research Topics in IExOR
Seminars on research topics in industrial engineering and operations research. Credit units: None ECTS Credit Units: 1. Aut (H. Yaman Paternotte) Spr (H. Yaman Paternotte)

IE 691 Research Practice
An introduction to research techniques in industrial engineering and operations research for the direct Ph.D. program students; a written individual research report requirement under the supervision of a faculty member. Credit units: None ECTS Credit Units: 1.

IE 699 Ph.D. Dissertation
Credit units: None ECTS Credit Units: 140. Aut (Staff) Spr (Staff)
The mission of our department is to provide our students with a rich environment for learning through a broad-based education in the scientific and applied foundations of engineering and a solid foundation in problem solving, design and communication skills that they will need to pursue and meet the challenges of their individual career goals.

The ME program provides the students a strong foundation in engineering sciences through thermo-fluids, mechanics and materials and dynamics and control tracks, which emphasize students' analytical abilities. These are combined with courses on design and manufacturing that address from component to system-level design and emphasize the creativity of students.

The mission of the ME program is to prepare engineers for the global environment in which they can make responsible decisions while serving societal needs. The program emphasizes communication skills, knowledge of humanities, and ability to work in teams. The program also recognizes the significant role mechanical engineering can have in life sciences and thus the need for familiarity with molecular biology. A mandatory physics course that includes quantum mechanics further fosters interdisciplinary interaction beyond traditional boundaries.

The Department envisions future engineers as life-long learners. The ME program offers numerous electives to respond to the different needs and interests of our students along this vision in the leap to 21st century engineering.

UNDERGRADUATE CURRICULUM

FIRST YEAR

<table>
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<tr>
<th>Autumn Semester</th>
<th>Credits / ECTS Credits</th>
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<td>ENG 101</td>
<td>English and Composition I</td>
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<td>GE 100</td>
<td>Orientation</td>
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<tr>
<td>MATH 101</td>
<td>Calculus I</td>
</tr>
<tr>
<td>ME 101</td>
<td>Fundamentals of Mechanical Engineering</td>
</tr>
<tr>
<td>PHYS 101</td>
<td>General Physics I</td>
</tr>
<tr>
<td>TURK 101</td>
<td>Turkish I</td>
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<th>Spring Semester</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>ENG 102</td>
<td>English and Composition II</td>
</tr>
<tr>
<td>MATH 102</td>
<td>Calculus II</td>
</tr>
<tr>
<td>ME 102</td>
<td>Introduction to Systems Engineering</td>
</tr>
<tr>
<td>PHYS 102</td>
<td>General Physics II</td>
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<tr>
<td>TURK 102</td>
<td>Turkish II</td>
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SECOND YEAR

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<th>Autumn Semester</th>
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<tbody>
<tr>
<td>CS 113</td>
<td>Introduction to Computing for Engineers</td>
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<tr>
<td>GE 250</td>
<td>Collegiate Activities Program I</td>
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<tr>
<td>HUM 111</td>
<td>Cultures Civilizations and Ideas I</td>
</tr>
<tr>
<td>MATH 220</td>
<td>Linear Algebra</td>
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<tr>
<td>ME 211</td>
<td>Thermo-Fluids Engineering I</td>
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<tr>
<td>ME 231</td>
<td>Mechanics and Materials I</td>
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<tr>
<th>Spring Semester</th>
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<tbody>
<tr>
<td>CS 114</td>
<td>Introduction to Programming for Engineers</td>
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<tr>
<td>GE 251</td>
<td>Collegiate Activities Program II</td>
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<tr>
<td>HUM 112</td>
<td>Cultures, Civilizations and Ideas II</td>
</tr>
<tr>
<td>MATH 240</td>
<td>Differential Equations</td>
</tr>
<tr>
<td>ME 212</td>
<td>Thermo-Fluids Engineering II</td>
</tr>
<tr>
<td>ME 232</td>
<td>Mechanics and Materials II</td>
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**THIRD YEAR**

<table>
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<th>Semester</th>
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<tbody>
<tr>
<td>Autumn</td>
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<tr>
<td>CHEM 201</td>
<td>Materials Science and Technology</td>
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<tr>
<td>ENG 401</td>
<td>Technical Report Writing and Presentation</td>
</tr>
<tr>
<td>MATH 230</td>
<td>Probability and Statistics for Engineers</td>
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<tr>
<td>ME 299</td>
<td>Summer Practice I</td>
</tr>
<tr>
<td>ME 341</td>
<td>Dynamics and Control I</td>
</tr>
<tr>
<td>ME 371</td>
<td>Measurement and Instrumentation</td>
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<tr>
<td>ME Elective</td>
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<td>Spring</td>
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<tr>
<td>HIST 200</td>
<td>History of Turkey</td>
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<tr>
<td>MBG 110</td>
<td>Introduction to Modern Biology</td>
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<td>ME 342</td>
<td>Dynamics and Control II</td>
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<tr>
<td>ME 381</td>
<td>Design and Manufacturing</td>
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<td>ME 384</td>
<td>Mechatronic Systems</td>
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<tr>
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<td>ME Elective</td>
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**FOURTH YEAR**

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<tr>
<td>Autumn</td>
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<tr>
<td>GE 301</td>
<td>Science Technology and Society</td>
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<td>ME 399</td>
<td>Summer Practice II</td>
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<tr>
<td>ME 481</td>
<td>Mechanical Engineering Design II</td>
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<td>Engineering Elective</td>
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<td>Humanities or Social Science Elective</td>
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<tr>
<td>Spring</td>
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<tr>
<td>ME 482</td>
<td>Mechanical Engineering Design II</td>
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<tr>
<td>Elective</td>
<td></td>
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<td>Engineering Elective</td>
<td>3 / 6</td>
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<tr>
<td>Humanities or Social Science Elective</td>
<td>3 / 6</td>
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<tr>
<td>ME Elective</td>
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<tr>
<td>Science Elective</td>
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**MECHANICAL ENGINEERING ELECTIVES**

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<th>Course Code</th>
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<tbody>
<tr>
<td>ME 343</td>
<td>Mechanical Vibrations</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ME 361</td>
<td>Numerical Methods for Engineers</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ME 401</td>
<td>Acoustics and Noise Control</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ME 432</td>
<td>Applied Thermodynamics</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ME 436</td>
<td>Energy Conversion Systems</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ME 440</td>
<td>Automotive Engineering</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ME 446</td>
<td>Applications of Solid Mechanics</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ME 490</td>
<td>Undergraduate Research in ME</td>
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</tr>
<tr>
<td>ME 500</td>
<td>Integrated Product Development</td>
<td>3 / 7.5</td>
</tr>
<tr>
<td>ME 501</td>
<td>Mathematical Techniques in Mechanical Engineering</td>
<td>3 / 7.5</td>
</tr>
<tr>
<td>ME 503</td>
<td>Numerical Methods in Mechanical Engineering</td>
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<tr>
<td>ME 511</td>
<td>Fluid Mechanics</td>
<td>3 / 7.5</td>
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<tr>
<td>ME 550</td>
<td>Continuum Mechanics</td>
<td>3 / 7.5</td>
</tr>
<tr>
<td>ME 552</td>
<td>The Finite Element Method</td>
<td>3 / 7.5</td>
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<tr>
<td>ME 554</td>
<td>Mechanics of Composite Materials</td>
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<td>ME 555</td>
<td>Cellular biomechanics</td>
<td>3 / 7.5</td>
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<td>ME 557</td>
<td>Metal Cutting Principles</td>
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<tr>
<td>ME 565</td>
<td>Dynamics</td>
<td>3 / 7.5</td>
</tr>
<tr>
<td>ME 575</td>
<td>Micro/Nano Robotics</td>
<td>3 / 7.5</td>
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<tr>
<td>ME 578</td>
<td>Vehicle Control Systems</td>
<td>3 / 7.5</td>
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</table>
ME 579 Adaptive Control Systems ........................................... 3 / 7.5
ME 582 Fundamentals of Design for Reliability .......................... 3 / 7.5
ME 615 Microfluidics ................................................................ 3 / 7.5
ME 657 Nano/Micro Manufacturing ........................................ 3 / 7.5

GRADUATE PROGRAMS

The Department of Mechanical Engineering offers M.S. and Ph.D. degree programs with the possibility of specialization in different areas of research in mechanical engineering.

Master of Science in Mechanical Engineering

Admission: All applicants are required to have a B.S. degree in mechanical engineering, or in a related field of science or engineering. Students with a B.S. degree in areas other than mechanical engineering may be requested to take several undergraduate courses in the field to acquire the necessary background. Evaluation of applicants is based on their ALES (Akademik Personel ve Lisansüstü Eğitimi Giriş Sınavı - Academic Personnel and Postgraduate Education Entrance Examination) scores, past academic records, reference letters and an interview. Applicants who are not Turkish citizens and Turkish citizen applicants who are residents of another country may take GRE instead of ALES. All non-native speakers of English are required to submit a proof of satisfactory knowledge of English.

Degree Requirements: In addition to at least 24 credit units of course work, the M.S. degree candidate must prepare and successfully defend a thesis. Expected duration to complete the M.S. program is four semesters; the maximum duration is six semesters.

CURRICULUM

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>GE 590 Academic Practices</td>
<td>- / 12</td>
</tr>
<tr>
<td>ME 599 Master's Thesis</td>
<td>- / 56</td>
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<tr>
<td>Graduate Elective</td>
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<tr>
<td>Graduate Elective or Undergraduate Electives (2)</td>
<td>6 / 12</td>
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<tr>
<td>ME Graduate Elective</td>
<td>3 / 7.5</td>
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<tr>
<td>ME Graduate Mathematical Elective</td>
<td>3 / 7.5</td>
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<tr>
<td>ME Graduate seminar</td>
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<td>Restricted ME Graduate Technical Electives (3)</td>
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</table>

The descriptions provided here for different elective course groups are only for guidance. The complete list of courses in each elective group are given in the electronic registration system.

Graduate Elective Courses: All 5XX or higher level courses with at least 3 credits offered by Graduate School of Engineering and Science.* There are further restrictions on the elective courses to fulfill departments breadth requirements.

Graduate Elective or Undergraduate Elective Courses: All 3XX or higher level CHEM, CS, EEE, IE, MATH, ME, MBG, MSN and PHYS coded courses with at least 3 credits.

ME Graduate Elective Courses: All 5XX or higher level ME coded courses with at least 3 credits.

ME Graduate Mathematical Elective Courses: ME 501, ME 503, ME 552

Restricted ME Graduate Technical Elective Courses: Selected 5XX or higher level ME coded courses with at least 3 credits and EEE 501.

*Graduate School of Engineering and Science comprises graduate programs of the departments of Computer Engineering, Electrical and Electronics Engineering, Industrial Engineering, Mechanical Engineering, Chemistry, Mathematics, Molecular Biology and Genetics, Physics, and the interdisciplinary graduate programs Material Science and Nanotechnology, and Neuroscience.
Doctor of Philosophy in Mechanical Engineering

**Admission:** All applicants are required to have a B.S. degree in mechanical engineering, or in a related field of science or engineering. Evaluation of applicants is based on their ALES (Akademik Personel ve Lisansüstü Eğitim Giriş Sınavı - Academic Personnel and Postgraduate Education Entrance Examination) scores, past academic records, reference letters and an interview. Applicants who are not Turkish citizens and Turkish citizen applicants who are residents of another country may take GRE instead of ALES. All non-native speakers of English are required to submit a proof of satisfactory knowledge of English.

**Degree Requirements:** 24 credit units of course work beyond the M.S. level or 48 credits of course work beyond the B.S. level is required. Ph.D. candidates must pass a qualifying exam typically on their fourth semester, and then must prepare a thesis work proposal. Preparing and defending a dissertation based on original research is the essence of the program. A dissertation based on original research is the essence of the program. The expected duration to complete the Ph.D. program is eight semesters for students who enter the program after an M.S. degree, and ten semesters for those who enter after a B.S. degree. The maximum durations are 12 and 14 semesters, respectively.

### Doctor of Philosophy in Mechanical Engineering

#### CURRICULUM

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits / ECTS Credits</th>
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<tr>
<td>GE 690 Academic Practices</td>
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<td>ME 699 Ph.D. Dissertation</td>
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<td>ME Graduate Elective</td>
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**Doctor of Philosophy in Mechanical Engineering (After a Bachelor's Degree)**

#### CURRICULUM

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<tr>
<td>GE 690 Academic Practices</td>
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<tr>
<td>ME 699 Ph.D. Dissertation</td>
<td>- / 140</td>
</tr>
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<td>- / 18 / 45</td>
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<td>ME Graduate Electives (2)</td>
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<tr>
<td>ME Graduate Mathematical Electives (2)</td>
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<td>ME Graduate seminars (2)</td>
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The descriptions provided here for different elective course groups are only for guidance. The complete list of courses in each elective group are given in the electronic registration system.

Graduate Elective Courses: All 5XX or higher level courses with at least 3 credits offered by Graduate School of Engineering and Science.* There are further restrictions on the elective courses to fulfill departments breadth requirements.

ME Graduate Elective Courses: All 5XX or higher level ME coded courses with at least 3 credits.

ME Graduate Mathematical Elective Courses: ME 501, ME 503, ME 552

Restricted ME Graduate Technical Elective Courses: Selected 5XX or higher level ME coded courses with at least 3 credits and EEE 501.

*Graduate School of Engineering and Science comprises graduate programs of the departments of Computer Engineering, Electrical and Electronics Engineering, Industrial Engineering, Mechanical Engineering, Chemistry, Mathematics, Molecular Biology and Genetics, Physics, and the interdisciplinary graduate programs Material Science and Nanotechnology, and Neuroscience.
COURSE DESCRIPTIONS

ME 101 Fundamentals of Mechanical Engineering
Introduction to Mechanical Engineering. Analysis of real engineering problems using mechanical engineering principles. Credit units: 2 ECTS Credit Units: 5. Aut (A. Akay, M. Z. Baykara) Spr (M. Z. Baykara)

ME 102 Introduction to Systems Engineering
Treatment of engineering problems from a systems perspective and a unified application of mechanical engineering principles, introduction to and use of CAD systems and group projects. Credit units: 3 ECTS Credit Units: 6. Spr (M. Tohurcu)

ME 211 Thermo-Fluids Engineering I
First law of thermodynamics, first law in differential form, thermal resistance approach for heat transfer, fundamentals of fluid mechanics, thermodynamic properties, open systems, thermodynamic cycles, second law, refrigeration, heat pump, power cycles. Credit units: 4 ECTS Credit Units: 7, Prerequisite: MATH 101 and ME 101 and PHYS 101. Aut (B. Çetin, E. Y. Erdem)

ME 212 Thermo-Fluids Engineering II
Differential analysis of fluid flow, laminar and turbulent flow, head loss, boundary layer, drag and lift, conductive heat transfer, forced and natural convection, heat exchangers, radiative heat transfer. Credit units: 4 ECTS Credit Units: 7, Prerequisite: MATH 102 and ME 211. Spr (B. Çetin, E. Y. Erdem)

ME 231 Mechanics and Materials I
Introduction to statics, Average stress and strain, Linear elasticity, Axial loading, Torsion, Bending, Deflection of beams and shafts, Transverse shear stress, Combined loadings, Energy methods. Credit units: 4 ECTS Credit Units: 7, Prerequisite: MATH 101 and ME 101 and PHYS 101. Aut (M. Z. Baykara, İ. Temizer)

ME 232 Mechanics and Materials II
Three-dimensional stress and strain, Stress and strain transformation, Failure criteria, Stress-strain curve, Plasticity, Fracture of cracked members, Fatigue crack growth, Stress- and strain-based approach to fatigue. Credit units: 4 ECTS Credit Units: 7, Prerequisite: MATH 102 and ME 231. Spr (M. Z. Baykara, İ. Temizer)

ME 299 Summer Practice I
A minimum of four weeks summer practice in a manufacturing organization; observation of organization in its original settings; written report. Credit units: None ECTS Credit Units: 6, Prerequisite: ME 211 and ME 231. Aut (Staff) Spr (Staff)

ME 341 Dynamics and Control I
Modeling and control of dynamical systems. Particles, groups of particles and motion of solids, effects of forces, kinematics, Lagrange equations. Solutions in time and frequency domains. Credit units: 4 ECTS Credit Units: 7, Prerequisite: (MATH 240 and ME 231 and PHYS 102) or (MATH 242 and ME 231 and PHYS 102). Aut (M. Çakmakçı, M. S. Hanay)

ME 342 Dynamics and Control II
Parametric modeling of systems and their analysis and control. Linear system theory, Laplace Transforms, transfer functions, introduction to feedback controls, root-locus analysis. Credit units: 4 ECTS Credit Units: 7, Prerequisite: (ME 341 and MATH 220) or (ME 341 and MATH 241). Spr (M. Çakmakçı)

ME 343 Mechanical Vibrations
Free and forced vibrations of single- and multi-degree-of-freedom systems. Fundamentals of modal analysis, damping and vibration control methods. Vibration measurement and analysis. Credit units: 3 ECTS Credit Units: 6, Prerequisite: (ME 341 and MATH 240) or (ME 341 and MATH 242). Spr (M. T. Kozak)

ME 361 Numerical Methods for Engineers
Taylor series and approximation errors, solving systems of linear and nonlinear equations, curve fitting and interpolation, numerical differentiation and integration, applications to systems of ordinary differential equations. Credit units: 3 ECTS Credit Units: 6, Prerequisite: CS 114 and (MATH 220 or MATH 241) and (MATH 240 or MATH 242). Aut (Ş. F. Arınc)

ME 371 Measurement and Instrumentation
Principles of experiment design, measurement, recording and analysis of force, strain, temperature, flow, and acceleration. Principles of impedance match, measurement circuits, MEMS sensors, Fourier transfer, and applications of probability and statistics. Use of typical laboratory equipment such as oscilloscopes, frequency analyzers, operational amplifiers, and thermo couples. Credit units: 3 ECTS Credit Units: 6. Aut (Ş. Baytaroğlu, E. Y. Erdem)
ME 381 Design and Manufacturing
Engineering materials, bulk deformation processes, material removal processes and machines, sintering, polymeric materials processes, additive manufacturing, economic and quality considerations, design principles, machine elements. Credit units: 3 ECTS Credit Units: 6, Prerequisite: CHEM 201 and ME 102 and ME 232. Spr (Ö. A. Anlağan)

ME 384 Mechatronic Systems
Introduction to analog electronics, semiconductor electronics, operational amplifiers and analog signal processing, digital electronics, microcontrollers, actuators, sensors, data acquisition, systems integration. Credit units: 3 ECTS Credit Units: 6, Prerequisite: (ME 341 and MATH 220) or (ME 341 and MATH 241). Spr (M. S. Hanay)

ME 399 Summer Practice II
A minimum of four weeks summer practice in an engineering company; formulation of an ME problem and proposal for solutions to it; written report. Credit units: None ECTS Credit Units: 6, Prerequisite: ME 342 and ME 371 and ME 381. Aut (Staff) Spr (Staff)

ME 432 Applied Thermodynamics
Design and analysis of devices and thermal processes using principles of thermodynamics. Examples include nuclear power stations, jet engines, energy conversion, internal combustion engines, desalination and others. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ME 212. Aut (Ç. İ. Temizer)

ME 440 Automotive Engineering

ME 446 Applications of Solid Mechanics
Introduction to elasticity theory; tension-compression, continuity equations. Advanced strength of materials: torsion of axisymmetric cross sections, curved beams, thick-walled cylinders. Mechanics of composite materials. Introduction to layered materials and applications. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ME 232. Aut (İ. Temizer)

ME 481 Mechanical Engineering Design I
Development of a mechanical engineering project, design procedures, design selection, engineering statement of customer preferences, ethical and professional responsibilities of engineers. Projects lead to products. Credit units: 3 ECTS Credit Units: 6, Prerequisite: (CHEM 201 and ME 212 and ME 232 and ME 342 and ME 371 and ME 381 and ME 384) and (ENG 400 or ENG 401). Aut (M. Tohumcu, Y. Yıldız)

ME 482 Mechanical Engineering Design II
Group project stressing the mechanical engineering design principles. Projects spanning from conceptual development to working products. Reports explaining the projects, design steps, analyses complemented by oral presentations. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ME 481. Spr (Y. Yıldız)

ME 490 Undergraduate Research in ME
Introduction to research techniques in mechanical engineering. Independent study on a research topic under the supervision of a faculty member. Documentation of the results for evaluation by the supervisor. Credit units: 3 ECTS Credit Units: 6, Aut (Staff) Spr (Staff)

ME 500 Integrated Product Development
Basic review of systems engineering concepts, integrated product development (IPD) context, life cycle of an integrated product, key features of IPD, time and cost analysis of IPD, management of IPD, IPD examples, term project. Credit units: 3 ECTS Credit Units: 7.5.

ME 501 Mathematical Techniques in Mechanical Engineering
Ordinary differential equations and introduction to partial differential equations, series solutions, Fourier, Bessel and Legendre functions, boundary value problems and eigenfunction expansions; calculus of variations. Classical partial differential equations related to mathematical physics, including Laplace transformation and the method of separation of variables. Credit units: 3 ECTS Credit Units: 7.5. Aut (Y. Yıldız)

ME 511 Fluid Mechanics
Development and application of control volume forms of mass, momentum and energy conservation laws, differential forms of theorems of statics and dynamics, and Lagrangian coordinates, and Navier-Stokes equations. Applications to problems in incompressible and compressible laminar flows, boundary layers, hydrodynamic lubrication, transient and periodic flows, thermal boundary layers, convective heat transfer, and aerodynamic heating. Credit units: 3 ECTS Credit Units: 7.5. Spr (B. Çetin)

ME 550 Continuum Mechanics
Introduction to the fundamental concepts and tools for mechanics. Overview of tensor calculus, the kinematics of deformation, concepts of stress, strain, linearization, objectivity and the balance laws for mass, momentum
and energy. Materials modeling aspects such as constitutive laws and material symmetry applications to solid and fluid mechanics. Credit units: 3 ECTS Credit Units: 7.5. Spr (I. Temizer)

ME 552 The Finite Element Method

ME 554 Mechanics of Composite Materials

ME 555 Cellular Biomechanics
This course discusses how mechanical quantities and processes such as force, motion, and deformation influence cell behavior and function, with a focus on the connection between mechanics and biochemistry. Specific topics include: (1) the role of stresses in the cytoskeleton dynamics as related to cell growth, spreading, motility, and adhesion; (2) the generation of force and motion by motile molecules; (3) stretch-activated ion channels; (4) protein and DNA deformation; (5) mechanochemical coupling in signal transduction. If time permits, we will also cover protein trafficking and secretion and the effects of mechanical forces on gene expression. Emphasis is placed on the biomechanics issues at the cellular and molecular levels; their clinical and engineering implications are elucidated. Credit units: 3 ECTS Credit Units: 7.5. Aut (M. Hanay)

ME 557 Metal Cutting Principles
The basic principles of metal cutting. The mechanics of metal cutting, heat generation during metal cutting, modern cutting materials, tool life and tool wear, cutting fluids, surface roughness generated by cutting actions, chip control, economics of cutting, chatter vibration, abrasive machining and non-conventional machining processes. Credit units: 3 ECTS Credit Units: 7.5. Aut (Ö. A. Anlagan)

ME 565 Dynamics
Kinematics of particles and rigid bodies; dynamics of a particle, systems of particles and rigid bodies; central force fields, orbits and trajectories variable mass systems; Lagrange's equations of motion; Hamilton's Principle; variational methods; and applications to dynamics problems and the fundamentals of gyroscopes. Credit units: 3 ECTS Credit Units: 7.5. Aut (M. Çakmakçı)

ME 579 Adaptive Control Systems
Control systems with undetermined or time-varying parameters, theory and application of self-tuning and model reference adaptive control for continuous and discrete-time deterministic systems, methods for estimation and control, stability of nonlinear systems, adaptation laws, and design and application of adaptive control systems. Credit units: 3 ECTS Credit Units: 7.5.

ME 582 Fundamentals of Design for Reliability

ME 590 Mechanical Engineering Seminar
Participation in university-wide departmental research seminars. Discussion of scientific and technological aspects with supervising faculty. Credit units: None ECTS Credit Units: 1. Aut (Staff) Spr (Staff)

ME 599 Master's Thesis
Credit units: None ECTS Credit Units: 56. Aut (Staff) Spr (Staff)
ME 615  **Microfluidics**
Pressure-driven and electrokinetically-driven flows in microchannels, surface effects, micro-fabrication methods, micro/nanoparticles for biotechnology, biochemical reactions and assays, mixing and separation, two-phase flows, integration and design of microfluidic chips.  Credit units: 3  ECTS Credit Units: 7.5.

ME 657  **Nano/Micro Manufacturing**
Lithography, laser processes, mechanical micro-manufacturing, measurement techniques, micro-electrochemical machining, e-beam lithography and ion-beam machining, micro-stereolithography techniques, soft lithography, nanofabrication, nanoimprinting, clean room processes.  Credit units: 3  ECTS Credit Units: 7.5.  Spr (E. Y. Erdem)

ME 690  **Mechanical Engineering Seminar**
Participation in university-wide departmental research seminars.  Discussion of scientific and technological aspects with supervising faculty.  Credit units: None  ECTS Credit Units: 1.  Aut (Staff) Spr (Staff)

ME 699  **Ph.D. Dissertation**
Credit units: None  ECTS Credit Units: 140.  Aut (Staff) Spr (Staff)
The Faculty of Humanities and Letters comprises six departments and a program:

- American Culture and Literature
- Archaeology
- Conference Interpreting
- English Language and Literature
- Philosophy
- Translation and Interpretation
- Turkish Literature

The departments of American Culture and Literature, Archaeology, English Language and Literature, Philosophy, and Translation and Interpretation all have Bachelor of Arts (B.A.) programs. In addition, the Department of Turkish Literature offers graduate programs leading to Master of Arts (M.A.) and Doctor of Philosophy (Ph.D.) degrees, while the Department of Archaeology has an M.A. program. The Faculty also houses a number of non-degree-granting units which offer university-wide service courses in Foreign Languages (French, German, Italian, Japanese, Russian and Spanish) and Turkish language. The Cultures, Civilizations and Ideas unit offers a year-long intensive course to sophomore students.

**ACADEMIC STAFF**

**Varol Akman**, Professor
Ph.D., Electrical, Computer, and Systems Engineering, Rensselaer Polytechnic Institute, 1985. Artificial intelligence, logic, philosophy of language, philosophy of mind, pragmatics, the Internet and society.

**Istvan Albert Aranyosi**, Assistant Professor

**Sema Aydin**, Instructor
M.A., German Language and Literature, Hacettepe University, 1989.

**Catherine Louise Barry**, Instructor
Ph.D., French Literature, Emory University, 2002. Aesthetics, cultural history and literature.

**Aylin Bayrakceken Akin**, Assistant Professor
Ph.D., English Language and Literature, Hacettepe University, 1996.

**Julian Bennett**, Assistant Professor (on leave)
Ph.D., Archaeology, University of Newcastle upon Tyne, 1991. Roman provinces and frontier studies, cultural heritage, archaeological drafting and surveying.

**Sandrine Berges**, Assistant Professor

**Yehezkel S. Berkovski**, Assistant Professor
Ph.D., Philosophy, Oxford University, 2005. Logical positivism, philosophy of logic, Kant, possible worlds, philosophy of science.

**Ahmet Beyatli**, Instructor
Ph.D., Management, University of Baghdad, 1994. Arabic.

**Arzu Bezgin**, Instructor
Barbara Blackwell Gülen, Instructor  
M.S., English Language Teaching, Middle East Technical University, 1987.

Dennis Raymond Bryson, Assistant Professor  

Ayşe Candogan, Instructor  

Cenk Cangir, Instructor  
B.A., French Language and Literature, Hacettepe University, 1989.

William Norman Coker, Assistant Professor  
Ph.D., Comparative Literature, Yale University, 2010. German literature and intellectual history.

Başak Berna Cordan, Instructor  

Costantino Costantini, Instructor  
Ph.D., Comparative Literature, Emory University, 2001. Classics, French and Italian literature, theory.

Gülay Çağan, Instructor  
B.A., German Language Teaching, Hacettepe University, 1992.

Ayşe Çelikkol, Assistant Professor  
Ph.D., Rice University, 2006. 19th-century British and American literature, liberalism, history of globalization.

Şerife Dalbudak, Instructor  

Alican Demir, Instructor  

Mehmet Hilmi Demir, Assistant Professor  

Emine Lale Demirtürk, Professor  

Marianella Gutiérrez Erdem, Instructor  
B.A., Spanish Language Teaching, Corazon de Maria University, 1970.

Burçak Fakoğlu, Instructor  

Patrick Flaherty Fessenbecker, Assistant Professor  

Esra Findik, Assistant Professor  
Ph.D., Library Information Sciences, Hacettepe University, 1985. Etiquette and modern business manners, business writing techniques in Turkish.

Charles Varner Gates, Senior Lecturer  
Ph.D., Classical Archaeology, University of Pennsylvania, 1979. Aegean Bronze Age, Greek art and archaeology, Byzantine art and archaeology.

Marie-Henriette Gates, Associate Professor  
Ph.D., Ancient Near Eastern Languages and Literatures, Yale University, 1976. Archaeology of Mesopotamia, archaeology of Egypt, archaeology of Syria and Palestine, archaeological method and theory.

Ali Turan Görgü, Instructor  
M.A., Teaching of Turkish, Gazi University, 1997.
Sevil Güner, Instructor

Mihaela P. Harper, Assistant Professor

Patrick Hart, Assistant Professor
Ph.D., English Studies Department, University of Strathclyde, 2011. Renaissance Literature, Renaissance poetry in England and Scotland, particularly in the Petrarchan mode; modernist and contemporary experimental poetry.

John Spencer Hawkins, Instructor
Ph.D., Comparative Literature, University of Michigan, 2014.

Dragan Ilić, Instructor
Ph.D., Comparative Literature, University of Colorado (Boulder), 2014.

Craig Ireland, Assistant Professor
Ph.D., Theory and Epistemology of Literature, Université de Montréal, 2000. Social and literary theory, public sphere theory, Western Marxism, Cultural Studies, 18th to 20th-century Western intellectual and cultural history.

Tanju Inal, Professor

Daniel Peter Johnson, Assistant Professor
Ph.D., History, State University of New York at Binghamton, 2011. 17th and 18th century American social and cultural history, early modern imperialism and popular politics, Historiography and social theory.

Mehmet Kalpaklı, Assistant Professor
Ph.D., Turkish Literature, University of Washington/Istanbul University, 1992. Ottoman literature and cultural history, Near Eastern languages and literature, modern Turkish literature, theory of literature, use of computers for humanities.

Engin Karacaören, Instructor
Ph.D., Spanish Language and Literature, Ankara University, 2002.

Mümtaz Kaya, Assistant Professor
Ph.D., French Language and Literature, Hacettepe University, 1998.

Valerie June Kennedy, Assistant Professor

Paul Elliot Kimball, Instructor
Ph.D., Classics (concentration in ancient history) State University of New York at Buffalo, 2004. Hellenistic and late antique history, Byzantine social and cultural history, Greek religion, myth and ritual.

Edward Kohn, Assistant Professor

Gül Kurtuluş, Instructor
Ph.D., English Literature, Bilkent University, 1997. Modern drama, 16th and 17th century English Literature, Modern British and American short fiction.

Daniel Harrison Leonard, Visiting Assistant Professor
Ph.D., Colombia University, 2007. Enlightenment, French Literature and philosophy, aesthetics, history of science.

Joanna Gwen Mansbridge, Assistant Professor
Ph.D., English, Graduate Center, City University of New York, 2010. American Theater, Performance Studies, Film and Visual Culture, Gender Studies, Dramaturgy.
Jacques Morin, Instructor  
Ph.D., Classics, McGill University, 1991. Greek and Roman art and archaeology, Aegean prehistory.

Nurdane Mumcu Öz, Instructor  
M.A., Turkish Language and Literature, Ankara University, 2002.

Mukaddes Mutluer, Instructor  
B.A., German Language and Literature, Hacettepe University, 1976.

Mustafa Nakeeb, Visiting Assistant Professor  

Alexandra Noyanalpan, Instructor  

Saeko Ohashi, Instructor  

Ayşe Şirin Okyayuz, Assistant Professor  
Ph.D., Department of Linguistics, Hacettepe University, 2001.

Michael Kurt Ozment, Visiting Assistant Professor  
Ph.D., Comparative Literature, University of California, 2007. Aesthetics, literary theory, poetry.

Sare Öz, Instructor  
B.A., Turkish Literature, Gazi University, 1960.

Meltem Özataç, Instructor  
B.A., Comparative Literature, Sorbonne University France, 2013.

Özlem Özduç, Instructor  

Ahmet Özer, Instructor  
B.A., Turkish Language and Literature, Anadolu University, 1992.

Fatma İknur Özgen, Associate Professor  

Güclü Özkök, Instructor  
M.A., French Language and Literature, Hacettepe University, 1995.

Gürçan Özkökü, Instructor  

Michael John Perfect, Assistant Professor  

Andrew Jonathan Ploeg, Visiting Assistant Professor  

Donald Bruce Randall, Associate Professor (on leave)  

Jennifer Andrea Reimer, Assistant Professor  
Ph.D., Ethnic Studies, University of California, Berkeley. Race, ethnicity, and gender in American literary and cultural studies, immigration and Diaspora studies, Latino/a Studies, and creative writing.

Özlem Savaş, Instructor  

Kory Spencer Sorrell, Assistant Professor  
Şengül Soyuturk, Instructor
Ph.D., German Language and Literature, Hacettepe University, 1999.

Engin Soyupak, Instructor
B.A., French Language Teaching, Gazi University, 1976.

Cory Douglas Stockwell, Assistant Professor
Ph.D., University of Minnesota, Comparative Literature, 2010. 18th and 20th century comparative literature.

Abdulhak Hamit Sunel, Instructor
Ph.D., Education, Hacettepe University, 1968.

Yasemin Tanb, Instructor
M.A., Translation and Interpretation, Atılım University, 2011.

Gülcan Tanrıkulu, Instructor
Ph.D., Russian Language and Literature, Shevchenko Russian University, 1988.

Burcu Taşkıran, Instructor
M.A., Graduate School of Education, Bilkent University, 2002.

Hava Nuran Tezcan, Associate Professor
Ph.D., Ottoman Literature, Otto-Friedrich University-Bamberg, 1996. Ottoman literature, poetry of the Republican era, Turkish lexicicon, Turkish as a native and foreign language.

Semih Tuzcan, Visiting Professor
Ph.D., Turkology, University of Göttingen-Germany, 1970. Pre-Islamic and Early-Islamic Turkish Languages and Literature, Turkish Languages of Persia, Old Anatolian Turkic, Turkish Lexicology.

Buson Zelda Turan, Instructor
B.A., French Language and Literature, Hacettepe University, 1982.

İbrahim Turan, Instructor

Nurhan Turgut, Instructor
M.A., German Language and Literature, Hacettepe University, 1996.

Buffy Ann Turner, Instructor
Ph.D., Comparative Literature, Purdue University (Indiana), 2014.

Seda Uyanık Tanrıverdi, Instructor
Ph.D., Turkish Literature, Bilkent University, 2011.

Simon Drummond Vigley, Associate Professor

Lars Roland Vinx, Assistant Professor
Ph.D., Philosophy, University of Toronto, 2006. Political philosophy and history of political thought, philosophy of law, medieval and early modern philosophy.

John Woods III, Assistant Professor
Ph.D., Philosophy, Princeton University, 2013. Logic, Philosophy of Logic, Philosophy of Language, Metaethics.

William Giles Wringe, Assistant Professor

Hilmi Yavuz, Adjunct Senior Lecturer

Vedat Yazıcı, Instructor

Thomas Zimmermann, Assistant Professor (on leave)
Ph.D., Regensburg University, 2006. European and Anatolian prehistory and protohistory, Archaeometallurgy.
PART-TIME ACADEMIC STAFF

Asuman C. Abuagla, Ph.D., Ancient Languages and Cultures, Akdeniz University, 2012.
Selim F. Adali, Ph.D., Ancient History, University of Sydney, 2009.
Ekrem Aksoy, Ph.D., Hacettepe University, French Language and Literature, 1989.
Ercan Akyol, M.A., Turkish Literature, Bilkent University, 2014.
Lüdmyla Alyeksyeyenkova, M.S., Mechanical Engineering, Kiev Polytechnic Institute, Ukrainie, 1982.
Nurdan Arslan Göçmen, M.A., Faculty of Education, Bağşent University, 2012.
Özgcan Aydın, M.A., Settlement Archaeology, Graduate School of Social Sciences, METU, 2009.
Seda Başer Çoban, M.A., Turkish Literature, Bilkent University, 2012.
Neşe Çetiner, B.A., Turkish Language and Literature, İstanbul University, 2007.
Burcu Feyzullahoğlu, M.A., Master of Arts, Bilkent University, 2014.
G. Gonca Gökalp Alpaslan, Ph.D., Turkish Language and Literature, Hacettepe University, 1999.
Sevim Gözcü Ezen, M.A., Turkish Literature, Bilkent University, 2003.
Ahu Gümüşkan, B.A., German Language and Literature, Hacettepe University, 2005.
Ravel Holland, M.A., European History, Bilkent University, 2014.
Qitao Chen Çıllhan, B.A., Management, Beijing University, 1994.
Ahnat Kaya, B.A., Turkish Language and Literature, Ankara University, 1985.
Emre Koyuncu, Ph.D., Purdue University West Lafayette, 2014.
Cécile Martine Nadine Malet-Peterson, Ph.D., English Literature, University of London (U.K.), 1999.
Evgenia Malikouti, M.A., Turkish Studies, Sabancı University, 2013.
Anooshirvan Miandji, M.S., Pharmacy, Gazi University, 2005. Persian.
Leman Müftüoğlu, B.A., Turkish Language and Literature, İstanbul University, 1977.
Ebru Onay, M.A., Turkish Literature, Bilkent University, 2013.
Aynur Özcan, B.A., Spanish Language and Literature, Ankara University, 1980.
Nalan Tuna, B.A., Turkish Language and Literature, Ankara University, 1984.
Aşlı Uçuş, Ph.D., Turkish Literature, Bilkent University, 2012.
Ayşen Yücel, B.A., Spanish Language and Literature, Ankara University, 1981.
GENERAL COURSES

TURK 101  Turkish I
This course is the first of a sequence of two courses designed to develop creative writing skills of the students through their own writings in Turkish. It is an active learning course. Students write their own blogs and instructors comment and send feedback about the creativity, content, composition, grammar, spelling and punctuation of the writing regularly. Credit units: 2 ECTS Credit Units: 2. Aut (B. B. Cordan, N. Çetiner, E. Fındık, A. T. Görüş, S. Gözçü Ezen, L. Mülteğilü, S. Özlü, A. Özer, B. Taşkiran, S. Uyanık Tanrıverdi, V. Yazıcı) Spr (E. Akyol, S. Başer Çoban, N. Çetiner, A. Kaya, E. Onay, A. Özer, B. Taşkiran, G. Tuzcu, A. Uçar)

TURK 102  Turkish II
This course is the second of a sequence of two courses designed to develop creative writing skills of the students through their own writings in Turkish. It is an active learning course. Students write their own blogs and instructors comment and send feedback about the creativity, content, composition, grammar, spelling and punctuation of the writing regularly. Credit units: 2 ECTS Credit Units: 2. Aut (S. Gözçü Ezen, E. Güler, A. Kaya, E. Onay, G. Tuzcu, A. Uçar, S. Uyanık Tanrıverdi) Spr (B. B. Cordan, E. Fındık, A. T. Görüş, S. Gözçü Ezen, E. Güler, L. Mülteğilü, E. Onay, S. Özlü, B. Taşkiran, S. Uyanık Tanrıverdi, V. Yazıcı)

TURK 111  Basic Turkish I
The aim is to help the students comprehend spoken and written Turkish, express their ideas in written and oral form, and to acquaint them with an understanding of Turkish life and culture. Credit units: 3 ECTS Credit Units: 6. Aut (N. Arslan Göçmen, N. Mumcu Öz, A. Yücel, N. Yüksektepe) Spr (N. Arslan Göçmen, N. Yüksektepe)

TURK 112  Basic Turkish II
Sequel to TURK 111. Basic principles of speech and composition. Exercises in oral and written expression. Analysis of selected texts from Turkish literature and media. Credit units: 3 ECTS Credit Units: 6. Aut (N. Mumcu Öz) Spr (N. Arslan Göçmen, N. Mumcu Öz)

TURK 113  Basic Turkish III
The objective of the course is to provide the students with further skills and confidence in oral and written expression and to make them familiar with more complicated texts from different areas of Turkish intellectual life. Credit units: 3 ECTS Credit Units: 6. Aut (N. Arslan Göçmen) Spr (N. Arslan Göçmen)

TURK 381  Advanced Turkish I
This course emphasizes on advanced use of the four basic language skills (reading, writing, speaking and listening). Students will be expected to comment on various articles, books (novels, stories, poetry) they read and multimedia materials they listen to or watch; both verbally and in writing. Credit units: 3 ECTS Credit Units: 6. Aut (N. Tuna) Spr (N. Tuna)

TURK 382  Advanced Turkish II
In this course, the students will participate in activities designed to improve all of the basic language skills. Development of verbal expression skills will be particularly emphasized and in this respect, students shall design a play to be staged at the end of the semester. Credit units: 3 ECTS Credit Units: 6. Aut (N. Tuna) Spr (N. Tuna)

PROGRAM IN CULTURES, CIVILIZATION AND IDEAS


COURSE DESCRIPTIONS

HUM 111  Cultures Civilizations and Ideas I
This half of the year-long course “Cultures, Civilizations, and Ideas” introduces students to the study of culture and civilization through close reading of primary texts in the ancient traditions of the Near East and the Mediterranean. It also introduces students to more modern critical readings and discussion of the value and weight of this tradition. The course aims to provide students with an understanding of the ancient roots of literary craft and philosophical thought, and to enhance the student’s ability in interpretative and critical reasoning. Successful completion of the course requires careful and timely reading of assigned texts, essay writing, and active participation in class discussion. Grading is based on a course project, a mid-term examination or term-paper, comprehensive final examination, reading quizzes and class participation. Required texts include: Epic of Gilgamesh; Freud: Civilization and its Discontents; Homer: Iliad; Sophocles: Theban Plays; Plato: Republic; and a course reader of other shorter works and critical essays. Credit units: 3 ECTS Credit Units: 6. Prerequisite: ENG 101. Aut (C. L. Barry, W. N. Coker, C. Costantini, P. F. Fessenbecker, J. S. Hawkins, D. Ilc, P. E. Kimball, M. Nakeeb, A. J. Ploeg, C. D. Stockwell, B. A. Turner) Spr (C. L. Barry, W. N. Coker, M. P. Harper, M. Nakeeb, M. K. Ozment, A. J. Ploeg, K. S. Sorrell, C. D. Stockwell)
HUM 112  Cultures Civilizations and Ideas II
The second half of the year-long course “Cultures, Civilizations and Ideas”, continues the study of culture through examination of texts through the periods of the Late Middle Ages, the Renaissance, Enlightenment, and up to modern times. The course focuses on several themes, most importantly, the concepts of Modernity and Knowledge, Individualism, Cross-Cultural Contact, Social Order and Disorder. As in HUM 111, close reading and discussion of primary texts is the vehicle for the course. Grading is based on a course project, a mid-term examination or term-paper, comprehensive final examination, reading quizzes and class participation. Required authors include, among others: Machiavelli, Shakespeare, Descartes, Rousseau, Hegel, Marx, Kafka. Credit units: 3 ECTS Credit Units: 6. Prerequisite: HUM 111 or HUM 121. Aut (M. P. Harper, D. H. Leonard, M. K. Ozment, K. S. Sorrell) Spr (C. Costantini, P. F. Fessenbecker, J. S. Hawkins, D. Ilic, P. E. Kimball, D. H. Leonard, C. M. N. Malet-Peterson, M. K. Ozment, B. A. Turner)

HUM 331  Humanities and Social Science Honors Seminar
This seminar is restricted to students who have a cumulative grade point average of 3.30 or higher. The seminar is designed to provide students with a sense of basic concepts and theoretical approaches which are common to advanced research in the humanities and social sciences. Though the specific content of the seminar will change from one year to the next, each seminar will present important readings and texts from several disciplines (philosophy, psychology, sociology, literary theory, etc.). Students will discuss their work with one another in seminar meetings, and also in one-on-one meetings with the seminar leader throughout the semester. Each student will complete a term paper on a topic of his or her choice related to the issues covered in the seminar, and will leave the course with a polished piece of academic writing which they can use in applications to graduate school, as well as a detailed letter of recommendation from the seminar instructor. Credit units: 3 ECTS Credit Units: 6. Aut (K. S. Sorrell, C. D. Stockwell)

FOREIGN LANGUAGES UNIT

E. Soyupak (Coordinator)

Chinese: Q. Ç. İlhan, S. E. Tuğlu.

French: M. Erdoğan, S. Güner, E. Soyupak, B. Z. Turan.

German: S. Aydin, G. Çayan, M. S. Fischer, A. Gümüşkan, M. Mutluer, G. Özköklü, Ş. Soytêr Şêntûrêk, I. Turan, N. Turgut.

Italian: A. Bezgin, A. Candoğan, Ö. Özduran, Ö. Saçak.

Japanese: S. Ohashi.


Russian: L. Alyeysreyênkova, N. Hüseyin, G. Tanrikulu.

Arabic: A. Beyatlı.

Persian: A. Mândjî.

Turkish: N. Arslan Göçmen, N. Mumcu Öz, N. Tuna, N. Yûksektepe.

Kurdish: M. S. Varlî.

Greek: E. Malikoutî.

FOREIGN LANGUAGE COURSES
The Foreign Languages Unit offers basic- and intermediate-level courses in German, French, Italian, Japanese, Russian, Spanish, Chinese, Arabic and Persian. Advanced level courses as well as special-purpose courses emphasizing language skills in various professions are also offered. Credit
Units: 3, ECTS Credit Units: 6.

**BASIC LEVEL COURSES**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>GER 111/112/113/114</td>
<td>Basic German I / II / III / IV</td>
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<tr>
<td>FRE 111/112/113/114</td>
<td>Basic French I / II / III / IV</td>
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<tr>
<td>ITA 111/112/113/114</td>
<td>Basic Italian I / II / III / IV</td>
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<td>SPA 111/112/113/114</td>
<td>Basic Spanish I / II / III / IV</td>
</tr>
<tr>
<td>RUS 111/112/113/114</td>
<td>Basic Russian I / II / III / IV</td>
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<tr>
<td>FRL 131/132/133/134</td>
<td>Basic Arabic I / II / III / IV</td>
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<tr>
<td>FRL 141/142/143/144</td>
<td>Basic Persian I / II / III</td>
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<tr>
<td>JAP 111/112/113/114</td>
<td>Basic Japanese I / II / III / IV</td>
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<tr>
<td>FRL 155/156/157/158</td>
<td>Basic Chinese I / II / III / IV</td>
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<tr>
<td>FRL 181/182</td>
<td>Basic Adygei I / II</td>
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<tr>
<td>FRL 175/176</td>
<td>Basic Kurds I / II</td>
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<td>FRL 161</td>
<td>Basic Greek I</td>
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**INTERMEDIATE LEVEL COURSES**

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<td>Intermediate German I / II / III / IV</td>
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<td>FRE 211/212/213/214</td>
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<td>ITA 211/212/213/214</td>
<td>Intermediate Italian I / II / III / IV</td>
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<td>SPA 211/212/213/214</td>
<td>Intermediate Spanish I / II / III / IV</td>
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<tr>
<td>RUS 211/212/213/214</td>
<td>Intermediate Russian I / II / III / IV</td>
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<tr>
<td>JAP 211/212</td>
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<td>FRL 255</td>
<td>Intermediate Chinese I</td>
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**ADVANCED LEVEL COURSES**

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<tbody>
<tr>
<td>FRE 381/382</td>
<td>Communication Skills in French I / II</td>
</tr>
<tr>
<td>GER 381/382</td>
<td>Communication Skills in German I / II</td>
</tr>
</tbody>
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**LANGUAGE COURSES FOR SPECIFIC PROGRAMS**

The following courses are designed for the students of the Archaeology department. Particular emphasis is given to text comprehension, and translation into Turkish.

<table>
<thead>
<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>FRE 401/402</td>
<td>Readings in French I / II</td>
</tr>
<tr>
<td>GER 421/422</td>
<td>Readings in German I / II</td>
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</tbody>
</table>
DEPARTMENT OF AMERICAN CULTURE AND LITERATURE


The Department of American Culture and Literature offers a program leading to the Bachelor of Arts degree. The department offers a course selection that examines the United States in all its complexity, integrating literature, culture, and history. This interdisciplinary program will not only introduce students to the study of the United States but will also develop critical and creative thinking skills that will enable students to reflect upon their own culture and its history and literature. The newly revised curriculum seeks to ground students in the skills of close reading and textual analysis. Further, it asks students to consider works in their historical and cultural contexts, illustrating the complexity, integrating literature, culture, and history. This interdisciplinary program will not only introduce students to the study of the United States but will also develop critical and creative thinking skills that will enable students to reflect upon their own culture and its history and literature. The program, as is true of most other programs in the humanities, does not offer vocational training per se but rather develops fluency in English, analytical skills, and ability in written expression that will prepare students for success in their professional lives and in further academic study.

UNDERGRADUATE PROGRAM

CURRICULUM

FIRST YEAR

Autumn Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>AMER 115</td>
<td>Methods and Texts I</td>
<td>3 / 7</td>
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<tr>
<td>AMER 195</td>
<td>Introduction to American Studies I</td>
<td>3 / 7</td>
</tr>
<tr>
<td>CTE 191</td>
<td>Information and Communication Technology</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ENG 101</td>
<td>English and Composition I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ENG 117</td>
<td>Advanced English Grammar I</td>
<td>3 / 4</td>
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<tr>
<td>GE 100</td>
<td>Orientation</td>
<td>1 / 1</td>
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<tr>
<td>TURK 101</td>
<td>Turkish I</td>
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Spring Semester

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<th>Course Code</th>
<th>Course Title</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>AMER 116</td>
<td>Methods and Texts II</td>
<td>3 / 7</td>
</tr>
<tr>
<td>AMER 196</td>
<td>Introduction to American Studies II</td>
<td>3 / 7</td>
</tr>
<tr>
<td>AMER 195</td>
<td>Introduction to American Studies II</td>
<td>3 / 7</td>
</tr>
<tr>
<td>ENG 102</td>
<td>English and Composition II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ENG 118</td>
<td>Advanced English Grammar II</td>
<td>3 / 4</td>
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<td>Turkish II</td>
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SECOND YEAR

Autumn Semester

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<th>Course Code</th>
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<tbody>
<tr>
<td>AMER 207</td>
<td>American Texts and Contexts I</td>
<td>4 / 6</td>
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<tr>
<td>AMER 293</td>
<td>American History I</td>
<td>3 / 6</td>
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<tr>
<td>GE 250</td>
<td>Collegiate Activities Program I</td>
<td>- / 1</td>
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<tr>
<td>HIST 200</td>
<td>History of Turkey</td>
<td>4 / 8</td>
</tr>
<tr>
<td>HUM 111</td>
<td>Cultures Civilizations and Ideas I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 103</td>
<td>Introductory Mathematics</td>
<td>3 / 6</td>
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<tr>
<td>SOC 101</td>
<td>Introduction to Sociology</td>
<td>3 / 6</td>
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Spring Semester

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<th>Credits / ECTS Credits</th>
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<tbody>
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<td>AMER 208</td>
<td>American Texts and Contexts II</td>
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<tr>
<td>AMER 294</td>
<td>American History II</td>
<td>3 / 6</td>
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<tr>
<td>GE 251</td>
<td>Collegiate Activities Program II</td>
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<td>HUM 112</td>
<td>Cultures Civilizations and Ideas II</td>
<td>3 / 6</td>
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<tr>
<td>PHYS 200</td>
<td>Physics for Poets</td>
<td>3 / 5</td>
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<tr>
<td>POLS 104</td>
<td>Introduction to Political Science II</td>
<td>3 / 6</td>
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### THIRD YEAR

#### Autumn Semester

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<th>Course Code</th>
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<tbody>
<tr>
<td>AMER 303</td>
<td>Film Studies in American Culture to 1960</td>
<td>4 / 8</td>
</tr>
<tr>
<td>AMER 343</td>
<td>American Theater</td>
<td>3 / 6</td>
</tr>
<tr>
<td>AMER 357</td>
<td>American Intellectual History I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>AMER 383</td>
<td>American Novel to 1900</td>
<td>3 / 6</td>
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<tr>
<td></td>
<td>Non Technical Elective</td>
<td>3 / 6</td>
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#### Spring Semester

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<th>Course Code</th>
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<tr>
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### FOURTH YEAR

#### Autumn Semester

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<td>AMER 459</td>
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#### Spring Semester

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### RESTRICTED ELECTIVES

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<td>HIST 435</td>
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MINOR PROGRAM

The Minor Program in American Culture and Literature takes an interdisciplinary approach to the study of the United States, its people, and its culture. The program allows students from any academic background to explore the main themes and ideas of American literature, film, theater, poetry, and history. Such ideas include gender, race, ethnicity, and other forms of identity. Moreover, the program will allow students to increase their fluency in English, as courses emphasize developing their reading, writing, and analytical skills. At the end, students should have a much better understanding of what the term "American" means, as courses and instructors seek to replace a superficial understanding of America with a deeper, more layered, and more nuanced understanding.

Prerequisite Courses:
A minimum grade of B- in ENG 102

CURRICULUM

Courses

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<td>AMER 196 Introduction to American Studies II</td>
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<td>AMER 207 American Texts and Contexts I</td>
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COURSE DESCRIPTIONS

AMER 115 Methods and Texts I
This course gives students the critical methods necessary to interpret a variety of social texts. The primary mode of organization is around genre. A unit on poetry will teach students to identify poetic forms and to scan lines; a unit on fiction will address such issues as narrative voice, characterization, and symbolism; a unit on drama will examine the dimensions of staging and performance; a unit on film will teach students to approach texts in two and three dimensions; a unit on music will examine harmony, musical form, and performance; and a unit on nonfiction prose will examine the status of objectivity in source materials. Other major issues concern the distinction between literal and figurative language, terms for literary studies, and the linguistic diversity of the United States. Students will also learn how to develop a bibliography and how to cite sources using established styles. Credit units: 3 ECTS Credit Units: 7. Aut (C. Ireland)

AMER 116 Methods and Texts II
This course continues the work of AMER 115. The primary mode of organization is around genre. A unit on drama will examine the dimensions of staging and performance. A unit on film will teach students how to analyze the formal development of a shot sequence. A unit on the novel will continue the study of the formal components of fiction. Credit units: 3 ECTS Credit Units: 7, Prerequisite: AMER 115 or AMER 117. Spr (C. Ireland)

AMER 195 Introduction to American Studies I
This course provides an introduction to the interdisciplinary study of American culture and literature. Through consideration of exemplary moments and problems in the history of the United States, students will consider how different disciplines (history, cultural studies, textual criticism, political science, or sociology) provide interpretive strategies for American studies. In addition, students will be asked to consider how these disciplinary approaches might be combined or integrated into an interdisciplinary method. Throughout the course, a foundation of knowledge in American geography, political systems, demography, institutions, economics, and social structure will be established so as to create the possibility of further study. Tutorial support will be provided. Credit units: 3 ECTS Credit Units: 7, Aut (J. A. Reimer)

AMER 196 Introduction to American Studies II
This course continues the work of AMER 195 in building a foundation for the interdisciplinary study of the United States. In this semester, students will study such as education, political systems, gender, race, and class in greater depth. Specifically, students will examine primary documents to develop their understanding of these topics. Tutorial support will be provided. Credit units: 3 ECTS Credit Units: 7, Prerequisite: AMER 195. Spr (J. A. Reimer)

AMER 207 American Texts and Contexts I
This course provides an interdisciplinary node of connection between the survey in history and the survey in literature. Drawing from exemplary moments and problems in American culture from the beginnings to the Civil War, the course asks students to relate a variety of primary sources to broader contextual issues. This course
will be writing intensive, with tutorial support provided. Credit units: 4 ECTS Credit Units: 6, Prerequisite: AMER 116 and AMER 196. Aut (E. L. Demirürk, D. P. Johnson)

AMER 208 American Texts and Contexts II
This course provides an interdisciplinary node of connection between the survey in history and the survey in literature. Drawing from exemplary moments and problems in American culture from the Civil War to the present, the course asks students to relate a variety of primary sources to broader contextual issues. This course requires writing intensively, with tutorial support provided. Credit units: 4 ECTS Credit Units: 6, Prerequisite: AMER 207. Spr (D. P. Johnson)

AMER 293 American History I
A study of the history of the United States, with particular attention to the colonial era, the American Revolution, the early national period, and the Civil War. Credit units: 3 ECTS Credit Units: 6, Prerequisite: AMER 116 and AMER 196. Aut (D. P. Johnson)

AMER 294 American History II
A study of the history of the United States, beginning with the Reconstruction era and devoting particular attention to the Gilded Age, the Great Depression, the two World Wars, and the Cold War. Credit units: 3 ECTS Credit Units: 6. Spr (D. R. Bryson)

AMER 303 Film Studies in American Culture to 1960
This course is designed to introduce students to American film studies and cultural history, including issues pertaining to aesthetic analysis, film genres and issues of representation -from the beginnings of film history until 1960. Credit units: 4 ECTS Credit Units: 8, Prerequisite: AMER 207 or AMER 293. Aut (J. G. Mansbridge)

AMER 304 Film Studies in American Culture Since 1960
This course is designed to introduce students to American film history and culture, including issues pertaining to aesthetic analysis, film genres, and issues of representation from 1960 to the present. Credit units: 4 ECTS Credit Units: 8. Spr (J. G. Mansbridge)

AMER 343 American Theater
A study of selected 20th century plays, movements, and issues raised by the study of theater, including its relationship to mass cultural forms, state support, and documentary truth. Writers will include Lorraine Hansberry, Arthur Miller, Eugene O'Neil, Marc Blitzstein, Arthur Arent, Luis Valdez, and Anna Deavere Smith. Credit units: 3 ECTS Credit Units: 6, Prerequisite: AMER 207 or AMER 293. Aut (J. G. Mansbridge)

AMER 357 American Intellectual History I
This course will deal with the intellectual history of the United States from the colonial era to the Civil War. It will explore such topics as the Puritan tradition, republican ideology in America, Tocqueville and democracy, the Transcendentalists, the debate over slavery, views on the role of women in the new republic, and antebellum social science. Primary texts by John Winthrop, Benjamin Franklin, Thomas Paine, Thomas Jefferson, James Madison, Alexis de Tocqueville, Ralph Waldo Emerson, Henry David Thoreau, William Lloyd Garrison, David Walker, Frederick Douglass, Sarah Grimke, Catharine Beecher, Margaret Fuller, Horace Bushnell, Henry C. Carey, and George Fitzhugh will be read and discussed in the course. Credit units: 3 ECTS Credit Units: 6, Prerequisite: AMER 207 or AMER 293. Aut (D. R. Bryson)

AMER 358 American Intellectual History II
This course will deal with the intellectual history of the United States from 1865 to the present. It will explore such topics as the pragmatist tradition, the plight of African Americans and their struggle for civil rights and economic betterment, the American social sciences, intellectuals and the public sphere, feminist thought, trends in American literary studies and cultural studies, debates over multiculturalism, the controversy over the "clash of civilizations", and recent American thought on the philosophy and history of science. Writers to be considered include: Lester Frank Ward, William Graham Summer, Charlotte Perkins Gilman, W.E.B. Du Bois, William James, John Dewey, Margaret Mead, Gunnar Myrdal, Henry R. Luce, Henry Wallace, J.K. Galbraith, Milton Friedman, Martin Luther King Jr., Malcolm X, Lionel Trilling, Susan Sontag, Betty Friedan, Gloria Anzaldua, Hannah Arendt, Herbert Marcuse, Edward Said, Samuel Huttington, Russell Jacoby, T.S. Kuhn, and Walter Benn Michaels. Credit units: 3 ECTS Credit Units: 6. Spr (D. R. Bryson)

AMER 374 American Poetry
This course studies the social and formal development of poetic expression in the United States, with particular attention given to Bradstreet, Wheatley, Whitman, Dickinson, Longfellow, Crane, Pound, Eliot, Hughes, Brooks, Lowell, Frost, and Rich. Credit units: 3 ECTS Credit Units: 6. Spr (J. A. Reimer)

AMER 383 American Novel to 1900
Introducing the novel as a literary form, the course offers a history of the development of the novel in America. Students are expected to apply various approaches to the reading of any selected novel or novels. Authors may include Hawthorne, Melville, Twain, S. Crane, H. James, R. Hall, K. Chopin, R.H. Davis, E. Wharton, C. Perkins Gilman, K.A. Porter, A. Smedley. Credit units: 3 ECTS Credit Units: 6, Prerequisite: AMER 207 or AMER 293. Aut (E. L. Demirürk)
AMER 384 American Novel From 1900
A study of novels covering the period from 1900 to the present. Selections can include works by E. Hemingway, F.S. Fitzgerald, W. Faulkner, J. Steinbeck, W. Cather, T. Dreiser, J. Smiley, and "popular" novels, novels by women, African-American, Native American, and ethnic writers. Credit units: 3 ECTS Credit Units: 6. Spr (E. L. Demirtürk)

AMER 390 Summer Training
The minimum time for this practice in an organization is six weeks (30 workdays). The main objective is to observe a non-academic organization in an original setting, with the idea of applying skills learned in AMER, learning new skills, and preparing for a life after university. Organizations can be any of the following: think-tanks, human rights organizations, NGOs, charities, business and law firms, newspapers, magazines, broadcasting companies, publishing houses, etc. Students are especially encouraged to find community service-oriented training, in order to learn responsibility both for oneself and others. It is crucial to secure the approval of the department chair re the suitability of the intended summer training place. Students should do this before they make arrangements with the organization. A written report summarizing training experience is required. Credit units: None ECTS Credit Units: 9. Aut (E. Kohn) Spr (E. Kohn)

AMER 406 Senior Project
The minimum time for this practice in an organization is six weeks (30 workdays). The main objective is to observe a non-academic organization in an original setting, with the idea of applying skills learned in AMER, learning new skills, and preparing for a life after university. Organizations can be any of the following: think-tanks, human rights organizations, NGOs, charities, business and law firms, newspapers, magazines, broadcasting companies, publishing houses, etc. Students are especially encouraged to find community service-oriented training, in order to learn responsibility both for oneself and others. It is crucial to secure the approval of the department chair re the suitability of the intended summer training place. Students should do this before they make arrangements with the organization. A written report summarizing training experience is required. Credit units: 3 ECTS Credit Units: 6. Spr (E. Kohn)

AMER 426 American Studies in a Global Context
Following the critical examination of American nationality in AMER 425, this course will attempt to understand the notion of America in a global context. Our examination will begin with an attempt to understand the global construction of the United States, with specific reference to European colonialism, the transatlantic slave trade, and the rise of the nation-state. Then, we will examine contemporary theories of the globalization of American culture; we will map the flows of American cultural products and ideas into such locations as West Africa, South Asia, and Turkey itself. Credit units: 3 ECTS Credit Units: 6. Prerequisite: AMER 303 or AMER 357. Aut (D. R. Bryson)

AMER 427 Topics in Theory for American Culture
This course offers an introduction to critical and cultural theory with specific reference to problems in American Studies. Students will be encouraged to think critically about issues concerning narrative form, knowledge and power, culture, "common sense," gender, race, and hegemony within the context of American culture and history. Selections from Barthes, Benjamin, Lyotard, Foucault, Gramsci, Bederman, Wiegman, Haraway, Jackson Lears, Denning, and others will be read for the course. Credit units: 3 ECTS Credit Units: 6. Prerequisite: AMER 303 or AMER 357. Aut (C. Ireland)

AMER 430 The Thirties: the Great Depression and the New Deal
This course will examine the nineteen-thirties, a crucial decade in twentieth-century United States history. We will examine the causes and consequences of the Great Depression, the New Deal of President Franklin D. Roosevelt, and the political, cultural, and intellectual developments of this era. The course will emphasize a historical approach to the thirties, but will also examine the literature, film, art, and music of this decade. Credit units: 3 ECTS Credit Units: 6. Prerequisite: AMER 303 or AMER 357. Aut (D. R. Bryson)

AMER 441 Culture in its Historical Contexts
To discuss culture itself is a cultural practice. This course, then, will consider recent cultural concerns about self-identity and social memory while at the same re-situating such concerns in their social and economic context. This is an interdisciplinary course that involves the reading of literary and philosophical texts. Although no prior background in philosophy or history is required, it is expected that students be familiar with writing documented research papers at the 4th year level. Credit units: 3 ECTS Credit Units: 6.

AMER 447 Topics in Cultural Studies
This course introduces students to comparative analytical tools and diverse archival material for reading contemporary culture and institutions. Readings will be framed by theories of transnationalism and cosmopolitanism and will offer new paradigms for thinking about multi-sited cultural production and the global circulation of textual and visual forms. The course will enable a rethinking of modernity, postmodernity, mobility, borders and boundaries. Credit units: 3 ECTS Credit Units: 6.

AMER 448 American Pragmatism
The purpose of this course is to examine the contribution of American Pragmatism to intellectual thought and contemporary criticism. We will read during the first two-thirds of the semester the writing of two "classical"
American Philosophers, William James and John Dewey, as well as selected texts from the intellectual forefather of American Pragmatism, Ralph Waldo Emerson. Pragmatism offers, among other things, distinctive accounts of knowledge, ethics, social progress, democracy, the individual, social conflict, self-expression, the scientific method, culture, and education. We will examine many of these in detail and then in the last portion of the semester turn to contemporary advocates of Pragmatism (such as Richard Rotry, Cornel West, and Richard Posner) in order not only to identify lines of continuity and break between classical and contemporary pragmatism, but also to critically assess the contributions of each to ongoing social inquiry and criticism. 

Credit units: 3 ECTS  
Credit Units: 6.  

AMER 450  
Representations of the City  
This course considers the experience of living in the modern and postmodern city in selected texts by Puerto Rican, American-Indian, and Turkish writers. Our emphasis will be on the ways in which these writers have portrayed the disadvantages and promises of urban life. In view of these texts we will be looking at the different ways the urban experience is represented in different cultures. The film screenings, written essay assignments and presentations will provide us with the vital historical, social and political backdrop upon which we will build our understanding of each text. 

Credit units: 3 ECTS  
Credit Units: 6.  

AMER 451  
Ethnic Literature  
The literature produced by the ethnic subculture in America will be examined with special emphasis on its characteristics. Major writers’ works from various groups (Jewish, Native-American, Chicano, Asian American) will be discussed. 

Credit units: 3 ECTS  
Credit Units: 6.  

AMER 456  
Race and Media in the U.S.  
This course will critically examine the role of the media in enabling or challenging the social constructions of race in American society. It will take an interdisciplinary approach to analyzing the issue of race mainly focusing on its media representations. In covering race, readings in the course will primarily address the experiences of African Americans under the light of the White Studies. However, this course will center on experiences of African Americans, who lived on both sides of the racial divide both as black and white people at different stages of their lives as well as those who ‘pass for white’. We will be watching a variety of films all through the semester: TV series such as the Jeffersons, Shirley Temple movies with Bill ‘Bojangles’ Robinson, S. Pollier’s Guess Who is Coming to Dinner, and more contemporary movies will be discussed. Since race and gender in this course will be viewed as interlocking social systems, we will discuss gender and class when the need arises for it in our discussions. The reading materials include a textbook. We will read Robert M. Entman & Andrew Rojecki, The Black Image in the White Mind: Media and Race in America (Chicago: The University of Chicago P, 2000), while the course package will include articles on critical work, based on a cultural studies approach to race, gender, and class in the media. 

Credit units: 3 ECTS  
Credit Units: 6.  

AMER 458  
History of American Presidential Campaigns  
Every four years the United States picks its president. Campaigns for the presidency have ranged from a few drunken, raucous, and even violent weeks in the nineteenth century, to the very sophisticated and year-long “packaging” of the presidency today. This course will look at the evolution of American presidential campaigns, with an emphasis on the changing “political culture” in the United States. As well as looking at key texts, the class will explore the media of American politics, from newspapers and political cartoons, to radio, television, and the dawn of internet campaigning. In particular we will focus on the current presidential campaign in the United States, as the Democrats and Republicans pick their candidates for 2008. 

Credit units: 3 ECTS  
Credit Units: 6.  

AMER 459  
Race and Ethnicity in American Culture  
This course presents a comparative study of the culture and writings of major ethnic groups in the US. Students will be exposed to the cultural expression and the processes of identity formation for various groups, including Latino/as, Native Americans, African Americans and Italian-, Irish-, and Asian Americans. Students will study key texts in the field. Topics may include theories of assimilation, integration, and colonization, conceptual models such as “whiteness,” and the “melting pot,” and historical responses to immigration, such as ethnocide, eugenics, and repatriation, as backdrop to the complex roles played by race and ethnicity in the US. 

Credit units: 3 ECTS  
Credit Units: 6.  

AMER 460  
Contemporary Native American Writers  
A study of the fiction and poetry of Native American writers covering the period from 1945 to the present. Selections may include works by Sherman Alexie, Joseph Bruchac, Louise Erdrich, Joy Harjo, N. Scott Momaday, and Leslie Marmon Silko, as well as other contemporary Native American writers. 

Credit units: 3 ECTS  
Credit Units: 6.  

AMER 468  
American Fiction in the 21. Century: Migration, Space, Identity  
Multi-ethnic literature of Americas reveal a distinctive mental journey out of which men and women have sought to become their own persons with a bi-cultural or multi-cultural identities. Members of different ethnoracially constituted groups-whites, blacks, Latinos, Chinese, Vietnamese, Cambodian, Indian, and Arab Americans-have come to inhabit discrete urban spaces in contemporary America. The painful transformation that migrants suffer when facing a new reality reveal the ways in which they transcended circumscribed traditional lives and roles
by becoming intellectuals, careerists, and writers who are expressed in different narrative styles. The conflicting voices of a male/female and an immigrant blend and argue, as the writers' experiences as (im)migrant women are incorporated into narratives which assert, accept and celebrate a freer life in the new homeland. These struggles between different value-systems of different cultures become the common pattern of these lives and writings. Hence, in this course we will explore how migrants' narratives re-define their identities in excerpts, stories and novels by such writers as Bharati Mukherjee, Nami Mun, Junot Diaz, Wes Moore, Randa Jarrar, Dinaw Mengestu, Bich Minh Nguyen, Helena Maria Viramontes, Chang-Rae Lee. We will also watch DVD's of interviews of some of the writers. Credit units: 3 ECTS Credit Units: 6.

**AMER 469 American Law Culture and Society**
Landmark cases in American law not only reflect the cultural values and social institutions of their time, they often dramatically transform them. In this course we will examine famous cases involving such important social issues as slavery, segregation, personal privacy, freedom of speech, capital punishment, torture, prostitution, medical experiments, and education. We will try to understand the conflicts that provoked these confrontations and bring our own judgement to bear on the results. We will also discuss distinctive theories of law that both emerged from and governed the career of these cases. Credit units: 3 ECTS Credit Units: 6.

**AMER 474 Colonialism and the Making of the New World**
The European 'discovery' of the Americas at the end of the fifteenth century was a transformative moment in world history. This course will explore the impact of the European exploration and colonization of the Americas from a variety of historical and theoretical perspectives. We will give particular attention to the experiences of those exploited by the European colonial project through the critical analysis of historical and contemporary representations of the peoples and cultures of the New World. Credit units: 3 ECTS Credit Units: 6.

**AMER 475 American Culture and Politics in the 1970's**
This course will examine the important and tumultuous decade of the "long 1970s" in American culture and politics. From the watershed moment of the lunar landing in 1969 to the election of Ronald Reagan in 1980, this was a decade marked by political turmoil and dynamic social change. Key films and events from this era will be analyzed to shed light on this culturally complex decade in American history. Credit units: 3 ECTS Credit Units: 6.

**AMER 477 American Gothic**
This course explores the gothic short stories, novels, poems, and films by American authors. The gothic, which narrates unspeakable crimes, supernatural adventures, and descents into madness, expresses collective anxieties. What inspires fear? In what ways does American gothic respond to specific political, scientific, and societal developments in the United States? To address these questions we will link gothic tropes (hidden corpses, disembodied voices, and labyrinthine spaceships) to historical developments in science, and religion, as well as ideologies of race and gender. The reading list may include works by Charles Brockden Brown, Edgar Allan Poe, Nathaniel Hawthorne, Charlotte Perkins Gilman, Flannery O'Connor, Henry James, and H.P. Lovecraft. Films may include Alien, Event Horizon, or Rosemary's Baby. Credit units: 3 ECTS Credit Units: 6.

**AMER 479 Sexuality Studies in American Culture**
This course will take a genealogical approach to the construction and perception of normative and deviant sexualities in the United States. Though the main focus will be on American conceptions of sexuality, we will also be reading texts by authors outside of the U.S. who have profoundly influenced this field of study. For example we will read parts of Freud's *Three Essays on the Theory of Sexuality* and Foucault's *The History of Sexuality*. We will also watch independent and mainstream films (such as *The Adventures of Priscilla, Queen of the Desert* directed by Stephan Elliott in 1994 and *Brokeback Mountain* directed by Ang Lee in 2005) and documentaries along with reading legal?human rights documents, literary and theoretical texts (such as *The California Marriage Protection Act*, better known as Proposition 8, and *Maribeth & Jean Come Home, We are Family, and Meet the Moays* directed by John Keitel) that challenge American norms regarding sexuality. Credit units: 3 ECTS Credit Units: 6.

**AMER 480 Hemispheric American Studies**
A "hemispheric" approach to American Studies means looking at North, Central, and South America as one large unit known as the Americas. The goal of this course will be to expose students to various literary texts, films, and public policy/legislature from various countries in the Americas. For example, we will read U.S. legal documents such as HB 56 and SB 1070 along side such authors as Jorge Luis Borges, Richard Rodriguez, Junot Diaz, Adolfo Caminha, Sandra Cisneros, Esmeralda Santiago, Pablo Neruda, Gabriel Garcia Marquez, Isabel Allende (and others). This panoramic view of the Americas will provide students with a theoretical framework to better understand the U.S. in relation to its closest neighbors and to see how literature functions as theory throughout Latin America. The major languages of the Americas are English, Spanish, and Brazilian Portuguese. In this class we will read texts in translation and also, at times, watch films in their native languages with English subtitles. Because the issue of national borders is such an important and contentious issue, a section of the class will be dedicated to "Border Studies" in the U.S. and beyond. Credit units: 3 ECTS Credit Units: 6.
AMER 482  Creative Writing Workshop
This course is a workshop-based seminar designed to develop your English writing voice creatively, through reading, writing, sharing, and critical conversation. Together we will explore the diversity of creative expression in English, and enact these explorations in our own writing. We will supplement writing exercises with a selection of readings in poetry, short fiction, creative nonfiction/personal essay, and cross-genre writing. We will also spend part of the course discussing how to create a writing portfolio; independent, small-press, and self-publishing; how to submit/query for publication; and how to find publications and presses that are a "good fit" for our work. The course is open to students from all disciplines even if they lack a background in literature. Credit units: 3 ECTS Credit Units: 6.

AMER 483  Freedom and Philosophy in Anglo-America
Few words resonate in American culture more than “freedom" and "liberty". But from where do these concepts originate, and what exactly do they mean? Freedom for whom, and to do what? This course explores these questions by examining different theories of freedom and liberty in the early modern era, from the European Renaissance to the American Revolution. We link the development and growth of American political culture to social and intellectual movements including the Protestant Reformation, the English Civil Wars, the Scientific Revolution, and the Enlightenment. Credit units: 3 ECTS Credit Units: 6. Spr (D. P. Johnson)

AMER 485  Black Power in American Studies
This course explores the rise of Black Nationalism in the United States. The history of American Black Nationalism will be studied from its earliest roots in the late nineteenth century, focusing on such key figures as Booker T. Washington, Marcus Garvey, and Malcolm X. Special attention will be given to the conflict between civil rights liberals such as Martin Luther King, Jr., and Black Power advocates during the Civil Rights Era. Readings will include autobiographies of Booker T. Washington and Malcolm X, as well as influential Black Power texts such as James Baldwin’s "The Fire Next Time." In addition to readings, the rise of American Black Nationalism will be explored through various media including art, film, and photography. Credit units: 3 ECTS Credit Units: 6.

AMER 492  Gender Studies in American Culture
This course offers an introduction to the critical role that gender has played in the structure of American society. It examines theories of gender and society as they have evolved in recent years. Students consider how feminism and other gender-sensitive critical practices help us to understand problems in U.S. society. Credit units: 3 ECTS Credit Units: 6. Spr (J. G. Mansbridge)
DEPARTMENT OF ARCHAEOLOGY


Teaching and research activities of the department concentrate on the archaeology, history and art of Anatolia, the Mediterranean, and the ancient Near East. Students will have opportunities to take part in excavations and surveys conducted by department members at the multi-period sites of Hacimusalar-Elmalı (Antalya) and Kinet Höyük-Dört yol (Hatay).

UNDERGRADUATE PROGRAM

The aim of the undergraduate program in the Department of Archaeology is to provide a thorough and comprehensive understanding of archaeology, ancient history and art. The curriculum includes practical as well as academic work. There will be field trips to museums and sites in Turkey, and students will have the opportunity to participate in departmental survey/excavation projects; arrangements might also be made for students to take part in excavations and expeditions sponsored by other institutions.

The first two years of the program embrace a wide range of essential introductory subjects designed to familiarize the student with the background material required for the more specialized subjects offered over the following two years. In the third and fourth years, besides the compulsory courses, the student has the opportunity to choose elective topics in his or her field of particular interest. One of the options in the fourth year is supervised study on a topic of the student's own choice, at the end of which the student will produce a short dissertation. This particular elective will be offered to students who would like to continue with graduate studies in the field of archaeology or related subjects. Every student is required to take at least one ancient language (Greek and Latin are offered). A basic knowledge of ancient Greek or Latin is invaluable for those students who decide to specialize in Greek or Roman art and archaeology, or ancient history.

At the end of the program the student will emerge with a good knowledge and comprehension of most aspects of Near Eastern, Mediterranean, and European art and archaeology from the Prehistoric period onwards. Emphasis will of course be placed on Anatolian civilizations since the environment at Bilkent provides an ideal opportunity for first-hand familiarity with the ancient sites and monuments of this country.

UNDERGRADUATE CURRICULUM

FIRST YEAR

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## THIRD YEAR

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## FOURTH YEAR

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## DEPARTMENT ELECTIVES

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<td>Archaeology of Troy</td>
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<td>HART 318</td>
<td>Archaeology of Syria and Palestine</td>
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<td>HART 319</td>
<td>Bronze Age in Iran</td>
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<td>HART 322</td>
<td>Orientalizing Period</td>
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<td>Hittite Archaeology</td>
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<td>HART 326</td>
<td>Near Eastern and Anatolian Glyptic</td>
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<td>Bronze Age in Anatolia</td>
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<td>HART 328</td>
<td>The Aegean Bronze Age</td>
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<td>HART 330</td>
<td>Egyptian Art and Archaeology</td>
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<td>Monuments of Babylon</td>
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<td>Hittite Texts I</td>
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<td>Archaeology of Babylon</td>
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<td>HART 343</td>
<td>Latin III</td>
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<td>HART 351</td>
<td>Monuments of Athens</td>
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<td>Monuments of Rome</td>
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<td>HART 353</td>
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<td>HART 360</td>
<td>Ancient Mesoamerican Civilizations</td>
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<td>Achaemenian Art and Archaeology</td>
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<td>Archaeology of Phoenicia</td>
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<td>HART 403</td>
<td>Greek Sanctuaries</td>
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<td>HART 410</td>
<td>Special Topics in Art, Architecture and Archaeology</td>
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<td>HART 411</td>
<td>Greek and Roman Portraiture</td>
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<td>HART 412</td>
<td>Museum Education</td>
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<td>HART 413</td>
<td>Archaeological Photography</td>
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<td>Readings in Prehistory</td>
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<td>HART 431</td>
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<td>The Eastern Roman Provinces</td>
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<td>Selected Topics in Anatolian Art and Archaeology</td>
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<td>Neolithic and Chalcolithic Periods in Anatolia</td>
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<td>Readings in Anatolian Art and Archaeology</td>
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<td>HART 450</td>
<td>Readings in Greek Art and Archaeology</td>
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<td>HART 454</td>
<td>Introduction to Sumerology</td>
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<td>HART 460</td>
<td>Readings in Roman Art and Archaeology</td>
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<td>HART 474</td>
<td>Neo-Assyrian Art and Archaeology</td>
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<td>Supervised Study</td>
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<td>HART 492</td>
<td>Readings From Greek/Latin Texts</td>
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**MINOR PROGRAM**

The Minor Track in Archaeology aims to provide students with a useful and appreciated background for many careers different from "hardcore archaeology", such as publishing, tourism, communications, law, management and finance, international relations, and government service. The Minor track is designed to equip candidates with both broad and in-depth knowledge in Pre-Classical and Classical archaeology, its current research objectives, methodologies and applications, to supplement their Major studies in a firm and enduring way.

**Prerequisite Courses:** None
CURRICULUM

Courses

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GRADUATE PROGRAMS

Master of Arts in Archaeology

The Department of Archaeology offers a graduate program leading to the M.A. degree. The program focuses on the archaeology and art of Anatolia from the Prehistoric to the Medieval period, within its Mediterranean and Near Eastern context. Instruction is primarily through courses that encourage independent research, and emphasis is placed on individuality of thought as well as a thorough knowledge of the field and the application of critical methods to archaeological problems.

Admission: Applicants are normally expected to have an undergraduate major in archaeology, history of art, anthropology, or a related subject, and must demonstrate a proficiency in English. Students from other disciplines are also eligible for the program, providing they remedy deficiencies in their academic background by completing a year of preparatory courses prior to beginning the Master's program. (Also refer to the “Graduate Admissions” section in the introduction of this catalog for the general graduate admission requirements.)

Degree Requirements: The M.A. offered by the department focuses on the archaeology and art of Anatolia. The program requires students to complete (generally over three semesters) a minimum of 27 units of course work (a total of at least 9 courses), comprising core courses in Archaeological Method and Theory, The Interpretation of Art Historical Materials, Research Directives in Anatolian Art and Archaeology and/or Ethnoarchaeology, and a minimum of three seminars in at least two of the following subjects: Pre-Classical, Classical and Medieval Art and Archaeology. A range of seminar topics is offered within each specified period, and these are varied each semester according to the needs of the students and the specialties of the instructors. Students who wish to concentrate on Classical Archaeology are required to take Ancient Greek or Latin, or both. Medieval specialists have the opportunity to study Ottoman Turkish and Paleography (offered through the History Department). Students who wish to supplement their academic background are permitted to attend undergraduate lecture courses and seminars either as auditors or for extra credit.

By the end of the second year the student will complete a Master's thesis in a specialized field of study. Participation in an approved field project is also an integral part of the program, and by the second year at the latest a reading knowledge of French or German must be demonstrated through examination.

GRADUATE CURRICULUM

Courses

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CLASSICAL ARCHAEOLOGY RESTRICTED ELECTIVES

HART 509 Classical Art and Archaeology ........................................... 3 / 7
HART 510 Issues in Classical Art and Archaeology ........................ 3 / 7

PRE-CLASSICAL ARCHAEOLOGY RESTRICTED ELECTIVES

HART 507 Pre-Classical Art and Archaeology ................................... 3 / 7
HART 508 Issues in Pre-Classical Art and Archaeology .................... 3 / 7

GROUP I RESTRICTED ELECTIVES

HART 503 Issues in Conservation and Preservation ............................ 3 / 6
HART 504 Interpretation of Art Historical Materials ............................ 3 / 7
HART 505 Cultural Ecology ................................................................ 3 / 6
HART 506 Ethnoarchaeology .............................................................. 3 / 6
HART 507 Pre-Classical Art and Archaeology ..................................... 3 / 7
HART 508 Issues in Pre-Classical Art and Archaeology ..................... 3 / 7
HART 509 Classical Art and Archaeology ............................................ 3 / 7
HART 510 Issues in Classical Art and Archaeology ............................. 3 / 7
HART 515 Readings in Near Eastern Archaeology ............................... 3 / 7
HART 516 Supervised Research in Near Eastern Archaeology ............. 3 / 7
HART 517 Readings in Anatolian Archaeology .................................... 3 / 7
HART 518 Supervised Research in Anatolian Archaeology ................. 3 / 7
HART 521 Problems in Medieval Art and Archaeology .................... 3 / 7
HART 523 Medieval Art and Archaeology ......................................... 3 / 7
HART 524 Issues in Medieval Art and Archaeology ......................... 3 / 7
HART 532 Introduction to Hittitology ............................................... 3 / 7
HART 536 Hittite Grammar I .............................................................. 3 / 7
HART 538 Hittite Texts I ................................................................. 3 / 7
HART 551 Ancient Greek I ............................................................... 3 / 7
HART 552 Ancient Greek II .............................................................. 3 / 7
HART 553 Ancient Greek III ............................................................. 3 / 7
HART 554 Ancient Greek IV ............................................................. 3 / 7
HART 563 Latin I ......................................................................... 3 / 7
HART 564 Latin II ....................................................................... 3 / 7
HART 583 Latin III ...................................................................... 3 / 7
HART 584 Latin IV ...................................................................... 3 / 7
HART 588 Readings From Greek/Latin Texts II ................................. 3 / 7

COURSE DESCRIPTIONS

HART 102 Introduction to Research Skills
Examination of a theme concerning the art, architecture, and archaeology of the Mediterranean basin and the Near East, with emphasis on developing the skills essential for successful university study: reading scholarly works, taking notes, identifying research problems, writing papers (both short reports and longer research papers), giving oral presentations, and taking part in discussions. The topic examined will vary from year to year, depending on the interests of the instructor. Credit units: 3 ECTS Credit Units: 6. Spr (C. V. Gates)

HART 111 Introduction to Archaeology
This course provides background material essential for any student of archaeology, covering such topics as the history of archaeological research and excavation, major archaeological discoveries of past centuries, modern excavating, surveying and recording techniques, dating methods, identification of sites and the topographical factors involved in locating ancient settlements. Credit units: 3 ECTS Credit Units: 6. Aut (T. Zimmermann)

HART 117 Ways of Seeing: Approaches to Art and Architectural History
A thematic introduction to great works of art and architecture, techniques of analysis, and methods of interpretation. Examples studied will be taken from cultures around the world, ancient, medieval, and modern, with the majority coming from the western tradition. Themes explored will include: form; style; iconography (the subject matter of art); images of the sacred; architecture and ritual; politics and art; landscapes and natural settings; private architecture: the house; and perspectives from sociology, Marxism, feminism, and semiotics. Credit units: 3 ECTS Credit Units: 6. Aut (C. V. Gates)
HART 120 Human Evolution and World Prehistory
This course is a survey of the human prehistory of Africa, Europe and Asia from the first hominids to the Mesolithic period, with particular emphasis on morphological evolution, environment and cultural developments. Credit units: 3 ECTS Credit Units: 6. Spr (J. Morin)

HART 202 Introduction to Mesopotamian and Egyptian Archaeology
This course will survey the ancient civilizations of Mesopotamia (modern Iraq) and Egypt at the time of their greatest achievements (4000-550 BC), from the invention of writing and the engineering of the pyramids, to large-scale urbanism and far-flung economic networks. An archaeological focus on settlement patterns, architecture and artifacts will document how the cultures of these two regions evolved, and what interconnections may have linked them. Credit units: 3 ECTS Credit Units: 6. Aut (M. Gates)

HART 206 Mythologies of the Ancient Mediterranean World
Introduction to mythologies of the Mesopotamian, Egyptian and Greco-Roman civilizations, from a comparative and cultural perspective. This course will survey the major myths about gods, goddesses, heroes and heroines, and consider the role they fulfilled in the societies that created them. Lectures will be supplemented by visual material and ancient written sources. Credit units: 3 ECTS Credit Units: 6.

HART 212 Introduction to Classical Archaeology
This course surveys major aspects of the materials cultures of Ancient Greece and Rome, beginning with the Iron Age of Greece and concluding with the decline of the Western Roman Empire: their architecture, their arts, their economic and social development in urban and rural settings, as well as the way in which scholars have approached the field over its history. Equal weight is given to the development of Classical Greece, its Hellenistic expansion, and the Roman domination of the Mediterranean. Credit units: 3 ECTS Credit Units: 6. Spr (F. C. Özgen)

HART 219 Anatolian Archaeology, Neolithic to the Iron Age
An introduction to the ancient sites and monuments of Anatolia and its relations with the surrounding cultures from the beginning of urban civilization (ca. 7th millennium BC) to the Early Iron Age. Credit units: 3 ECTS Credit Units: 6. Aut (F. C. Özgen)

HART 221 Great Discoveries from the Ancient World
Archaeologists find and study a wide range of things - from preserved footprints to frozen bodies, from fossilised skulls to battlefield relics, from cities lost in the jungle to those buried by falling ash. Specifically designed for the non-archaeologist, this course demonstrates how discoveries like these as well as the study of the many monuments left to us by ancient societies have revolutionised our knowledge of man's past. Specifically designed for non-archaeologists, the course examines and assesses some of the more important archaeological discoveries and monuments that have helped change our view of the past, including some of the more famous and well-known 'finds', such as Tutankhamun's Tomb and Troy, as well as several of the less-well known 'discoveries and monuments', as with the site of Custer's Last Stand and the Easter Island statues. Credit units: 3 ECTS Credit Units: 6. Spr (J. Bennett)

HART 225 Cultural Anthropology
Survey of the basic data and methods of research in the material culture of ancient societies in historical context, illustrating the principles of cultural behavior. Exploration of selected basic concepts and theories of contemporary anthropology. Current problems in relation to materials from the Old World. Credit units: 3 ECTS Credit Units: 6. Spr (C. V. Gates)

HART 231 Ancient Greek I
Introduction to ancient Greek for beginning students. The course will emphasize both grammar and reading. Credit units: 3 ECTS Credit Units: 6. Aut (J. Morin)

HART 232 Ancient Greek II
Completion of the grammar and vocabulary acquisition started in Ancient Greek I. Credit units: 3 ECTS Credit Units: 6. Prerequisite: HART 231. Spr (J. Morin)

HART 239 Latin I
Introduction to Latin for beginning students. The course will emphasize both grammar and reading. Credit units: 3 ECTS Credit Units: 6. Aut (A. C. Abuagla) Spr (A. C. Abuagla)

HART 240 Latin II
Completion of the grammar and vocabulary acquisition begun in Latin I. Credit units: 3 ECTS Credit Units: 6. Prerequisite: HART 239. Spr (A. C. Abuagla)

HART 303 Greek Sculpture
The course will concentrate on the development of Greek sculpture with special emphasis on the state of research, on new interpretations of images and on the methodology of interpretation. Credit units: 3 ECTS Credit Units: 6. Aut (C. V. Gates)
HART 305  Byzantine and Islamic Art and Archaeology  
A survey of art, architecture, and archaeology of the Mediterranean and Near East in the medieval and early modern periods, from Constantine the Great to the 18th century. Focus will be on the art and architecture of the Late Roman and Byzantine empires in Italy and the eastern Mediterranean basin and of Islamic states from the Umayyad and Abbasid caliphates to the Ottoman, Safavid, and Mughal empires. Credit units: 3 ECTS Credit Units: 6. Aut (C. V. Gates)

HART 306  Hellenistic and Roman Sculpture  
A survey of Hellenistic and Roman sculpture from 300 BC to the Constantian period (ca. 300 AD). The major artistic achievements of the Romans - portraiture, historical narratives and the stylistic changes from the idealized to the realistic. Credit units: 3 ECTS Credit Units: 6.

HART 307  Greek Vase Painting  
A survey of Greek vase painting from the Geometric period (ca. 9th century BC) to the 4th century BC with special attention to Attic vase painting of the Archaic and Classical periods. Credit units: 3 ECTS Credit Units: 6.

HART 310  Archaeological Surveying and Planning  
A practical course offering an introduction to surveying procedures in the recording of sites and field surveys. Chain surveying, gridding, contouring and leveling are all covered by this course as they are basic to the accurate recording of all kinds of archaeological evidence. Credit units: 3 ECTS Credit Units: 6. Aut (J. Morin)

HART 315  Greek Architecture  
A survey of Greek building from ca. 700 BC to the 1st century BC. The Greek architectural tradition and its historical development will be emphasized (the history and nature of Doric and Ionic orders and of “Aeolic” and Corinthian styles). Materials, techniques and procedures of construction will also be covered. Sanctuary architecture provides the core material of the course but military, funerary, and ceremonial monuments will also be considered. Credit units: 3 ECTS Credit Units: 6. Aut (J. Morin)

HART 311  Archaeological Drawing and Planning in the Field  
This course offers the first principles and basic skills required for archaeological illustration: drawing artifacts, buildings and reconstructions, producing artwork for publication, and drawing in the field during survey work and excavation. Credit units: 3 ECTS Credit Units: 6. Spr (J. Bennett)

HART 316  Roman Architecture  
A survey of Roman architecture, from the Etruscans to the Constantinian period (ca. 300 AD) throughout the Roman world, with an emphasis on the architecture of the Republic and the early Roman Empire. Credit units: 3 ECTS Credit Units: 6. Spr (J. Bennett)

HART 317  Archaeology of Troy  
A broad-based investigation into the problem of the origin and development of the Homeric city of Troy. The written and archaeological sources and the extent and the limitations of the data will be emphasized. The class will discuss the relationships between epic, history and archaeological evidence. Credit units: 3 ECTS Credit Units: 6. Aut (T. Zimmermann)

HART 318  Archaeology of Syria and Palestine  
The archaeology of the Levant and its relationship with surrounding cultures from the beginning of urban civilization to ca. 1200 BC. Credit units: 3 ECTS Credit Units: 6.

HART 325  Hittite Archaeology  
Topics include the origin, the rise and the development of the Hittite state and civilization. Topography, settlement, history, urban growth, organization and civic administration, public religion, commercial and political activities and art will be considered. Credit units: 3 ECTS Credit Units: 6. Aut (F. I. Özgen)

HART 327  Bronze Age in Anatolia  
The archaeology of Anatolia between 3000 and 1200 BC and its relationship with surrounding cultures - the Aegean, the Levant and the Near East, and Egypt. The data examined are primarily archaeological, but textual evidence will also be considered. Emphasis on questions of “style” and “regionality” in the analysis of art works serving as evidence for interaction in the late Bronze Age in the eastern Mediterranean. Credit units: 3 ECTS Credit Units: 6.

HART 330  Egyptian Art and Archaeology  
A survey of the art and archaeology of ancient Egypt, from the Predynastic Period to the end of the New Kingdom (4000-1100 BC). The course will emphasize major monuments of architecture, sculpture, relief and painting. Questions of stylistic change and historical context will be considered, as well as cultural relations with neighboring civilizations. Credit units: 3 ECTS Credit Units: 6. Spr (M. Gates)

HART 333  Ancient Greek III  
Selections from Greek literature (such as Homer, Hesiod, Xenophon Aeschylus, Sophocles, Euripides, Plato, Herodotus and Thucydides). Credit units: 3 ECTS Credit Units: 6. Prerequisite: HART 231 and HART 232.
HART 334  Ancient Greek IV
Selections from Greek literature (such as Homer, Hesiod, Xenophon Aeschylus, Sophocles, Euripides, Plato, Herodotus and Thucydides). Also, an introduction to Epigraphy. Credit units: 3 ECTS Credit Units: 6, Prerequisite: HART 333.

HART 335  Monuments of Babylon
Babylon, named The Gate of the Gods, was by 600 BC the ancient world’s largest city, and home to two of its “ancient wonders.” Situated in today’s southern Iraq, Babylon’s urban plan, palaces, temples, museums, housing and lifestyle are known from the Greek historian Herodotus and other visitors, from the Old Testament, from Babylonian texts, and especially from a century of excavations at the site and its surroundings. This course will examine major aspects of this remarkable ancient city; with a focus on balancing the written and archaeological evidence. Credit units: 3 ECTS Credit Units: 6.

HART 338  Hittite Texts I
The course teaches students how to read the Hittite cuneiform script. Some elementary historical texts will be read to introduce students to this genre of cuneiform literature. Credit units: 3 ECTS Credit Units: 6.

HART 343  Latin III
Completion of the grammar points of the Latin language and an introduction to original texts. Also, an introduction to Epigraphy. Credit units: 3 ECTS Credit Units: 6, Prerequisite: HART 239 and HART 240. Aut (A. C. Abuagla)

HART 344  Latin IV
Readings and discussions of many of the works of Roman literature. Emphasis will be on correct translation of the Latin, with attention to genre and narrative technique, and to building facility in reading Latin. Selections from writers such as Plautus, Vergil, Cicero, Caesar, Lucretius, Petronius and Ovid will be read in the original. Credit units: 3 ECTS Credit Units: 6, Prerequisite: HART 343. Spr (A. C. Abuagla)

HART 351  Monuments of Athens
The monuments of Athens from the Archaic period through the Hellenistic and Roman periods, considering stylistic developments and historical and cultural context. Credit units: 3 ECTS Credit Units: 6. Spr (D. S. Tezgör-Kassab)

HART 353  Introduction to Akkadian
Introduction to Akkadian for beginning students. No previous knowledge of a foreign language is needed. The course is particularly recommended to archaeology students whose interests lie in Bronze Age Mesopotamia and Anatolia. Credit units: 3 ECTS Credit Units: 6.

HART 360  Ancient Mesoamerican Civilizations
A survey of the civilizations of Mesoamerica from earliest human settlement to the Spanish conquest, with emphasis on the art and archaeology of the great states: Olmec, teotihuacan, Maya, Toltec, and Aztec. Credit units: 3 ECTS Credit Units: 6.

HART 370  Iron Age Sculpture of the Near East
Attention is focused on the major sculptural groups of the Anatolians, Assyrians, Neo-Babylonians and Persians. Credit units: 3 ECTS Credit Units: 6.

HART 380  Archaeology of Phoenicia
Detailed survey of Phoenician art and archaeology in its historical and economic context. There will be particular emphasis on the influences and relationships, especially in the fields of trade and art, between the Phoenicians and the rest of the Mediterranean and Near Eastern World. Credit units: 3 ECTS Credit Units: 4.

HART 400  Senior Project
A project on a specific topic in an area of archaeology, the history of ancient art, museum studies or ancient history to be carried out by the student or a group of students under the supervision of the project coordinator. The form of the project is free, and may consist of any of the following: a series of posters (on an archaeological site or theme), an illustrated guide to the archaeology of a specific place (or museum), a web blog on current issues in archaeology or history of ancient art, a film (video) on a specific site or theme, a reconstruction (model or virtual) of an ancient building, or any subject approved by the project coordinator. Credit units: 3 ECTS Credit Units: 6. Spr (J. Bennett)

HART 403  Greek Sanctuaries
This course examines the religious, political and social uses of one of the most important institutions of the Greek world, together with the architecture, sculpture, pottery and offerings found in sanctuaries. Credit units: 3 ECTS Credit Units: 6.

HART 409  Museum Practices and the Preservation of Cultural Heritage
Study of various aspects of museum work. Management principles, cataloging and care of art objects, exhibitions and acquisitions, administrative procedures, and museum architecture will be emphasized. Specialist lecturers and visits to museums and their facilities. Credit units: 3 ECTS Credit Units: 6. Aut (D. S. Tezgör-Kassab)
HART 414  The Archaeology of Vernacular Architecture
This course surveys the ancient and contemporary construction of traditional buildings like farm complexes and village houses in Anatolia and the Middle East. The application of different building materials and techniques is discussed in context with modern archaeological fieldwork, in terms of what archaeologists might find or trace of such constructions after their deterioration. Credit units: 3 ECTS Credit Units: 6.

HART 420  Readings in Prehistory
Senior seminar on current debates in prehistory, with topic to be set by the instructor. Credit units: 3 ECTS Credit Units: 6.

HART 423  Cities, Monuments and Landscapes of Classical Anatolia
Scattered throughout the modern Republic of Turkey, ancient Anatolia, are the very visible remains of some 100 and more sites and monuments that help illuminate the history and in particular the architectural developments of the Classical period in this region. This course will examine several of these sites and their hinterlands to explain what we can learn from the archaeological remains about changing social and economic systems in the Classical period, roughly 600 BC - AD 300. The course takes a chronological approach to the subject, so that developments in contemporary social and economic systems can be explored and explained at the individual sites. As such, a particular emphasis is placed on how the architectural remains at such sites help us understand their varying degrees of prosperity in the Classical period. However, although the course will naturally focus mainly on such well-known places as Priene, Pergamum and Ephesus, it will also examine what can be learnt from the remains of several less-well known sites, like Patara, Oinoanda, and Ankara. Credit units: 3 ECTS Credit Units: 6. Aut (J. Morin)

HART 424  Religion and Society in the Ancient Near East
This course will examine formal and private religion practiced by the ancient civilizations of Mesopotamia, the eastern Mediterranean, Anatolia and Egypt. Topics to be covered include religious settings (temples, shrines and outdoor cult places), iconography referring to deities and cults, and ancient texts that explain cult practices and religious beliefs. Lectures, class discussions and student presentations. Credit units: 3 ECTS Credit Units: 6. Aut (M. Gates)

HART 426  Ancient Technologies and Materials
This course aims to provide students with a general understanding of the natural sciences (mainly chemistry and physics) contribution to enhance traditional archaeological methodologies. Issues like 14C-dating and Dendrochronology will be in focus as well as Sediment Analysis, X-Ray, lead Isotope- and Spectral Analysis, Laser-Raman-Spectroscopy and FTIR-Spectroscopy. The second part of this course is then devoted to ancient technological innovations and advances in engineering, and their contribution contemporary materials science. Credit units: 3 ECTS Credit Units: 6. Spr (M. Gates)

HART 431  The Archaeology of Cyprus in the Bronze Age
This course will introduce the richly textured cultures of Cyprus during the Bronze Age (ca. 3500-1100 BC), when the island's resources and advantageous location encouraged interaction with neighbors from the Mediterranean, the Aegean and beyond. Aspects of Cypriot archaeological culture, social organization, technology, and maritime economy will be examined in class lectures, discussions and student presentations. Credit units: 3 ECTS Credit Units: 6. Spr (M. Gates)

HART 434  Landscape Archaeology
This course examines the relationship between geomorphology and ancient settlement, with emphasis on the development of coastal landforms, changes in sea levels, the evolution of karstic landforms and fluvial geomorphology. Credit units: 3 ECTS Credit Units: 6.

HART 436  Archaeological Method and Theory
Readings and a series of discussions focusing on research problems designed to give the student an understanding of the different approaches to the historical study of works of art and archaeology. Credit units: 3 ECTS Credit Units: 6. Spr (M. Gates)

HART 439  Neolithic and Chalcolithic Periods in Anatolia
An examination of the ceramic Neolithic cultures of Southeast Anatolia and the ceramic Neolithic cultures of the South and Southwest Anatolian plateau and their Chalcolithic successors. Credit units: 3 ECTS Credit Units: 6.

HART 440  Readings in Anatolian Art and Archaeology
This course will investigate the most recent issues and scholarship on a topic in the field of Anatolian art and archaeology. Subject to be announced in the schedule of classes. Credit units: 3 ECTS Credit Units: 6.

HART 450  Readings in Greek Art and Archaeology
This course will investigate the most recent issues and scholarship on a topic in the field of Greek art and archaeology. Subject to be announced in the schedule of classes. Credit units: 3 ECTS Credit Units: 6.

HART 453  Palaeolithic Archaeology in Eurasia and the Near East
The science of our ancestors' most ancient cultural period (ca. 1.000.000 - 10.000 BCE) is tremendously dynamic branch of archeology, with an ever-growing body of new, sensational insights into the dawn of man, its dispersal,
biological and socio-cultural evolution. This seminar is designed to make students familiar with prominent finds and features of the Eurasian and Near Eastern Palaeolithic. Topics include lithic and bone working technologies, artwork, and the archaeology of caves and open air shelters. Special attention will be equally paid to the contribution of neighbouring sciences (Geology, Geochemistry, Palaeozoology and -anthropology, Genetics) to reconstruct a more comprehensive picture of our earliest past. Credit units: 3 ECTS Credit Units: 6.

HART 454 Introduction to Sumerology
The course is an introduction to the study of Sumerian language, documents, history and culture. A history of the discovery of the Sumerian civilization is followed by an overview of Sumerian history and the main features of Sumerian society. The course familiarizes students with the corpus of Sumerian texts in the fields of literature, mythology, religion, economy and political history. The significance of Sumerology for other fields of study, especially Assyriology and Hittitology, is explained. The question of Sumerian origins is explored alongside an assessment of the role of the Sumerians in the history of civilizations. Credit units: 3 ECTS Credit Units: 6.

HART 470 Readings in Byzantine Art and Archaeology
This course will investigate the most recent issues and scholarship on a topic in the field of Byzantine art and archaeology. Subject to be announced in the schedule of classes. Credit units: 3 ECTS Credit Units: 6. Spr (I. Giviashvili)

HART 474 Neo-Assyrian Art and Archaeology
The Neo-Assyrian Empire (10th-7th century BC) represents a high moment in the long history of Ancient Near Eastern civilizations. This course covers notable aspects of its architecture, arts and settlement systems as preserved in the archaeological record. Credit units: 3 ECTS Credit Units: 6. Spr (F. Ç. Özgen)

HART 490 Supervised Study
Independent research under the supervision of a faculty member whose special competence coincides with the area of a student's interest. Consent of the supervising faculty member and of the major advisor is required. Credit units: 3 ECTS Credit Units: 6. Spr (M. Gates)

HART 491 Readings from Near Eastern Texts
This course will focus on the translation of Near Eastern texts. Knowledge of Akkadian will be a prerequisite. Credit units: 3 ECTS Credit Units: 6.

HART 501 Issues in Archaeological Theory
This course will examine contemporary debates in archaeological methodology, analysis and interpretation. Emphasis will be placed on the techniques for applying theoretical models to fieldwork and analytical research. Credit units: 3 ECTS Credit Units: 7. Spr (J. Morin)

HART 504 Interpretation of Art Historical Materials
A historical survey of different approaches to the analysis of art and architecture. Credit units: 3 ECTS Credit Units: 7.

HART 507 Pre-Classical Art and Archaeology
These classes will be conducted with readings and discussion on key issues of Anatolian art and archaeology from the Prehistoric period to the Iron Age. Credit units: 3 ECTS Credit Units: 7. Aut (F. Ç. Özgen)

HART 508 Issues in Pre-Classical Art and Archaeology
These classes will be conducted with readings and discussion on key issues of Anatolian art and archaeology from the Prehistoric period to the Iron Age. Credit units: 3 ECTS Credit Units: 7.

HART 509 Classical Art and Archaeology
Classes conducted with readings and discussion on key issues of Anatolian art and archaeology from the Greek, Hellenistic and Roman periods. Credit units: 3 ECTS Credit Units: 7. Aut (D. S. Tezgür-Kassab)

HART 510 Issues in Classical Art and Archaeology
Classes conducted with readings and discussion on key issues of Anatolian art and archaeology from the Greek, Hellenistic and Roman periods. Credit units: 3 ECTS Credit Units: 7. Spr (D. S. Tezgür-Kassab)

HART 515 Readings in Near Eastern Archaeology
Graduate tutorial in Near Eastern Archaeology, on a topic to be chosen by the instructor. Credit units: 3 ECTS Credit Units: 7.

HART 516 Supervised Research in Near Eastern Archaeology
Independent study, on a topic relevant to the student's specialized research field in Near Eastern archaeology. Credit units: 3 ECTS Credit Units: 7. Spr (F. Ç. Özgen)

HART 518 Supervised Research in Anatolian Archaeology
Independent study, on a topic relevant to the student's specialized research field in Anatolian archaeology. Credit units: 3 ECTS Credit Units: 7.
HART 519 Research Directions for Anatolian Archaeology and Art
A team-taught pro-seminar to introduce research perspectives and sources, with one topic per week, on periods (Neolithic, Ancient Near East and Egypt, Iron Age Near East, Bronze Age Europe/Mediterranean, Greece, Rome, Byzantium, Islamic world) and themes (Science in Archaeology, Ancient Languages and Epigraphy, Ethnoarchaeology, Ceramics and Artifactual Analyses). Credit units: 3 ECTS Credit Units: 7. Aut (M. Gates)

HART 536 Hittite Grammar I
The course is an introduction to the Hittite language spoken in Anatolia in the 2nd mill. BC, and one of the oldest among the Indo-European languages. The students will be introduced to basic grammar and syntax, in order to understand the language. Credit units: 3 ECTS Credit Units: 7. Aut (S. F. Adalõ)

HART 551 Ancient Greek I
Introduction to ancient Greek for graduate students. The course will emphasize both grammar and reading. Credit units: 3 ECTS Credit Units: 7. Aut (J. Morin)

HART 552 Ancient Greek II
Completion of the grammar and vocabulary acquisition started in Ancient Greek I. Credit units: 3 ECTS Credit Units: 7. Prerequisite: HART 551. Spr (J. Morin)

HART 553 Ancient Greek III
Selections from Greek literature, and an introduction to epigraphy. Credit units: 3 ECTS Credit Units: 7.

HART 563 Latin I
Introduction to Latin for graduate students. Basic points of grammar will be covered and reading skills developed. Credit units: 3 ECTS Credit Units: 7. Aut (A. C. Abuagla)

HART 564 Latin II
Continuation of the grammar and development of reading skills introduced in Latin I. Credit units: 3 ECTS Credit Units: 7. Prerequisite: HART 563. Spr (A. C. Abuagla)

HART 583 Latin III
Selections from Latin literature and an introduction to epigraphy. Credit units: 3 ECTS Credit Units: 7, Prerequisite: HART 564. Aut (A. C. Abuagla)

HART 590 Seminar
Credit units: None ECTS Credit Units: 1. Aut (Staff) Spr (Staff)

HART 599 Master’s Thesis
Credit units: None ECTS Credit Units: 56. Aut (Staff) Spr (Staff)
MASTERS IN CONFERENCE INTERPRETING

T. İnal (Chair), O. Güvenen, A. Ş. Okyayuz, V. C. E. Paternotte.


GRADUATE PROGRAM

The Masters in Conference Interpreting Program is composed of two academic semesters and a summer school program. The objective of the degree program in Conference Interpreting is to train conference interpreters in Turkish/English/French. The language combinations offered in the program are A-CC, A-BC, A-BB or A-A.

The curriculum aims to develop the special skills needed for interpreting and to achieve mastery of the contemporary interpreting techniques. In addition, professional interpreters require a wide range of applied courses and a broad background in contemporary practices and theories. Professional interpreting studies in Turkish, English and French include: mastery in sight translation, consecutive interpreting, simultaneous interpreting, media interpreting. Theoretical and lecture courses deal with fields such as European/international organizations, technologies for interpreters, computer literacy and contemporary interpreting theories. Students who are trained by professional conference interpreters have to complete a single final examination given at the end of the Interpreting Seminar course in the summer school period. Students are expected to display their interpreting skills to a jury composed of professional interpreters from Turkey and professional interpreters from abroad.

CURRICULUM

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COURSE DESCRIPTIONS

CINT 501 Theory of Interpreting
Students will be acquainted with the theoretical aspects of interpretation and will be familiarizing themselves with the research findings that have a bearing on interpretation like cognitive, psycholinguistic, neurolinguistic, sociolinguistic paradigms and communication and discourse studies. Credit units: 2 ECTS Credit Units: 6. Aut (A. S. Okyayuz)

CINT 503 Introduction to the Practice of Interpreting
This course aims to familiarize students with some basic communication skills, conference preparation techniques, professional ethics, conference procedures, working practices and conditions. They will learn about how they may attain the necessary skills to become effective communicators, how to keep up to date with world affairs in the various areas in which they work, how to improve their intuition and flexibility and develop their diplomatic skills. Credit units: 4 ECTS Credit Units: 7. Aut (Y. Bener, R. Duran, S. M. Kumbaroğlu, D. Önay)

CINT 506 EU and International Institutions
Students are familiarized with basic legal and economic notions and especially focus on understanding how EU institutions and international organizations operate to develop a know-how of institutional processes and procedures. They become familiar with specific terminology, registers, styles and discourses used in communication in the relevant settings. Credit units: 4 ECTS Credit Units: 6. Spr (O. Güvenen)

CINT 509 Advanced Consecutive Interpretation I
In this first course on consecutive interpretation preliminary exercises in content analysis, memory exercises, summarization, sight translation and note-taking techniques will be studied. Students are prepared to be able to
deliver fluent and effective consecutive interpretations of speeches into the mother tongue. Students are trained with authentic conference materials in which they will confront a diversity of subject areas, styles and registers. The length, information density and degree of technicality and specificity of the speeches will increase throughout the course. Credit units: 6 ECTS Credit Units: 8. Aut (Y. Bener, E. Kanik)

CINT 510 Advanced Consecutive Interpretation II
Through a variety of advanced level exercises and speeches in which the information density, degree of technicality and specificity increases as the course progresses, students are trained to deliver fluent and effective consecutive interpretations into the target language, accurately reproducing the content of the original, using appropriate terminology and register. Credit units: 6 ECTS Credit Units: 8. Spr (K. Bensan, R. Duran, S. M. Kumbaroğlu)

CINT 513 Advanced Simultaneous Interpreting I
Students will be building on skills such as effective communication, content analysis, fluency of speech, and memory exercises. Students will be acquainted with booth techniques and team interaction while acquiring the professional skill to interpret into the mother tongue from both active and passive foreign languages in actual conference settings and/or simulations in the booths. This is undertaken in order to enable them to reproduce the content of the original, using the appropriate terminology and register. The length, information density and degree of technicality and specificity of the speeches will increase throughout the course. Once they have mastered simultaneous interpreting skills, students will also be taught to interpret with the texts in front of them. Credit units: 6 ECTS Credit Units: 8. Aut (K. Bensan, R. Duran, S. M. Kumbaroğlu)

CINT 514 Advanced Simultaneous Interpreting II
Students will be trained to provide fluent and effective simultaneous interpretation of speeches into the target language undertaking advanced practice of simultaneous interpreting in the working languages in booths. Students will be attending conferences on diverse topics and they will analyze and criticize actual interpreting performance vis-à-vis actual conference situations. Through laboratory simulations and other opportunities they will be acquainted with the interpretation of diverse topics while undertaking research in relevant settings and terminology. Credit units: 6 ECTS Credit Units: 8. Spr (Y. Bener, S. M. Kumbaroğlu, D. Önay)

CINT 516 Conference Interpreting
Students will be trained in the main types of work for conference interpreters. They will be acquainted with the types of interpreting necessary for committees and conferences, discussions between Heads of State, Prime Ministers, Ministers, business meetings, trade negotiations, court cases, working lunches, and field trips, working on the ability to rapidly shift between mother tongue and the active language, and from the passive language to the mother tongue. Credit units: 6 ECTS Credit Units: 8. Spr (Y. Bener, E. Kanik)

CINT 518 Cross Cultural Negotiations
Students will be exposed to cross-cultural negotiations in various domains/situations. They will be developing argumentation skills and the ability to deal with conflict issues through the use of different techniques. They will be asked to perform as speakers in mock debates, seminars, information sessions in their active languages; and they will have the opportunity to develop their attentive listening, comprehension and short-long term memory skills, especially through information dense speeches dealing with conflict issues in their passive languages. Students will work towards developing a sensitivity for such issues in performing as an intermediary/interpreter in differing cultures. Credit units: 2 ECTS Credit Units: 6. Spr (A. Ö. Okayuz, V. C. E. Paternotte)

CINT 520 Technology and Research for Interpreting
This course aims to allow the student to familiarize with the technologies used in the interpretation milieu. They will be asked to research new virtual meeting technologies, use of multilingual communication in the media, multilingual chats, on-line communication on the Internet and new practices that may have a relevance for their fields. Students will be acquainted with up-to-date research techniques such as the use of terminology management systems in line with recent developments. They will also be made aware of interpreting practices for TV and radio interviews, and videoconferences. Credit units: 2 ECTS Credit Units: 6.

CINT 590 Interpreting Seminar
This course aims to allow students to practice the skills they attained throughout the two semesters in actual conferences and simulated conferences with the help of an advisor. The course has a single final examination that will reflect practical, real-life conference situations and will be graded as either satisfactory or unsatisfactory. A team of professional interpreters, native speakers of the students A, B, C languages and other professionals deemed necessary will be able to follow the final examination and consult with the advisor about the status (satisfactory/unsatisfactory) of the student. Credit units: None ECTS Credit Units: 45.
### DEPARTMENT OF ENGLISH LANGUAGE AND LITERATURE


Part-time: B. Feyzullahoğlu, R. Holland.

### UNDERGRADUATE PROGRAM

Through a study of major authors, literary works and movements, the undergraduate program in English Language and Literature helps students to achieve a mature understanding of themselves and the world, and to learn to read critically and analytically, write clearly and persuasively, reason soundly and express themselves intelligently in English. In addition to giving a solid foundation in English Literature and Culture, the curriculum emphasizes critical thinking, communication skills and intellectual growth.

The department curriculum comprises the analysis, study, and discussion of various types of literature, origins and characteristics of myth; classical, biblical, Norse and Celtic mythology; literary terms and movements; periods of English literature from Old and Middle English literature through Renaissance, 17th C., 18th C., the Romantic Period, the Victorian age, to the present; English history; British society and culture; American literature; world literature, and theory and practice of criticism. The courses which emphasize class practice, exercise and drills are composition, translation, reading and oral interpretation, and research techniques.

Apart from department courses, students will be able to take elective courses from a wide variety of subjects offered by the other departments of the University, notably in foreign languages, social sciences, computer programming, and fine arts. This wider distribution of courses will provide the students with opportunities to broaden their culture, contribute to a desirable balance of intellectual interests, and prepare them for more specialized studies in the future.

### UNDERGRADUATE CURRICULUM

#### FIRST YEAR

<table>
<thead>
<tr>
<th>Autumn Semester</th>
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<tr>
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<td>ELIT 265</td>
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<tr>
<td>ELIT 281</td>
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</table>
The Minor Program in English Language and Literature aims at providing a wide range of courses which deal with various topics in English literature, history and culture. In-depth analysis and discussion of literary genres, terms and movements form the basis of the program. Current trends in literature can be studied, but courses also cover mythology, as various periods in English Literature, from Middle English literature to the Renaissance, the seventeenth century, the Neoclassical Age, the Victorian and Romantic periods and the present. Since our courses emphasize writing and speaking skills, students will gain fluency in English as well as good understanding of the texts within their historical and social contexts. One of the ultimate aims of the program is to consider the place of British culture and literature in relation to the formation of world literatures.

**Prerequisite Courses:**
A minimum grade of B- in ENG 102

**CURRICULUM**

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits / ECTS Credits</th>
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<tr>
<td>ELIT 242 Introduction to Drama</td>
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<tr>
<td>ELIT 265 Introduction to the Novel</td>
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</table>
ELIT 270  Poetry ................................................................. 3 / 6
ELIT 281  The Short Story .................................................. 3 / 6
ELIT Course Electives (2) .................................................. 6 / 12

COURSE DESCRIPTIONS

ELIT 109  Translation I (English-Turkish)
Aims to use English passages for translation to help students improve their reading comprehension, enlarge their vocabulary, and deepen their awareness and understanding of different usage and structures. Credit units: 3 ECTS Credit Units: 6. Aut (S. Akbaş, N. Yeşil)

ELIT 112  Translation II (Turkish-English)
Sequel to ELIT 109. Designed to help students practice their written English through translation of various texts in Turkish allowing them to use different grammatical structures. Credit units: 3 ECTS Credit Units: 4. Spr (S. Akbaş, G. Kurtuluş)

ELIT 114  Critical Reading
The first year course will offer a means of bringing together and further developing the student’s reading and comprehension skills. The main aim of the course will be to create and develop students’ awareness of centrality of careful critical reading to the study of literature. The course will involve the teaching and development of critical interpretative and reading skills using a variety of short texts and will introduce the students, at a basic level, to the range of critical approaches to the study of literature that are available. Credit units: 3 ECTS Credit Units: 6. Spr (A. Çelikkol, M. J. Perfect)

ELIT 115  Oral Expression Discussion and Presentation
This course aims to help students improve their speaking skills in an intellectual context. Through extensive drills and practice, students will be familiarized with ways and methods of oral expression, meaningful, persuasive and coherent speech, and discussion and presentation. Course material will include topics and relatively short or excerpted texts in a wide spectrum of areas such as humanities, social sciences, history, philosophy, psychology, science and technology, the arts, music, and media. Credit units: 3 ECTS Credit Units: 4. Aut (D. B. Randall)

ELIT 130  Selections from English Literature (to the Restoration)
Designed to familiarize students with the major works and authors of English literature from its beginnings to the Restoration. The works to be introduced may include Beowulf; Canterbury Tales; Sir Gawain and the Green Knight; Piers Plowman; Medieval lyrics, ballads, and plays; Morte Darthur; Utopia; 16th century sonnets, and lyrics; The Faerie Queene; Dr. Faustus; Metaphysical and Cavalier Poetry; Paradise Lost, essays by Bacon; Leviathan. Credit units: 3 ECTS Credit Units: 5. Spr (P. Hart)

ELIT 139  Appreciation of Literature
An introduction to the study and appreciation of three major literary genres: drama, fiction and poetry. Credit units: 3 ECTS Credit Units: 6. Aut (M. J. Perfect)

ELIT 141  British History
This course aims to cover British history from the times of Beowulf to the present, with particular emphasis on the social, economic, and political dimensions of the various historical periods covered. Credit units: 3 ECTS Credit Units: 5. Aut (R. Holland)

ELIT 209  Topics in Literary and Cultural Studies
This course offers students the opportunity to study one topic in an in-depth manner. The instructor may organize the course around a specific theme (monsters, falling in love, London), genre (the Gothic, young adult fiction, journalism), critical paradigm (globalization, print culture, performance), or particular aspect of British culture (contemporary film, J. K. Rowling, the Beatles). Through sustained focus on a single topic, students will improve their ability to draw links among diverse literary texts and establish critical connections. Credit units: 3 ECTS Credit Units: 6. Aut (P. Hart)

ELIT 217  Research and Writing Techniques for Literary Essays
The course aims at teaching English Literature students the necessary steps of research and writing literary essays on the subjects chosen from English Literature. The process involves such stages of selecting a topic, using library facilities, compiling a working bibliography, taking notes, avoiding plagiarism, preparing an outline and writing a well-organized, adequately supported and accurately documented research essays. At the end of the course the students are expected to develop a notion of academic writing using the necessary tools and become familiar with the steps of writing literary essays. Credit units: 3 ECTS Credit Units: 6. Prerequisite: ENG 101 and ENG 102. Aut (M. J. Perfect)

ELIT 222  Introduction to Theory and Criticism
The course will analyze texts from at least three major theoretical movements of relevance to contemporary critical practice, including Marxism, psychoanalytical criticism, structuralism, post-structuralism, and theories of
gender, sexuality, and culture. These theoretical texts will be studied in conjunction with selected primary texts in order to enable students to see how theory works in practice. Credit units: 3 ECTS Credit Units: 6. Spr (A. Çelikkol)

**ELIT 224 World Mythology**
An introduction to the origins and characteristics of myth and the study of mythic motives and themes found in world mythology with emphasis on classical myths. Credit units: 3 ECTS Credit Units: 6. Spr (W. N. Coker, B. Feyzullahoğlu)

**ELIT 225 British Society and Culture**
This course offers an introduction to life and society in Britain from the Middle Ages to the 19th century. It also aims to enhance students' interest on society and culture in Britain in the 21st century with emphasis on the connection, relationship and difference between national culture and cultural identities and how these identities have been shaped and reshaped as multiculturalism has come into scene. Credit units: 3 ECTS Credit Units: 6. Aut (A. Çelikkol)

**ELIT 242 Introduction to Drama**
An introduction to the study of drama based on a selection of works including Greek tragedy and modern classics. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ELIT 139. Spr (G. Kurtulus)

**ELIT 262 The English Novel (19th Century)**
A study of the major English novelists of the 19th century. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ELIT 265. Spr (Staff)

**ELIT 265 Introduction to the Novel**
This course introduces students to the study of the novel in English, placing emphasis on formal qualities such as language, structure, plot, character, theme, and setting. The course offers a bridge between earlier courses introducing students to literary study more broadly, and later courses, in which the novel is studied in period and thematic more broadly, and later courses, in which the novel is studied in period and thematic contexts. Texts for study may be taken from any period or sub-genre of the novel. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ELIT 139. Aut (V. J. Kennedy)

**ELIT 270 Poetry**
An introduction to poetry through selected examples written in English. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ELIT 139. Spr (V. J. Kennedy)

**ELIT 281 The Short Story**
An introduction to the short story through selected examples from British, American, and world writing. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ELIT 139. Aut (G. Kurtulus)

**ELIT 290 Summer Training**
The minimum time for this practice in an organization is four weeks (20 workdays). The main objective is to observe and experience an academic and/or non-academic organization in a workplace. Literature students are skillful in interpretation, creative thinking and problem solving; they can be efficient in the industry environment. Organizations may be one of the following: hotels and caterings, language schools, law companies, libraries, marketing and advertisement companies, newspapers, magazines, publishing houses, broadcasting companies, kindergartens, museums, translation agencies, real estate agencies, insurance companies, broker firms, etc. Credit units: None ECTS Credit Units: 6. Aut (G. Kurtulus)

**ELIT 351 Shakespeare I (Comedies, Romances, Problem Plays)**
This course aims to develop students' skills in textual analysis and criticism of Shakespeare’s romantic comedies, romances, and problem plays. Credit units: 3 ECTS Credit Units: 7, Prerequisite: ELIT 114 and ELIT 130 and ELIT 139 and ELIT 141. Aut (D. B. Randall)

**ELIT 352 Shakespeare II (Tragedies, Roman Plays, Histories)**
A study of Shakespeare’s tragedies, Roman plays, and histories. Credit units: 3 ECTS Credit Units: 7, Prerequisite: ELIT 114 and ELIT 139 and ELIT 141. Spr (G. Kurtulus)

**ELIT 355 Renaissance Literature**
This course will introduce students to the major writers, genres and contexts of Renaissance literature. Topics studied may include Petrarchism and the sonnet sequence; other forms of lyric poetry, including the Renaissance epic; romance and pastoral; in poetry and prose; Renaissance Humanism; the Reformation; the impact of the discovery of new worlds and of the New Science on Renaissance writing; translation and the English Bible; travel writing; manuscript and print; the school of Donne; the Tribe of Ben; the Scottish Renaissance; and Elizabethan and Jacobean drama. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ELIT 114 and ELIT 130 and ELIT 139 and ELIT 141. Aut (G. Kurtulus)

**ELIT 356 Seventeenth and Eighteenth Century Literature**
This course will give students a broad introduction to the literature and culture of the 'long eighteenth century', covering a period from the English Revolution of the 1640s to the French Revolution of 1789. Topics covered
may include the literature of the civil wars; Milton’s *Paradise Lost*. Restoration drama; the flowering of satire; the literature of the Enlightenment; English landscape writing; Neoclassicism and its emphasis on reason, harmony, and wit; the birth of the modern novel; the literature of sentiment and sensibility; and the origins and development of the Gothic. Writers who may be studied in the course include Andrew Marvell, Aphra Behn, Margaret Cavendish, John Bunyan, Samuel Pepys, John Wilmot, Daniel Defoe, Jonathan Swift, Joseph Addison and Richard Steele, Alexander Pope, Lady Mary Wortley Montagu, Samuel Johnson, Laurence Sterne, Olaudah Equiano, and Thomas Paine. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ELIT 114 and ELIT 130 and ELIT 139 and ELIT 141. Spr (V. J. Kennedy)

**ELIT 361 Modern British Fiction I (to the 1950s)**
A survey of developments in British fiction from the beginning of the 20th century to the 1950s. Major authors might include Conrad, Woolf, Joyce, D.H. Lawrence, E.M. Forster, Waugh and Orwell. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ELIT 114 and ELIT 130 and ELIT 139 and ELIT 141. Aut (C. M. M. Malet-Peterson)

**ELIT 362 Modern British Fiction II (1950s to present)**
A study of developments in British fiction in the second half of the 20th century, such as post-modernism, feminist issues, and the campus novel. Authors may include Golding, Fowles, Beckett, Durrell, Lessing, Murdoch, Drabble, Weldon, Roberts, K. Amis, Lodge, Bradbury, Barker, Winterson, etc. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ELIT 114 and ELIT 130 and ELIT 139 and ELIT 141. Spr (M. J. Perfect)

**ELIT 423 Theory and Practice of Criticism**
This course explores the theoretical basis of literary criticism. Introducing students to transformative moments such as the linguistic turn, it draws attention to larger intellectual contexts that gave rise to specific literary critical practices. The course also offers exercises to help students to recognize the philosophical and historical premises of their own practices of criticism. Authors may include Althusser, Saussure, Barthes, Foucault, Derrida, Lacan, Kristeva, and Spivak. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ELIT 217 and ELIT 222 and ELIT 224 and ELIT 262 and ELIT 265. Aut (P. Hart)

**ELIT 438 Selected Topics**
The course will cover any genre, movement, writer or topic not included in the curriculum. The coverage of the course will be determined according to the needs of the students and to the recent developments in literary studies. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ELIT 217 and ELIT 222 and ELIT 242 and ELIT 262 and ELIT 265.

**ELIT 443 British Drama**
This course aims to analyze plays from the eighteenth century to the present, with close attention to emergent themes, methods and movements in the drama. Selected plays may cover Restoration Comedy of Manners, nineteenth and twentieth century drama and the recent plays, which are mostly on the second and the third wave feminism, political and global concerns will be examined, as well as examples written by the representatives of ‘new writing.’ Dramatists may include Dryden, Congreve, Gay, Pinero, Sheridan, Goldsmith, Wilde, Priestley, Shaw, Eliot, Synge, Tom Stoppard, Caryl Churchill, Timberlake Wertenbaker, Brian Friel, Edward Bond, David Hare, David Greig, John McGrath, Howard Brenton, Sarah Daniels, etc. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ELIT 217 and ELIT 222 and ELIT 224 and ELIT 262 and ELIT 265. Aut (G. Kurtulus)

**ELIT 457 Major Writers of the Victorian Period**
The course will study some of the major writers and works in prose and poetry of the Victorian period, using thematic and/or chronological approaches. Themes might include: the Condition of England Question, The Woman Question, and Race and Empire. Authors may include Carlyle, Marx, Engels, John Ruskin, Charles Dickens, Mathew Arnold, Alfred Lord Tennyson, and Christina Rossetti, Patmore, Mill, Barrett Browning, Thomas Babington Macaulay, Charles Darwin, Mary Kingsley, and Rudyard Kipling. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ELIT 217 and ELIT 222 and ELIT 224 and ELIT 262 and ELIT 265. Aut (A. Çelikkol)

**ELIT 463 Post-Colonial Literature**
A study of recent fiction written in English by authors from the former British Empire. Works by such authors as Chinua Achebe, Buchi Emecheta, V.S. Naipaul, Salman Rushdie, Hanif Kureishi, Anita Desai and Ngugi wa Thiong'o may be discussed. Post-colonial theory may also be studied through selected texts by authors like Edward Said, Frantz Fanon, Homi Bhabha, and Gayatri Spivak. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ELIT 217 and ELIT 222 and ELIT 224 and ELIT 262 and ELIT 265. Spr (M. J. Perfect)

**ELIT 471 Romantic Poetry**
A study of selections from the major works of such poets as Wordsworth, Coleridge, Byron, Shelley and Keats. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ELIT 217 and ELIT 222 and ELIT 224 and ELIT 262 and ELIT 265. Aut (V. J. Kennedy)

**ELIT 474 Twentieth Century Poetry**
This course will introduce students to some of the most significant poems, poets and poetic movements of the period, focusing on issues of language, style and form and connections between poetic practice and history, society and culture. Students will explore the impact of Modernism on poetry in the British Isles, focusing on poets such as Eliot and Yeats, before going on to examine some of the diverse responses and reactions to that
legacy in the second half of the century, such as those of the Movement of the 1950s and of the British Poetry Revival of the 1980s. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ELIT 217 and ELIT 222 and ELIT 242 and ELIT 262 and ELIT 265. Spr (P. Hart)

**ELIT 490 Senior Project**

ELIT 490 aims to follow the development of each student's ability to carry out an independent study. Under the supervision of a faculty member students are required to work in topics such as: a) Blog Building, b) Creative Writing, c) Translation, d) Shakespeare Studies, e) Theatre Performance, f) Establishing Annotated Bibliographies, g) Academic papers with presentations, etc. Credit units: 3 ECTS Credit Units: 6. Aut (D. B. Randall) Spr (A. Çelikkol, P. Hart, V. J. Kennedy, G. Kurtuluş, M. J. Perfect)
DEPARTMENT OF PHILOSOPHY


The Department of Philosophy offers a B.A. degree in philosophy. Plans for the M.A. and the Ph.D. degree programs are in progress.

The aim of the department is threefold: (i) by exploring influential philosophical arguments and ways of arguing, the department intends to impart upon the students the intellectual resources to discern lines of thought and courses of action that are defensible as opposed to ill-considered; (ii) the department aims to foster background capabilities—self-reliance, judging well when making decisions, creativity in problem-solving, adaptability, argumentative acumen and so forth—that complement and are essential to the good use of vocational skills; (iii) by investigating abstract problems and arguments in depth and by adopting an analytic stance the department aims to provide students with a solid platform from which to pursue graduate studies in philosophy.

The curriculum is broad based in that the students are required to complete courses in a number of academic fields other than philosophy, i.e., physics, biology, computers, mathematics, economics, languages, literature, arts and history. Because the curriculum provides each student with a substantive grounding in these fields, the student is able to constructively challenge the way they are practiced from a position of authority rather than from a position of hearsay. Besides, several of the courses (e.g., languages, statistics, computer programming, summer training) aim to develop specific skills that are essential to the workplace. In the meantime, the philosophy courses on their own provide a more than sufficient basis from which to pursue graduate work in philosophy. As a result, the critical mass of philosophical understanding is established whilst at the same time each student's future career options are not foreclosed due to unnecessary over-specialization at an early stage.

The department places a premium upon: (i) discussion-based class work, encouraging the students to be actively part of the learning experience; (ii) essay-based assessment (complemented by a drafting process and a series of essay tutorials); (iii) tutorials and ongoing feedback; (iv) trusting the students to come to terms with the original texts, rather than asking them to work from watered-down commentaries on those texts; (v) the development of each student's ability to pursue independent research (culminating in the fourth year where a thesis is completed on a chosen topic under the supervision of a faculty member).

The Philosophy Undergraduate Program, Minor Program, and Course Descriptions can be found at the following address: http://www.phil.bilkent.edu.tr

UNDERGRADUATE PROGRAM

CURRICULUM

FIRST YEAR

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### SECOND YEAR

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<td>PHIL 201</td>
<td>Epistemology</td>
<td>3 / 6</td>
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<td>PHIL 203</td>
<td>Rationalists</td>
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<td>PHYS 107</td>
<td>Basic Physics I</td>
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<td>Ethics</td>
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<td>PHIL 204</td>
<td>Empiricists</td>
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<tr>
<td>PSYC 100</td>
<td>Introduction to Psychology</td>
<td>3 / 6</td>
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<td>* PHYS 108 or MBG 110</td>
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Students should take either PHYS 108 or MBG 110 in this semester in addition to the aforementioned courses (see ELECTIVES)

### THIRD YEAR

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<td>PHIL 303</td>
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<td>PHIL 305</td>
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<td>PHIL 401</td>
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**Spring Semester**

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<td>PHIL 306</td>
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<td>PHIL 399</td>
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<td>PHIL 404</td>
<td>Senior Thesis II</td>
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<td></td>
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<tr>
<td></td>
<td>History Elective</td>
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</tbody>
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### SECOND FOREIGN LANGUAGE ELECTIVES

- FRE 111 Basic French I 3 / 6
- FRE 112 Basic French II 3 / 6
- FRE 113 Basic French III 3 / 6
- FRE 114 Basic French IV 3 / 6
<table>
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<th>Course</th>
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<tr>
<td>FRE 211</td>
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<tr>
<td>FRE 212</td>
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<tr>
<td>FRE 213</td>
<td>Intermediate French III</td>
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<td>FRE 214</td>
<td>Intermediate French IV</td>
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<tr>
<td>FRE 381</td>
<td>Communication Skills in French I</td>
<td>3/6</td>
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<tr>
<td>FRE 401</td>
<td>Readings in French I</td>
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<td>FRE 402</td>
<td>Readings in French II</td>
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<td>GER 111</td>
<td>Basic German I</td>
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<tr>
<td>GER 112</td>
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<td>HART 232</td>
<td>Ancient Greek II</td>
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<td>HART 239</td>
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<td>HART 240</td>
<td>Latin II</td>
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<td>HART 333</td>
<td>Ancient Greek III</td>
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<td>HART 334</td>
<td>Ancient Greek IV</td>
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<td>HART 343</td>
<td>Latin III</td>
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<tr>
<td>HART 344</td>
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**HISTORY ELECTIVES**

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<tr>
<td>HART 120</td>
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<td>HIST 411</td>
<td>Ottoman History: 1300-1600</td>
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<tr>
<td>HIST 412</td>
<td>Ottoman History: 1600-1914</td>
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<td>HIST 413</td>
<td>Byzantine History I: 324-1025</td>
<td>3/6</td>
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<tr>
<td>HIST 414</td>
<td>Byzantine History II: 1025-1453</td>
<td>3/6</td>
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<tr>
<td>HIST 415</td>
<td>British History: 1485-1914</td>
<td>3/6</td>
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<tr>
<td>HIST 416</td>
<td>Medieval British History</td>
<td>3/6</td>
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<td>HIST 417</td>
<td>Medieval Europe (500-1500)</td>
<td>3/6</td>
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<td>HIST 418</td>
<td>Modern Europe (1453-1914)</td>
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<td>HIST 424</td>
<td>America and the World since 1898</td>
<td>3/6</td>
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<tr>
<td>HIST 431</td>
<td>History of the United States until the Reconstruction</td>
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<tr>
<td>HIST 432</td>
<td>History of the United States from the Reconstruction</td>
<td>3/6</td>
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<tr>
<td>HIST 433</td>
<td>History of American Politics</td>
<td>3/6</td>
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<td>IR 347</td>
<td>The International System</td>
<td>3/6</td>
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<td>IR 351</td>
<td>Globalization</td>
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<td>IR 464</td>
<td>History of the Cold War</td>
<td>3/6</td>
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<td>IR 493</td>
<td>European Union</td>
<td>3/6</td>
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<td>IR 494</td>
<td>Causes and Prevention of War</td>
<td>3/6</td>
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<td>POLS 338</td>
<td>Cosmopolis: From the Roman to the Ottoman and British Empires</td>
<td>3/6</td>
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<tr>
<td>POLS 464</td>
<td>Interculturalism and Europe</td>
<td>3/6</td>
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<tr>
<td>POLS 475</td>
<td>European Union: The Challenges</td>
<td>3/6</td>
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<tr>
<td>POLS 482</td>
<td>Conflict Analysis and Resolution</td>
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**LITERATURE ELECTIVES**

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<tr>
<td>AMER 343</td>
<td>American Theater</td>
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<td>AMER 357</td>
<td>American Intellectual History I</td>
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<td>AMER 358</td>
<td>American Intellectual History II</td>
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<td>AMER 374</td>
<td>American Poetry</td>
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<tr>
<td>AMER 383</td>
<td>American Novel to 1900</td>
<td>3/6</td>
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<tr>
<td>AMER 384</td>
<td>American Novel From 1900</td>
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AMER 448 American Pragmatism ......................................................... 3 / 6
AMER 460 Contemporary Native American Writers ........................................ 3 / 6
ELIT 224 World Mythology ................................................................. 3 / 6
ELIT 242 Introduction to Drama ......................................................... 3 / 6
ELIT 262 The English Novel (19th Century) .............................................. 3 / 6
ELIT 265 Introduction to the Novel ....................................................... 3 / 6
ELIT 270 Poetry ................................................................................... 3 / 6
ELIT 281 The Short Story ................................................................. 3 / 6
ELIT 342 Modern Drama ................................................................. 3 / 6
ELIT 351 Shakespeare I (Comedies, Romances, Problem Plays) ...................... 3 / 7
ELIT 352 Shakespeare II (Tragedies, Roman Plays, Histories) ...................... 3 / 7
ELIT 355 Renaissance Literature ....................................................... 3 / 6
ELIT 356 Seventeenth and Eighteenth Century Literature ............................... 3 / 6
ELIT 361 Modern British Fiction I (to the 1950s) .................................... 3 / 7
ELIT 362 Modern British Fiction II (1950s to present) .................................. 3 / 6
ELIT 423 Theory and Practice of Criticism .............................................. 3 / 6
ELIT 443 British Drama ................................................................. 3 / 6
ELIT 450 Introduction to Popular Culture .............................................. 3 / 6
ELIT 457 Major Writers of the Victorian Period ....................................... 3 / 6
ELIT 463 Post-Colonial Literature ....................................................... 3 / 6
ELIT 471 Romantic Poetry ................................................................. 3 / 6
ELIT 473 Modern Poetry ................................................................. 3 / 5
ELIT 474 Twentieth Century Poetry ..................................................... 3 / 6
HUM 331 Humanities and Social Science Honors Seminar ............................ 3 / 6
POLS 457 Literature and Society ....................................................... 3 / 6

ART ELECTIVES

COMD 321 Analysis of Moving Image .................................................. 3 / 6
COMD 322 Film Theory and Criticism ............................................... 3 / 6
COMD 354 Interactive Media Design and Development .................................. 3 / 6
FA 262 Fine Arts Seminar ............................................................... 3 / 4
FA 361 Philosophy of Art I ............................................................... 3 / 6
FA 371 History of Art III ................................................................. 3 / 4
FA 372 History of Art IV ................................................................. 3 / 4
FA 421 Analysis of Art Work I ........................................................... 3 / 4
FA 422 Analysis of Art Work II ......................................................... 3 / 4
GRA 341 History of Graphic Art ......................................................... 3 / 6
HART 430 Readings in Near Eastern Art and Archaeology .............................. 3 / 6
HART 440 Readings in Anatolian Art and Archaeology ................................ 3 / 6
HART 450 Readings in Greek Art and Archaeology .................................... 3 / 6
HART 460 Readings in Roman Art and Archaeology .................................... 3 / 6
HART 470 Readings in Byzantine Art and Archaeology ................................ 3 / 6

ELECTIVES

COMD 322 Film Theory and Criticism ............................................... 3 / 6
COMD 341 Media and Society ........................................................... 3 / 6
COMD 342 Popular Culture .............................................................. 3 / 6
COMD 346 Introduction to Advertising .................................................. 3 / 6
COMD 347 Media Industries ............................................................. 3 / 6
COMD 348 New Media ................................................................. 3 / 6
COMD 363 Music and Media ............................................................. 3 / 6
COMD 365 Media, Memory and Culture .................................................. 3 / 6
COMD 424 Media Theory and Methods ................................................. 3 / 6
COMD 433 Gender and Media .......................................................... 3 / 6
COMD 471 Media Ethics ............................................................... 3 / 6
IR 331 War, Peace and Security ....................................................... 3 / 6
IR 335 International Relations Theory ............................................... 3 / 6
IR 338 Politics of International Economy ............................................ 3 / 6
IR 346 Human Rights and Human Security Regimes .................................. 3 / 6
IR 352 Environmental Issues and Ecological Sustainability ............................ 3 / 6
MINOR PROGRAM

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IR 454 International Environmental Politics .................................................. 3 / 6
IR 465 Global Economic Governance ............................................................ 3 / 6
LALS 483 Environment Philosophy and Ethics .................................................. 3 / 6
MATH 300 A Concise History of Mathematics .................................................. 3 / 6
MBG 110 Introduction to Modern Biology ......................................................... 3 / 6
MBG 416 Science and Ethics .............................................................................. 3 / 6
MBG 475 Molecular Basis of Evolution ............................................................. 3 / 6
MBG 488 Introduction to Human Genetics ........................................................ 3 / 6
PHIL 405 Advanced Philosophy of Language .................................................... 3 / 6
PHIL 406 Advanced Philosophy of Mind ............................................................ 3 / 6
PHIL 407 Medieval Philosophy ...................................................................... 3 / 6
PHIL 408 Nineteenth Century Philosophy .......................................................... 3 / 6
PHIL 409 Introduction to Phenomenology .......................................................... 3 / 6
PHIL 410 History of Analytic Philosophy .......................................................... 3 / 6
PHIL 411 What is a Mind? .................................................................................. 3 / 6
PHIL 412 Philosophy of Mathematics ................................................................. 3 / 6
PHIL 413 Foundations of Cognitive Science ...................................................... 3 / 6
PHIL 414 Consciousness .................................................................................... 3 / 6
PHIL 415 Moral Psychology .............................................................................. 3 / 6
PHIL 416 From the Kitchen to the Streets: An Introduction to Feminism .............. 3 / 6
PHYS 108 Basic Physics II ................................................................................. 4 / 6
PHYS 226 Quantum Physics ............................................................................. 3 / 6
POLS 357 Ethics and Morality in Daily Life ......................................................... 3 / 6
POLS 449 Political Concepts ............................................................................ 3 / 6
POLS 455 World Politics I ................................................................................. 3 / 6
POLS 466 Issues in Political Theory .................................................................. 3 / 6
POLS 472 Science, Society and Technology ....................................................... 3 / 6
POLS 476 World Politics II ................................................................................. 3 / 6
POLS 483 Liberalism and Socialism: Past and Present ....................................... 3 / 6
POLS 484 Life, Nature and Politics .................................................................. 3 / 6
POLS 488 Film and Politics .............................................................................. 3 / 6
POLS 495 International Political Economy ....................................................... 3 / 6
PSYC 308 Workshop in Cognitive Psychology Research .................................. 3 / 6
PSYC 310 Perception, Attention, and Action .................................................... 3 / 6
PSYC 320 Cognitive Neuroscience .................................................................. 3 / 6
PSYC 420 Selected Topics in Cognitive Psychology ......................................... 3 / 6
PSYC 430 Clinical Psychology ......................................................................... 3 / 6
PSYC 431 Psychological Testing and Measurement ............................................ 3 / 6
PSYC 433 Abnormal Psychology ..................................................................... 3 / 6
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PSYC 435 Industrial and Organisational Psychology ....................................... 3 / 6
PSYC 482 Mind in Evolution ............................................................................ 3 / 6
PSYC 483 Theory of Mind ............................................................................ 3 / 6
PSYC 491 Introduction to Cognitive Psychology .............................................. 3 / 6
PSYC 492 Developmental Psychology .............................................................. 3 / 6
PSYC 493 Learning: Theory and Practice .......................................................... 3 / 6

MBG 110 or PHYS 108 may be taken as elective, if not taken the second year.

MINOR PROGRAM

Professor Tom Nagel (New York University) regards fundamental research on nine core areas – how we know anything; other minds; the mind-body problem; the meaning of words; free will; right and wrong; justice; death; the meaning of life – as the essential responsibilities of a philosopher. The best way to become skilled at philosophy is to think about these topics analytically and in the tradition of rational inquiry.

Since its inception, the Department of Philosophy has hosted numerous distinguished analytic philosophers as short- or long-term visitors. The staff members, while pursuing diverse interests within the discipline, also subscribe to the analytic vision. The Minor Program in philosophy should
arm a student who completes its course requirements with an indispensable background (and tricks of the trade) needed for advanced study. The courses in the Program study the original philosophical works in the foregoing areas mentioned by Nagel.

**Prerequisite Courses:** None

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### CURRICULUM

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<thead>
<tr>
<th>Courses</th>
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<tbody>
<tr>
<td>PHIL 103 Introduction to Philosophy I</td>
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<tr>
<td>PHIL 104 Introduction to Philosophy II</td>
<td>3 / 6</td>
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<tr>
<td>PHIL 201 Epistemology</td>
<td>3 / 6</td>
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<td>Electives (3)</td>
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**ELECTIVE COURSES**

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<td>PHIL 203 Rationalists</td>
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<td>PHIL 204 Empiricists</td>
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<td>PHIL 301 Political Philosophy</td>
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<td>PHIL 302 Social and Legal Philosophy</td>
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<td>PHIL 303 Kant</td>
<td>3 / 6</td>
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<tr>
<td>PHIL 304 Philosophy of Science</td>
<td>3 / 6</td>
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<tr>
<td>PHIL 306 Philosophy of Language</td>
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<tr>
<td>PHIL 308 Philosophy of Mind</td>
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<tr>
<td>PHIL 401 Metaphysics</td>
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<tr>
<td>PHIL 402 Aesthetics</td>
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### COURSE DESCRIPTIONS

**PHIL 101 Introduction to Logic**
A self-contained introduction to the basic notions of logic, including language, truth, argument, consequence, proof, and counter example. Both propositional logic and predicate logic are studied (their syntax plus semantics), with an emphasis on translating English sentences into logical symbols. A contemporary software package such as Tarski’s World may be used to construct derivations of valid arguments. **Credit units:** 3 ECTS **Credit Units:** 6. **Aut (S. Akman)**

**PHIL 102 Ancient Philosophy**
This course introduces the thought of ancient philosophers focusing on questions about the purpose of philosophy, the nature of knowledge, virtue and the good life. **Credit units:** 3 ECTS **Credit Units:** 6. **Spr (M. Nakeeb)**

**PHIL 103 Introduction to Philosophy I**
The course raises and examines central problems in theoretical philosophy such as: Is there a world of things that exists independently of human thought and sensation? How can we know the difference between appearance and reality? How do our mind and the physical world relate? How can we know whether there are other minds? Do we freely choose our actions or are they pre-determined? Those problems are investigated through a close reading of influential texts in the history of philosophy. **Credit units:** 3 ECTS **Credit Units:** 6. **Aut (S. Berges)**

**PHIL 104 Introduction to Philosophy II**
The course raises and examines central problems in practical philosophy such as: Is there a single true morality? To what extent is morality conventional? How can we know what is the right and wrong thing to do? Why should I do the right thing? What is it to live one’s life well? Those problems are investigated through a close reading of influential texts in the history of philosophy. **Credit units:** 3 ECTS **Credit Units:** 6. **Spr (J. Woods III)**

**PHIL 201 Epistemology**
This course addresses several of the central problems of contemporary epistemology, such as: conceptions of epistemic justification; skeptical arguments and responses to them; foundationalism and coherentism; externalism and internalism; causal theories of knowledge; rationality and cognitive relativism; naturalised epistemology. **Credit units:** 3 ECTS **Credit Units:** 6. **Aut (Staff)**

**PHIL 202 Ethics**
This course endeavors to appraise critically the moral sense, deontological, utilitarian and intuitionist accounts of morality. In so doing it asks: Do our value judgments merely reflect our subjective preferences or are they based on an objective reality? Is there a single ultimate value? Should we be guided by reason or passion, altruism or
experience is required. Credit units: None ECTS Credit Units: 6, Prerequisite: PHIL 202. Aut (Staff) Spr (Staff)

...should do this before they make arrangements with the organization. A written report summarizing training should secure the approval of the department chair for the suitability of the intended summer training place. Students should do this before they make arrangements with the organization. A written report summarizing training should secure the approval of the department chair for the suitability of the intended summer training place.

...companies, law firms, newspapers, magazines, broadcasting companies, publishing houses, etc. It is crucial to be any of the following: think-tanks, human rights organizations, NGOs, charities, marketing and advertisement organizations.


PHIL 299 Summer Training I

The minimum time for this practice in an organization is four weeks (20 workdays). The main objective is to observe a non-academic organization in an original setting. Since philosophy students have the ability to communicate verbally and in writing. Thus, the English part uses the original texts to further develop the goals achieved during first year English courses (ENG 101/102). Credit units: None ECTS Credit Units: 6, Prerequisite: PHIL 202. Aut (Staff) Spr (Staff)
PHIL 301 Political Philosophy
When, if at all, is coercion justified? When is it justified to disobey? In what sense should I be free in a political community? Is the idea of forcing someone to be free a contradiction? Those questions and more are examined through a close reading of influential philosophical texts. Credit units: 3 ECTS Credit Units: 6. Spr (S. D. Vigley)

PHIL 302 Social and Legal Philosophy
What should be the relationship between the individual and the state? Must we be embedded in the social world in order to be free? How can we justify rules of justice? Should there be limits on what justice can demand in order to bring about the best consequences? Those questions and more are examined through a close reading of influential philosophical texts. Credit units: 3 ECTS Credit Units: 6. Spr (L. R. Vinx)

PHIL 303 Kant
This course is based around a close and critical reading of Kant's *Critique of Pure Reason*. We concentrate on assessing Kant's response to the possibility that the world studied by science is in some sense mind-dependent and/or mind-constructed. More specifically, we consider his distinction between *a priori* and *a posteriori* knowledge and analytic and synthetic judgments, his argument for synthetic *a priori* truths, his transcendental deduction of the categories and his transcendental idealism. Credit units: 3 ECTS Credit Units: 6. Aut (W. G. Wringe)

PHIL 304 Philosophy of Science
It is often assumed that science is a paradigm of rational inquiry. In this course we look at a number of recent accounts of scientific rationality which try to give good grounds for this assumption. We also consider the closely related question of scientific realism: when do we have good grounds for thinking that the objects described in scientific theories really exist? Credit units: 3 ECTS Credit Units: 6. Aut (Y. S. Berkovski)

PHIL 305 Intermediate Logic
This course builds on PHIL 101 - Introduction to Logic, and focuses on the uses and limitations of formal techniques in the study of language and argument. Topics to be covered will include: Further study of propositional and predicate calculus, including discussion of completeness, soundness and decidability results; set-theoretic and semantic paradoxes; introduction to modal and intuitionistic logic; logic and computability. Credit units: 3 ECTS Credit Units: 6. Aut (J. Woods III)

PHIL 306 Philosophy of Language
We discuss key concepts such as: truth, meaning, reference, logical form, speech act and metaphor. In addition we critically assess various theories that aim to show what it is for a statement to be true. As preparation, the course commences with a brief recap of key aspects of logic. Credit units: 3 ECTS Credit Units: 6. Spr (I. A. Aranyosi)

PHIL 308 Philosophy of Mind
This course introduces students to key issues in contemporary philosophy of mind. We start by looking at dualist, materialist and functionalist responses to the mind/body problem, and consider a range of further issues about personal identity, consciousness and intentionality. A key guiding issue is, 'To what extent, and in what ways can the human mind be compared to a computer?' Credit units: 3 ECTS Credit Units: 6. Spr (M. H. Demir)

PHIL 399 Summer Training II
The minimum time for this practice in an organization is four weeks (20 workdays). The main objective is to observe a non-academic organization in an original setting. Since philosophy students have the ability to look for different approaches and take an open mind to issues, they must come handy in the workplace. Organizations can be any of the following: think-tanks, human rights organizations, NGOs, charities, marketing and advertisement companies, law firms, newspapers, magazines, broadcasting companies, publishing houses, etc. It is crucial to secure the approval of the department chair for the suitability of the intended summer training place. Students should do this before they make arrangements with the organization. A written report summarizing training experience is required. Credit units: None ECTS Credit Units: 6, Prerequisite: PHIL 299.

PHIL 401 Metaphysics
Focusing on a selection of key texts, this course examines core topics in contemporary metaphysics, such as: truth, existence, universals and particulars, causality, modality, perception, knowledge, the *a priori*, identity, anomalous monism, supervenience, vagueness, and time. Credit units: 3 ECTS Credit Units: 6. Aut (I. A. Aranyosi)

PHIL 402 Aesthetics
This course examines key debates in the Philosophy of Art, such as the definition of art, the ontology of artworks, the nature and scope of the aesthetic, expression, representation, interpretation, appreciation, aesthetic value and the value of art, creativity, art and ethics. Credit units: 3 ECTS Credit Units: 6. Spr (S. Berges)

PHIL 403 Senior Thesis I
The aim of PHIL 403 and PHIL 404 is the gradual development of each student's ability to carry out independent research. In PHIL 403, the student starts to work on a thesis addressing a chosen philosophical topic under the supervision of a faculty member. Credit units: 3 ECTS Credit Units: 6. Aut (Staff) Spr (Staff)
PHIL 404  Senior Thesis II
The aim of PHIL 403 and PHIL 404 is the gradual development of each student's ability to carry out independent research. In PHIL 404, the student writes and defends in front of a jury a thesis addressing the chosen philosophical topic. Credit units: 3 ECTS Credit Units: 6, Prerequisite: PHIL 403. Aut (Staff) Spr (Staff)

PHIL 413  Foundations of Cognitive Science
We start from two major paradigms in contemporary cognitive science – the wide and the narrow paradigms. The narrow paradigm, which has been the more popular, is concerned with how information is encoded and computed, particularly in human minds. The main rival theories within the narrow paradigm are the symbol-system view and connectionism. The wide paradigm takes minds to be more than information processors, to come in a variety of kinds, and to operate relative to a variety of parameters – teleological, regulatory, environmental, and social. According to the wide paradigm even information processing has to be reexamined in the light of such parameters. Credit units: 3 ECTS Credit Units: 6. Aut (M. H. Demir)

PHIL 415  Moral Psychology
This course combines the theoretical resources of philosophical ethics and the empirical resources of cognitive and behavioral sciences. Empirical evidence from the human sciences will be used to examine core questions in ethical theory. Those questions include: Are our moral judgments determined by sentiment or reason? Are our attitudes and actions determined by situation or character? Is morality a product of evolution? Does human cooperation require incentives? Is moral disagreement unavoidable? Is free will an illusion? The course will refer to classic contributions to the subject by Plato, Aristotle, Descartes, Hume, and Kant. However, the main focus of the course will be recent research in the area by, amongst others, John Doris, Gilbert Harman, Shaun Nichols, Jesse Prinz, and Stephen Stich. The course does not presuppose an extensive background in philosophy or psychology. Credit units: 3 ECTS Credit Units: 6. Aut (S. D. Vigley)

PHIL 416  From the Kitchen to the Streets: An Introduction to Feminism
In this course we will critically examine key topics in feminism, including abortion, sexual harassment, pornography, and the politics of work and family. We will also investigate the impact of feminism on language, science, morality, and the way we interact with other cultures. Philosophers have fundamentally contributed to our understanding of what it means to be a woman. So a part of the course will be devoted to studying the place of women in the history of ideas. Students will be encouraged to develop their own arguments with respect to real life issues. Credit units: 3 ECTS Credit Units: 6.

PHIL 521  History of Political and Educational Philosophy
The course introduces students to philosophical thinking about the relation between human nature, society and education. It focuses on the study of key texts in the history of philosophy and educational thought including Aristophanes, Plato, Descartes, Voltaire, Mill and Russell. There is strong emphasis on the development of students critical reasoning skills. Students are encouraged to think about the implications of the views discussed for their own pedagogical practice. Credit units: 3 ECTS Credit Units: 7. Aut (S. D. Vigley)
DEPARTMENT OF TRANSLATION AND INTERPRETATION


UNDERGRADUATE PROGRAM

The degree program in Translation and Interpretation trains translators and interpreters in Turkish, English, and French. The curriculum aims to develop the special skills needed for translating and interpreting and to achieve mastery of the contemporary spoken and written languages. In addition, a wide range of elective courses provides a broad cultural background required by professional translators.

Language studies in English and French include: oral and written comprehension, oral proficiency, essays, precis-writing and note-taking in addition to translation workshops. Elective courses deal with fields such as national government and administration, politics, economics, law, culture, current events, modern literature, European organizations and computer literacy. The third year includes a summer program which forms an integral part of the curriculum. For this program, after a period of one month spent in a firm/agency of the public or private sector, students submit a summer practice report to be presented orally both in English and French. In the fourth year, students may choose between two specialized tracks of study: Written translation or Interpretation. Candidates for the Interpretation track must pass a written and oral examination administrated by the school exam committee. Students in both tracks will complete research projects.

CREDITS / ECTS CREDITS

<table>
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<tr>
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<td>TRIN 337</td>
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<td>TRIN 361</td>
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<td>TRIN 363</td>
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#### Spring Semester

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<tr>
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<tr>
<td>TRIN 330</td>
<td>Criticism and French Literature</td>
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<td>TRIN 332</td>
<td>Selected Topics from English Literature</td>
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<td>TRIN 364</td>
<td>Literary Translation (English-Turkish)</td>
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<td>TRIN 366</td>
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### Fourth Year (Interpretation Track)

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<td>TRIN 461</td>
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<td>TRIN 481</td>
<td>Consecutive and Simultaneous Interpretation Techniques</td>
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<tr>
<td>TRIN 487</td>
<td>Interpreting for Public Services</td>
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#### Spring Semester

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<td>TRIN 484</td>
<td>Simultaneous Interpretation II: Fieldwork+Projectwork</td>
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### Fourth Year (Written Translation Track)

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<td>TRIN 463</td>
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<td>TRIN 486</td>
<td>Translation Workshop for EU Texts and Documents II</td>
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### Restricted Electives

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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>ACC 374</td>
<td>Information Systems Security and Information Distortion (in French)</td>
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<td>ACC 473</td>
<td>Management Information Systems (in French)</td>
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<td>BF 161</td>
<td>Economics I</td>
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<td>TRIN 207</td>
<td>Language of Journalism</td>
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<td>TRIN 303</td>
<td>Technology for Translators</td>
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<td>TRIN 334</td>
<td>Media Studies</td>
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<td>TRIN 336</td>
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<td>TRIN 339</td>
<td>Introduction to Interpersonal Communication (in French)</td>
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<td>TRIN 340</td>
<td>Audiovisual Media Translation I</td>
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<tr>
<td>TRIN 371</td>
<td>Computer Literacy II</td>
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At least four courses should be taken from the elective courses list above.
TRIN 101 Comparative Grammar (English-Turkish)
Comparative study of the principal grammatical structures of English and Turkish, including lexical items. Presentation of basic concepts necessary for lexical studies: semantics, etymology, variants and formation. Credit units: 3 ECTS Credit Units: 6. Aut (S. Dalbudak)

TRIN 102 Applied Linguistics
Introduction to applied linguistics with special emphasis on the morphological, syntax and semantics of the French and Turkish languages. Role of linguistics in translation and in rhetoric analysis. Credit units: 3 ECTS Credit Units: 6. Spr (A. H. Sunel)

TRIN 103 Comparative Grammar (French-Turkish)
Comparative study of the principal grammatical structures of French and Turkish, including lexical items. Presentation of basic concepts necessary for lexical study: semantics, etymology, variants and formation. Credit units: 3 ECTS Credit Units: 6. Aut (A. H. Sunel)

TRIN 133 Texts and Composition in French I
This course uses texts of a general nature as a basis for developing the students’ oral and written skills in French. Emphasis is on style, language registers, vocabulary building and composition. Oral work includes small group discussions and debates on current topics in addition to public speaking. Credit units: 3 ECTS Credit Units: 5. Aut (C. M. N. Malet-Peterson)

TRIN 134 Texts and Composition in French II
This course uses texts of a general nature as a basis for developing the students’ oral and written skills in French. Emphasis is on style, language registers, vocabulary building and composition. Oral work includes small group discussions and debates on current topics in addition to public speaking. Credit units: 3 ECTS Credit Units: 5. Spr (C. M. N. Malet-Peterson)

TRIN 161 Introduction to Translation
This course consists of an introduction to the theory and methods of translation. It includes a study of the nature, function and features of language, a survey of the development of the English, French and Turkish languages, and a description of translation as a profession. Credit units: 3 ECTS Credit Units: 6. Aut (E. Aksoy, A. Bayrakçeken Akın)

TRIN 166 English-Turkish-French Translation
This course consists of oral and written translation from English into Turkish and from French into Turkish of topics drawn from a variety of sources. The course includes comparative stylistics of English / Turkish and French / Turkish, including a study of language registers. It also includes the use of recorded broadcasts and radio reports as a spoken source for translation purposes. Credit units: 4 ECTS Credit Units: 6. Spr (E. Aksoy, A. Bayrakçeken Akın)

TRIN 172 Computer Literacy
Basic Computer Literacy. Efficient use of a computer for translation students, using word processing, compression, web page building, presentation, picture, spreadsheet and database software. Credit units: 3 ECTS Credit Units: 6. Spr (E. Maloney)

TRIN 205 English-American and French Culture I
The study of contemporary American and French societies through a selection of texts and audiovisual materials. Emphasis on the cultural, social and legal aspects of American and French civilizations. Credit units: 3 ECTS Credit Units: 6. Aut (E. Maloney, A. G. N. Marcoul Brune)

TRIN 206 English-American and French Culture II
The study of English and French speaking societies through oral discussions and presentations with emphasis on the political and economic aspects of the culture. Credit units: 3 ECTS Credit Units: 6. Spr (B. Blackwell Gülen, E. Maloney, A. G. N. Marcoul Brune)

TRIN 207 Language of Journalism
An analytical approach to the study of journalistic texts (French or English and Turkish). Emphasis is on journalistic style and register. Credit units: 3 ECTS Credit Units: 6.

TRIN 236 Group Communication and Discussion
This course is designed to provide an understanding of group dynamics and aims to improve student communication in English and French. Emphasis will be given to verbal and non verbal communication, active listening and responding techniques, problem solving and decision making. Credit units: 3 ECTS Credit Units: 6. Spr (S. Dalbudak, V. C. E. Paternotte)
TRIN 265  Translation of Economic Texts (English-Turkish-French)
This course consists of written translation from English into Turkish and French into Turkish on topics related to economics and business drawn from a variety of sources. The course includes terminological research and emphasizes style and language registers. Credit units: 4 ECTS Credit Units: 6. Aut (Ş. Dalbudak, B. Fakoğlu)

TRIN 266  Translation of Political and Legal Texts (English-Turkish-French)
This course consists of written translation from English into Turkish and French into Turkish on topics related to politics and law drawn from a variety of sources. The course includes terminological research and emphasizes style and language registers. Credit units: 4 ECTS Credit Units: 6. Spr (Ş. Dalbudak, B. Fakoğlu)

TRIN 267  Sight Translation I
This course consists of oral translation from English into Turkish and French into Turkish on texts related to economics and business. Sight translation is also used as a vehicle for voice training and enhancement of students' general knowledge. Credit units: 3 ECTS Credit Units: 6. Aut (A. Bayrakçeken Akın, Ş. Dalbudak, B. Fakoğlu, M. Kaya, A. Ş. Okyayuz)

TRIN 268  Sight Translation II
This course consists of oral translation from English into Turkish and French into Turkish of texts related to politics and law. Sight translation is also used as a vehicle for voice training and enhancement of students' general knowledge. Credit units: 3 ECTS Credit Units: 6. Spr (A. Bayrakçeken Akın, Ş. Dalbudak, B. Fakoğlu, M. Kaya, A. Ş. Okyayuz)

TRIN 271  Business Communication
Introduction to the theory of communication. Written and oral communication in a business environment. Emphasis is on writing business letters, business reports, participating in debates and negotiations and giving oral presentations. Credit units: 3 ECTS Credit Units: 6. Aut (A. Bayrakçeken Akın, Blackwell Gülen, M. A. Erkoç, A. G. N. Marcoul Brune)

TRIN 303  Technology for Translators
This course aims to acquaint the students with technologies and electronic tools used by translators in their professions. Special attention will be devoted to computer assisted translation systems, use of online material and resources, translation project management and terminology compilation techniques. Credit units: 3 ECTS Credit Units: 6. Spr (A. Ş. Okyayuz)

TRIN 330  Criticism and French Literature
Study of a French literary work using an interdisciplinary approach. Particular emphasis will be placed on a plural reading of a novel from different aspects (historical, sociological, structural, economic, political). In addition the essential elements of the novel such as time, space, narrator, characters will be analysed. Credit units: 3 ECTS Credit Units: 6. Spr (T. İnal)

TRIN 332  Selected Topics from English Literature
Research, discussion and reports on problems in English Literature. Credit units: 3 ECTS Credit Units: 6. Spr (A. Bayrakçeken Akın)

TRIN 334  Media Studies
This course provides an introduction to Media Studies. It covers all the key topics encountered in Media Studies, including images and languages, narratives, genres, representations, advertising, marketing, realisms, modernism and postmodernism, technologies, industries, institutions, independents and alternatives, and producing. The course also includes in-depth case studies and follow-up activities. Throughout the course, examples are provided from a rich range of media forms, including advertising, films, television, radio, newspapers, magazines and photography. Credit units: 3 ECTS Credit Units: 6. Spr (C. M. N. Malet-Petersen)

TRIN 335  Note-Taking and Consecutive Interpretation
This course aims at combining oral comprehension with the ability to reproduce speeches and to note them down while a speaker delivers a speech. Note-taking procedures and bilateral interpretation techniques will also be stressed. Credit units: 3 ECTS Credit Units: 6. Aut (M. Kaya, A. Ş. Okyayuz)

TRIN 336  Introduction to Simultaneous Interpretation
This course emphasizes the techniques and practice of simultaneous interpretation. It also includes the techniques of liaison interpretation. Credit units: 3 ECTS Credit Units: 6. Spr (M. Kaya, A. Ş. Okyayuz)

TRIN 337  Precis Writing in English-French
This course consists of an introduction to the technique of precis-writing based on texts of a specialized nature and on recorded speeches. It also includes note-taking, editing and minute-writing. Credit units: 3 ECTS Credit Units: 6. Aut (B. Blackwell Gülen, C. M. N. Malet-Petersen)

TRIN 339  Introduction to Interpersonal Communication (in French)
This course offers basic knowledge of interpersonal communication principles and their practical application in everyday interpersonal settings. Emphasis is on improving interpersonal skills and helping students increase...
their communication competence through readings, lectures, in-class activities and out of class assignments. Credit units: 3 ECTS Credit Units: 6. Aut (C. M. N. Malet-Peteron)

TRIN 340 Audiovisual Media Translation I
This course aims to introduce the students to the knowledge and skills required for producing the translated version of an audiovisual product. Besides becoming familiar with the professional practice in this field, students will concentrate on techniques, resources and strategies for practical translation work in the media and enhance their awareness of dubbing, subtitling, web translation and audio description, including linguistic and cultural problems specific to audiovisual translation. Credit units: 3 ECTS Credit Units: 6.

TRIN 361 Technical Translation (English-Turkish)
This course consists of written and oral translation from English into Turkish of scientific and technical material drawn from a variety of sources, including medical and pharmaceutical. The course includes documentary and terminological research and emphasizes style and language registers. Credit units: 3 ECTS Credit Units: 6. Aut (A. Bayrakçeken Akın)

TRIN 363 Technical Translation (French-Turkish)
This course consists of written and oral translation from French into Turkish of scientific and technical material drawn from a variety of sources, including medical and pharmaceutical. The course includes documentary and terminological research and emphasizes style and language registers. Credit units: 3 ECTS Credit Units: 6. Aut (A. H. Sunel)

TRIN 364 Literary Translation (English-Turkish)
This course consists of written and oral translation from English into Turkish and includes documentary and terminological research with emphasis on style and language registers. Credit units: 3 ECTS Credit Units: 6. Spr (A. Bayrakçeken Akın)

TRIN 366 Literary Translation (French-Turkish)
This course consists of written and oral translation from French into Turkish and includes documentary and terminological research with emphasis on style and language registers. Credit units: 3 ECTS Credit Units: 6. Spr (A. H. Sunel)

TRIN 371 Computer Literacy II
Web Page Design. In the first half of the course, students learn how to: 1) write HTML and CSS code; 2) edit pre-written java script; and 3) edit photos. In the second half of the course, students build or change Bilkent department web pages, with the course instructor as technical supervisor and another Bilkent staff person as design supervisor. Credit units: 3 ECTS Credit Units: 6. Aut (E. Maloney)

TRIN 390 Summer Practice
One month training period (20 workdays). The main objective of this period is to observe and attain experience in different work places so as to familiarize with the translation environment. Organizations may be follows: Translation Agencies, Estate Agencies, Media, Publishing Houses, Ministry of the EU, Ministry of the Foreign Affairs, Hotels, etc. Credit units: None ECTS Credit Units: 6. Aut (Staff) Spr (Staff)

TRIN 461 English-French Translation Workshop I
This workshop progressively leads the student to develop French-English, English-French translation skills through intensive work on translation assignments and individual and group projects involving comparative analysis of a variety of texts. Credit units: 3 ECTS Credit Units: 6. Aut (V. C. E. Paternotte)

TRIN 462 English-French Translation Workshop II
This workshop further develops the students’ English-French, French-English translation skills through intensive work on translation assignments and individual and group projects involving the translation of a variety of texts. Credit units: 3 ECTS Credit Units: 6. Spr (V. C. E. Paternotte)

TRIN 463 Translation Criticism

TRIN 464 Professional Communication for Interpreters
The course aims to train students in the communication skills techniques required by interpreters in the professional world. Emphasis will be given to conducting meetings, negotiating contracts and presenting projects to English and French speaking audiences. Credit units: 3 ECTS Credit Units: 6. Spr (T. İnal, A. Ş. Okyayuz)

TRIN 473 Turkish Diction
This course will particularly stress the need to speak Turkish efficiently and correctly with a special emphasis on the right pronunciation of words. Credit units: 1 ECTS Credit Units: 2. Aut (M. Çelik) Spr (M. Çelik)

TRIN 481 Consecutive and Simultaneous Interpretation Techniques
This course provides further practice in the techniques of consecutive interpretation with emphasis on bilingual practical applications. Credit units: 6 ECTS Credit Units: 10. Aut (M. Kaya, A. Ş. Okyayuz)
TRIN 484  **Simultaneous Interpretation II: Fieldwork+Projectwork**
Implementing simultaneous interpretation. Under the supervision of a professional interpreter, the student will work in actual conference situations. Students are required to work on a project (under the supervision of an instructor) based on videotape recordings of conferences/seminars. Emphasis will be given to the preparation of dialogue lists/scripts in English/Turkish and French/Turkish and vice-versa. **Credit units: 6 ECTS Credit Units: 12. Spr (A. Akınçi Candogan, M. Kaya)**

TRIN 485  **Translation Workshop for EU Texts and Documents I**
This course consists of translation from English into Turkish, French into Turkish on topics of current interest and related to the European Union and its institutions. **Credit units: 6 ECTS Credit Units: 10. Aut (C. Ekiz, T. İnal)**

TRIN 486  **Translation Workshop for EU Texts and Documents II**
This course provides training in translation from English into Turkish and French into Turkish of legal and official documents as well as texts related with current European issues. **Credit units: 6 ECTS Credit Units: 12. Spr (C. Ekiz, A. H. Sunel)**

TRIN 487  **Interpreting for Public Services**
This course provides an introduction to the context of public service interpreting and stresses interpreting for the courts, the police and immigration services. Students will learn about liaison and whisper interpretation and reinforce consecutive interpretation skills all of which will be practiced through simulations of relevant interpreting situations. **Credit units: 3 ECTS Credit Units: 6. Aut (A. Akınçi Candogan, T. İnal)**

FRP 101  **Communicative French Skills I**
Credit units: None **ECTS Credit Units: 8. Aut (B. Fakioğlu, I. Kurmuş) Spr (A. Demir)**

FRP 102  **Listening Comprehension and Public Speaking I**
Credit units: None **ECTS Credit Units: 6. Aut (A. Noyanalpan, Y. Tanbi) Spr (M. Özataç)**

FRP 103  **Analytical Reading and Writing Strategies I**
Credit units: None **ECTS Credit Units: 8. Aut (C. Cangır, A. Noyanalpan, Y. Tanbi) Spr (A. Demir)**

FRP 104  **Linguistics, Grammar and CAL (Computer Assisted Language) I**
Credit units: None **ECTS Credit Units: 8. Aut (G. Özkök) Spr (M. Özataç)**

FRP 201  **Communicative French Skills II**
Credit units: None **ECTS Credit Units: 8. Aut (A. Demir) Spr (M. A. Erkoç, B. Fakioğlu, Y. Tanbi)**

FRP 202  **Listening Comprehension and Public Speaking II**
Credit units: None **ECTS Credit Units: 6. Aut (M. Özataç) Spr (A. Noyanalpan, Y. Tanbi)**

FRP 203  **Analytical Reading and Writing Strategies II**
Credit units: None **ECTS Credit Units: 8. Aut (A. Demir) Spr (C. Cangır, A. Noyanalpan, Y. Tanbi)**

FRP 204  **Linguistics, Grammar and CAL (Computer Assisted Language) II**
Credit units: None **ECTS Credit Units: 8. Aut (M. Özataç) Spr (G. Özkök)**
DEPARTMENT OF TURKISH LITERATURE

M. Kalpakli (Acting Chair), H. N. Tezcan, S. Tezcan, H. Yavuz.


The Department of Turkish Literature, which offers graduate degrees, has admitted its first students to the M.A. program in the 1998-1999 academic year. The Ph.D. program for the graduates of the M.A. program and other qualified candidates started in 2001.

The graduate programs are designed to encompass all periods and genres of oral and written Turkish literature from its beginnings until the present day. Present fields of concentration are: Ottoman Literature, 19th Century Literature and 20th Century Literature.

Unlike many of the traditional departments in this field, the Department of Turkish Literature encourages free and creative thinking, emphasizing research, analysis, interpretation, and criticism. Aiming at enhancing the standards of Turkish literary studies and universalizing the field, the Department underscores proficiency in several languages and encourages theoretical, interdisciplinary, and comparative approaches.

The language of instruction for courses in the Department is Turkish, except in instances where a non-Turkish visiting professor might prefer to teach in English.

Master of Arts in Turkish Literature

The duration of the M.A. program is three years, including a prep year, during which students take courses designed to introduce them to various aspects of literature and to strengthen their proficiency in Ottoman Turkish and foreign languages.

Admission

For entering the M.A. program applicants must be graduates of four-year undergraduate programs, preferably in literature. Applications will be evaluated on the basis of the applicant’s scholastic record, ALES results, level of proficiency in Turkish and English, a composition designed to assess his/her ability to critically analyze literary texts, and an interview.

Degree Requirements

Candidates for the M.A. degree are required to complete at least 36 units of credit beyond the preparatory year and to prove their competence in Turkish, Ottoman, and English. Some students may be exempted from English and/or Ottoman depending on their proficiency levels. The candidates may be required to learn additional languages according to their fields of concentration: Persian and/or Arabic for Ottoman Literature; French and/or German for 19th Century Literature and 20th Century Literature. Candidates should prepare and defend a Master's thesis. They should maintain a minimum GPA of 3.00 throughout their studies. Language courses and thesis writing are without credit.

CURRICULUM

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<thead>
<tr>
<th>Courses</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>EDEB 503 Ottoman Divan Literature</td>
<td>3 / 5</td>
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<tr>
<td>EDEB 504 Turkish Folk Literature</td>
<td>3 / 5</td>
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<tr>
<td>EDEB 505 Turkish Literature 1839-1922 I</td>
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<tr>
<td>EDEB 507 Turkish Poetry</td>
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<td>EDEB 593 Seminar</td>
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<td>EDEB 607 Modernism in Turkish Literature</td>
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</table>
### Doctor of Philosophy in Turkish Literature

The doctoral program in Turkish literature is initiated in 2001. Applicants to the program are required to hold an M.A. degree in Turkish Literature or related fields from Bilkent or other universities. To be admitted to the program, applicants from other universities may be required to take written and/or oral exams. The duration of the doctoral program is normally 3.5 years.

Doctoral students must complete course work of at least 24 credit hours with a minimum GPA of 3.00 and fulfill all language requirements before they present their written dissertation proposals and take the comprehensive written and oral exams. The research proposal for the dissertation must be approved by the Department before the candidates may take the comprehensive exams. These exams are designed to evaluate the candidate’s expertise in his/her area of concentration and research proposal for the dissertation. The candidate is eligible to take the orals after passing the written exam. Following the successful completion of these requirements, the candidates will conduct research and proceed with the writing of their dissertation, which should embody original research and make a substantial contribution to Turkish literary scholarship. Candidates must successfully defend their dissertation before a committee of the faculty.

Bilkent University will award the successful doctoral candidates the degree of “Doctor of Philosophy in Turkish Literature”.

### CURRICULUM

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<td>EDEB 620 Seminar on Evliya Celebi and the Seyahatname</td>
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<td>EDEB 621 Seminar on the Mesnevi in Divan Literature</td>
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<td>EDEB 699 Ph.D. Dissertation</td>
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<td>Restricted Electives (5)</td>
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### COURSE DESCRIPTIONS

#### PREP YEAR COURSES

<table>
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<tr>
<th>EDEB 413 Theoretical History of Western Civilization</th>
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<tbody>
<tr>
<td>In this course, western civilization, from preliterate societies to modern times, will be examined theoretically. Political, economic, religious, technological and artistic transformations on various levels are to be dealt with from different theoretical points of view. Ancient Greek and Roman contributions with respect to philosophy and law are also on the agenda of this course. Historical backgrounds of Humanism, Renaissance, Scientific Revolution, Reformation, Enlightenment and Romanticism are, inter alia, part of the basic problematic to be discussed. Furthermore, numerous important questions will be raised, among them: ‘Are primitive/civilized differences tenable?’; ‘On what basis can there be periodization of human history?’; and ‘How the human mind passes from myth to Logos?’ Credit units: 3 ECTS Credit Units: 5. Aut (H. Yavuz)</td>
</tr>
</tbody>
</table>

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<tr>
<th>EDEB 419 The Turkish Short Story</th>
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<tbody>
<tr>
<td>The origins of the contemporary short story in Turkish literature may be found in Aziz Efendi’s Muhayyelât, a late 18th-century work, which is considered a bridge between the story-telling tradition in the East and the modern short story. In this course, the development of the modern Turkish short story will be examined in historical context, especially with regard to its generic transformation, and in terms of comparisons of style and content among various works by modern authors. Credit units: 3 ECTS Credit Units: 5.</td>
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<table>
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<tr>
<th>EDEB 424 Introduction to Divan Literature</th>
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</thead>
<tbody>
<tr>
<td>Taking off from the question, “What kind of literature is Divan literature?” this course aims to introduce the aesthetic structure and understanding of divan literature, regarding both form and contents, and to see how they are different from those of today. Our primary topic is poetry: we examine Aruz metrics, the rules of rhyme, and</td>
</tr>
</tbody>
</table>
verse forms; we also discuss figures of speech and subtleties of expression. Credit units: 3 ECTS Credit Units: 5. Aut (H. N. Tezcan)

EDEB 434 Introduction to Divan Literature II
Ottoman literature endured for 600 years. Its classical epoch ended in the 16th century and its transformation began in the 17th century. This transformation and reorientation period lasted into the 18th century and ended with westernization in the 19th century. In this course we shall examine and discuss the lyric poetry, mesnevis and prose works. Credit units: 3 ECTS Credit Units: 5. Spr (M. Kalpakli)

GRADUATE COURSES

EDEB 401 Introduction to Turkish Literature I
Designed to give the student an overview of Turkish Literature, the course will deal with earliest poems, the Orkhon Inscriptions, major early works (Divan-i Lugati’t-Türk, Kutadgu Bilig, Dede Korkut, etc.), highlights of Seljuk Literature (especially Yunus Emre), and the most important works of Divan poetry and prose (from the 14th century to the mid-19th century). Credit units: 3 ECTS Credit Units: 5. Aut (S. Tezcan)

EDEB 402 Introduction to Turkish Literature II
This course will provide an overview of Turkish literature from the Tanzimat era to the present. Emphasis will be on the development of such literary genres as the novel, short story, drama, poetry, essay, and criticism in the modern era. The ethical and aesthetic arguments of major literary movements, key literary debates, and the social impact of literature will be discussed and evaluated. Readings will include major works in various genres. Credit units: 3 ECTS Credit Units: 5. Spr (S. Tezcan)

EDEB 403 Theories of Literature
This course will provide a wide-ranging theoretical background for the practice of literary criticism. A general survey of western literary history, literary movements, genres, and key terms, will be followed by the examination of modern literary/critical theories, including formalist, structuralist, post-structuralist, Marxist, feminist, and psychoanalytical approaches. Readings (in Turkish) will include selections from Aristotle, Barthes, Benjamin, Derrida, Eagleton, Escarpit, Freud, Genette, Jameson, Lukacs, Ong, and Todorov among others. Students will write reading reports, make a presentation, and write a term paper on a selected topic. Credit units: 4 ECTS Credit Units: 5. Spr (E. Koyuncu)

EDEB 405 Written Expression
This course aims at enhancing the appreciation and control of written Turkish at a high level. It will equip the students with the fundamental skills of writing and editing. After a review of the basic elements of composition (thesis, organization, style, tone), the techniques of narration (summary, paraphrase, quotation), the rules of punctuation, citation, etc., numerous examples of printed works will be discussed in class. Regular writing and rewriting assignments will be given. Emphasis will be on non-fictional prose, including scholarly and critical writing. Credit units: 3 ECTS Credit Units: 5. Aut (Staff)

EDEB 411 Ottoman Turkish I
This course will introduce the students to the Ottoman script and teach them the fundamentals of Ottoman-Turkish grammar through readings and writing exercises. Credit units: 4 ECTS Credit Units: 5. Aut (Staff)

EDEB 412 Ottoman Turkish II
This course will enhance the students' comprehension of the Ottoman script and the fundamentals of Ottoman-Turkish grammar through readings and writing exercises. Credit units: 3 ECTS Credit Units: 5. Spr (H. N. Tezcan)

EDEB 414 Introduction to Folk Literature
This course will offer an historical survey of the major genres of Turkish folk literature including poetry, folklore, the epic, and folk humor. Students will be introduced to significant scholarly works in the field as well. Credit units: 3 ECTS Credit Units: 5. Spr (H. Yavuz)

EDEB 416 Criticism
This course aims at furnishing the students with a critical understanding of the development of the theory and practice of literary criticism in Turkey since Ottoman times. Readings will include selections from the works of such writers as Atac, Cemal Süreyya, Fethi Naci, Gürbilek, Moran, Parla,Tanpinar, and Yavuz. Assignments will include regular reading reports, a class presentation, and a term paper. Credit units: 4 ECTS Credit Units: 5. Spr (H. Yavuz)

EDEB 502 Text and Image
Exploration of the connections and interactions between literature and the (audio-)visual image. Providing a historical approach from miniature paintings to interactive narratives, engagement with practices and approaches key to exploring the interrelation of different media. Emphasizing cross-disciplinary research skills, examination of various forms of art in which verbal and visual representations work in relation or collaboration. Credit units: 3 ECTS Credit Units: 5. Spr (A. Gürata)
EDEB 503 Ottoman Divan Literature
This course will cover the most important genres of Ottoman Divan literature including poetry (gazel, kaside, mesnevi) and prose (tezkires, chronicles, risales). It will prepare the students for a broader critical understanding of Ottoman literature. Credit units: 3 ECTS Credit Units: 5. Aut (H. N. Tezcan)

EDEB 504 Turkish Folk Literature
This course will concentrate on diverse types of Turkish oral literature - folk poems and tales, epics and narratives, anecdotes and satirical pieces, riddles and lyrics from Anatolia. Credit units: 3 ECTS Credit Units: 5. Aut (Staff)

EDEB 505 Turkish Literature 1839-1922 I
This course will examine the major developments in Turkish literature from the Tanzimat era to the founding of the Republic. Emphasis will be on the inception and transformation of various literary genres including the novel, the essay, poetry, drama and criticism. The contest between tradition and modernity, debates concerning literariness and the place of literature within society, and the social impact of the literature of the period will be among the key areas of investigation. Readings will consist of the major works of significant writers and poets, as well as secondary literature, including, A.H. Tanpınar’s XIX. Asır Türk Edebiyatı Tarihi. Credit units: 3 ECTS Credit Units: 5. Spr (M. Kalpaklı)

EDEB 507 Ottoman Turkish III
This course will enhance students' comprehension of Ottoman texts from all periods and genres. Credit units: 3 ECTS Credit Units: 5.

EDEB 510 Turkish Literature 1839-1922 II
This course will examine the major developments in Turkish Literature from the Tanzimat era to the literature from the Tanzimat to the founding of the Republic. Emphasis will be on the inception and transformation of various literary genres including the novel, the essay, poetry, drama and criticism. The contest between tradition and modernity, debates concerning literariness and the place of literature within society, and the social impact of the literature of the period will be among the key areas of investigation. Readings will consist of the major works of significant writers and poets. Credit units: 3 ECTS Credit Units: 5.

EDEB 511 Ottoman Turkish IV
This course aims at furnishing students with an understanding of problematic Ottoman texts. Credit units: 3 ECTS Credit Units: 5.

EDEB 514 Seminar on Divan Literature
History of Ottoman literature from the 17th to the end of the 19th century. This course will cover the most important genres of Ottoman Divan literature including poetry (gazel, kaside, mesnevi) and prose (tezkires, chronicles, risales). It will prepare the students for a broader critical understanding of Ottoman Literature. Credit units: 3 ECTS Credit Units: 5.

EDEB 524 The Turkish Novel
This course will examine the transformation of the social, psychological and aesthetic parameters of the Turkish novel from its inception in the latter part of the 19th century to its most recent examples. Areas of interest will include: the relationship of the early novels with traditional narratives; the questions concerning the social relevance of the novels; the formal changes in the tradition of novel writing, and critical responses to key novels. Readings will include major samples of such subtypes of the Turkish novel as the historical novel, philosophical novel, village novel, nature novel, and modernist novel as well as several critical books and essays. Credit units: 3 ECTS Credit Units: 5.

EDEB 526 Divan Literature Through Texts
In this course several sample texts of Ottoman Divan literature, including those in the forms of muḫazara, sakınname, serhatıngiz, dibace, and tezkire, will be read and discussed. Emphasis will be on comprehending the special vocabulary of these texts and the unique way of thinking they express. Credit units: 3 ECTS Credit Units: 5. Spr (H. N. Tezcan)

EDEB 530 Literary Translation
Organized essentially as a workshop, this course will familiarize students with techniques of translating Turkish literary texts into English. It is designed for students with proven proficiency in English. Texts will include verse and prose from most periods of Turkish literary history, certainly Divan, folk, Tanzimat and modern literature. Selections may vary depending upon individual needs related to the field of specialization and/or thesis topic. This course will train students in literal translation as well as in doing creative - and hopefully publishable - versions. Credit units: 3 ECTS Credit Units: 5.
EDEB 591 Thesis Seminar I
This course is designed to guide the Master's students in their thesis work. Research methods, literature review, elaboration of topics, and organization of material will be discussed in periodic meetings. Presentation in departmental seminars may be requested. Credit units: 2 ECTS Credit Units: 5.

EDEB 592 Thesis Seminar II
This course is designed to guide the Master's students in their thesis work. Research methods, literature review, elaboration of topics, and organization of material will be discussed in periodic meetings. Presentation in departmental seminars may be requested. Credit units: 2 ECTS Credit Units: 5.

EDEB 593 Seminar
This seminar gives an opportunity to Master students, in periodic meetings with lecturers and fellow students, to report on the development stages of their thesis work and to discuss specific as well as general problems, such as research methods, review of the literature, elaboration of topics, and organization of material. Credit units: None ECTS Credit Units: None.

EDEB 599 Master's Thesis
Credit units: None ECTS Credit Units: 56. Aut (Staff) Spr (Staff)

EDEB 602 Old Uygur Literature
The subject of this seminar is the Old Uygur Literature that developed in East Turkistan (Sinkiang) around 850-1400 C.E. Old Uygur is the second Turkic literary language, following that of Orhun-Yenisey Turkic. Since it was in continuous use for over 500 years, it became a classic literary language. Even after the Islamization of East Turkistan, Old Uygur continued to be taught farther east in Buddhist religious centers (such as Dunhuang) until the middle of the 17th century, and books continued to be produced in this language. Old Uygur Literature, which was introduced in outline in the Masters preparatory class entitled "Introduction to Old Turkic Literature," will be studied more comprehensively in this seminar (genres, works, Old Uygur literary terminology, known authors, translators, etc.). The majority of prose texts in this literature are Buddhist and Manichaean texts that were translated into Turkic from various languages. After a brief review of Old Turkic, we will read samples of both the prose texts, which are translations, and the poetic texts, which are original compositions. We will also discuss the influence of the Old Uygur literary language on the Islamic Turkic literary languages. Credit units: 3 ECTS Credit Units: 5.

EDEB 606 Sufi Seminar
In this seminar Islamic mysticism, orthodox as well as heterodox, will be discussed with special reference to Sufi poetry and its history. Especially the question that, in the absence of systematic philosophical tradition, can mysticism work in loco parentis as a systematic world-view will be dealt with. Other topics like the theoretical basis of Sufi symbolism will also be on the agenda. Credit units: 3 ECTS Credit Units: 5.

EDEB 607 Modernism in Turkish Literature
This course will deal mainly with the repercussions of political and social aspects of Modernism qua Western-ization in the Ottoman and Republican Turkish Literature. But, Modernism as a transformation of literature itself, especially in the field of poetry will also be critically investigated. Credit units: 3 ECTS Credit Units: 5. Aut (H. Yavuz)

EDEB 608 Critical Approaches to Turkish Literature
This course designed to reevaluate modern Turkish (Republican) literature from a theoretical point of view. Theories such as Marxism and Psychoanalysis (Freudian and Lacanian), and philosophical currents (Phenomenology and Existentialism, among others) will be brought to bear upon related texts to produce new critical understanding. Credit units: 3 ECTS Credit Units: 5. Spr (H. Yavuz)

EDEB 609 Oghuz Khan Narratives
In this seminar, the focus of study will be the tales and narratives concerning Oghuz Khan, the legendary ancestor of the Oghuz tribe. Currently, there are various extant texts written in Eastern Turkic, Anatolian Turkish, and Persian, all of which are quite different from one another. The oldest of these is believed to date back to the 13th century. Some of the texts may have been reworked and significantly altered in subsequent centuries, using older examples as a basis. Some of these texts were written in prose and some of them in verse. Some of them have been entirely preserved, while others are in a fragmentary state. In these narratives, the birth, life, and death of Oghuz Khan are narrated, together with the story of this defeating his enemies, conquering the world, and subsequently dividing his conquests up among his sons. In some, the narrative moves from legendary history through to historical centuries and continues with factual, historical events. These narratives contain a number of old epic motifs, folk etymologies, and similar elements. In the seminar, we will study the Turkish texts in the original language and the Persian texts in translation, and we will analyze the narratives from the literary point of view. Credit units: 3 ECTS Credit Units: 5. Aut (S. Tezcan)

EDEB 616 Comparative Modern Turkish and Arabic Literature
Organized in seminars, this course will explore the varying approaches of modern Turkish and Arab writers to themes and concepts such as love, exile, nationalism, Orientalism, Occidentalism, religion, and realism. Though the focus will be mainly on twentieth century poetry, other literary genres such as the novel, the short story, and drama too will be considered. A cross-disciplinary approach will be encouraged as links between literature and
other art-forms will be explored. Readings will consist of the works of significant writers and poets, the original
Turkish and whenever possible the Turkish translations of Arabic texts. Credit units: 3 ECTS Credit Units: 5.

EDEB 619 World Fiction
This seminar will critically survey and discuss several major 20th century novels and many modern short stories
translated into Turkish. It will examine the cultural contexts of the novels and short stories, the way they reflect
their times and respective societies, their fictional techniques, aesthetic and ethical concerns, and influences (if
any) on Turkish fiction. Relevant theories will also be analyzed. Credit units: 3 ECTS Credit Units: 5.

EDEB 620 Seminar on Evliya Celebi and the Seyahatname
The Seyahatname ("Book of Travels") the first and finest example of a unique genre of Ottoman literature - is
not merely a travel guide but is at the same time a work of literature. It contains rich narrative elements that are
included in the conveying of information, the description of observations and experiences, and the reflection of
value judgments. This seminar critically examines the ideas that have been proposed concerning when, where
and how the Seyahatname was written; and evaluates the text editions and the important researches that have
been made until now. We read selected passages of the work and discuss its contents, structure, scope, and
literary features. Using examples of true or false or exaggerated information contained in the Seyahatname we
investigate preconceptions regarding the work and discuss its value today. Credit units: 3 ECTS Credit Units: 5.

EDEB 621 Seminar on the Mesnevi in Divan Literature
The seminar provides a historical perspective on the Mesnevi genre from the thirteenth century onward, and
examines how it ceded its place to the novel and short story as Turkish literature opened to the West in the
nineteenth century. We take a topical approach, and discuss the origin of the Mesnevi genre and the way in
which it assumed a Turkish (or Anatolian) dress. We also read selected mesnevis examining such features as
structure, plot, authors' apologies, character, folk tale elements, societal value judgments, and local elements;
compare these with the techniques and understanding of the Western novel. Credit units: 3 ECTS Credit Units: 5.

EDEB 622 Seminar on Ahmet Hamdi Tanpinar
This course is designed to critically examine several writings in various genres by Ahmet Hamdi Tanpinar (1901-
1962), who is considered one of the most important writers of the twentieth-century Turkish literature. In addition
to some of his novels, short stories, and poems, his writings on literary history and criticism will be discussed
during the course. Some emphasis will be placed on re-reading significant secondary literature on the author.
Requirements of the course include two position papers, one presentation, and one term paper. Credit units: 3
ECTS Credit Units: 5. Aut (H. Yavuz)

EDEB 626 The Dede Korkut Oguznames
How an ancient heroic epic of the Oğuz came to be written down in twelve episodes, with variations, in the
Dede Korkut (Korkut Ata) as legendary bard and soothsayer. Language, linguistic and philological problems.
Style, subject matter, heroes. The place of the Book of Dede Korkut in Turkish literature. Anatolian folk tales
that resemble the stories in the Book of Dede Korkut. Samples of the Oguznames will be studied and analyzed
from various perspectives. Credit units: 3 ECTS Credit Units: 5. Spr (S. Tezcan)

EDEB 628 Heroic Religious Epics
This course will basically deal with the topic of heroic Islamic epics, which were composed in Anatolia during XIV.
and XV. centuries and later, or translated from Arabic and Persian in the same time period (Danışmandnames, Saltuknâme, Battalnâme usw.). Works like Vilayetnâmes and Menâkıbnâmes will also be studied and samples
from various texts elucidated. Credit units: 3 ECTS Credit Units: 5.

EDEB 699 Ph.D. Dissertation
Credit units: None ECTS Credit Units: 160. Aut (Staff) Spr (Staff)
FACULTY OF LAW

Turgut Tan, Ph.D., Dean
Elvin Evrim Dalkılıç, Ph.D., Assoc. Dean
Şems Barış Özçelik, Ph.D., Assoc. Dean

ACADEMIC STAFF

Tekin Akıllıoğlu, Adjunct Professor

Hüseyin Can Aksoy, Assistant Professor

Pınar Altınok Ormançı, Assistant Professor
Ph.D., Civil Law, Ankara University, 2011. Basic Concepts of Law, Selected Topics in Turkish Law, Law of Obligations (Special Part), Business Law, Introduction to Contract Law.

Murat Atali, Visiting Associate Professor

Süleyman Zühtü Aytaç, Visiting Professor

Fatma Aslı Bayata Canyaz, Assistant Professor

İbrahim Sahir Çörtőglü, Adjunct Professor

Elvin Evrim Dalkılıç, Assistant Professor
Ph.D., Public Law, Gazi University, 2009. Administrative Law, Introduction to Turkish Public Law, Basic Concepts of Law.

Mehmet Ali Erten, Visiting Professor

Ece Göztepe Çelebi, Associate Professor
Ph.D., European Public Law, Münster Westfälische Wilhelms University, 2001. Constitutional Law, Comparative Constitutional Law, Methodology of law and Research Methods, Constitutional Judiciary, Law, Film and Literature.

Ashıl Elif Gürbüz Usluel, Assistant Professor

Osman B. Gürzumar, Professor

Ahmet Rücham Işık, Visiting Professor

Halil Baha Karabudak, Instructor

Tuğrul Bayazıt Katoğlu, Visiting Associate Professor
Cengiz Koçhisarlioğlu, Visiting Professor  
Ph.D., Civil Law, Lausanne University, 1982. Introduction to Law, Civil Law, Property Law, Civil Law IV: Inheritance Law, General Methodology of Private Law.

Erden Kuntalp, Adjunct Professor  

Mehmet Çağlar Manavgat, Visiting Associate Professor  

Mehmet Kamil Mutluer, Adjunct Professor  

Erdal Onar, Visiting Professor  

Gülüm Özcêlîk, Assistant Professor  

Şems Barış Özcêlîk, Assistant Professor  

Hamdi Pönar, Assistant Professor  

Sami Selçuk, Adjunct Professor  

Ayşe Lale Sîrmen, Visiting Professor  

Turgut Tan, Professor  

Bilgin Tiryakioğlu, Visiting Professor  

Haluk Toroslu, Instructor  
Ph.D., Ankara University Faculty of Law, 2013. Basic Concepts of Law, Criminal Law, Introduction to Turkish Public Law, Criminology.

Nevzat Toroslu, Visiting Professor  

PART-TIME ACADEMIC STAFF

Gizem Alper, LLM, Law and Economics, Bilkent University, 2011.
Şahin Ardiyok, LL.M., Chicago University, 2004.
Sertaç Hami Başer, Ph.D., Public Law, Gazi University, 1987. (Professor at Ankara University)
Kemal Başlar, Ph.D., International Law, Nottingham University, 1995. (Associate Professor at National Police Academy)
Bahar Bayazıt, LLM, Law and Economics, Bilkent University, 2011.
Haluk Emiroğlu, Ph.D., Roman Law, Ankara University, 2000. Introduction to Law, Comparative
Private Law, Roman Law, Methodology of Law and Research Methods.
Ersin Erdoğan, LLM, Law and Economics, Bilkent University, 2011.
Pınar Tuna Ermümcü, LL.M., Law, Fribourg University, 2008.
Yüksel Ersoy, Ph.D., International Law, Ankara University, 1976. (Professor Emeritus, Ankara
University)
Susan Gale Wintermuth, Ph.D., Law, University of Arizona, 1976. (Professor at University of
Hamburg).
Yasin Alperen Karashın, Ph.D. Candidate, Private Law, University of Luzern.
Johann Kindl, Ph.D., Civil Law, Universität Augsburg, 1992. (Professor at Westphalian Wilhelms
University Münster)
Haris P. Meldanis, Ph.D., Private International Law, Panteion University.
Fuat Oğuz, Ph.D., Economics, George Mason University, 2000. (Associate Professor at Yıldırım
Beyazıt University).
İlber Ortaılı, Ph.D., Political Science, University of Ankara, 1974. Ottoman Social History, Russo-
Turkish Relations.
Erdoğan Öner, Ph.D., Economics, İstanbul University, 1997.
Muhammet Özekes, Ph.D., Civil Procedure, Dokuz Eylül University, 1998. (Professor at Gediz
and Dokuz Eylül Universities).
Paolo Michele Patocchi, Ph.D., Law, University of Geneva, 1983.
Başak Şit, Ph.D., Commercial Law, Ankara University, 2010.
Damla Gül Tarhan, LLM, Law and Economics, Bilkent University, 2011.
M. Fatih Uşan, Ph.D., Private Law, Selç University, 1997.
Sinan Utku, JD, Ph.D., Physics, Yale University, 1994.
Gürriz Uygur, Ph.D., Philosophy, Hacettepe University, 1999. (Associate Professor at Ankara
University)
Ceren Ünal, LL.M., Computer and Communications Law, Queen Mary, University of London, 2002.

UNDERGRADUATE PROGRAM

The Faculty of Law offers a broad set of courses concerning all challenging dimensions of contem-
porary law. The curriculum is structured to provide the students not only with knowledge in classical
and substantial areas like constitutional law, administrative law, civil law, commercial law and criminal
law, but also with basic professional information in other fields requiring an international perspective
of specialization like competition law, intellectual and industrial property law, international commer-
cial arbitration, European Union law and international business law. The courses consisting of the
Turkish positive law with national character are given in Turkish while some others representing an
international character and/or which could be learned in a foreign language like philosophy, interna-
tional human rights law, international business law, European Union law etc. are given in English.
The basic philosophy of the Faculty is not to be a “school of a profession” but to have a character of
a forum where the students could gain, in addition to basic professional knowledge, a scientific legal
approach to follow and participate in the permanent development of the world facing the challenge
of globalisation. The Faculty is conscious of the fact and the graduate program is structured in such
a way that the students shall have the opportunity to gain and develop the ability of determining,
searching for and achieving the appropriate information they need.
## CURRICULUM
### FIRST YEAR

#### Autumn Semester

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<th>Course Title</th>
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<tr>
<td>LAW 103</td>
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GRADUATE PROGRAMS

LL.M. in Law and Economics

The rapid improvement of the relationship between law and economics brought multidisciplinary studies into the center of 21st century legal education and practice. In today’s world, where interaction between law and economics has become clearer under the light of the developments in relation to globalisation, the need for experts, who not only know the legal framework of market economy well, but also can comprehend the economic effects of legal rules and analyze the economic sides of different legal regimes, is growing. In order to meet this need, it is important to train university degree holders in economics as well as law.

Recent and rapid approximation of the objectives of law and economics that had been considered totally diverse academic fields for many years indicates some important points about the relationship between law and economics. Investors require experts, who can interpret the legal rules by taking economic points of view into consideration and comment on a certain economic behaviour in the contexts of different legal systems, rather than standard legal consultancy. Competition Law and the Law of Economic Regulation are the most significant ones of the law fields prominent regarding this perspective.

Main purpose of the LL.M. Programme of Bilkent Law Faculty is to provide students with expertise on the legal framework of market economy as well as in the fields of Competition Law and Economic Regulation and with ability to adopt the interaction between law and economics in modern practice of these disciplines.

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<td>LAW 504 Competition Law</td>
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<td>LAW 505 Economic Regulation and Law</td>
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<td>LAW 506 Energy Law and Policy</td>
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<td>LAW 507 Public Economic Law</td>
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<td>LAW 508 Telecommunications Law</td>
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Doctor of Philosophy in Private and Public Law

The Faculty offers two Ph.D. programmes in Private Law and Public Law. The Programmes shall include courses in classical and substantial areas of both private and public law as well as in other fields requiring national and international perspective of specialisation. Some courses are held in English and others are in Turkish.

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### CURRICULUM OF Ph.D. IN PUBLIC LAW

(for students with a master's degree)

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### CURRICULUM OF Ph.D. IN PRIVATE LAW

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### CURRICULUM OF Ph.D. IN PUBLIC LAW

(for students without a master's degree)

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### COURSE DESCRIPTIONS

**LAW 101 Introduction to Law**

Law and social order; the sources of law and the hierarchy of the norms; characteristics of common law and the continental legal systems; main branches of public and private law; organisation of the Turkish judicial system; the application of norms and the methods of interpretation; transactions and rights. (in Turkish) Credit units: 3


**LAW 102 Roman Law**

The subject of Roman Law and its importance in legal education; comparative study of Roman Law; historical introduction and the sources of Roman Law; law of persons and family law (slavery, citizens and non-citizens, the Roman family, corporations); Law of Actions - classification of actions; Law of Property (the law of things, classification of res, possession, ownership, modes of acquisition, servitudes, real securities); Law of Obligations:
LAW 103 Constitutional Law I
Definition of State, Sovereignty, Constitution, Constituent Power, Hierarchy of Norms, Constitutional Review, Political Systems (totalitarian, authoritarian, democratic systems), Governmental Systems (legislative, presidential, semi-presidential systems), Introduction to Ottoman-Turkish Constitutional Developments.
Credit units: 3 ECTS Credit Units: 4. Spr (H. Emiroğlu)

LAW 104 Constitutional Law II

LAW 105 Civil Law I
Subject matter, historical background, sources and application of civil law; Basic Concepts: Right, acquisition of rights and legal transactions; good faith (bona fides); protection of rights; Natural Persons: Beginning and end of personality, capacities, protection of personality; Legal Persons. (in Turkish) Credit units: 3 ECTS Credit Units: 5. Aut (M. A. Erten, O. B. Gürzumar) Spr (O. B. Gürzumar)

LAW 106 Civil Law II
Law of Marriage: Engagement (the legal nature, conditions for a valid engagement, legal effects of engagement, end of engagement); marriage (the legal nature, conditions for a valid marriage, general legal effects of marriage and matrimonial property systems, dissolution of marital bond and its legal consequences); legitimacy (affinity); establishment of legitimacy, adoption, annulment of legitimacy, recognition, paternity suit, legal effects of legitimacy and especially the parental power (patris potestas); Family in broader sense; Guardianship (guardianship in technical sense, curatorship, statutory advisors). (in Turkish) Credit units: 3 ECTS Credit Units: 5, prerequisite: LAW 105. Spr (P. Altınok Ormançı, M. A. Erten, C. Köchisarlioğlu)

LAW 201 Law of Obligations I
Concepts of "obligational relationship" and "obligation", sources of obligations, formation and validity of legal transactions; particularly contracts, representation, torts and unjust enrichment. (in Turkish) Credit units: 3 ECTS Credit Units: 5. prerequisite: LAW 105. Aut (M. A. Erten, E. Kuntalp) Spr (G. Köchisarlioğlu)

LAW 202 Law of Obligations II
Performance of obligations, violation of obligations and its consequences, cease of obligations and some specialties related to obligations; namely conditional obligation, joint obligation, transfer of debt and assignment of obligation. (in Turkish) Credit units: 3 ECTS Credit Units: 5, prerequisite: LAW 201. Aut (A. L. Sirmen) Spr (M. A. Erten, E. Kuntalp)

LAW 203 Criminal Law I
Legality, sources and application of the criminal laws; General theory of crime; elements of a crime; Actus reus and defenses; superior orders, necessity; Mens rea and crimes of negligence; mistake and ignorance of the laws. (in Turkish) Credit units: 3 ECTS Credit Units: 5. Aut (S. Selçuk, H. Toroslu, N. Toroslu)

LAW 204 Criminal Law II
Different aspects of a crime; accomplishment, assistance after the offence, criminal attempt; Criminal responsibility; infancy, insanity; Theories of punishment; nature of punishment. Consequences and suspension of punishment. Amnesty; New perspectives in criminal law. (in Turkish) Credit units: 3 ECTS Credit Units: 5, prerequisite: LAW 203. Spr (S. Selçuk, H. Toroslu, N. Toroslu)

LAW 205 Administrative Law I
Basic political and legal principles of Turkish administrative law; structural and functional aspects of central and local administrations, Rule-making power of administration. Unilateral administrative acts and contracts. Legal regime of public personnel and public domain. (in Turkish) Credit units: 3 ECTS Credit Units: 5. Aut (T. Akilioğlu, E. E. Dalkılıç, T. Tan)

LAW 206 Administrative Law II
Basic principles of judicial control of administration. Organization of administrative courts and Council of State: Judicial remedies (action for annulment and full remedy action); Liability of the administration and its agents. (in Turkish) Credit units: 3 ECTS Credit Units: 5, prerequisite: LAW 205. Spr (T. Akilioğlu, E. E. Dalkılıç, T. Tan)

LAW 210 Basic Concepts of Law
LAW 211  Basic Concepts of Law

LAW 214  Introduction to Turkish Public Law
The course begins with an introduction to law and discussions on basic concepts of law. After referring to the distinction between public and private law; constitutional law and its sources are defined, followed by detailed information on fundamental issues of Turkish Constitutional Law, such as the characteristics of the republic according to the constitution, constitutional amendments and actions of legislative, administrative and judicial organs. The course proceeds with administrative law, with a focus on the analysis of administrative acts and financial liability of the state. Finally, basic concepts of criminal law and general crime theory are explained. Credit units: 3 ECTS Credit Units: 4. Spr (H. Turoslu)

LAW 216  Introduction to Anglo-American Law
The course aims to introduce some basic concepts and terminology of Anglo-American legal system. In this regard following subjects shall be covered: origins of the common law, its area of application, comparison between common law and civil law, the law-making institutions; sources, precedent, acts of parliament, statutory instruments, statutory interpretation, the relationship between common law and statutory law, hierarchy of courts, jury trials. Credit units: 2 ECTS Credit Units: 4, Prerequisite: ENG 102. Spr (S. Gale Winternuth)

LAW 301  Civil Procedure I
Courts’ structure, competence and venue, status of the plaintiff and the defendant, filing the lawsuit, submissions exchange, the trial, investigation, oral trial and judgment. (in Turkish) Credit units: 3 ECTS Credit Units: 5. Aut (M. Atalõ) Spr (M. Atalõ)

LAW 302  Civil Procedure II
The proof of claims, burden of proof, evidence, legal remedies, intermediate appeal and appeal procedures, arbitration. (in Turkish) Credit units: 3 ECTS Credit Units: 5, Prerequisite: LAW 301. Aut (M. Atalõ) Spr (M. Atalõ)

LAW 303  Public International Law
This course offers a survey of a branch of law dealing with the normative factor of international relations the source of which are the international agreements and international customary law. Topics include also the jurisdictional aspects of international law and the settlement of disputes. (in Turkish) Credit units: 3 ECTS Credit Units: 4, Prerequisite: LAW 101 and LAW 104. Aut (S. H. Başer, K. Başlar)

LAW 304  Private International Law
Conflict of laws, international procedure law, private international law, citizenship and foreigners’ law, recognition and enforcement of foreign judgments and arbitral awards, international jurisdiction of Turkish courts. Credit units: 3 ECTS Credit Units: 4, Prerequisite: LAW 106 and LAW 202. Spr (F. A. Bayata Çay, G. Özçelik, B. Tiryakioğlu)

LAW 305  Civil Law III: Law of Property I
Concept, types and characteristics of property, legal characteristics of possession; acquisition, termination and protection of possession and related claims, land registry; particularly the structure and principles of registry, legal consequences of registration and correction of entries in land registry. Credit units: 3 ECTS Credit Units: 5, Prerequisite: LAW 105. Aut (İ. S. Çüroğlu, Ş. B. Özçelik, A. L. Sirmen)

LAW 306  Civil Law III: Law of Property II
Concept and scope of ownership, protection of ownership, ownership of movable and immovable property; particularly acquisition and loss of ownership, legal characteristics, types, acquisition and termination of limited real rights (servitudes, land charges and pledge). Credit units: 3 ECTS Credit Units: 5, Prerequisite: LAW 305. Spr (İ. S. Çüroğlu, Ş. B. Özçelik, A. L. Sirmen)

LAW 307  Commercial Law I
Commercial enterprise, business transaction, commercial provisions, commercial jurisdiction, merchant, trade name, trademark, enterprise name, unfair competition, books of account, checking account, merchant assistants. Credit units: 3 ECTS Credit Units: 5, Prerequisite: LAW 202. Aut (S. Z. Aytaç, A. E. Gürbüz Usul, H. Pınar) Spr (A. E. Gürbüz Usul)

LAW 308  Commercial Law II
Ordinary partnerships, collective companies, commandite companies, joint stock companies, limited companies. Credit units: 3 ECTS Credit Units: 5, Prerequisite: LAW 307. Aut (A. E. Gürbüz Usul) Spr (S. Z. Aytaç, A. E. Gürbüz Usul, M. Ç. Manavgat, H. Pınar)

LAW 309  Law of Obligations (Special Part)
Scope and characteristics of special provisions of Turkish Code of Obligations, nominate and innominate contracts, sales contract, rental contract, contract of mandate, bailment contract. (in Turkish) Credit units: 2 ECTS Credit Units: 4, Prerequisite: LAW 202. Aut (P. Altnok Ormançı, Ş. B. Özçelik) Spr (P. Altnok Ormançı)
LAW 313  Business Law
Introduction to law, basic concepts of civil law, rights, acquisition of rights via good faith, the principle of good faith, abuse of right, law of persons, capacity to have rights, capacity to act, the origins of obligation, the formation of contracts, validity requirements of contracts, invalidity of contracts, performance of obligations, performance modalities, legal consequences of non-performance, the concept of commercial enterprise and its legal structure, commercial affair and its legal consequences, legal consequences of being a merchant, selected topics concerning business and commercial law. Credit units: 3 ECTS Credit Units: 4. Aut (H. C. Aksoy, P. Altınoğ Ormançı, C. Ünal) Spr (P. Altınoğ Ormançı, P. T. Ermumcu, C. Ünal)

LAW 315  Administrative Law
Basic political and legal principles of Turkish administrative law and basic principles of judicial control of the administration. Sources of administrative law; structural and functional aspects of central and local administration and regulatory agencies; rule-making power of the administration: unilateral administrative acts; contracts of the administration and legal regime of public personnel. Organization of administrative courts and Council of State and their competences; judicial remedies; liability of the administration and its agents. Credit units: 3 ECTS Credit Units: 4. Aut (E. E. Dalkılıç)

LAW 353  Environmental Law
A course offering a survey of the rules and regulations protecting the environment. (in Turkish) Credit units: 2 ECTS Credit Units: 4, Prerequisite: LAW 101 and LAW 104 and LAW 202 and LAW 206. Spr (İ. S. Çörtğuğlu)

LAW 355  History of Turkish Law
Jewish legal system, a brief overlook to European legal history, basic principles of Islamic Law, Ottoman legal institutions and the Romanisation of Ottoman Law from Tanzimat to 1926. (in Turkish) Credit units: 2 ECTS Credit Units: 4, Prerequisite: LAW 101 and LAW 102. Aut (İ. Ortaylı)

LAW 358  Criminal Law (Special Part)
Particular crimes as homicide, assault, sexual offences, theft and related offences, offences of damage to property, offences against constitutional and public order, public health, forgery. (in Turkish) Credit units: 2 ECTS Credit Units: 4, Prerequisite: LAW 201. Aut (T. B. Katoğlu, S. Selçuk)

LAW 359  Comparative Private Law
A study and comparative analysis of various legal systems, focusing on the main features of private law. (in Turkish) Credit units: 2 ECTS Credit Units: 4, Prerequisite: LAW 101 and LAW 102 and LAW 202. Aut (H. Emirgül)

LAW 360  Public Finance
Public services; public disbursements; evaluation of public disbursements in Turkey; theoretical basis of public revenues and disbursements; theoretical basis of income tax; theoretical basis of expenditure tax; theoretical basis of wealth tax; evaluation of Turkish Tax System in general, evaluation of Turkish Tax System in an economic and social perspective; evaluation of income tax, expenditure tax and wealth tax; theoretical basis of finance of local administrations; finance of local administrations in Turkey. Credit units: 2 ECTS Credit Units: 4, Prerequisite: ECON 103 and LAW 101 and LAW 206 and MATH 119. Spr (M. K. Muller)

LAW 365  Legal Philosophy
After focusing on the relationship between law, philosophy and science, the scope and subject of legal philosophy is going to be determined. Then, the doctrine of natural law -the oldest legal school- will be analysed in accordance with its Greek origin and contractualists, while evaluating the criticism against legal philosophy on ground of being metaphysic under modern epistemology. Lastly, the concept of legal justice, as the natural consequence of legal positivism, which is alleged to represent scientifiety and impartiality in legal theory, will be analysed. (in Turkish) Credit units: 2 ECTS Credit Units: 4, Prerequisite: (LAW 101 and PHIL 243) or (LAW 101 and ENG 241 and PHIL 241). Spr (G. Uygur)

LAW 366  Legal Sociology
Firstly, the sociological currents, which influenced and penetrated legal theory will be described as an introduction; while concentrating on the history and cultural reasoning of these currents, followed by a focus on the methodology and meaning of the sociological analysis of law, with references to the Introduction to Law course. Afterwards, the sources of law, which represent the biggest contribution of the sociological approach will be analysed, with a particular focus on the works of important scholars. Finally, reaching to a balanced sociological definition of law under the light of this information will be attempted. (in Turkish) Credit units: 2 ECTS Credit Units: 4, Prerequisite: (LAW 101 and PHIL 243) or (LAW 101 and ENG 241 and PHIL 241). Spr (G. Uygur)

LAW 374  Parliamentary Law
This course deals with the concept of parliament, and its historical background, formation of the legislative body. unicameral or bicameral systems, electoral systems, size of the parliaments and the time between two elections will be examined. Particular attention will be given to Turkish Parliament, and its functions, legal statutes of members (i.e. representing the nation, parliamentary immunity, termination of membership) are dealt with. (in Turkish) Credit units: 2 ECTS Credit Units: 4, Prerequisite: LAW 104.
LAW 375  Turkish Constitutional History

LAW 376  Selected Topics in English Law
Origins of common law, court structure, precedent, acts of parliament and statutory instruments, judiciary and legal profession in England, English law of contracts, relationship between common law and statutory law. Credit units: 2 ECTS Credit Units: 4, Prerequisite: (ENG 102 and PHI 243) or (ENG 102 and ENG 241 and PHIL 241). Spr (G. Özlük)

LAW 383  Introduction to Law and Economics of Competition and Regulatory Policies
In this course, an overall introduction to main concepts and approaches to law and economics of competition law and policy together with regulatory policies will be provided. The material involved will be covered in a spectrum ranging from the discussion of conventionally regulated industries to financial regulation and environmental law on one hand, and ranging from the preliminary economic analysis of EU, US, and Turkish competition laws to merger control and state aid regulations on the other. Actual cases will also be examined throughout the course, while the transaction cost approach will be the main framework for the analysis and evaluation of these cases. Credit units: 2 ECTS Credit Units: 4, Prerequisite: ECON 103 and ENG 102 and LAW 101. Aut (H. B. Karabudak)

LAW 384  Criminology
Deviance and crime; Historical background of criminology; Methods of criminological research; Explanations of criminal behavior. Credit units: 2 ECTS Credit Units: 4, Prerequisite: LAW 203 and LAW 204. Spr (H. Toroslu)

LAW 386  Law, Film and Literature
The relationship between law, film and literature; how to analyse a film; the idea of justice in film and literature, the analysis of selected topics in film and literature: family and murder, slavery, portrait of a historical politician, enmest and burden of proof; physical integrity, mental illnesses and law, societal development and crime. Credit units: 2 ECTS Credit Units: 4.

LAW 401  Commercial Law III
Negotiable instruments, drafts, bonds, bills of exchange. Credit units: 3 ECTS Credit Units: 5, Prerequisite: LAW 202. Aut (M. Ç. Manavgat)

LAW 402  Commercial Law IV
Insurance contracts, compulsory insurances, life and property insurances, actuaries and brokers, loss adjusters, insurance agents. Credit units: 3 ECTS Credit Units: 5, Prerequisite: LAW 202. Spr (A. Yorgalık)

LAW 403  Civil Law IV: Inheritance Law
Concept of inheritance, deceased, heirship, functions and intentions of inheritance law, the terminology of inheritance law, general principles of inheritance law, legal heirship, testamentary heirship, forced heirship, falcidian portion, protection of falcidian portion, abridgement, discretionary portion, testamentary disposition, the types of testamentary disposition, invalidity of testamentary disposition, interpretation of testamentary disposition, testamentary contract, calculation of succession, hotchpot, protection and administration of succession, co-ownership of heirs, partition of the succession. Credit units: 3 ECTS Credit Units: 5, Prerequisite: LAW 105. Aut (C. Kocışarhoğlu)

LAW 405  International Human Rights Law
General principles of international human rights law, European Human Rights Convention, definition of human rights, the basic mechanisms for enforcing human rights and the role of the political realities in promoting human rights. Credit units: 3 ECTS Credit Units: 4, Prerequisite: LAW 411. Spr (T. Akilloğlu)

LAW 406  International Business Law
A course dealing especially with international business transactions. Credit units: 3 ECTS Credit Units: 4, Prerequisite: ENG 102 and LAW 302 and LAW 308 and LAW 309. Spr (J. Kindl, R M. Patocchi)

LAW 407  Tax Law
This course comprises the principles of tax law, taxation process, income tax, corporation tax, value added tax, real estate tax, inheritance tax, tax penalties, conflicts of taxation and some other taxes in the Turkish system. (in Turkish) Credit units: 3 ECTS Credit Units: 4. Aut (M. K. Mutluer, E. Öner)

LAW 408  Competition Law
Basic concepts of competition law, anti-competitive agreements and concerted practices, abuse of the dominant position, mergers and acquisitions. Credit units: 2 ECTS Credit Units: 4, Prerequisite: ECON 103 and LAW 202 and LAW 206 and LAW 308. Spr (G. Gürkaynak, O. B. Gürzumar)
LAW 409 Intellectual Property Law
Copyright, industrial property rights: patents, trademarks, geographical indications, industrial designs. Intellectual property law in the EU and in the US. Credit units: 2 ECTS Credit Units: 4. Aut (H. Pınar)

LAW 410 Enforcement and Bankruptcy Law
The organisation of execution office, court orders enforcement, forcing of payments of debts, order of payment, objection, sequestration, forced sale, enforcement for negotiable instruments and bankruptcy. (in Turkish) Credit units: 3 ECTS Credit Units: 5, Prerequisite: LAW 202 and LAW 302 and LAW 307. Spr (M. Özkes)

LAW 411 Criminal Procedure
Jurisdiction; Evidence; Burden of proof; Commencement and conduct of; Proceedings; Legal remedy (review). Credit units: 3 ECTS Credit Units: 5. Aut (T. B. Katkoğlu, S. Selçuk) Spr (T. B. Katkoğlu)

LAW 412 Labor Law I
Basic concepts of labour law, including the worker, employer, and employment contract, and of the Turkish law on the contractual relationship between the worker and the employer.(in Turkish) Credit units: 2 ECTS Credit Units: 4, Prerequisite: LAW 202. Aut (M. F. Uşan)

LAW 413 European Union Law
Institutions of the European Union, historical evolution of the EU, EU institutions, EU competence, sources of EU law, relationships between legal systems of the EU and member states, role of the individual. Credit units: 3 ECTS Credit Units: 4, Prerequisite: ENG 102 and LAW 101 and LAW 104 and LAW 105. Aut (G. Özçelik) Spr (G. Özçelik)

LAW 414 Labour Law II
All stages of collective labour law, covering trade unions, collective bargaining, collective labour agreements, collective labour disputes, including peaceful dispute resolution methods as well as the right to strike and the right to lockout.(in Turkish) Credit units: 2 ECTS Credit Units: 4, Prerequisite: LAW 412. Spr (A. R. İşkök)

LAW 415 Recognition and Enforcement of Foreign Arbitral Awards
Conditions of enforcement and the possible impediments to enforcement, comparative law, international conventions, recognition, Turkish procedural law, arbitration agreement, arbitrability. Credit units: 2 ECTS Credit Units: 4, Prerequisite: LAW 304. Spr (F. A. Bayata Canyay)

LAW 416 Introduction to Contract Law

LAW 420 International Commercial Arbitration
This elective course deals with general procedural rules of international arbitration (such as the rules of International Chamber of Commerce). Credit units: 2 ECTS Credit Units: 4, Prerequisite: LAW 101 and LAW 202. Spr (Y. Ersoy)

LAW 423 Law of Capital Markets
Rules and regulations being applied on the instruments and transactions in the capital market. The concept of capital market, fundamental participants: issuers; investors; instruments; stock market; intermediary institutions, corporate governance, dematerialization of capital market instruments, stock exchanges. Credit units: 2 ECTS Credit Units: 4, Prerequisite: LAW 308. Aut (M. Ç. Manavgat)

LAW 427 Citizenship and Foreigners Law
Citizenship law, dual nationality, acquisition of Turkish citizenship, foreigners' law, deportation, passport and visa law, status of aliens, nationality, asylum. Credit units: 2 ECTS Credit Units: 4, Prerequisite: LAW 101 and LAW 104 and LAW 206. Aut (B. Tiryakioğlu)

LAW 430 Financial Institutions Law
Financial markets and financial instruments. Economic and legal functions of financial institutions, regulatory approach to the financial institutions, financial institutions in EU law, categories and natures of the financial institutions, the public authorities such as Banking Regulation and Supervision Agency and Capital Market Board, comparative analysis of the financial institutions and main features of banks and securities firms. Credit units: 2 ECTS Credit Units: 4, Prerequisite: LAW 308.

LAW 434 Budget Law
History of budget, budgetary principles, types of budget, public finance management, Turkish Budget System, its preparation, discussion and execution, budget financing and budgetary control. Credit units: 2 ECTS Credit Units: 4, Prerequisite: LAW 104 and LAW 206. Spr (M. K. Mulluer)
LAW 441 Monetary Law
Contents of the lecture are: Monetary Law and its sources. The concept of money (economic and legal aspect of money, functions of money, types of money), monetary system (the establishment of monetary system, national monetary system, international monetary system), money market (financial market in general, money market, money market intermediaries and money market instruments), monetary obligations (national currency obligations, foreign currency obligations). Credit units: 2 ECTS Credit Units: 4, Prerequisite: LAW 101 and LAW 104 and LAW 202 and LAW 206. Aut (O. R. Güven)

LAW 445 Advertising Law
Advertising regulations in the European Union, advertising under unfair competition law, consumer law and other laws in Turkey, misleading and comparative advertising, TV specific and product specific advertisement regulations, sanctions against unfair advertising and self-control mechanisms. (in Turkish) Credit units: 2 ECTS Credit Units: 4, Prerequisite: LAW 101 and LAW 104 and LAW 202 and LAW 206. Aut (H. Pınar) Spr (H. Pınar)

LAW 447 Moot Court I
International commercial arbitration, CISG, advocacy, student competition. Credit units: 2 ECTS Credit Units: 4, Prerequisite: LAW 101 and LAW 202 and LAW 206. Aut (2 Staff)

LAW 448 Moot Court II
International commercial arbitration, CISG, advocacy, student competition. Credit units: 2 ECTS Credit Units: 4, Prerequisite: LAW 101 and LAW 202 and LAW 206 and LAW 216 and LAW 303 and LAW 413 and (PHIL 243 or (ENG 241 and PHIL 241)) and (PHIL 244 or (ENG 242 and PHIL 242)). Spr (Staff)

LAW 449 Moot Court III
International commercial arbitration, CISG, advocacy, student competition. Credit units: 2 ECTS Credit Units: 4, Prerequisite: LAW 101 and LAW 202 and LAW 206 and LAW 216 and LAW 303 and LAW 413 and (PHIL 243 or (ENG 241 and PHIL 241)) and (PHIL 244 or (ENG 242 and PHIL 242)). Spr (Staff)

LAW 450 Moot Court IV
International commercial arbitration, Convention on the International Sale of Goods (CISG), advocacy, student competition. Credit units: 2 ECTS Credit Units: 4, Prerequisite: LAW 101 and LAW 202 and LAW 206 and LAW 216 and LAW 303 and LAW 413 and (PHIL 243 or (ENG 241 and PHIL 241)) and (PHIL 244 or (ENG 242 and PHIL 242)). Spr (Staff)

LAW 451 Consumer Law
Economic impact of consumer law, consumer law in EU regulations, protection of consumer interest in The Law on the Protection of the Consumer, consumer contracts; particularly doorstep selling, installment sales, sales through campaigns, packet tours, distance contracts, consumer credits, standard terms in consumer contracts, deficiencies in goods acquired and services provided, right of withdrawal. Credit units: 2 ECTS Credit Units: 4, Prerequisite: LAW 309. Spr (A. L. Sirmen)

LAW 452 Legal Aspects of EU-Turkey Relations
Historical background to EU-Turkey relations, Ankara Agreement of 1964, institutions, Additional Protocol of 1973, decisions of the Association Council, decisions of the European Court of Justice, Turkish nationals, accession negotiations. Credit units: 2 ECTS Credit Units: 4, Prerequisite: LAW 101 and LAW 303.

LAW 453 Settlement of Energy Investment Disputes
LAW 467  International Family Law
Private international law, determination of applicable law, jurisdiction of Turkish courts, recognition and enforce-
ment of foreign judgments by Turkish courts, marriage, custody, maintenance, divorce, legal separation. Credit
units: 2 ECTS Credit Units: 4, Prerequisite: LAW 106 and LAW 304. Aut (G. Öçelik)

LAW 469  Humanitarian Law
The main concern of International Law has been the preservation of peace, yet instead of its abolition, it
succeeded in its containment. The International Humanitarian Law (ius ad bellum and ius in bello) evolved
through the ages, and in our day it sets out rules and regulations concerning the declaration of war, who and
what will be safeguarded during an armed conflict (war), or whether there are any arms, bombs,chemicals or
equipment which are prohibited from being employed during an armed conflict. This lex lata needs to be revisited,
before having a short glance at the new developments in International Humanitarian Law. The new developments
reshaping the International Humanitarian Law must be revisited during the course; the armed conflicts erupted in
the last quarter of the XX. Century led way to the improvement of the International Humanitarian Law (i.e. rules
on the protection of women or children at war), as well as to the creation of legal institutions (i.e. two ad hoc courts
of former Yugoslavia and Rwanda, permanent International Criminal Court and some peace building institutions
(like The Truth and Reconciliation Committee of South Africa), or the so-called hybrid courts established at some
countries (like that of Sierra Leone, Cambodia, Lebanon). Credit units: 2 ECTS Credit Units: 4, Prerequisite:
LAW 303. Aut (Ö. Sav)

LAW 501  Economic Analysis of Law
Economic analysis of law (or the doctrine of law and economics) is in today's world considered the most influential
thought in foreign legal systems. This course aims to introduce this legal thought to students and to explain
them how it is to be applied in some basic fields of Turkish Law. Economic analysis of law can be defined as
the application of economic theory (theories of behaviour) to the legal rules and institutions. In this context,
some basic terminology like rational choice theory, economic efficiency, social welfare and Coase theorem will
be explained in the first part of the course. In the second part, the method of economic analysis will be applied
in criminal law, laws of corporal property, contracts, consumer protection and main torts. The course language
is English. Credit units: 3 ECTS Credit Units: 7. Aut (F. Öğüz)

LAW 503  Economics of Competition
Competition law regulates the economic activities; but the operation of competition law has important differences
from what is traditionally called legal regulation or regulation. The regulation has a nature peculiar to industry.
Direct and regular determination of prices is related with product standards or barriers to entry to - exit from
the market. Competition law, on the other hand, has application that covers the whole economy. It focuses on
certain fundamental rules that aim good and efficient solutions for the society by enabling competitive interaction
among firms. Interventions of authorities and proceedings, which may come into question in case of violation
of these fundamental competition rules, are exceptional in nature. The main goal of this course is to introduce
the theoretical approaches and basic techniques of economic analysis to graduate students in Turkey, where
subjects of competition law and policy have developed parallel to the progressions in EU. The course language
is English. Credit units: 3 ECTS Credit Units: 7. Aut (H. B. Karabudak)

LAW 504  Competition Law
Basic concepts of competition law, anti-competitive agreements and concerted practices, abuse of the dominant
position, mergers and acquisitions; decisions of the Turkish Competition Board, Turkish Conseil d'Etat, European
Commission, European Court of Justice, US Supreme Court. Credit units: 3 ECTS Credit Units: 7. Spr (G.
Gürkaynak, O. B. Gürzumar)

LAW 505  Economic Regulation and Law
This course has four main parts: In the first part, information about basic pricing theory will be given and the
essential terminology that is going to be used in the other parts will be explained. In the second part, traditional
approaches in regulation law, which focus on the relationship between market defects and regulation, will come
into question. In the third part, it will be examined together with the results of positive regulation theory how the
relationship between regulation and politic processes forms the law of regulation. In the fourth part, the methods
of application of regulation in related markets will be analysed. The course language is English. Credit units: 3
ECTS Credit Units: 7. Aut (Ş. Ardiyok)

LAW 506  Energy Law and Policy
In this course, legal aspects of Electricity, Natural Gas, Petroleum and LPG services and activities as the main
research topics of the energy sector and the powers of Turkish Energy Market Regulatory Authority (EMRA) are
going to be studied. In this context, for each sector licence, tariff and monitoring mechanisms will be examined.
The differences between current legal statuses arose within new regulations and the previous regulations and
legal problems of the transition period going are to be assessed. Thereto relevant decisions of EMRA and current
situation of competition complications within the energy sector will be analysed from a legal perspective. Credit
units: 3 ECTS Credit Units: 7. Spr (Ş. Ardiyok, A. Bayraktar)
LAW 507  Public Economic Law
Characteristics and sources of public economic law; the law of the state intervention in the economy: fundamental principles of public economic law; public organisation in the economy area; public law framework of the market economy and the transition period from interventionist state to regulatory state; and privatisation of public economic enterprises, the legal mechanisms of public-private partnership in public services and the regulation of sectors. Credit units: 3 ECTS Credit Units: 7. Aut (T. Tan)

LAW 508  Telecommunications Law
This course is composed of two parts. Topics that are going to be studied in the first part are: (i) Basic terms and concepts of telecommunications, history of telecommunications law and economic substances of telecommunications regulations, (ii) Comparative study of European Union Communications Law and Turkish telecommunications regulations especially about access and interconnection, universal service obligations and privacy, (iii) Intercourse of telecommunications law and regulations with other codes and especially the competition law, (iv) Attitudes in Turkish and European Union regulations and basics of Turkish telecommunications regulation in the context of telecommunications law's future. In the second part, legal framework of access and interconnection arrangements is going to be examined. Credit units: 3 ECTS Credit Units: 7. Spr (H. B. Karabudak)

LAW 509  Term Project
Term project is a non-credit program activity stipulated by the Regulation for Graduate Education of the Council of Higher Education for the post-graduate programs with no thesis. The students are required to be successful at the term project in order to obtain the Diploma. Within this activity, the students should accomplish a research project, internship and a similar assignment under the supervision of an academic instructor and submit their projects in the form of a written report or a research document to the related academic instructor. Subject of the project: It should be related to one of the first-term courses. The project supervisor can be any of the academic instructors lecturing at the program. Credit units: None ECTS Credit Units: 10. Aut (Staff) Spr (Staff)

LAW 510  Banking Regulation Law
Banks have a major importance in the economics of a country. Fulfilling the functions of the banks, especially accepting small amounts of money for deposit and directing this source towards credits for the development of the country, is very crucial for economic welfare. Profitable functioning of banking services depends on the regulation of this sector by an independent regulatory agency. This task lies within the responsibility of Banking Regulation and Supervision Agency (BRSA) in Turkey. BRSA is an independent regulatory agency, of recent date, given extensive supervision powers of banking services performs its duties within the terms of Banking Law. Legal grounds of the powers of BRSA, how these powers should be exerted and their legal consequences are going to be examined in this course. Credit units: 3 ECTS Credit Units: 7. Spr (B. Şilt)

LAW 520  Capital Markets and Market Abuse
The concept of market, price formation mechanisms, market abuses: insider trading and manipulation, sanctions for abuses: criminal and legal liabilities, market oriented approach, regulation approach in the European Union. Credit units: 3 ECTS Credit Units: 7. Spr (M. Ç. Manavgat)

LAW 540  Real Estate Market Law
Rights the subject of which are real estate, the use of real estate as a finance instrument, real estate financing, lien and housing finance institutions and funds as providers of such, real estate investment companies and asset lease companies together with mortgage backed and guaranteed securities, lease and real estate certificates will be discussed in this course. Credit units: 3 ECTS Credit Units: 6. Spr (O. R. Güner)

LAW 544  The Legal Framework of Social Dialogue
Social dialogue, the "making" of EU Labour Law. The need for EU initiatives on social issues: European social dialogue: core concepts and mechanisms; structural and functional legal analysis. Rights to share information, to be consulted, to decide jointly, to produce joint opinions. Tripartite and bipartite platforms for dialogue. Credit units: 3 ECTS Credit Units: 6.

LAW 601  Civil Law (Real Securities)
General concept of real securities; particularly legal characteristics and types of real securities; namely pledge of movable property and mortgage on immovable property, creation and termination of pledge and mortgage, realization of pledge and mortgage, effective use of them in banking law. Credit units: 3 ECTS Credit Units: 7.

LAW 605  Constitutional Judiciary
Functions of constitutional review and its relation to democracy, status of constitutional courts in political systems, the problem of constitutional court as "political actor", the problem of judicial activism and judicial self-restraint, rigid constitutions, protection of legal and political system by the means of constitutional review. Credit units: 3 ECTS Credit Units: 7.
LAW 609  Criminal Law
Different aspects and current problems of criminal law will be elaborated in this course. Problems concerning sources and application of the criminal laws; current debates on the general theory of crime such as different opinions concerning actus reus, mens rea and defences, mistake and ignorance of the laws shall be covered.
Credit units: 3 ECTS Credit Units: 7.

LAW 610  ICSID Arbitration
Foreign direct investments, International Center for Settlement of Investment (ICSID) arbitration, additional facility rules, ICSID cases against Turkey, settlement of state-investor disputes, jurisdiction of ICSID, enforcement of ICSID arbitral awards, World Bank. Credit units: 3 ECTS Credit Units: 7.

LAW 612  Bound Enterprises Law (Company Groups Law)
Provisions of Turkish Commercial Code for group of companies, dominant and affiliated companies, legal independence-economic dependence, main concepts such as dominance, types and tools of dominance, contracts between group companies, special protection for shareholders within the provisions of Turkish Commercial Code for group of companies, supervision and disclosure requirements, liabilities specially designed for group of companies. Credit units: 3 ECTS Credit Units: 7. Spr (S. Z. Aytac)

LAW 615  Doctrine of Innominate Contracts
Freedom of contract and its limits, innominate contracts and mixed contracts; particularly the rules governing innominate contracts, filling the blanks in mixed and innominate contracts, multi-meaning provisions in contracts and especially in innominate contracts, type and the typological practice. Credit units: 3 ECTS Credit Units: 7. Aut (E. Kuntalp)

LAW 618  Social Law
Ph.D. seminar giving an overview of the background and sources of collective labour law and social policy, a brief history of collective labour law, emergence of traditional labour institutions trade unions, collective agreements, labour disputes, strikes, together with increase and decrease in density of union membership, economics and human rights perspectives on labour laws and emergence of new labour instruments, among which are social dialogue, participation, flexibility, new forms of employment contracts, job security. Credit units: 3 ECTS Credit Units: 7.

LAW 622  Preservation of Assets in Corporations
The reason for establishing a legal system to preserve the assets of joint-stock companies, special provisions in Turkish Commercial Code for preserving assets, the concepts of “capital” and “assets” in joint-stock companies and relationship between these two concepts, duty of implementing provisions specially designed to preserve assets and relevant liabilities. Credit units: 3 ECTS Credit Units: 7.

LAW 624  International Procedure
International Jurisdiction of state courts, The European Agreement concerning the International Carriage of Dangerous goods by Road (ADR), Arbitration, Recognition and Enforcement of arbitral awards, Subject matter jurisdiction of domestic courts in international disputes, exorbitant jurisdiction of the courts, annulment of arbitral awards. Credit units: 3 ECTS Credit Units: 7. Aut (B. Tiryakioğlu)

LAW 632  Legal Acts (Transactions) Theory
Formation, form and validity of legal acts, types of legal acts; particularly the contracts, rules governing contracts, formation and validity of contracts, legality and interpretation of the contracts. Credit units: 3 ECTS Credit Units: 7. Spr (A. L. Sirmen)

LAW 634  Methodology of Law and Research Methods
Materials and tools for legal studies, methods and principles on shaping ideas and writing papers, function of comparative law and methodological considerations, legal hermeneutic. Credit units: None ECTS Credit Units: 3. Aut (E. Göztepe Celebi)

LAW 680  Seminar on Current Issues in Private Law
Current issues and new developments in private law. The specific content determined by the instructors. Credit units: 3 ECTS Credit Units: 7. Spr (S. Gale Wintermuth)

LAW 681  Seminar on Selected Topics in Private Law
Material topics on various fields of private law. The specific content determined by the instructors. Credit units: 3 ECTS Credit Units: 7. Aut (H. P. Meidanis)

LAW 682  Seminar on Current Issues in Public Law
Current issues and new developments in public law. The specific content is determined by the instructors. Credit units: 3 ECTS Credit Units: 7. Spr (T. Tan)

LAW 683  Seminar on Selected Topics in Public Law
Material topics on various fields of public law. The specific content determined by the instructors. Credit units: 3 ECTS Credit Units: 7. Aut (O. B. Gürzum, Ş. B. Özçelik)

LAW 699  Ph.D. Dissertation
Credit units: None ECTS Credit Units: 160. Aut (Staff) Spr (Staff)
FACULTY OF MUSIC AND PERFORMING ARTS

Kağan Korad, Assoc. Dean

The Faculty of Music and Performing Arts comprises two academic departments:

- Music
- Performing Arts

Bilkent University Faculty of Music and Performing Arts was founded in 1986 as one of the first three faculties of the University. With the exception of the state conservatories, it is the first faculty in Turkey offering higher education in the fields of music and performing arts.

The Music Department of the Faculty offers training in most artistic fields, including composition, piano, string and wind instruments, as well as opera and rhythmic music. The Theater department offers programs in acting, directing and opera directing.

The Faculty aims to train artists who are creators, interpreters, educators and researchers in their respective fields, to take part in and contribute to international events and to provide an environment for creativity, interpretational excellence and research.

A pioneer in its work methods in Turkey, the Faculty of Music and Performing Arts is fast becoming an "International Art Center" with its programs ranging from preschool to proficiency in art (Doctor of Musical Arts) and its professional ensembles and artistic organizations. Among some activities of the Faculty are the Early Music Training Program, Music Preparatory Primary and High Schools, the Bilkent Youth Symphony Orchestra, Bilkent Youth Choir, the Bilkent Youth Theater, the Bilkent Symphony Orchestra and the Bilkent International Anatolian Music Festival.

The public and universal identity of art necessitates the early and dynamic integration of art education with the society and the international art world. Aiding the appreciation of music in Turkey and actively participating and contributing to the artistic world nationally and internationally, are among the primary objectives of the Faculty.

ACADEMIC STAFF

Feruza Abdullaeva, Instructor

Seyran Ahundzade, Instructor

Selen Akçora, Instructor
M.A., Clarinet, Bilkent University, 1998. Member, BSO.

Ece Akyol, Instructor
M.A., Viola, Bilkent University, 2009. Member, BSO.

Selçuk Akyol, Instructor

Davut Ali, Instructor
B.A., Violin, Erivan State Conservatory, 1985. Member, BSO.

Güloya Altay, Instructor
M.Mus., Horn, Johannes Gutenberg University, 2012.

Yiğit Aydın, Instructor
M.M., Composition and Conducting, Hacettepe University, 2000.

Ebru Naile Akyal, Instructor
M.A., Flute, Bilkent University, 1998. Member, BSO.

Gürer Akyal, Adjunct Professor
Adelya Azikeyeva Atesoglu, Instructor
B.A., Violin, Tashkent State Conservatory, 1999. Member, BSO.

Adilhoca Aziz, Instructor
B.A., Violin, Tashkent State Conservatory, 1978. Member, BSO.

Guluiara Aziz, Instructor

Adil Babakan, Instructor

Rasim Bagirov, Instructor
B.A., Violin, Azerbaijan State Conservatory, 1977. Member, BSO.

Suzana Bezhan, Instructor

Cavid Cafer, Instructor

Nezihe Nil Cetiz, Instructor
M.A., Violin, Bilkent University, 2004. Member, BSO.

Sureyya Defne, Instructor
M.A., Violin, Bilkent University, 1995. Member BSO.

Eda Delikci, Instructor
M.A., Violin, Bilkent University, 2007. Member, BSO.

Verda Demirel, Instructor
M.A., Violoncello, Bilkent University, 1998. Member, BSO.

Elif Enacar Baykal, Instructor
M.M., Chamber Music, Bilkent University, 1995.

Ozan Evruk, Instructor
M.A., Royal Northern College of Music, 2008. Member, BSO.

Shalva Gagua, Instructor

Dritan Gani, Instructor
B.A., Double Bass, State Academy of Fine Arts, Tirana, 1989. Member, BSO.

Nermina Ganieva, Instructor

Toqroul Ganioglu, Instructor

Salim Gayibi, Instructor
M.A., Aspirantura, Violoncello, Azerbaijan State Conservatory, 1980. Member, BSO.

Elez Gnezdilova, Instructor
M.A., Violin, Bilkent University, 1997. Member, BSO.

Marina Agapova Gormusoglu, Instructor
M.A., Violin, Bilkent University, 1997. Member, BSO.

Ferhat Gulmehmet, Instructor
B.A., Violin, Leningrad State Conservatory, 1970. Member, BSO.

Cem Gungor, Instructor
B.A., Trombone, Hacettepe University, 2002. Principle Trombone BSO.

Laszlo Gyarmati, Instructor
M.A., Horn, Ferenc Teacher Training School, Debrecen, 1993. Member, BSO.

Hasan Erim Hacat, Instructor (on leave)
B.A., French Horn, Hacettepe University, 2011. Member, BSO.
Sema Celil Hakioğlu, Instructor
M.A., Viola, Bilkent University, 1998. Member, BSO.

Jason Edward Hale, Visiting Assistant Professor
M.A., Directing, Antioch University, 2010.

Hajredin Hoxha, Instructor

Nusret İspir, Instructor
M.M., Clarinet, Conservatoire Régional de Musique de Rouen, 1996. Principle Clarinet, BSO.

Gamze Körtö, Instructor

Krassimir Koniarov, Instructor
B.A., Trumpet, State Academy of Music, Sofia, 1990. Member, BSO.

Kağan Korad, Associate Professor

Peter Körner, Instructor
D.M.A., Konzertexamen - Doctor Arbeit, Trombone, Hochschule für Musik, München, 2002. Member, BSO.

Albena Krumova Sezer, Instructor
M.A., Flute, Sofia State Music Academy, 1995. Principle Flute BSO.

Vseslava Kudinova, Instructor
M.A., Violin, Bilkent University, 2007. Member, BSO.

Bahar Kutay, Instructor
M.A., Violin, Bilkent University, 1995. Member, BSO.

Julian Lupu, Instructor

Violeta E. Lupu, Instructor

Sergei Margulis, Instructor

Aydın Mecid, Instructor
M.A., Percussion, Bilkent University, 2009. Member, BSO.

Alexey Medvedev, Instructor
B.A., Trombone, Moscow “Tchaikovsky” State Conservatory, 1990. Member, BSO.

İşad Mehmet, Instructor
B.A., Viola, Azerbaijan State Conservatory, 1981. Member, BSO.

İşın Metin, Assistant Professor
D.M.A., Proficiency in Art, Composition, Bilkent University, 2000.

Arif Məhsünoglu, Instructor
M.A., Violin, Azerbaijan State Conservatory, 1984. Member, BSO.

Noriyoshi Murakami, Instructor
D.M.A., Tuba, Hochschule für Musik und Theater Hannover, 2008

İrina Nikotina, Instructor
M.A., Aspirantura, Violin, Moscow Tchaikovsky State Conservatory, 1986. Member, BSO.

Maria Nowotna, Instructor

Burak Noyan, Instructor
M.A., Proficiency in Art, Double Bass, Bilkent University, 2013. Member, BSO.
İskander Okeev, Instructor  

Elif Onay, Instructor  
M.A., Viola, Bilkent University, 2009. Member, BSO.

Ersin Onay, Professor  

Gülsin Onay, Artist in Residence  
D.M.A., “Diplome Superieur Concertiste de Musique” Ecole Normale de Musique de Paris “Alfred Cortot”.

Elena Postnova, Instructor  
M.A., Proficiency in Art, Violin, Bilkent University, 1998. Member, BSO.

Artur Rahmatulla, Instructor  
M.A., Violoncello, Moscow “Tchaikovsky” State Conservatory, 1982. Member, BSO.

Sardor Rasul, Instructor  
M.A., Violoncello, Moscow “Tchaikovsky” State Conservatory, 1982. Member, BSO.

Ulughbek Rishi, Instructor  
B.A., Viola, Tashkent State Conservatory, 1985. Member, BSO.

Elena Rykhsiyeva, Instructor  
B.A., Violin, Tashkent State Conservatory, 1986. Member, BSO.

Barış Simolin, Instructor  
B.A., Viola, Tashkent State Conservatory, 1973. Member, BSO.

Svetlana Smolin, Instructor  
B.A., Viola, Tashkent State Conservatory, 1986. Member, BSO.

Ezgi Tandoğan, Instructor  
M.A., Bassoon, Academy of Music Hanns Eisler, 2012. Member, BSO.

Viktoriya Tokdemir, Instructor  

Zurab Tsitsuashvili, Instructor  
M.A. Double Bass, Tbilisi State Conservatory, 1993. Member, BSO.

Muhammedjan Turdiev, Instructor  

Onur Türkmen, Assistant Professor  

Yiğit Ulgen, Instructor  
M.A., Proficiency in Art, Violoncello, Bilkent University, 1999. Member, BSO.

Leonid Volkov, Instructor  
M.A., Clarinet, Moscow “Tchaikovsky” State Conservatory, 1993. Member, BSO.

Tahsin Tolga Yayalı, Assistant Professor  
Ph.D., Composition, Harvard University, 2010.

Refik Zamanalıoğlu, Instructor  
B.A., Violin, Azerbaijan State Conservatory, 1977. Member, BSO.

Zita Zempleni, Instructor  

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**VOCASTIONAL SPECIALISTS**

Leonard Chelov  

Miho Murakami  
PART-TIME ACADEMIC STAFF

Deniz Atlı, M.A., Faculty of Art Design and Environmental Design, Lighting Designing, Bilkent University, 2000.


Gökçüçek Cihan, B.M., Piano, Hacettepe University, 1996.


Fatma Neslihan Ekmeckioğlu, Ph.D., English Language and Literature, Hacettepe University, 1993.


Anıl Gelenler, B.M., Guitar, Bilkent University, 2003.


Rafet Onur Kirdar, M.M., Chours, Gazi University Institute of Educational Sciences, 2013.


Hazar Kımürüçü, B.M., Piano, Bilkent University, 2011.


Erdal Küçükkomürcü, B.A., Acting, Hacettepe University, 1980.


Zeynep Ekin Öner, M.A., Acting, Hacettepe University, 2002.


Hande Uçar, B.M., Piano, Bilkent University, 2011.


İlham Yazar, B.A., Acting, Hacettepe University, 1989.

Ece Merve Yüceer, B.M., Composition, Bilkent University, 2012.
DEPARTMENT OF MUSIC


The Faculty's departments are today internationally renowned for their excellence in education, international artistic ensembles and activities. Since its founding the main objective has been to train artists, educators and researchers with high creative and interpretative skills in various fields of music.

In addition to the undergraduate and graduate programs, preparatory primary and high schools for music were also founded with the aim of starting music education at the earliest possible age. In order to expand music education to everyone, regardless of age and profession, programs such as the Early Music Training Program for children and “Part-time Music Education” have been ongoing since its founding. Graduate programs cover studies in “music performance and interpretation” in all majors, “music theory” and “music composition”.

The Music Department offers Bachelor of Music-B.M., Master of Music-M.M., Doctor of Philosophy in Music-Ph.D. degrees in the following programs and fields;

Theory and Composition Option - B.M., M.M., Ph.D.
Music Theory, Composition.

Instrument Option - B.M., M.M., Ph.D.
Piano, Classical Guitar, Percussion,
Violin, Viola, Violoncello, Double Bass,
Flute, Oboe, Clarinet, Bassoon, Horn, Trumpet, Trombone, Tuba.

Singing Option - B.M., M.M.

Amongst numerous artistic activities of the faculty are the “International Chopin Piano Competition” 1999 and the “International Theater Meeting” 1998. Since 2001, the students of the music department won many prizes in national and international competitions including “Sarasate”, “Palmerès du 30”. Concours International de Musique et d’Art Sonore Electroacoustiques”, IBLA. In 2003, the Bilkent Youth Choir won a gold medal in the 21st International Preveze Choir Contest and achieved the runner-up position in the 33rd Florilège Vocal de Tours 2004 competition in France. The Bilkent Youth Symphony Orchestra has partnered with international ensembles such as World Youth Orchestra, the Greek-Turkish Youth Orchestra and has participated in festivals such as the Young Euro Classic.
Bilkent Symphony Orchestra

The Bilkent Symphony Orchestra was founded in September 1993 as an original artistic project of the Bilkent University. Developed by the Faculty of Music and Performing Arts, the orchestra is composed of experienced artists from various countries as well as Turkish and foreign young artists, who continue their graduate studies at the Institute. With these characteristics the Bilkent Symphony Orchestra, is the first private, academic and international artistic group in Turkey.

Starting as a "Sinfonietta" the Symphonic orchestra now has the identity of an "Ensemble of Orchestras" comprising the "Bilkent Chamber Orchestra" and an "Ensemble of String Instruments". With an average of 50 events each season and the participation of Turkish and foreign conductors, soloists and choirs, the ensemble of Orchestras has distinguished itself through the recording, television and radio broadcasting of its numerous performances. Through events such as "Bilkent Concert Series", "Turkish Composers Week", "Education Concerts" and "The Bilkent Anatolia Music Festival", the orchestra aims to bring a wide range of activities to large audiences; to spread the appreciation of music at the national level through its tours; to undertake international activities and develop cooperation with institutions abroad organizing such events; and to form a bridge of artistic communication with other countries.

Along these objectives the orchestra has toured to Italy, Germany, Belgium, Portugal, Switzerland and Japan. The orchestra has recorded over 40 CDs with labels such as BMP, NAXOS and EMI.

UNDERGRADUATE PROGRAMS

COMPOSITION OPTION

**FIRST YEAR**

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<tr>
<th>Autumn Semester</th>
<th>Credits / ECTS Credits</th>
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<tr>
<td>ENG 101</td>
<td>English and Composition I</td>
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<tr>
<td>GE 100</td>
<td>Orientation</td>
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<td>MSC 101</td>
<td>Department Seminar I</td>
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<tr>
<td>MSC 111</td>
<td>Composition I</td>
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<tr>
<td>MSC 113</td>
<td>Orchestration I</td>
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<tr>
<td>MSC 171</td>
<td>Techniques and Materials of Tonal Music I</td>
</tr>
<tr>
<td>MSC 173</td>
<td>History of Western Music I</td>
</tr>
<tr>
<td>MSC 181</td>
<td>Ear Training I</td>
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<tr>
<td>MSC 183</td>
<td>Keyboard Skills I</td>
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<th>Spring Semester</th>
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<td>ENG 102</td>
<td>English and Composition II</td>
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<td>Concert/Recital I</td>
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<td>MSC 102</td>
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<td>Orchestration II</td>
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<td>MSC 172</td>
<td>Techniques and Materials of Tonal Music II</td>
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<td>MSC 174</td>
<td>History of Western Music II</td>
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<td>MSC 182</td>
<td>Ear Training II</td>
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<td>MSC 184</td>
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**SECOND YEAR**

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## THIRD YEAR

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**Spring Semester**  
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<td>MSC 304</td>
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## FOURTH YEAR

**Autumn Semester**  
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**Spring Semester**  
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<td>MSC 432</td>
<td>Instrument VIII</td>
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MINOR PROGRAM

The program is designed to offer a single track combining applied training and studies in music. Applied courses consist of individual studies on instrument performance and stage performance practices. These courses are carried out one on one with FMPA faculty and artists. Skills to be acquired and experience to be gained from applied courses are expected to be of influence on personal development of students in other areas as well. Potential of musical development of each student sets the standard for each course. Courses on music studies subjects are also offered to supplement the applied courses and to offer scholarly knowledge on the science of music. Applied courses are scheduled with the instructor to suit the availabilities of each student. Other courses are taken together with Music major students.

Prerequisite Courses: None

CURRICULUM

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<thead>
<tr>
<th>Courses</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
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<td>Elective Language</td>
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GRADUATE PROGRAM

The aim of the graduate program is to train professional artists in the areas of performance, creativity and research. Students have the opportunity to study and develop under the guidance of internationally renowned artists at the Faculty, and to display their development professionally through presentations, recitals, concerts as well as live and studio recordings. Music Performance and Interpretation majors are invited for selected events to perform with the Bilkent Symphony Orchestra and Composition majors works are widely presented by the Faculties professional ensembles. These public appearances and recordings are organized by the Faculty of Music and Performing Arts to equip the student with advanced professional experience, thereby widening their horizons in the artistic world. Ph.D. candidates are offered a program that emphasizes research in addition to music performance and creation.

The graduate program offers the following degrees in various fields and majors. Courses and requirements are also listed below. (Also refer to the "Graduate Admissions" section in the introduction of this catalog for the general graduate admission requirements.)

Admission requirements common to programs include a Bachelor's degree (non-music majors accepted) with a standing of 3.00 CGPA for scholarship applicants. English Language Proficiency, Reference letters, Admission Interview, Admission Recital, Composition or Theory Portfolio Review, Music Theory and History Assessment.

Master of Music in Music Performance and Interpretation (M.M.)

Program offers a single track curriculum comprising major fields in; Flute, Oboe, Clarinet, Bassoon, Horn, Trumpet, Trombone, Tuba, Percussion, Harp, Piano, Classical Guitar, Violin, Viola, Violoncello, Double-bass, Operatic Voice and Chamber Music.
CURRICULUM

Courses

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<td>Non-Departmental Elective</td>
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Degree Requirements

Standing : 3.00 CGPA

Requirement : Minimum grade of "B" from MSG 541 or MSG 527 and MSG 741 or MSG 745 jury assessed lecture-concert performance and recording.

Thesis : Not applicable.

Doctor of Philosophy in Music (Ph.D.)

Program offers tracks in:

- Music Composition
- Music Theory
- Music Performance and Interpretation in; Conducting, Flute, Oboe, Clarinet, Bassoon, Horn, Trumpet, Trombone, Tuba, Percussion, Harp, Piano, Classical Guitar, Violin, Viola, Violoncello, Double-bass, Operatic Voice, Chamber Music.

The Composition track and the Music Theory track do not comprise pre-determined fields or areas. Ph.D. thesis of each student determines area of study and research. Music Performance and Interpretation track research requirement or thesis does not need to possess direct correspondence with the candidate’s field or major.

CURRICULUM FOR ADMISSION WITH A BACHELORS DEGREE

Courses

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CURRICULUM FOR ADMISSION WITH A MASTERS DEGREE

Courses

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Degree Requirements

Standing : 3.00 CGPA

Requirements : Minimum grade of "A" from MSG 541 or MSG 527 and MSG 741 or MSG 745 jury assessed lecture-concert performance and recording.

Proficiency examination.

Dissertation proposal evaluation.
Publication: The Journal must be listed, as of the submission date of the article in the Institute for Scientific Information's (ISI) Science Citation Index, Social Science Citation Index and Arts & Humanities Citation Index, or in the department's journal list.


GROUP I RESTRICTED ELECTIVES

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<td>Music Composition</td>
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<td>MSG 515</td>
<td>Music Theory</td>
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<td>Tonal Music Topics and Analysis</td>
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<td>MSG 521</td>
<td>Masters Lecture Recital</td>
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<td>MSG 525</td>
<td>Bilkent Ensembles</td>
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<td>MSG 527</td>
<td>Masters Theory Presentation</td>
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<td>MSG 530</td>
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<td>MSG 531</td>
<td>Music Performance and Interpretation</td>
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<td>MSG 537</td>
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<td>MSG 541</td>
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DEPARTMENT ELECTIVES

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<td>MSG 806</td>
<td>Introduction to Schenkerian Analysis</td>
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<td>Theoretical Studies in Post Tonal Music</td>
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<td>MSG 810</td>
<td>Perspectives in Musical Analysis</td>
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<tr>
<td>MSG 842</td>
<td>The West and The Rest</td>
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Graduate Elective: Any 5xx coded Bilkent course with 3 credits.
MSC 100  Concert/Recital I

MSC 101  Department Seminar I
Organized with the contribution of faculty, guest speakers to aid students in developing skills on verbalizing music, following current trends in composition, learning to approach music from different perspectives, getting to meet living composers and hear them talk about their own music. Credit units: None ECTS Credit Units: 1. Aut (Staff) Spr (S. Akçora, B. Kutay)

MSC 102  Department Seminar II
Credit units: None ECTS Credit Units: 1, Prerequisite: MSC 101. Aut (Staff) Spr (S. Akçora, G. Kört, K. Korad, B. Kutay, G. Şekeranber, T. T. Yayalar)

MSC 103  Orchestra/Chorus/Ensemble I
Compulsory performance course for all undergraduate students. Bilkent Youth Symphony Orchestra for instrument performance majors. Chorus for voice, composition and piano majors. Youth ensemble open to all majors and possibly offered on event project basis. Western classical music repertoire from Baroque to contemporary. Credit units: 2 ECTS Credit Units: 4. Aut (I. Metin) Spr (I. Metin)

MSC 104  Orchestra/Chorus/Ensemble II
Compulsory performance course for all undergraduate students. Bilkent Youth Symphony Orchestra for instrument performance majors. Chorus for voice, composition and piano majors. Youth ensemble open to all majors and possibly offered on event project basis. Western classical music repertoire from Baroque to contemporary. Credit units: 2 ECTS Credit Units: 4, Prerequisite: MSC 103. Aut (I. Metin) Spr (O. Türkmen, T. T. Yayalar)

MSC 111  Composition I
Introduction to composition. Single musical idea applications for choices of solo instruments. Composition dossier consisting of pieces with total duration no less than 5 minutes. Students expected to analyze their works before a jury at the final examination. Credit units: 5 ECTS Credit Units: 9. Aut (I. Metin, O. Türkmen, T. T. Yayalar)

MSC 112  Composition II
Compositions for small-scale chamber music ensembles such as duos or trios. Introduction to composing contrasting material from single musical ideas. Dossier of pieces with total duration no less than 5 minutes. Students are expected to analyze their works before a jury at the final examination. Credit units: 5 ECTS Credit Units: 9, Prerequisite: MSC 111. Spr (I. Metin, O. Türkmen, T. T. Yayalar)

MSC 113  Orchestration I
The orchestra, its history and structure. Divisions and subdivisions of orchestral instruments. Basic acoustic principles. Basic characteristics of strings, woodwind, brass and percussion. Playing techniques of the strings. Part writing for string instruments. Strings as ensemble and arranging music for it. Arranging piano music for the strings. Credit units: 4 ECTS Credit Units: 8, Prerequisite: MSC 111. Spr (Y. Aydınl)

MSC 114  Orchestration II
Playing techniques of the woodwind. Single woodwind instruments. Part writing for woodwind instruments. Woodwind as ensemble. Arranging piano music for the woodwind. Similar topics for the brass. Credit units: 4 ECTS Credit Units: 8, Prerequisite: MSC 113. Spr (Y. Aydınl)

MSC 131  Instrument I
Basic principles of professional interpretation through the establishment of professional study techniques. Selected repertoire listing to be performed progressively throughout the semester. Credit units: 5 ECTS Credit Units: 12. Aut (G. Aziz, E. Deliç, T. Ganoğlu, A. Gelenler) Spr (G. Aziz, O. Evruk, T. Ganoğlu, J. Lupu, C. Önerürk)

MSC 132  Instrument II
The continuation of further studies on a new repertoire with the aim to achieve the artistic-technical goals presented in MUSS 101. Credit units: 5 ECTS Credit Units: 12, Prerequisite: MSC 131. Aut (P. Körner, C. Önerürk) Spr (A. Aziz, E. Deliç, O. Evruk, T. Ganoğlu, Z. M. Gökçü, K. Korad, G. Şekeranber)

MSC 133  Chamber Music I
Score analysis, discussion and study of various composers’ principal chamber works. Comparison of formal characteristics, scoring, and compositional practices. Performance of the repertoire consisting of baroque to pre-classic era with particular emphasis on the works of Boccherini, Hummel and Stamitz with various chamber ensembles consisting of various instruments. Credit units: 3 ECTS Credit Units: 6. Aut (Staff) Spr (Staff)
MSC 134 Chamber Music II
Analysis and application of the interpretative styles of the selected repertoire. Practices on the selected repertoire towards achieving unity and balance in performance. Pre-classic to classic repertoire consisting mainly of Haydn's early quartets, trios and Beethoven's duo and trios. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MSC 133. Aut (Staff) Spr (A. Gelenler, B. Hoinic, G. Körtö, Y. Ulgen)

MSC 151 Singing Voice I
Credit units: 5 ECTS Credit Units: 12. Aut (G. Şekeranber)

MSC 152 Singing Voice II
Credit units: 5 ECTS Credit Units: 12, Prerequisite: MSC 151. Spr (G. Şekeranber)

MSC 171 Techniques and Materials of Tonal Music I

MSC 172 Techniques and Materials of Tonal Music II

MSC 173 History of Western Music I

MSC 174 History of Western Music II

MSC 181 Ear Training I

MSC 182 Ear Training II

MSC 183 Keyboard Skills I
Basic to intermediate skills of piano playing. Piano as an auxiliary instrument. Sight reading at the piano. Basic methods of realization as defined by O. Gartenlaub. Selected repertoire listing to be performed progressively throughout the semesters. Credit units: 2 ECTS Credit Units: 3. Aut (N. Bağırov)

MSC 184 Keyboard Skills II
Further study to enhance the skills gained in MUSS 251 on a new repertoire. Credit units: 2 ECTS Credit Units: 3, Prerequisite: MSC 183. Spr (N. Bağırov)

MSC 200 Concert/Recital II

MSC 201 Department Seminar III
Credit units: None ECTS Credit Units: 1, Prerequisite: MSC 102. Aut (Staff) Spr (S. Akçora, G. Şekeranber)

MSC 202 Department Seminar IV
Credit units: None ECTS Credit Units: 1, Prerequisite: MSC 201. Aut (Staff) Spr (B. Kutay, G. Şekeranber)
MSC 203  Orchestra/Chorus/Ensemble III
Compulsory performance course for all undergraduate students. Bilkent Youth Symphony Orchestra for instrument performance majors. Chorus for voice, composition and piano majors. Youth ensemble open to all majors and possibly offered on event project basis. Western classical music repertoire from Baroque to contemporary. 
Credit units: 2 ECTS Credit Units: 4. Prerequisite: MSC 203. Aut (I. Metin) Spr (R. O. Kirdar, I. Metin)

MSC 204  Orchestra/Chorus/Ensemble IV
Compulsory performance course for all undergraduate students. Bilkent Youth Symphony Orchestra for instrument performance majors. Chorus for voice, composition and piano majors. Youth ensemble open to all majors and possibly offered on event project basis. Western classical music repertoire from Baroque to contemporary. 
Credit units: 2 ECTS Credit Units: 4. Prerequisite: MSC 203. Aut (I. Metin) Spr (R. O. Kirdar, I. Metin)

MSC 211  Composition III
Composition for small-scale chamber music ensembles such as quartets. Analysis of similar structures from a broad chronology corresponding with own work. Dossier including completed works of contrasting and related musical ideas with total duration no less than 7 minutes. Students expected to defend their works at the final jury in terms of intellectual approach, composition technique, orchestration, style, form and related criteria. 
Credit units: 5 ECTS Credit Units: 9. Prerequisite: MSC 112. Aut (I. Metin, T. T. Yayalar)

MSC 212  Composition IV
Composition for large-scale chamber music ensembles of at least five musicians. Dossier including completed works of at least one single movement with total duration no less than 10 minutes. Students are expected to defend their works at the final jury in terms of intellectual approach, composition technique, orchestration, style, form and related criteria. 
Credit units: 5 ECTS Credit Units: 9. Prerequisite: MSC 211.

MSC 213  Orchestration III
Percussion instruments of definite and indefinite pitch. Other criteria for classification. Further equipment for the percussion, the act of sound production, set-ups. Timpani and some other single percussion instruments. Part writing for single percussion instruments and in groups. Percussion in orchestral context. Piano, harp, celesta, and their usage in the orchestra. Part writing for the harp. Scoring for ensembles of various instrumental groupings and for sections of the orchestra in combination. 
Credit units: 2 ECTS Credit Units: 4. Prerequisite: MSC 114. Aut (Y. Aydin)

MSC 214  Orchestration IV
Scoring for full orchestra. Characteristics of double and triple orchestra, their use and effect. Special orchestral devices. Transcribing piano music for the orchestra. The analysis of orchestration and different texture types. 
Credit units: 2 ECTS Credit Units: 4. Prerequisite: MSC 213.

MSC 231  Instrument III
Focusing on musicality and mechanical facilities. Comprehension of compositional procedures. Selected repertoire listing to be performed progressively throughout the semester. Part writing for single percussion instruments and in groups. Percussion in orchestral context. Piano, harp, celesta, and their usage in the orchestra. Part writing for the harp. Scoring for ensembles of various instrumental groupings and for sections of the orchestra in combination. 
Credit units: 5 ECTS Credit Units: 12. Prerequisite: MSC 132. Aut (A. Aziz, O. Evruk, K. Korad) Spr (P. Körner, C. Öñertürk)

MSC 232  Instrument IV
The continuation of further studies on a new repertoire with the aim to achieve the artistic-technical goals presented in MUSS 103. Credit units: 5 ECTS Credit Units: 12. Prerequisite: MSC 231. Aut (A. Aziz, O. Evruk, T. Ganioglu) Spr (A. Aziz, G. Aziz, O. Evruk)

MSC 233  Chamber Music III
Performance of the classic era repertoire consisting of works by Beethoven, Mozart and Schubert. Group study on the pieces towards achieving professionalism in the technique of ensemble playing. 
Credit units: 3 ECTS Credit Units: 6. Prerequisite: MSC 134. Aut (Staff) Spr (O. Evruk, B. Kütay, N. Murakami, C. Öñertürk)

MSC 234  Chamber Music IV
Performance of the classic era repertoire consisting of works by Schubert and Beethoven. Group study on the pieces towards achieving brilliance in balance and unity of the ensemble. 
Credit units: 3 ECTS Credit Units: 6. Prerequisite: MSC 233. Aut (Staff) Spr (O. Evruk, B. Hoinic)

MSC 251  Singing Voice III
Credit units: 5 ECTS Credit Units: 12. Prerequisite: MSC 152. Aut (Z. M. Gökkoğlu, G. Şekeranber, A. Uştuk)

MSC 252  Singing Voice IV
Credit units: 5 ECTS Credit Units: 12. Prerequisite: MSC 251. Aut (Z. M. Gökkoğlu, G. Şekeranber, A. Uştuk)

MSC 253  Opera Studies I
Major works of opera repertoire performed in collaboration with Bilkent Youth Symphony Orchestra. Credit units: 1 ECTS Credit Units: 3. Aut (G. Çeliktaş)
MSC 254  Opera Studies II
Cornerstone works of opera repertoire are performed in collaboration with Bilkent Youth Symphony Orchestra.  
Credit units: 1 ECTS Credit Units: 3, Prerequisite: MSC 253.  
Spr (G. Çeliktas)

MSC 271  Techniques and Materials of Tonal Music III
Credit units: 3 ECTS Credit Units: 7, Prerequisite: MSC 172.  
Aut (Y. Aydin)

MSC 272  Techniques and Materials of Tonal Music IV
Form and analysis. Some contrapuntal forms and the fugue. Formal elements in the instrumental music of the classical era. Tight-knit themes, looser formal regions, full-movement forms such as sonata form, slow-movement forms, minuet/trio form, rondo forms, and concerto form. Some vocal forms and the lied. Ostinato forms, variations, suite.  
Credit units: 3 ECTS Credit Units: 7, Prerequisite: MSC 271.  
Spr (Y. Aydin)

MSC 273  History of Western Music III
Credit units: 3 ECTS Credit Units: 4, Prerequisite: MSC 174.  
Aut (O. Türkmen)

MSC 274  History of Western Music IV
Credit units: 3 ECTS Credit Units: 4, Prerequisite: MSC 273.  
Spr (O. Türkmen)

MSC 281  Ear Training III
Altered chords and chromaticism. Diatonic and chromatic modulation to relative and remote keys. Developing reading skills. Mixed clefs.  
Credit units: 3 ECTS Credit Units: 6, Prerequisite: MSC 182.  
Aut (M. Nowotna)

MSC 282  Ear Training IV
Advanced dictation exercises. Advanced ear training for chromatic harmony and polyphony. Advanced reading skills.  
Credit units: 3 ECTS Credit Units: 6, Prerequisite: MSC 281.  
Spr (M. Nowotna)

MSC 283  Keyboard Skills III
Progress of the skills acquired in the previous year. Progress of technique. The use of piano as an auxiliary instrument. Selected repertoire listing to be performed progressively throughout the semester.  
Credit units: 2 ECTS Credit Units: 3, Prerequisite: MSC 184.  
Aut (N. Bağırov)

MSC 284  Keyboard Skills IV
Basic to intermediate skills of piano playing. Piano as an auxiliary instrument. Sight reading at the piano. Basic methods of realization as defined by O. Gartenlaub. Selected repertoire listing to be performed progressively throughout the semesters.  
Credit units: 2 ECTS Credit Units: 3, Prerequisite: MSC 283.  
Aut (N. Bağırov)  
Spr (N. Bağırov)

MSC 300  Concert/Recital III
Credit units: None ECTS Credit Units: 3, Prerequisite: MSC 200.  
Aut (G. Aziz, D. Gani, Z. M. Gökkoğlu)  

MSC 301  Department Seminar V
Credit units: None ECTS Credit Units: 1, Prerequisite: MSC 202.  
Aut (Staff)  
Spr (O. Evruk, Z. M. Gökkoğlu, B. Kutay)

MSC 302  Department Seminar VI
Credit units: None ECTS Credit Units: 1, Prerequisite: MSC 301.  
Aut (Staff)  
Spr (G. Kiril, K. Korad)

MSC 303  Orchestra/Chorus/Ensemble V
Compulsory performance course for all undergraduate students. Bilkent Youth Symphony Orchestra for instrument performance majors. Chorus for voice, composition and piano majors. Youth ensemble open to all majors and possibly offered on event project basis. Western classical music repertoire from Baroque to contemporary.  
Credit units: 2 ECTS Credit Units: 4, Prerequisite: MSC 204.  
Aut (I. Metin)  
Spr (R. O. Kirdar, I. Metin)

MSC 304  Orchestra/Chorus/Ensemble VI
Compulsory performance course for all undergraduate students. Bilkent Youth Symphony Orchestra for instrument performance majors. Chorus for voice, composition and piano majors. Youth ensemble open to all majors and possibly offered on event project basis. Western classical music repertoire from Baroque to contemporary.  
Credit units: 2 ECTS Credit Units: 4, Prerequisite: MSC 303.  
Aut (I. Metin)  
Spr (R. O. Kirdar, I. Metin)
MSC 311  Composition V  
Vocal music composition and/or large chamber music ensemble consisting of at least eight musicians. Analysis of similar structures from a broad chronology corresponding with own work as well as current trends in composition. Dossier including completed work(s) with total duration no less than 15 minutes. Students are expected to defend their works at the final jury in terms of intellectual approach, composition technique, orchestration, style, form and related criteria.  
Credit units: 5 ECTS  
MSC 312  Composition VI  
As the core of composition studies in general becomes apparent at this stage, composition for large-scale music ensembles with an emphasis on achieving own original musical language is expected. Dossier including completed work(s) promising genuine original musical language with total duration no less than 15 minutes. Students are expected to defend their works at the final jury in terms of intellectual approach, composition technique, orchestration, style, form and related criteria as well as own musical language.  
Credit units: 9, Prerequisite: MSC 311.

MSC 315  Score Reading I  
Introduction to score notation and its realization. Ancient clefs. Transposition. Realization of two part music with ancient clefs and transposing instruments. Musical texture. Sight reading music with more than two parts. Realization of easy to moderate difficulty scores with three and four parts with ancient clefs and transposing instruments where only up to two different transposing instruments co-exist. Realization of simple chamber music scores up to four parts.  
Credit units: 3 ECTS  
MSC 316  Score Reading II  
Identifying musical lines in scores with various textures. Realization of music with four parts with crossing parts. Extended sight reading of repertoire examples up to moderate difficulty with five parts. Sight reading of multiple transposing instruments. Examples from brass and wind parts from late romantic works where at least three different transposing instruments co-exist. Transferring string ensemble textures to keyboard. Realization of scores with strings and up to two transposing parts.  
Credit units: 3 ECTS

MSC 321  Polyphony and Fugue  
Contrapuntal practices of the Baroque era, with special emphasis on imitation techniques and the "Art of Fugue". The style of J. S. Bach, his predecessors, contemporaries, and followers. Regular assignments, including composition exercises, as well as the analysis of short compositions in the related styles are compulsory.  
Credit units: 3 ECTS  
MSC 322  Post - Tonal Music I  
In-depth survey of compositional styles and techniques of the first half of the 20th century. Traditional pitch-centered analysis, including set theory, as well as approaches focusing on rhythm, timbre, texture, and other elements. Concepts developed through intensive analysis and model compositions.  
Credit units: 2 ECTS

MSC 323  Form and Analysis I  
Credit units: 3 ECTS  
MSC 324  Form and Analysis II  
Credit units: 3 ECTS

MSC 326  Conducting I  
Credit units: 4, Aut (I. Metin)  
MSC 331  Instrument V  
High level of musicality and technique in interpretation. Selected repertoire listing to be performed progressively throughout the semester.  
Credit units: 5 ECTS  
Aut (S. C. Hakioglu, K. Korad) Spr (T. Ganioglu)
MSC 332 Instrument VI
The continuation of further studies on a new repertoire with the aim to achieve the artistic-technical goals presented in MSC 331. **Credit units: 5 ECTS Credit Units: 12, Prerequisite: MSC 331. Aut (G. Aziz, N. N. Cetiz)** Spr (S. C. Hakioğlu, K. Korad)

MSC 333 Chamber Music V
Performance of the early romantic era repertoire consisting of works by Schubert, Schumann and Mendelssohn. **Credit units: 3 ECTS Credit Units: 6, Prerequisite: MSC 234. Aut (Staff) Spr (O. Evruk)**

MSC 334 Chamber Music VI
Analytic analysis of the repertoire and interpretation styles of the romantic and contemporary chamber music repertoire. Brahms’s chamber compositions. **Credit units: 3 ECTS Credit Units: 6, Prerequisite: MSC 333. Aut (Staff) Spr (G. Kirtılı, B. Noyan, A. Üstüks)**

MSC 335 Singing Voice V
**Credit units: 5 ECTS Credit Units: 12, Prerequisite: MSC 252. Spr (Z. M. Gökçoğlu)**

MSC 336 Singing Voice VI
**Credit units: 5 ECTS Credit Units: 12, Prerequisite: MSC 351.**

MSC 373 History of 20th Century Music

MSC 374 Traditional Turkish Music and Divan Music
Social, historical and stylistic background of Classical Turkish Music. Basic elements of musical discourse. Makam, usl, sacred and secular forms, meşk and oral transmission, edvars and the traditional notion of music theory, instruments, instrumental ensembles, vocal traditions. Discussions regarding the classical style and the social change. Some problematic frameworks: periodization of Classical Turkish Music, westernization and/or modernization, orientalism, nationalism, culture politics, ethnomusicology and anthropology, globalization. Problem of musical modernism and traditional resources, interaction between Classical and New Turkish Music and other contemporary/international styles. **Credit units: 2 ECTS Credit Units: 3. Spr (Y. Aydınl)**

MSC 383 Keyboard Skills V
Applied studies on string, wind, brass and percussion instruments. Basic skills of performance mechanics. Extended information on the instrument and its capabilities. Selected repertoire listing to be performed progressively throughout the semesters. **Credit units: 2 ECTS Credit Units: 3, Prerequisite: MSC 283. Spr (N. Bağırov)**

MSC 384 Keyboard Skills VI
Applied studies on string, wind, brass and percussion instruments. Basic skills of performance mechanics. Extended information on the instrument and its capabilities. Selected repertoire listing to be performed progressively throughout the semesters. **Credit units: 2 ECTS Credit Units: 3, Prerequisite: MSC 383. Spr (N. Bağırov)**

MSC 385 Introduction to Composition
For students with little or no previous experience in composition. Exploration of ways of thinking about and organizing basic material elements such as melody, harmony, rhythm and timbre, as well as developing skills of score preparation and analytical listening. Exposition to a variety of ideas and techniques, based very broadly on Western "art" music of the 20th century, but not attempting to guide towards any particular style. The primary emphasis on process of learning through feedback, via individual and group meetings as well as frequent opportunities to hear compositional exercises performed and recorded. **Credit units: 3 ECTS Credit Units: 5. Spr (T. T. Yayalar)**

MSC 400 Graduation Project Concert
A dossier consisting of all works presented in the composition course juries must include music for solo instruments, small and large-scale chamber ensembles, vocal music and orchestral music. The dossier including works totaling no less than one hour should be presented to the jury 10 working days prior to the graduation project concert. The composition student must organize a concert covering selection of his compositions. **Credit units: 1 ECTS Credit Units: 1, Prerequisite: MSC 412 or MSC 432 or MSC 452. Spr (G. Aziz, E. Delikç, D. Gani, A. Mecid, İ. Okeev, E. Onay, S. Smolin, G. Şekeranber, T. T. Yayalar)**

MSC 401 Department Seminar VII
**Credit units: None ECTS Credit Units: 1. Prerequisite: MSC 302. Aut (Staff) Spr (E. Akyol, Z. M. Gökçoğlu, B. Kutay)**

MSC 402 Department Seminar VIII
**Credit units: None ECTS Credit Units: 1. Spr (D. Gani, G. Kirtılı, B. Kutay, A. Mecid, T. T. Yayalar)**
MSC 403  Orchestra/Chorus/Ensemble VII
Compulsory performance course for all undergraduate students. Bilkent Youth Symphony Orchestra for instrument performance majors. Chorus for voice, composition and piano majors. Youth ensemble open to all majors and possibly offered on event project basis. Western classical music repertoire from Baroque to contemporary. Credit units: 2 ECTS Credit Units: 4, Prerequisite: MSC 304. Aut (I. Metin) Spr (I. Metin)

MSC 404  Orchestra/Chorus/Ensemble VIII
Compulsory performance course for all undergraduate students. Bilkent Youth Symphony Orchestra for instrument performance majors. Chorus for voice, composition and piano majors. Youth ensemble open to all majors and possibly offered on event project basis. Western classical music repertoire from Baroque to contemporary. Credit units: 2 ECTS Credit Units: 4, Prerequisite: MSC 403. Aut (I. Metin) Spr (R. O. Kõrdar, I. Metin)

MSC 411  Composition VII
Composition of a large-scale genuinely creative work for orchestra. Dossier of advanced sketches including orchestral fragments of work in progress. Students expected to present thorough domination on their work and use appropriate technical jargon while they defend their work at the final jury in terms of intellectual approach, composition technique, orchestration, style, form and related criteria as well as own musical language. Credit units: 5 ECTS Credit Units: 9, Prerequisite: MSC 312. Aut (Y. Aydõn)

MSC 412  Composition VIII
The work submitted at the final jury of composition vii should be completed. The work should portray originality and advanced skills on compositional technique, form and orchestration. Students are expected to present thorough domination on their work and use appropriate technical jargon while they defend their work at the final jury in terms of intellectual approach, composition technique, orchestration, style, form and related criteria as well as own musical language. Credit units: 5 ECTS Credit Units: 9, Prerequisite: MSC 411. Spr (Y. Aydõn, T. T. Yayalar)

MSC 415  Score Reading III
Realization of full scores up to late romantic period. Emphasis on developments in orchestration in the romantic period. Orchestral texture, timbre, balance and aural expectancy. Omission of orchestral doublings in piano realization and voice leading according to hand position. Textural transfer and playing a full score on piano. Applications on transcription. Credit units: 3 ECTS Credit Units: 5, Prerequisite: MSC 316. Aut (I. Metin)

MSC 416  Score Reading IV
Realization of advanced full scores starting from late romantic period. Extended information on orchestral texture, timbre, sound balance and aural expectancy. Executing modern scores with extended technique on the piano. Transcriptions and prima vista practices. Credit units: 3 ECTS Credit Units: 5, Prerequisite: MSC 415. Spr (I. Metin)

MSC 421  Post - Tonal Music II
In-depth survey of compositional styles and techniques of the second half of the 20th century. Topics of Post-serialism, New Complexity, Spectralism, Musique Concrete Instrumental, Micropolyphony, Aleatoric music, Chance music, Stochastic music and also more recent developments. Credit units: 2 ECTS Credit Units: 4, Prerequisite: MSC 322. Aut (T. T. Yayalar)

MSC 425  Conducting II

MSC 431  Instrument VII
Maturity in every aspect of interpretation. Analysis of style and interpretation on pieces. Selected repertoire listing to be performed progressively throughout the semester. Credit units: 5 ECTS Credit Units: 12, Prerequisite: MSC 332. Aut (G. Aziz, E. Delikpî, D. Gani, A. Mecid, I. Okeev, E. Onay) Spr (Staff)

MSC 432  Instrument VIII
The continuation of further studies on a new repertoire with the aim to achieve the artistic-technical goals presented in MUSS 107. Preparation and rehearsal of the graduation repertoire also including a must piece that is chosen by the graduation jury and submitted to each student two weeks prior to the graduation concert. Credit units: 5 ECTS Credit Units: 12, Prerequisite: MSC 431. Aut (A. Mecid) Spr (G. Aziz, E. Delikpî, D. Gani, A. Mecid, I. Okeev, E. Onay)
MSC 433 Chamber Music VII
Introdction to the chamber music compositions of Turkish Composers. Beethoven’s late quartets. Study and practices with the aim of achieving maturity in stage performance. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MSC 334. Aut (Staff) Spr (B. Horinc, Y. Ülegen)

MSC 434 Chamber Music VIII
Analytic analysis and interpretation of the contemporary chamber music repertoire consisting of compositions by Dvorak, Shostakovich, Ravel, Debussy, Webern, Bartok, Säygun, Erkin. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MSC 433. Spr (R. Bagirov, B. C. Kürkş)

MSC 451 Singing Voice VII
Credit units: 5 ECTS Credit Units: 12, Prerequisite: MSC 352. Aut (G. Şekermaner)

MSC 452 Singing Voice VIII
Credit units: 5 ECTS Credit Units: 12, Prerequisite: MSC 451. Spr (G. Şekermaner)

MSC 453 Opera Studies III
Cornerstone works of opera repertoire are performed in collaboration with Bilkent Youth Symphony Orchestra. Credit units: 1 ECTS Credit Units: 3, Prerequisite: MSC 254. Aut (G. Çeliktas)

MSC 454 Opera Studies IV
Cornerstone works of opera repertoire are performed in collaboration with Bilkent Youth Symphony Orchestra. Credit units: 1 ECTS Credit Units: 3, Prerequisite: MSC 453.

MSC 459 Opera Studies V
Major works of opera repertoire performed. Credit units: 1 ECTS Credit Units: 3, Prerequisite: MSC 454. Aut (G. Çeliktas)

MSC 460 Opera Studies VI
Cornerstone works of opera repertoire performed. Credit units: 1 ECTS Credit Units: 3, Prerequisite: MSC 459. Spr (G. Çeliktas)

MSC 473 Contemporary Turkish Music
Sociopolitical, cultural, and stylistic background of New Turkish Music. European influenced music life, its styles and institutionalization in Turkey beginning with the late Ottoman era. Culture politics, statist music institutionalization, polyphonic styles in the early republican and the post-war Turkey. Acting on the fault lines: stylistic polarization among first two composer generations, alaturka-alafhranga, and monophony-polyphony debates, nationalization-globalization dilemma, battling paradigms of the Turkish-traditional versus the international-modernized. Credit units: 2 ECTS Credit Units: 3, Prerequisite: MSC 374. Aut (Y. Aydın)

MSC 901 Music Appreciation I
Exploration of the basic building blocks of music. From physics of sound to higher level concepts such as harmony, rhythm and form. Discussions about perception and reception of music. Concepts developed through projects and concert reviews. Credit units: 3 ECTS Credit Units: 4. Aut (T. T. Yayılar)

MSC 903 Ear Training for Non-Majors I

MSC 904 Ear Training for Non-Majors II
Chords. Designation of chords. Written and aural exercises on these subjects. Dictation of two period one-part, two-part 16 measures dictees containing mixed rhythms, syncopation. Introduction to collective solfège. The solo and collective musical reading. Credit units: 2 ECTS Credit Units: 2. Aut (N. Skhvitadze)

MSC 911 Individual Music Studies
To aid the multi-disciplinary education aim of the University, the instrument courses are offered to all non-majors as elective courses. Students wishing to enroll go through an admission process in which their music abilities are examined. The course is offered for various instruments including flute, clarinet, trumpet and trombone. Credit units: 2 ECTS Credit Units: 4. Aut (S. Ahundzade, D. Ali, E. N. Aykal, S. Bezhan, A. Gelenler, M. A. Gönümşoğlu, A. Mösüsüoğlu, I. Okeev, R. Zamanalioğlu) Spr (S. Ahundzade, D. Ali, E. N. Aykal, A. Bağirov, A. Gelenler, M. A. Gönümşoğlu, A. Mösüsüoğlu, I. Okeev, A. Uştuk, L. Volkov)

MSC 912 Individual Music Studies II
To aid the multi-disciplinary education aim of the University, the instrument courses are offered to all non-majors as elective courses. Students wishing to enroll go through an admission process in which their music abilities are examined. The course is offered for various instruments including flute, clarinet, trumpet and trombone. Credit
units: 2 ECTS Credit Units: 4. Prerequisite: MSC 911. Aut (A. Gelenler, F. Gülmehtem, İ. Okeev, Z. Zempleni)
Spr (A. Bağirov, S. Bezhani, A. Gelenler, A. Uğur)

MSC 921 Individual Music Studies III
To aid the multi-disciplinary education aim of the University, the instrument courses are offered to all non-majors as elective courses. Students wishing to enroll go through an admission process in which their music abilities are examined. The course is offered for various instruments including flute, clarinet, trumpet and trombone. Credit units: 2 ECTS Credit Units: 4. Prerequisite: MSC 912. Aut (S. Bezhani, F. Gülmehtem, K. Koniarov) Spr (N. Bağirov)

MSC 922 Individual Music Studies IV
To aid the multi-disciplinary education aim of the University, the instrument courses are offered to all non-majors as elective courses. Students wishing to enroll go through an admission process in which their music abilities are examined. The course is offered for various instruments including flute, clarinet, trumpet and trombone. Credit units: 2 ECTS Credit Units: 4. Prerequisite: MSC 921. Aut (M. A. Gormuşoğlu, F. Gülmehtem, A. Mürşüoğlu, Z. Zempleni) Spr (M. A. Gormuşoğlu, F. Gülmehtem)

MSC 931 Individual Music Studies V
To aid the multi-disciplinary education aim of the University, the instrument courses are offered to all non-majors as elective courses. Students wishing to enroll go through an admission process in which their music abilities are examined. The course is offered for various instruments including flute, clarinet, trumpet and trombone. Credit units: 2 ECTS Credit Units: 4. Prerequisite: MSC 922. Spr (S. Bezhani, Z. Zempleni)

MSC 932 Individual Music Studies VI
To aid the multi-disciplinary education aim of the University, the instrument courses are offered to all non-majors as elective courses. Students wishing to enroll go through an admission process in which their music abilities are examined. The course is offered for various instruments including flute, clarinet, trumpet and trombone. Credit units: 2 ECTS Credit Units: 4. Prerequisite: MSC 931. Aut (S. Bezhani, F. Gülmehtem)

MSC 934 Individual Music Studies VII
To aid the multi-disciplinary education aim of the University, the instrument courses are offered to all non-majors as elective courses. Students wishing to enroll go through an admission process in which their music abilities are examined. The course is offered for various instruments including flute, clarinet, trumpet and trombone. Credit units: 2 ECTS Credit Units: 4. Prerequisite: MSC 932.

MSC 950 Music of Igor Stravinsky
Studies on the Stravinsky's works with consideration of four different periods: Early pieces, Russian Phase, Neo-Classicism and Serialism. Credit units: 3 ECTS Credit Units: 4.

MSC 952 Studies on Modality
Review of the theory and ear training of modes. Analyzing examples from Machaut, Dufay, Josquin, Greig, Mussorgsky, Debussy, Bartok, Samuel Barber. Credit units: 3 ECTS Credit Units: 4. Prerequisite: MSC 172.

MSC 958 Modern Music After 1945
A socio-historical view on the music of post-war generation in Europe and U.S.A. Focus on the major trends (such as of avant-gardism) and technical developments in music (such as serialism) of the related period. Credit units: 3 ECTS Credit Units: 4.

MSG 500 Department Seminar
Weekly meetings hosted by faculty with visiting artists, scholars. Master-classes, workshops, presentations focusing on predetermined subjects. Each graduate student also prepares a presentation. Credit units: None ECTS Credit Units: None. Aut (Staff) Spr (O. Türkmen)

MSG 511 Music Performance and Interpretation
Studies and practices on performance and interpretation of selected repertoire from all genres and periods involving major field. Course incorporates a wide range of repertoire such as solo, sonata, concerto as well as chamber music, ensembles, orchestral solos and excerpts for instrument performance majors. Lied, complete roles in operas for vocal majors as included in departmental repertoire lists. Credit units: 3 ECTS Credit Units: 15. Aut (F. Abdullaeva, G. Aziz)

MSG 513 Music Composition
Music composition courses are taught individually. This provides flexibility in adapting to the interest and needs of each student. Composition courses have several purposes: to equip the student with necessary technical skills to develop their musical ideas, to help them get acquainted with the most recent compositional styles, and supply guidance with their projects. Each semester students will produce an original composition, culminating in a portfolio at the end of their Ph.D. studies. Credit units: 3 ECTS Credit Units: 11. Aut (T. T. Yayalar)

MSG 515 Music Theory
Musical analysis and writing skills of modal and tonal music subjects are taught individually. Consideration of various analytical methods of musical analysis and history of music theory from Aristoxenus till Stockhausen on specialized topics determined by faculty. These provide to comprehend various research methods, analytical
skills, writing skills and stylistic features of the related era on different perspectives. Credit units: 3 ECTS Credit Units: 9. Aut (O. Türkmen)

**MSG 517 Tonal Music Topics and Analysis**
Musical analysis of tonal music in the broadest sense, covering examples from the 17th century to the first decades of the 20th century. Consideration of varied analytical methods of musical analysis, emphasis on Schenkerian and Riemannian approaches on specialized topics determined by the faculty. Credit units: 3 ECTS Credit Units: 6. Aut (T. T. Yayılar)

**MSG 521 Masters Lecture Recital**
Students are expected to prepare and perform a major recital. The recital is preceded by a lecture by the student on works to be performed. Proposals for the lecture recital program are prepared by the student together with their respective advisers. Students are expected to submit their proposals to the department board upon successful completion of MSG 511 or MSG 513 depending on their majors. Masters Lecture Recital must incorporate a varied repertoire as well as chamber music repertoire concerning the major instrument or field. Course may only be added upon the consent of the advisor and the final approval of the department board of the lecture concert program proposal. Advisor and department board may choose to revise the student's proposal. Masters lecture recitals are held open to public. Assessment and grading is done by a jury, selected by the department board. Credit units: 3 ECTS Credit Units: 15. Spr (F. Abdullaeva, G. Aziz)

**MSG 525 Bilkent Ensembles**
Students actively participate in concert projects of one or more of Bilkent University's music ensembles such as Bilkent Symphony Orchestra, Bilkent Youth Quartet, Bilkent Chorus and Bilkent Modern Ensemble throughout the academic semester. Credit units: 3 ECTS Credit Units: 6. Aut (Staff)

**MSG 527 Masters Theory Presentation**
Students are expected to finalize and present part or all of their papers stated in MSG 515 at class(es) decided upon with the consent of the student's advisor. Credit units: 3 ECTS Credit Units: 9. Spr (O. Türkmen)

**MSG 530 Master Professional Recital**
Students are expected to repeat part or all of the recital stated in MSG 521 at a public venue decided upon with the consent of the student's advisor. Credit units: None ECTS Credit Units: 15. Spr (T. Ganioğlu)

**MSG 531 Music Performance and Interpretation**
Studies and practices on performance and interpretation of selected repertoire from all genres and periods involving major field. Course incorporates a wide range of repertoire such as solo, sonata concerto as well as chamber music, ensembles, orchestral solos and excerpts as included in departmental repertoire lists for performance majors. Credit units: 3 ECTS Credit Units: 15. Aut (T. Ganioğlu)

**MSG 535 Bilkent Ensembles**
Students actively participate in concert projects of one or more of Bilkent University's music ensembles such as Bilkent Symphony Orchestra, Bilkent Youth Quartet, Bilkent Chorus and Bilkent Modern Ensemble throughout the academic semester. Credit units: 3 ECTS Credit Units: 6. Spr (Staff)

**MSG 537 Studies in History of Western Music**
Evolution of different musical genres through history. Advanced discussions on the genesis, development and contemporary applications of the specific genres. Credit units: 3 ECTS Credit Units: 15. Spr (T. Ganioğlu)

**MSG 541 Masters Graduation Concerts**
Students are expected to prepare and perform a major recital and a graduation concert. The recital is preceded by a lecture by the student on works to be performed. Proposals for the graduation recital and concert program are prepared by the student together with their respective advisers. Students are expected to submit their proposals to the department board upon successful completion of MSG 531 or MSG 513 and MSG 530. Masters Lecture Recital must incorporate a varied repertoire as well as chamber music repertoire concerning the major instrument. Course may only be added upon the consent of the advisor and the final approval of the department board of the lecture concert program proposal. Advisor and department board may choose to revise the student's proposal. Masters graduation recitals and concerts are held open to public. Assessment and grading is done by a jury, selected by the department board. Credit units: 3 ECTS Credit Units: 15. Spr (T. Ganioğlu)

**MSG 700 Department Seminar**
Weekly meetings hosted by faculty with visiting artists, scholars. Master-classes, workshops, presentations focusing on predetermined subjects. Each graduate student also prepares a presentation. Credit units: None ECTS Credit Units: 1. Aut (Staff) Spr (O. Türkmen)

**MSG 701 Music Performance and Interpretation**
Studies and practices on performance and interpretation of selected repertoire from all genres and periods involving major field. Course incorporates a wide range of repertoire such as solo, sonata, concerto as well as chamber music, ensembles, orchestral solos and excerpts for instrument performance majors. Lied, complete roles in operas for vocal majors. All choral, ensemble and orchestral repertoire for conducting majors as included
MSG 703 Music Composition
Music composition courses are taught individually. This provides flexibility in adapting to the interest and needs of each student. Composition courses have several purposes: to equip the student with necessary technical skills to develop their musical ideas, to help them get acquainted with the most recent compositional styles, and to supply guidance with their projects. Each semester students will produce an original composition, culminating in a portfolio at the end of their Ph.D. studies. Credit units: 3 ECTS Credit Units: 15, Prerequisite: MSG 511 and MSG 521.

MSG 705 Music Theory
Musical analysis and writing skills of modal and tonal music subjects are taught individually. Consideration of varied analytical methods of musical analysis and history of music theory from Aristoxenus till Stockhausen on specialized topics determined by faculty. These provide to comprehend various research methods, analytical skills, writing skills and stylistic features of the related era on different perspectives. Credit units: 3 ECTS Credit Units: 9, Prerequisite: MSG 515 and MSG 527.

MSG 707 Music Performance and Interpretation
Studies and practices on performance and interpretation of selected repertoire from all genres and periods involving major field. Course incorporates a wide range of repertoire such as solo, sonata, concerto as well as chamber music, ensembles, orchestral solos and excerpts for instrument performance majors. Lied, complete roles in operas for vocal majors. All choral, ensemble and orchestral repertoire for conducting majors as included in departmental repertoire lists. Credit units: 3 ECTS Credit Units: 15, Prerequisite: MSG 701.

MSG 710 Research Methods
Academic research methods. Bibliography, research and major print and electronic research tools including encyclopedias, periodical indexes, and discographies. Evaluation of each research tool's purpose, scope, strengths, and weaknesses. Discussion on style manuals and various resources for writing about music and citing sources. Methods for evaluating reference. Credit units: 3 ECTS Credit Units: 6.

MSG 713 Music Composition
Music composition courses are taught individually. This provides flexibility in adapting to the interest and needs of each student. Composition courses have several purposes: to equip the student with necessary technical skills to develop their musical ideas, to help them get acquainted with the most recent compositional styles, and to supply guidance with their projects. Each semester students will produce an original composition, culminating in a portfolio at the end of their Ph.D. studies. Credit units: 3 ECTS Credit Units: 11, Prerequisite: MSG 703.

MSG 715 Music Theory
Musical analysis and writing skills of modal and tonal music subjects are taught individually. Consideration of varied analytical methods of musical analysis and history of music theory from Aristoxenus till Stockhausen on specialized topics determined by faculty. These provide to comprehend various research methods, analytical skills, writing skills and stylistic features of the related era on different perspectives. Credit units: 3 ECTS Credit Units: 9.

MSG 717 New Music Topics and Analysis
Musical analysis of post-tonal music from the first half of the 20th century onwards. Concepts such as set theory, serialism, centricity and modality are incorporated. Credit units: 3 ECTS Credit Units: 6.

MSG 721 Doctoral Lecture Concert
Students are expected to prepare and perform a major concert. The concert is preceded by a lecture by the student on works to be performed and their interpretation. Students with applied majors in instrument, vocal, conducting, chamber music and composition prepare their lecture concert program proposals with their respective advisers. Students are expected to submit their proposals to the department board prior to registering for the course and course may only be registered to upon the proposal of the advisor to and the final approval by department board of the lecture concert program proposal. Advisor and department board may choose to revise the student's proposal. Doctoral lecture recitals are held open to public. Assessment and grading is done by a jury selected by the department board. Department board may choose to utilize other means of assessment such as review of the performances recordings by peer or professionals in the field. Credit units: 3 ECTS Credit Units: 15.

MSG 725 Doctoral Theory Presentation
Students are expected to finalize submit their proposal for academic papers and their presentations with the consent of their respective advisors to the department board. After the assessment and grading process of papers, students present their work to public. Presentations are to be assessed by a jury selected by the department board that may include external jury member(s). Department board may choose to utilize other assessment and grading procedures including peer review and external evaluation. Credit units: 3 ECTS Credit Units: 9. Aut (T. Yayalar)
MSG 730 Doctoral Professional Recital
Students are expected to repeat part or all of the recital stated in MSG 721 at a public venue decided upon with the consent of the student's advisor. The concert is preceded by a lecture by the student on works to be performed and their interpretation. Students with applied majors in instrument, vocal, conducting, chamber music and composition prepare their lecture concert program proposals with their respective advisers. Students are expected to submit their proposals to the department board prior to registering for the course and course may only be registered to upon the proposal of the advisor to and the final approval by department board of the lecture concert program proposal. Advisor and department board may choose to revise the student's proposal. Doctoral lecture recitals are held open to public. Assessment and grading is done by a jury selected by the department board. Department board may choose to utilize other means of assessment such as review of the performances recordings by peer or professionals in the field. Credit units: None ECTS Credit Units: 15.

MSG 731 Music Performance and Interpretation
Studies and practices on performance and interpretation of selected repertoire from all genres and periods involving major field. Course incorporates a wide range of repertoire such as solo, sonata, concerto as well as chamber music, ensembles, orchestral solos and excerpts for instrument performance majors. Lied, complete skills, writing skills and stylistic features of the related era on different perspectives. Credit units: 3 ECTS Credit Units: 11.

MSG 733 Music Composition
Music composition courses are taught individually. This provides flexibility in adapting to the interest and needs of each student. Composition courses have several purposes: to equip the student with necessary technical skills to develop his musical ideas, to help them get acquainted with the most recent compositional styles, and supply guidance with their projects. Each semester students will produce an original composition, culminating in a portfolio at the end of their Ph.D. studies. Credit units: 3 ECTS Credit Units: 11.

MSG 735 Music Theory
Musical analysis and writing skills of modal and tonal music subjects are taught individually. Consideration of varied analytical methods of musical analysis and history of music theory from Aristoxenus till Stockhausen on specialized topics determined by faculty. These provide to comprehend various research methods, analytical skills, writing skills and stylistic features of the related era on different perspectives. Credit units: 3 ECTS Credit Units: 9, Aut (T. T. Yayalar) Spr (T. T. Yayalar)

MSG 737 Contextual Perspectives in History of Western Music
Music history topics through political, philosophical, cultural and aesthetic contexts. Discussions on various debates on different contextual perspectives. Credit units: 3 ECTS Credit Units: 6.

MSG 741 Doctoral Proficiency Concert
Students are expected to prepare and perform a major recital and a graduation concert. The recital is preceded by a lecture by the student on works to be performed. Students with applied majors in instrument, vocal, conducting, chamber music and composition prepare their lecture recital and concert program proposals with their respective advisers. Students are expected to submit their proposals to the department board prior to registering for the course and course may only be registered to upon the proposal of the advisor to and the final approval by department board of the lecture concert program proposal. Advisor and department board may choose to revise the student's proposal. Doctoral lecture recitals are held open to public. Assessment and grading is done by a jury selected by the department board. Department board may choose to utilize other means of assessment such as review of the performances recordings by peer or professionals in the field. Credit units: 3 ECTS Credit Units: 15, Prerequisite: (MSG 730 and MSG 731) or (MSG 730 and MSG 733). Spr (E. Akyol)

MSG 745 Doctoral Proficiency Theory Presentation
Students are expected to finalize submit their proposal for academic papers and their presentations with the consent of their respective advisors to the department board. After the assessment and grading process of papers, students present their work to public. Presentations are to be assessed by a jury selected by the department board that may include external jury member(s). Department board may choose to utilize other assessment and grading procedures including peer review and external evaluation. Credit units: 3 ECTS Credit Units: 9, Prerequisite: MSG 725 and MSG 735.

MSG 802 Theoretical Studies in Tonal Music
Analysis of music from the tonal repertoire by emphasis on structural aspects of each individual work. With discussions focusing on different analytical perspectives such as formalist methods, hermeneutics, phenomenology, Neo-Riemannian and cultural studies. Credit units: 3 ECTS Credit Units: 6.

MSG 804 History of Tonal Music Theory
From Rameau to beyond: This course will examine different scale-degree and functional approaches to tonal harmony, discussion of seminal theoretical texts (Rameau, Sechter, Riemann, Schenker etc.), we will work on comparative music analyses to explore different conceptions of harmonic space and their limits. Credit units: 3 ECTS Credit Units: 6.
MSG 806 Introduction to Schenkerian Analysis
This course provides an introduction to the theories and analytical methods of Heinrich Schenker and his followers through the analysis of selected works. Credit units: 3 ECTS Credit Units: 6.

MSG 808 Theoretical Studies in Post Tonal Music
Music from 1900 and onwards in a holistic perspective that encompasses broad analytical, structural and cultural aspects of music. Credit units: 3 ECTS Credit Units: 6.

MSG 810 Perspectives in Musical Analysis
This is an advanced analysis class focusing on three much-analyzed works from the repertoire: Eroica Symphony, Tristan Prelude and Rite of Spring. We will look at the analytical literature for each piece and discuss different theoretical perspectives developed about these pieces throughout the history. Credit units: 3 ECTS Credit Units: 6.

MSG 812 Music of the Last Decade
This is a course concentrating on music that is written in the last ten years. The goal of the course is to contextualize recent trends in composition and develop a framework necessary to understand and analyze representative examples from this period. Credit units: 3 ECTS Credit Units: 6. Spr (T. T. Yayalar)

MSG 814 Opera in the 20th Century
This is a seminar course examining the 20th century opera repertoire. We will investigate how the opera genre has transformed in the 20th century by looking at works like Pelléas et Mélisande, Bluebeard’s Castle, Lulu, Saint François d’Assise, Le Grand Macabre, Einstein on the Beach, Punch and Judy. We will specifically investigate the conventions that the modern composers have inherited from the past, to reject or re-embrace. Credit units: 3 ECTS Credit Units: 6.

MSG 820 Microtonality
An in-depth investigation of different microtonal usages and techniques in composition. Topics will range from just intonation to different types of extended equal temperament. We will also examine different practical strategies developed by composers in writing microtonal music. Each student will compose a piece using techniques covered in class. Credit units: 3 ECTS Credit Units: 6.

MSG 824 Algorithmic and Computer Assisted Composition
This course is about different methods of algorithmic composition and ways to create them using computers. We will investigate how music technology can enhance and develop the musical ideas of composers, focusing on the creative processes involved in algorithmic and computer-assisted composition. We will examine works by Cage, Xenakis, Ferneyhough and Murail. We will work exclusively with software such as AudioSculpt and Open Music. Each student will compose a piece using the methods covered in the class. Credit units: 3 ECTS Credit Units: 6.

MSG 832 Symphony after Beethoven
Beethoven’s 9th symphony, from its very first performance onwards, leads to a complicated reception history. Some major reactions, early and after, can be cited as follows: crisis of symphony in the German speaking culture domain, Berlioz’s symphonie fantastique and Liszt’s 12 Poèmes symphoniques, drame lyrique of Wagner—who considers himself as being brought to “the other side of the red sea” through Beethoven—, music-aesthetic considerations like Brendel’s Zukunftsmusik and the schism among absolute and programmatic music according to Hanslick, monumental symphonies by Bruckner and Mahler, symphonists and reactions to symphonic forms during the 20th century etc. Esssayistic involvement in German and French by some 19th century composers like Schumann, Liszt, Wagner and Berlioz deserves a special attention regarding the problematic. Topics, readings and work selection of course are refreshed as per the specific phenomenon im Visier of current semester. Credit units: 3 ECTS Credit Units: 6. Aut (I. Metin) Spr (I. Metin)

MSG 834 With or Without Wagner
Stage music after Tristan to our day. An all-embracing historical discourse on the 19th century music disregarding the impact of Wagner’s Tristan und Isolde is hard to imagine. Wagner himself, his contemporaries, and following composer generations involved with stage music have thenceforth to grapple with that work and its reception. The design of course regards Wagner’s output, before all, as a socio historical demarcation line in the framework of the genre and takes each semester a different single opera or music theater work in hand, or, in some cases, a group of works clustered around a single thematic and/or problematic. Credit units: 3 ECTS Credit Units: 6.

MSG 838 The Genre of Concerto
Dynamics of the dispute between individual and community. Course deals with the genre concerto and its various aspects, each semester with respect to different criteria. Selection of music works to be considered depends on soloist instrument(s) and/or accompanying Besetzung, epoch, style, or (a group of) composer(s). Credit units: 3 ECTS Credit Units: 6. Aut (I. Metin)

MSG 842 The West and The Rest
Course problematizes the activity of the exterritorial composer. It can be asserted that the western serious music has established itself as the main reference point for other musical domains, peu à peu, after the French Revolution. Course attempts to problematize the self-styled and auto-centralizing qualities of western thought of
music on the one hand and discourses of identity of the non-western composers on the other. Considerations of generally extra-musical fields of contemporary social thought and of diverse authors such as Lévinas, Adorno, Derrida, Deleuze, oriental and colonial studies, cultural and gender studies etc. are vital part of course. On the empirical side presents New Turkish Music the main subject matter to be tackled. Credit units: 3 ECTS Credit Units: 6.

**MSG 900 Ph.D. Dissertation**
Credit units: None ECTS Credit Units: None, Prerequisite: MSG 741 or MSG 745.
# DEPARTMENT OF PERFORMING ARTS

J. E. Hale (Chair), K. Korad, T. T. Yavuz.


## CURRICULUM

### ACTING OPTION

### FIRST YEAR

<table>
<thead>
<tr>
<th>Autumn Semester</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>ENG 101 English and Composition I</td>
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<td>GE 100 Orientation</td>
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<td>MSC 901 Music Appreciation I</td>
<td>3 / 4</td>
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<tr>
<td>MSC 903 Ear Training for Non-Majors I</td>
<td>2 / 2</td>
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<tr>
<td>THR 101 Fundamentals of Acting I</td>
<td>4 / 8</td>
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<tr>
<td>THR 103 Voice and Speech I</td>
<td>3 / 6</td>
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<td>THR 105 Movement and Combat I</td>
<td>3 / 7</td>
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<td>THR 111 Phonetics I</td>
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<th>Credits / ECTS Credits</th>
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<td>ENG 102 English and Composition II</td>
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<tr>
<td>MSC 904 Ear Training for Non-Majors II</td>
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<tr>
<td>MUSS 723 Singing for Theatre I</td>
<td>1 / 4</td>
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<tr>
<td>THR 102 Fundamentals of Acting II</td>
<td>4 / 8</td>
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<tr>
<td>THR 104 Voice and Speech II</td>
<td>3 / 6</td>
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<tr>
<td>THR 106 Movement and Combat II</td>
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<td>THR 112 Phonetics II</td>
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### SECOND YEAR

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<td>HCIIV 101 History of Civilization I</td>
<td>3 / 6</td>
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<tr>
<td>MUSS 724 Singing for Theatre II</td>
<td>1 / 4</td>
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<tr>
<td>THR 201 Acting I</td>
<td>4 / 8</td>
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<tr>
<td>THR 203 Voice and Speech III</td>
<td>3 / 6</td>
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<tr>
<td>THR 205 Movement and Combat III</td>
<td>3 / 7</td>
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<tr>
<td>THR 227 History of Theater I: Origins to Renaissance</td>
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<tr>
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<tr>
<td>HCIIV 102 History of Civilization II</td>
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<tr>
<td>THR 202 Acting II</td>
<td>4 / 8</td>
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<td>THR 204 Voice and Speech IV</td>
<td>3 / 6</td>
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<tr>
<td>THR 206 Movement and Combat IV</td>
<td>3 / 7</td>
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<tr>
<td>THR 228 History of Theater II: Renaissance to 20th Century Elective</td>
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### THIRD YEAR

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<th>Autumn Semester</th>
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<tr>
<td>THR 107 Dance I</td>
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<td>THR 301 Acting III</td>
<td>4 / 8</td>
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<td>THR 303 Voice and Speech V</td>
<td>3 / 6</td>
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<tr>
<td>THR 327 History of Theater III: 20th Century Elective</td>
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<td>THR 331 Textual Interpretation and Analysis I Elective</td>
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THR 332  Textual Interpretation and Analysis II ............................................. 3 / 4
THR 428  History of Turkish Theater ................................................................. 3 / 4
      Elective ........................................................................................................ 3 / 6
      Elective ........................................................................................................ 3 / 6

FOURTH YEAR

Autumn Semester Credits / ECTS Credits
HIST 200  History of Turkey .............................................................................. 4 / 8
THR 431  Textual Interpretation and Analysis III ............................................. 3 / 4
THR 451  Senior Project I .................................................................................. 5 / 12
TURK 101  Turkish I .......................................................................................... 2 / 2
      Elective ........................................................................................................ 3 / 6

Spring Semester Credits / ECTS Credits
THR 432  Textual Interpretation and Analysis IV ............................................. 3 / 4
THR 452  Senior Project II .................................................................................. 5 / 12
TURK 102  Turkish II .......................................................................................... 2 / 2
      Elective ........................................................................................................ 3 / 6

MINOR PROGRAM

Prerequisite Courses: None

CURRICULUM

Courses Credits / ECTS Credits
THEA 181  Acting Techniques I-Singing ............................................................. 3 / 3
THEA 182  Acting Techniques II-Singing ............................................................ 3 / 3
THR 105  Movement and Combat I ................................................................. 3 / 7
THR 333  On Camera Acting ............................................................................. 3 / 6
THR 337  Theatre Project ................................................................................... 3 / 4
      Electives (2) ................................................................................................. 6 / 12

ELECTIVE COURSES

THR 106  Movement and Combat II ................................................................. 3 / 7
THR 107  Dance I .............................................................................................. 2 / 3
THR 108  Dance II ............................................................................................ 2 / 3
THR 111  Phonetics I ......................................................................................... 2 / 4
THR 227  History of Theater I: Origins to Renaissance .................................... 3 / 5
THR 228  History of Theater II: Renaissance to 20th Century ......................... 3 / 5
THR 327  History of Theater III: 20th Century ............................................... 3 / 5
THR 331  Textual Interpretation and Analysis I ................................................. 3 / 6
THR 336  Speech on Stage .................................................................................. 2 / 3
THR 428  History of Turkish Theater ............................................................... 3 / 4

COURSE DESCRIPTIONS

THR 101  Fundamentals of Acting I
This course is an introduction to the elements of performance, including exercises in concentration, sensory awareness, relaxation, communication, imagination, observation. It is based on the development of theatrical creativity through objectives, obstacles, action, conflict, spontaneity. It aims to develop an understanding of the dramatic situation. Credit units: 4 ECTS Credit Units: 8. Aut (C. Emüler, J. E. Hale, E. Kıpük'dümürçü, D. Ordu)

THR 102  Fundamentals of Acting II
This module is the continuation of Fundamentals of Acting I and it emphasizes developing creative expression through theatre exercises, improvisations and scenes. It aims at preparing and presenting scenes in class, preparing written scenes and character analyses, attending plays, and writing performance critiques. Credit units: 4 ECTS Credit Units: 8. Prerequisite: THEA 101 or THR 101. Spr (J. E. Hale, E. Kıpük'dümürçü)
THR 103  Voice and Speech I  
Devoted to the examination and practice of the basic principles of breathing, resonance, articulation, diaphragm support, pitch, rhythm and expressiveness, placement and diction. **Credit units: 3 ECTS Credit Units: 6. Aut (Ö. Ersönmez)**

THR 104  Voice and Speech II  
The course aims to help students integrate voice, breath, and text. It concentrates on the formation of the individual sounds of spoken Turkish and the development of ability to speak clearly, expressively and without impediments. **Credit units: 3 ECTS Credit Units: 6, Prerequisite: THEA 103 or THR 103. Spr (Ö. Ersönmez)**

THR 105  Movement and Combat I  
The course is based on the fundamentals of theatrical stage movement for actors, rooted in the techniques of Allan Wayne Work and developmental movement patterns. Students learn exercises to increase strength, flexibility, coordination, and stamina. **Credit units: 3 ECTS Credit Units: 7. Aut (A. Tayla, H. Yavuz)**

THR 106  Movement and Combat II  
The course continues the fundamentals of theatrical stage movement for actors begun in THR 105. In addition to advancing in their knowledge and mastery of these exercises, students apply these principles to individual and ensemble movement-improvisation. **Credit units: 3 ECTS Credit Units: 7, Prerequisite: THR 105. Spr (A. Tayla, H. Yavuz)**

THR 107  Dance I  
The module introduces students to fundamentals of contemporary modern dance technique, rooted in the techniques of Allan Wayne Work and real-time composition methods. **Credit units: 2 ECTS Credit Units: 3. Aut (H. Yavuz)**

THR 108  Dance II  
This module places introduces students to the fundamentals of the Jean Hamilton Floor-Barre Technique, as well as places more emphasis on creating original dance choreography. **Credit units: 2 ECTS Credit Units: 3, Prerequisite: THR 107. Spr (D. Atlö)**

THR 111  Phonetics I  
The aim of the course is to teach the students the basic rules of clear articulation concerning the speech sounds and to analyze the function and also the movement of speech organs in order to attain perfect diction as an actor. **Credit units: 2 ECTS Credit Units: 4. Aut (F. N. Ekmeckioğlu)**

THR 112  Phonetics II  
The course mostly focuses upon the articulation of phonemes (vowels and consonants) and the importance of stress and intonation while working on certain poems and theatrical texts. **Credit units: 2 ECTS Credit Units: 4, Prerequisite: TH 111. Spr (F. N. Ekmeckioğlu)**

THR 113  Movement I  
Fundamentals of theatrical stage movement for the actor. Exercises to increase strength, flexibility, coordination, and stamina. **Credit units: 3 ECTS Credit Units: 4.**

THR 114  Movement II  
Intermediate level of theatrical stage movement for the actor. Advanced exercises to increase strength, flexibility, coordination, and stamina. **Credit units: 3 ECTS Credit Units: 4.**

THR 201  Acting I  
The course aims to explore experientially and analytically the foundation of the acting process based on Stanislavski’s System and The Method of Physical Actions. It is based on characterization, roles, special problems, and application of acting techniques through exercises and two-character scenes from the Ancient Greek and Realist plays. **Credit units: 4 ECTS Credit Units: 8, Prerequisite: THEA 102 or THR 102. Aut (C. Emüler, E. Kıcıkkökümürcü, D. Ordu)**

THR 202  Acting II  
Sequel to Acting I. The course aims to explore experientially and analytically the foundation of the acting process based on Stanislavski’s System and The Method of Physical Actions. It is based on characterization, roles, special problems, and application of acting techniques through exercises and three or more character scenes from the Ancient Greek and Realist plays. **Credit units: 4 ECTS Credit Units: 8, Prerequisite: THEA 201 or THR 201, Spr (M. Keskın Bayur, Z. E. Öner)**

THR 203  Voice and Speech III  
The course is a continuation of the first-year work, which now becomes integrated into the rehearsal of the second-year acting studio. Development of the student’s vocal instrument as an integrated organic function of self and character. **Credit units: 3 ECTS Credit Units: 6, Prerequisite: THEA 104 or THR 104. Aut (Ö. Ersönmez)**
<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Instructor(s)</th>
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<tr>
<td>THR 204</td>
<td>Voice and Speech IV</td>
<td>3</td>
<td>THEA 203 or THR 203</td>
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<td>THR 205</td>
<td>Movement and Combat III</td>
<td>3</td>
<td>Building upon the techniques learned in THR 105-106</td>
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<td>THR 206</td>
<td>Movement and Combat IV</td>
<td>3</td>
<td>Building upon the techniques learned in THR 205</td>
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<tr>
<td>THR 227</td>
<td>History of Theater I: Origins to Renaissance</td>
<td>3</td>
<td>Through a combination of lecture and discussion</td>
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<tr>
<td>THR 228</td>
<td>History of Theater II: Renaissance to 20th Century</td>
<td>3</td>
<td>A study of development of western theatre</td>
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<tr>
<td>THR 301</td>
<td>Acting III</td>
<td>4</td>
<td>This course aims to cover historical theories</td>
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<tr>
<td>THR 302</td>
<td>Acting IV</td>
<td>4</td>
<td>Working with a director and being in whole process</td>
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<tr>
<td>THR 303</td>
<td>Voice and Speech V</td>
<td>3</td>
<td>The course focuses on building power and range</td>
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<tr>
<td>THR 327</td>
<td>History of Theater III: 20th Century</td>
<td>3</td>
<td>Focusing primarily on the most significant plays</td>
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<tr>
<td>THR 331</td>
<td>Textual Interpretation and Analysis I</td>
<td>3</td>
<td>A close study of dramatic texts and source material</td>
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<tr>
<td>THR 332</td>
<td>Textual Interpretation and Analysis II</td>
<td>3</td>
<td>The course aims to make analysis of dramatic texts</td>
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</tr>
<tr>
<td>THR 333</td>
<td>On Camera Acting</td>
<td>3</td>
<td>This course offers instruction and practice in</td>
<td></td>
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</tbody>
</table>
THR 336  Speech on Stage
Open to all students who are interested and want to excel in presentational speech within the context of the art of theater. Fundamentals of voice production; nature of sound, projection, pronunciation, enunciation, and phonetics (consonant and vowel articulation) in relation to standard Turkish speech; stage presence and the analysis of the individual student’s voice and diction in a self-improving format.  
Credit units: 2 ECTS Credit Units: 3. Spr (E. Kıpükköümürcü)

THR 337  Theatre Project
Working with a director and being involved in the whole process to constitute a play or scene project.  
Credit units: 3 ECTS Credit Units: 4, Prerequisite: THR 333.

THR 428  History of Turkish Theater
This module focuses on the changes and evolution of Turkish Theatre from 1839 to the present and Traditional Turkish Theatre. 
Credit units: 3 ECTS Credit Units: 4. Spr (Ö. Özer)

THR 431  Textual Interpretation and Analysis III
A survey of some diverse ways of analyzing scripts for dramatic production. The course aims to define different roles and different tools, and aims to choose from a veritable smorgasbord of methods. It is based on theatrical interpretation and realization from Realism to Avant-garde. The course explores critical methods based on psychoanalysis, cognitive science, Marxism, the various feminisms, and historicism. 
Credit units: 3 ECTS Credit Units: 4. Aut (Ö. Özer)

THR 432  Textual Interpretation and Analysis IV
A survey of some diverse ways of analyzing scripts for dramatic production. This module aims to define different roles and different tools, and aims to choose from a veritable smorgasbord of methods. It is based on theatrical interpretation and realization from Realism to Avant-garde. The course explores critical methods based on psychoanalysis, cognitive science, Marxism, the various feminisms, historicism. 
Credit units: 3 ECTS Credit Units: 4. Spr (Ö. Özer)

THR 451  Senior Project I
The course requires working with a director and being in whole process to constitute a play. 
Credit units: 5 ECTS Credit Units: 12, Prerequisite: THR 302. Aut (J. E. Hale, M. Keskin Bayur)

THR 452  Senior Project II
Sequel to Senior Project I. The course requires working with another director and being in whole process to constitute a play. 
Credit units: 5 ECTS Credit Units: 12, Prerequisite: THEA 401 or THR 451. Spr (Staff)
FACULTY OF SCIENCE

Tayfun Özçelik, M.D., Dean

The Faculty of Science comprises four academic departments:

- Chemistry
- Mathematics
- Molecular Biology and Genetics
- Physics

The Departments of Chemistry, Mathematics, Molecular Biology and Genetics, and Physics offer both graduate and undergraduate programs leading to B.S., M.S. and Ph.D. degrees. In addition, the Faculty contributes to interdisciplinary graduate programs that offer M.S. and Ph.D. degrees in the areas of Materials Science and Nanotechnology and Neuroscience.

At the undergraduate level, the Faculty admits a small number of highly qualified students to each program. The undergraduate curricula are designed to prepare the students for graduate study by providing a strong background in the general area of study with further opportunities of developing a deeper knowledge in various areas of emphasis.

The graduate programs aim to develop students into scientists who can pursue original and creative research. Graduate education in the Faculty is an inseparable part of the research activity which aims to produce significant scientific output at the international level.

The faculty also offers a number of service courses to students from other faculties.

ACADEMIC STAFF

Mehmet Akçay, Instructor

Engin Umut Akkaya, Professor
Ph.D., Chemistry, The Ohio State University, Columbus 1989. Molecular and Supramolecular Synthetic Chemistry and Exploration of Emerging Functions.

Atilla Aydön, Professor
Ph.D., Condensed Matter Physics, University of Virginia, 1981. Raman and photoluminescence in compound semiconductor structures, physics of nanostructures, physics and technology of optoelectronic devices, surface physics, beam-solid interactions.

Laurence John Barker, Associate Professor
Ph.D., Mathematics, Oxford University, 1992. Finite groups, representation theory, local and clifford theory, G-algebras, G-posets.

Mehmet Bayndir, Professor
Ph.D., Physics, Bilkent University, 2002. Microstructured fibers and fiber devices, photonic band gap materials, left-handed metamaterials, materials for infrared optics, synthetic optoelectronic devices, nonlinearity in amorphous semiconductors, nanophotonics, fiber based sensors

Bilge Baytekin, Assistant Professor

Ceyhun Bulutay, Associate Professor

Şahin Büyükdağlı, Assistant Professor
Çağlar Çekiç, Assistant Professor
Ph.D., Immunology, University of Louisville, 2009. Cancer Immunotherapy, vaccine adjuvants, adaptive immune responses and inflammation.

Salim Çıracı, Professor

Ömer Dağ, Professor

Müruvet Güneş Davenport, Instructor
Ph.D., Electronics, Birmingham University, 1982. Underwater acoustics, applied mathematics.

Savaş Dayanik, Associate Professor

Alexandre Degtiarev, Associate Professor

Hilmi Volkan Demir, Associate Professor
Ph.D., Electrical Engineering, Stanford University, 2004. Light-emitting diodes (LEDs), photovoltaics (PV), semiconductor nanocrystal optoelectronics, energy transfer driven devices and sensors, nanoparticles/nanocomposites, nanophotonics, RF sensing bioimplants and medical devices.

Ebru Erbay, Assistant Professor

Zeki Atilla Ergülebi, Professor
Ph.D., Condensed Matter Physics, Middle East Technical University, 1980. Polaron and bipolaron, electron-phonon interactions, excitons, low dimensional systems.

Hasan N. Erten, Professor Emeritus
Ph.D., Nuclear Chemistry, Massachusetts Institute of Technology, 1971. Nuclear and radiochemistry, nuclear fission, nuclear structure and spectroscopy, radioactive waste studies, dating of lake sediments.

Aurelian Gheondea, Associate Professor

Alexandre Goncharov, Associate Professor

Ahmet Gökalp, Senior Lecturer
Ph.D., Physics, Stanford University, 1980. Medium and High Energy Nuclear Physics, Elementary Particle Theory.

Ahmet Muhtar Güloğlu, Assistant Professor
Ph.D., Mathematics, Ohio State University, 2005. Analytic number theory, automorphic forms.

Oğuz Güler, Professor
Ph.D., Condensed Matter Physics, Bilkent University, 1992. Theoretical Solid State Physics, nanoscience, metal nanowires, carbon nanotubes, exotic superconductors high pressure-high temperature properties of metals, phonons and vibrational spectra.
Ali Osmay Gür, Assistant Professor

İhsan Gürsel, Professor
Ph.D., Biology, Middle East Technical University, 1995. Innate immunity, immunotherapy, drug delivery, nanobiotechnology, vaccine development, biomaterials.

Metin Gürses, Professor

Dilek Güvenç, Instructor

Tahsin Tuğrul Hakioğlu, Associate Professor

Balazs Hetenyi, Assistant Professor

Fatih Ömer İlday, Associate Professor

Hakkı Turgay Kaptanoğlu, Professor
Ph.D., Mathematics, University of Wisconsin, 1991. Complex analysis and operator theory in spaces of holomorphic or harmonic functions of several variables, especially in Besov spaces.

Salih Karadağ, Instructor

Ferdi Karadaş, Assistant Professor

Azer Kerimov, Associate Professor

Alexandre Klyachko, Visiting Professor
Ph.D., Mathematics, Saratov State University, 1973. Algebra, algebraic geometry, number theory, models of classical finite groups, integer and modular representations, vector-bundles and moduli spaces.

Coşkun Kocabas, Assistant Professor
Ph.D., Physics, University of Illinois at Urbana-Champaign, 2007.

Mefharet Kocatepe, Professor

Özlen Konu, Assistant Professor
Ph.D., Biology, Texas Tech University, 1999. Microarray data analysis, gene networks in nicotine’s pharmacological effects, zebrafish genetics.

Yosum Kurtulmaş, Instructor
Ph.D., Mathematics, Middle East Technical University, 1998. Ring theory, number theory.

Zeki Cemal Kuruoğlu, Professor
Uğurhan Muğan, Professor

Miguel Navascues Cobo, Assistant Professor
Ph.D., Institut de Cincies Fotoniques, 2007. Quantum information, non-locality, quantum chemistry.

Mehmet Özgür Oktel, Associate Professor

Ekmel Özbay, Professor

Tayfun Özçelik, Professor
M.D., Human Genetics, İstanbul University, 1986. Human molecular genetics, gene mapping, mutation analysis, identification of disease genes, X-chromosome inactivation.

Emrah Özensoy, Assistant Professor

Ümit Özger, Instructor

Aydan Pamir, Instructor
Ph.D., Mathematics, Middle East Technical University, 1992. Numerical analysis, computer programming, applied mathematics, effective teaching in mathematics.

Ulrike Salzner, Associate Professor
Ph.D., Chemistry, Universität Erlangen, 1993. Computational chemistry, quantum chemistry, band structure calculations, band gap engineering, polymer chemistry.

Ali Sinan Sertöz, Professor
Ph.D., Mathematics, University of British Columbia, 1984. Algebraic geometry.

Müfit Sezer, Associate Professor
Ph.D., Mathematics, Purdue University, 2003. Invariant theory, commutative algebra.

Şefik Süzer, Professor
Ph.D., Chemistry, University of California, Berkeley, 1976. Electron, ion and photon spectroscopic analyses of gases, solids and surfaces.

Özgür Şahin, Assistant Professor

Bilal Tanatar, Professor

Mehmet Okan Tekman, Lecturer
Ph.D., Mathematics, University of Minnesota, 1992. Automorphic forms, special values of L-functions.

Dönüş Tuncel, Associate Professor
Yunus Emre Türkmen, Assistant Professor

Bülent Ünal, Associate Professor
Ph.D., Mathematics, University of Missouri, 2000. Differential geometry, Riemannian geometry, pseudo-Riemannian geometry and Lorentzian geometry, global analysis on manifolds, general relativity and quantum field theories.

Özgün Ünlü, Assistant Professor

Giovanni Volpe, Assistant Professor
Ph.D., Physics, ICFO - The Institute of Photonics Sciences, 2008. Condensed matter of Physics, Statistical physics, soft matter, optical tweezers.

Cemal Yalabık, Professor

Ergün Yaçın, Professor (on leave)
Ph.D., Mathematics, University of Wisconsin-Madison, 1998. Cohomology of groups, finite group actions on topological spaces, geometric structures associated to groups.

Hamza Yeşilyurt, Assistant Professor

İşik Yuluğ, Associate Professor

Natalia Zheltukhina, Instructor
Ph.D., Mathematics, Bilkent University, 2002. Analytic properties of entire functions, zero distributions.

PART-TIME ACADEMIC STAFF

Ayça Arslan Ergül, Ph.D., Molecular Biology and Genetics, Bilkent University, 2009.
Ebru Bilget Güven, Ph.D., Molecular Biology and Genetics, Bilkent University, 2012.
Ayşe Mutlu Derya, M.S., Mathematics, Bilkent University, 2000.
DEPARTMENT OF CHEMISTRY


The Chemistry Department provides graduate and undergraduate courses in basic and applied areas of Chemistry. The undergraduate program offers the B.S. degree and the graduate program leads to M.S. and Ph.D. degrees in Chemistry. Current research areas are solid-state chemistry, organometallic chemistry, nuclear chemistry, molecular spectroscopy, theoretical chemistry, polymer and surface chemistry. Research in progress include studies of nuclear fission, radiochemical dating studies, sorption studies of radioactive wastes, synthesis and characterization of inorganic materials, liquid crystals, adsorption, catalysis and mechanism of heterogeneous reactions, quantum theory of chemical reactions, few-body problems in chemistry and physics, modification and characterization of material surfaces, theoretical design of conducting polymers, mechanism of diastereo selection in organic reactions, protein conformations, optical studies of molecular aggregates, cage compounds, polymer chemistry, structure-property-performance relationships, electrochemistry and fuel cells. Laboratory facilities include teaching and modern research laboratories for nuclear, electrosolid-state and surface chemistry.

UNDERGRADUATE PROGRAM

The undergraduate program aims to equip students with basic chemical knowledge and experimental skills so that they can contribute to modern scientific and technological developments. The program is designed to lead to a professional career or advanced study in chemistry.

UNDERGRADUATE CURRICULUM

FIRST YEAR

<table>
<thead>
<tr>
<th>Autumn Semester</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>CHEM 101 Principles of Chemistry I</td>
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<tr>
<td>CHEM 120 Orientation for Chemistry Majors</td>
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<tr>
<td>ENG 101 English and Composition I</td>
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<tr>
<td>GE 100 Orientation</td>
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<tr>
<td>MATH 101 Calculus I</td>
<td>4 / 7</td>
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<tr>
<td>PHYS 101 General Physics I</td>
<td>4 / 6</td>
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<tr>
<td>TURK 101 Turkish I</td>
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<th>Credits / ECTS Credits</th>
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<tr>
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<td>PHYS 102 General Physics II</td>
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<td>TURK 102 Turkish II</td>
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SECOND YEAR

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<tr>
<th>Autumn Semester</th>
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<tbody>
<tr>
<td>CHEM 211 Analytical Chemistry I</td>
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<td>CHEM 231 Organic Chemistry I</td>
<td>3 / 6</td>
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<tr>
<td>CHEM 235 Organic Chemistry Laboratory I</td>
<td>2 / 4</td>
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<tr>
<td>GE 250 Collegiate Activities Program I</td>
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<tr>
<td>MATH 225 Linear Algebra and Differential Equations</td>
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<td>MBG 105 Principles of Biology</td>
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<tr>
<td>CHEM 232 Organic Chemistry II</td>
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</table>
CHEM 236  Organic Chemistry Laboratory II ................................. 2 / 4
CS 113   Introduction to Computing for Engineers ................................. 4 / 7
GE 251   Collegiate Activities Program II ...................................... 1 / 1
HIST 200  History of Turkey ................................................................. 4 / 8

THIRD YEAR

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<th>Course Code</th>
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<tr>
<td>CHEM 320</td>
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<td>CHEM 323</td>
<td>Physical Chemistry I</td>
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<tr>
<td>CHEM 327</td>
<td>Quantum Chemistry I</td>
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<td>CHEM 341</td>
<td>Inorganic Chemistry I</td>
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<tr>
<td>HUM 111</td>
<td>Cultures Civilizations and Ideas I</td>
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Spring Semester

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<tr>
<td>CHEM 328</td>
<td>Quantum Chemistry II</td>
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<tr>
<td>CHEM 340</td>
<td>Inorganic Chemistry Laboratory</td>
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<td>CHEM 342</td>
<td>Inorganic Chemistry II</td>
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<tr>
<td>HUM 112</td>
<td>Cultures Civilizations and Ideas II</td>
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FOURTH YEAR

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<tr>
<td>CHEM 399</td>
<td>Summer Practice</td>
<td>3 / 6</td>
</tr>
<tr>
<td>CHEM 461</td>
<td>Fundamentals of Biochemistry</td>
<td>3 / 6</td>
</tr>
<tr>
<td>CHEM 491</td>
<td>Senior Project I</td>
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<tr>
<td></td>
<td>Non Technical Elective</td>
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<td>Technical Electives (2)</td>
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Spring Semester

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<th>Course Title</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>CHEM 422</td>
<td>Introduction to Statistical Thermodynamics</td>
<td>3 / 6</td>
</tr>
<tr>
<td>CHEM 450</td>
<td>Applied Quantum Chemistry</td>
<td>3 / 6</td>
</tr>
<tr>
<td>CHEM 492</td>
<td>Senior Project II</td>
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</tr>
<tr>
<td></td>
<td>Technical Electives (2)</td>
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</tbody>
</table>

Note: Technical electives can be chosen from CHEM 201, any 300 or higher level MBG, PHYS, CS, EE, IE, MATH, or CHEM course, or with the consent of the advisor.

MINOR PROGRAM

Chemistry is a fundamental study encompassing the knowledge of structural and functional diversity of our material world at atomic and molecular level. The achievements of chemistry span from synthesis of pharmaceuticals and agricultural products to new materials, solar cells, superconductors, clean fuels. Chemistry impacts many disciplines in the fields of engineering, technology, biology, physics, medicine, and plays a central role in the solution of important problems related to health and environment.

The new minor program in chemistry is designed for undergraduate students from the Science and Engineering Faculties who intend to pursue a professional career in interdisciplinary fields in which a sound knowledge of chemistry is important.

Prerequisite Courses:

- PHYS 101 General Physics I
- PHYS 102 General Physics II
- MATH 101 Calculus I
- MATH 102 Calculus II
CURRICULUM

Courses Credits / ECTS Credits
CHEM 212 Analytical Chemistry II 3 / 6
CHEM 231 Organic Chemistry I 3 / 6
CHEM 341 Inorganic Chemistry I 3 / 6
Electives (3) 9 / 18

GRADUATE PROGRAMS

The graduate program is tailored to develop research skills of students so that they can pursue original and creative research at the highest level. Current research areas are nuclear chemistry, organic and inorganic chemistry, polymer chemistry, theoretical and computational chemistry and surface chemistry.

Master of Science in Chemistry

Admission: All applicants are required to have a B.S. degree in chemistry, chemical engineering, or in a related field of science or engineering. Students with a B.S. degree in areas other than chemistry may be requested to take several undergraduate courses in the field to acquire the necessary background. Evaluation of applicants is based on their ALES (Akademik Personel ve Lisansüstü Eğitim Girişi - Academic Personnel and Postgraduate Education Entrance Examination) scores, past academic records, reference letters and an interview. Applicants who are not Turkish citizens and Turkish citizen applicants who are residents of another country may take GRE instead of ALES. All non-native speakers of English are required to submit a proof of satisfactory knowledge of English.

Degree Requirements: In addition to at least 24 credit units of course work, the M.S. degree candidate must prepare and successfully defend a thesis. Expected duration to complete the M.S. program is four semesters; the maximum duration is six semesters.

CURRICULUM

Courses Credits / ECTS Credits
CHEM 599 Master's Thesis - / 56
GE 590 Academic Practices - / 12
CHEM Graduate electives (4) 12 / 30
Graduate electives (2) 6 / 15
Graduate elective or an Undergraduate elective courses (2) 6 / 12
Graduate Seminar in Chemistry - / 1

The descriptions provided here for different elective course groups are only for guidance. The complete list of courses in each elective group are given in the electronic registration system.

CHEM Graduate Elective Courses: All 5XX CHEM coded courses with at least 3 credits.

Graduate Elective Courses: All 5XX or higher level courses with at least 3 credits offered by Graduate School of Engineering and Science.

Graduate Elective or Undergraduate Elective Courses: All 3XX or higher level CHEM, CS, EEE, IE, MATH, MBG, ME, MSN and PHYS coded courses with at least 3 credits.

Doctor of Philosophy in Chemistry

Admission: All applicants are required to have a B.S. degree in chemistry, or in a related field of science or engineering. Evaluation of applicants is based on their ALES (Akademik Personel ve Lisansüstü Eğitim Girişi - Academic Personnel and Postgraduate Education Entrance Examination

*Graduate School of Engineering and Science comprises graduate programs of the departments of Computer Engineering, Electrical and Electronics Engineering, Industrial Engineering, Mechanical Engineering, Chemistry, Mathematics, Molecular Biology and Genetics, Physics, and the interdisciplinary graduate programs Material Science and Nanotechnology, and Neuroscience.
Examination) scores, past academic records, reference letters and an interview. Applicants who are not Turkish citizens and Turkish citizen applicants who are residents of another country may take GRE instead of ALES. All non-native speakers of English are required to submit a proof of satisfactory knowledge of English.

**Degree Requirements:** 24 credit units of course work beyond the M.S. level or 48 credits of course work beyond the B.S. level is required. Ph.D. candidates must pass a qualifying exam typically on their fourth semester, and then must prepare a thesis work proposal. Preparing and defending a dissertation based on original research is the essence of the program. A dissertation based on original research is the essence of the program. The expected duration to complete the Ph.D. program is eight semesters for students who enter the program after an M.S. degree, and ten semesters for those who enter after a B.S. degree. The maximum durations are 12 and 14 semesters, respectively.

**Doctor of Philosophy in Chemistry**

**CURRICULUM**

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<tr>
<th>Courses</th>
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<tr>
<td>GE 690 Academic Practices</td>
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<tr>
<td>CHEM Graduate electives (4)</td>
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<tr>
<td>Graduate electives (4)</td>
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<td>Graduate Seminar in Chemistry</td>
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**Doctor of Philosophy in Chemistry (After a Bachelor's Degree)**

**CURRICULUM**

<table>
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<tr>
<th>Courses</th>
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<tr>
<td>CHEM 699 Ph.D. Dissertation</td>
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<td>GE 690 Academic Practices</td>
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<td>CHEM Graduate electives (8)</td>
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</table>

The descriptions provided here for different elective course groups are only for guidance. The complete list of courses in each elective group are given in the electronic registration system.

**CHEM Graduate Elective Courses:** All 5XX CHEM coded courses with at least 3 credits.

**Graduate Elective Courses:** All 5XX or higher level courses with at least 3 credits offered by Graduate School of Engineering and Science.*

**COURSE DESCRIPTIONS**

**CHEM 100 General Chemistry**

**CHEM 101 Principles of Chemistry I**
A basic course in chemical systems, stoichiometry, structural and physical properties of matter, chemical equilibrium, ionic equilibrium, chemical thermodynamics, electrochemistry, chemical kinetics. (Laboratory work is obligatory). **Credit units:** 4 **ECTS Credit Units:** 6. Aut (E. Özensoy, U. Salzner) Spr (D. Tuncel)

*Graduate School of Engineering and Science comprises graduate programs of the departments of Computer Engineering, Electrical and Electronics Engineering, Industrial Engineering, Mechanical Engineering, Chemistry, Mathematics, Molecular Biology and Genetics, Physics, and the interdisciplinary graduate programs Material Science and Nanotechnology, and Neuroscience.*
CHEM 102  Principles of Chemistry II
Atomic theory and molecular structure. Covalent, ionic and metallic bonding. Structure of metals, ceramics, and polymers. (Laboratory work is obligatory).  Credit units: 4 ECTS Credit Units: 6, Prerequisite: CHEM 101. Spr (E. Özensoy, U. Salzner)

CHEM 120  Orientation for Chemistry Majors
Introduction to the aspects of the “current chemistry and chemical research” for first year chemistry majors. Students will be introduced to the department and its members. Faculty members and students meet once a week for discussions and presentations to introduce a variety of subject areas.  Credit units: 1 ECTS Credit Units: 1. Aut (Z. Ç. Kuruoğlu)

CHEM 201  Materials Science and Technology

CHEM 211  Analytical Chemistry I
Fundamental principles and theories of analytical chemistry. Qualitative and quantitative analysis by gravimetric, volumetric and electrochemical methods.  Credit units: 3 ECTS Credit Units: 6, Prerequisite: CHEM 102. Aut (O. Dağ)

CHEM 212  Analytical Chemistry II
Modern instrumental methods of chemical analysis based upon electrochemical and spectroscopic methods.  Credit units: 3 ECTS Credit Units: 6, Prerequisite: CHEM 102 and CHEM 211. Spr (Y. E. Türkmen)

CHEM 213  Analytical Chemistry Laboratory I
Experiments in modern quantitative analysis: Gravimetry, Neutralization Titrations, Analysis of Carbonate Mixtures, Precipitation Titrations, Titrations Based on Complex Formation, Oxidation-Reduction Titrations, Iodometry, Potentiometric Titrations.  Credit units: 2 ECTS Credit Units: 4, Prerequisite: CHEM 102. Aut (O. Dağ)

CHEM 214  Analytical Chemistry Laboratory II
A basic course in measurement science, intended to provide the student with an overall view of modern analytical chemistry and the instrumental methods of analysis used throughout industrial laboratories and research environments: Potentiometry, Ion Exchange Chromatography, Flame Photometry, Atomic Absorption Spectrometry, Infrared Spectrometry, Thin Layer Chromatography, Ultraviolet and Visible Spectrometry, Gas Chromatography, Electrophoresis.  Credit units: 2 ECTS Credit Units: 4, Prerequisite: CHEM 211 and CHEM 212. Spr (Y. E. Türkmen)

CHEM 231  Organic Chemistry I
Basic principles of organic chemistry. A survey of the principal classes of organic compounds. Synthesis and characteristic reactions of various functional groups.  Credit units: 3 ECTS Credit Units: 6, Prerequisite: CHEM 102. Aut (D. Tunçel)

CHEM 232  Organic Chemistry II
Basic principles of organic chemistry. A survey of the principal classes of organic compounds. Synthesis and characteristic reactions of various functional groups.  Credit units: 3 ECTS Credit Units: 6, Prerequisite: CHEM 102 and CHEM 231. Spr (E. U. Akkaya)

CHEM 233  Principles of Organic Chemistry I
Basic principles of organic chemistry. A survey of the principal classes of organic compounds. Synthesis and characteristic reactions of various functional groups.  Credit units: 3 ECTS Credit Units: 6, Prerequisite: CHEM 102. Aut (E. U. Akkaya)

CHEM 235  Organic Chemistry Laboratory I
This course will cover the basic organic chemistry experimental techniques such as: Crystallization, melting point determination, distillation, extraction, chromatography (e.g. thin layer chromatography, column chromatography),  Credit units: 2 ECTS Credit Units: 4, Prerequisite: CHEM 102. Aut (D. Tunçel)

CHEM 236  Organic Chemistry Laboratory II
The basic organic chemistry experiments will be carried out for the synthesis of some important organic molecules using the techniques acquired in Organic Chemistry Laboratory I (CHEM 235) as well as the knowledge gained in the Organic Chemistry Courses I and II. The students will also be introduced to the characterization techniques of organic molecules such as UV-Vis, FT-IR and NMR spectroscopy.  Credit units: 2 ECTS Credit Units: 4, Prerequisite: CHEM 231 and CHEM 235. Spr (E. U. Akkaya)
CHEM 301 Processing and Applications of Materials
Principles of processing and applications of various types of materials ranging from metal alloys and ceramics to polymers and composites. Processing of materials and their applications in various fields. Annealing, casting, fundamentals of heat treatment, powder handling, and powder pressing. Relationship between processing and performance. Materials used particularly in developing fields of materials science such as optical communication, fuel cells, superconductors, light-emitting diodes, lasers, and information storage. Introduction to how science and engineering can be engaged to design materials for many applications. Credit units: 3 ECTS Credit Units: 6, Prerequisite: CHEM 201. Aut (F. Karadas) Spr (F. Karadas)

CHEM 320 Physical Chemistry Laboratory

CHEM 321 Chemical Thermodynamics. Solution and phase equilibria. Electrochemistry. Solid and liquid states. Credit units: 3 ECTS Credit Units: 6, Prerequisite: CHEM 102 and MATH 102. Aut (S. Sützer)

CHEM 322 Chemical kinetics. Transport phenomena. Surface chemistry. Chemistry of macromolecules. Credit units: 3 ECTS Credit Units: 6, Prerequisite: CHEM 323. Spr (E. Özensoy)

CHEM 323 Principles of Physical Chemistry I
Chemical thermodynamics. Solution and phase equilibria. Electrochemistry. Solid and liquid states. Credit units: 3 ECTS Credit Units: 6

CHEM 324 Principles of Physical Chemistry II
Chemical kinetics. Transport phenomena. Surface chemistry. Chemistry of macromolecules. Credit units: 3 ECTS Credit Units: 6, Prerequisite: CHEM 323 or CHEM 325.

CHEM 325 Quantum Chemistry I

CHEM 326 Quantum Chemistry II

CHEM 340 Inorganic Chemistry Laboratory

CHEM 341 Inorganic Chemistry I
The nature of chemical bond. Shapes of molecules. Acid-Base chemistry. Chemistry in aqueous and nonaqueous solutions. Hydrogen bonding. General properties of the elements in the periodic table. Credit units: 3 ECTS Credit Units: 6, Prerequisite: CHEM 102. Aut (Staff)

CHEM 342 Inorganic Chemistry II
Bonding, stereochemistry and spectra of coordination compounds. Electronic, magnetic and optical properties of solids. Credit units: 3 ECTS Credit Units: 6, Prerequisite: CHEM 341. Spr (O. Dağ)

CHEM 399 Summer Practice
The minimum time for this practice is 6 weeks (30 working days). The main objective is to work in an industrial laboratory on the areas of Chemistry. Credit units: None ECTS Credit Units: 9. Aut (D. Tunçel)
CHEM 421  Principles and Chemical Applications of Thermodynamics

CHEM 422  Introduction to Statistical Thermodynamics

CHEM 430  Food Chemistry
Credit units: 3 ECTS Credit Units: 6. Prerequisite: CHEM 101 or CHEM 102. Spr (U. Salzner)

CHEM 450  Applied Quantum Chemistry
Quantum mechanical calculations of various properties of molecules using semi-empirical as well as ab-initio methods. Credit units: 3 ECTS Credit Units: 6. Aut (U. Salzner)

CHEM 456  Advanced Instrumental Analysis
The course objective is to study and discuss the principles, instrumentation and applications of modern instrumental methods, including spectroscopic techniques such as AAS, ICPMS, FTIR, Raman spectroscopy, Luminescence Spectroscopy, Mass Spectrometry. Credit units: 3 ECTS Credit Units: 6.

CHEM 460  Environmental Chemistry
Chemical problems related to environment. Energy balance of earth, ozone in the upper atmosphere, greenhouse effect, micrometeorology. SO$_2$ and CO$_2$ cycles, photochemical smog, aerosols, trace elements in the environment, particle size distribution. Credit units: 3 ECTS Credit Units: 6.

CHEM 461  Fundamentals of Biochemistry
Basic discussion of the structure and properties of biomolecules with special emphasis on proteins, enzymatic catalysis, membrane assembly and functions, bioenergetics. Credit units: 3 ECTS Credit Units: 6. Aut (Y. E. Türkmen)

CHEM 470  Polymer Chemistry

CHEM 491  Senior Project I
A project on a specific topic in an area of chemistry to be carried out by the student under the supervision of a faculty member. Credit units: 3 ECTS Credit Units: 6. Aut (Z. C. Kuruoğlu)

CHEM 492  Senior Project II
A project on a specific topic in an area of chemistry to be carried out by the student under the supervision of a faculty member. Credit units: 3 ECTS Credit Units: 6. Spr (Z. C. Kuruoğlu)

CHEM 503  Chemical Kinetics

CHEM 504  Group Theory and its Chemical Applications
Group theory, molecular symmetry, ligand field theory. Applications: symmetry aspects of MO theory, spectroscopy of transition metal complexes, metal-ligand bonding, molecular vibrations and symmetry. Credit units: 3 ECTS Credit Units: 7.5. Aut (Ö. Dağ)

CHEM 505  Nuclear and Radiochemistry
The atomic nucleus. Nuclear masses and nuclear stability. Radioactive decay processes: alpha, beta, and gamma decay. Structure of nuclei, nuclear models, nuclear forces, nuclear reactions, fission, fusion. Nuclear processes in geology and astrophysics. Credit units: 3 ECTS Credit Units: 7.5.

CHEM 506  Chemical Thermodynamics
CHEM 513    Environmental Radiochemistry
*Credit units: 3 ECTS Credit Units: 7.5.*

CHEM 515    Molecular Spectroscopy
*Credit units: 3 ECTS Credit Units: 7.5.  Aut (Ş. Sützer)*

CHEM 521    Surface Chemistry I
The central idea of this course is to describe the present state of modern surface science within a context dictated by chemistry. The course offers understanding of the surface phenomena at molecular-level and their relation to the various surface processes. It is focused on the properties of the solid-gas and solid-liquid interfaces and could be interest to students of chemical, physical and engineering science.  
*Credit units: 3 ECTS Credit Units: 7.5.*

CHEM 523    Concepts in Materials Science
Fundamental concepts in materials science will be covered. These topics include plastic deformation of crystalline solids and dislocations theory, defects in solids, diffusion phenomena, interfaces and kinetics of phase transformations. Nucleation and growth phenomena will also be covered. Several metallic, ceramic and polymeric systems will be investigated as case study examples.  
*Credit units: 3 ECTS Credit Units: 7.5.*

CHEM 531    Advanced Organic Chemistry I
The important classes of organic reactions and methods by which chemists obtain information about chemical processes. The primary focus of the course is on reaction mechanisms. The experimental evidence upon which mechanistic ideas are built will be emphasized. This course will also emphasize heterolytic reactions.  
*Credit units: 3 ECTS Credit Units: 7.5.*

CHEM 537    Supramolecular Chemistry
The course introduces general principles of molecular recognition, complex formation and host design, with emphasis on thermodynamics of multi-site host-guest complexation and nature of supramolecular interactions. Structure, properties, and synthesis of major categories of cation-, anion-, and neutral molecule-binding hosts are discussed, and crystal structures of enzyme-inhibitor complexes are analyzed from the point of view of the basic concepts of host-guest chemistry.  
*Credit units: 3 ECTS Credit Units: 7.5.  Aut (E. U. Akkaya)*

CHEM 541    Advanced Inorganic Chemistry I
Electronic spectra of complexes, reaction mechanism of d-block complexes, d- and f-block organometallic compounds, inorganic chains, rings, cages and clusters, catalysis and characterization of catalytic materials.  
*Credit units: 3 ECTS Credit Units: 7.5.  Aut (Staff)*

CHEM 542    Advanced Inorganic Chemistry II
Solid state synthesis, electronic and optical properties of solids.  
*Credit units: 3 ECTS Credit Units: 7.5.  Spr (Ö. Dağ)*

CHEM 551    Special Topics in Physical Chemistry I
Credit units: 3 ECTS Credit Units: 7.5.

CHEM 552    Special Topics in Physical Chemistry II
Credit units: 3 ECTS Credit Units: 7.5.  Spr (Ş. Sützer)

CHEM 571    Special Topics in Organic Chemistry I
Credit units: 3 ECTS Credit Units: 7.5.

CHEM 572    Special Topics in Organic Chemistry II
Credit units: 3 ECTS Credit Units: 7.5.  Spr (E. U. Akkaya)

CHEM 573    Polymer Chemistry I
Basic concepts of polymer science. Condensation, free radical, ionic, and coordination polymerizations. Synthesis, molecular structure, properties and uses of some common commercial polymers.  
*Credit units: 3 ECTS Credit Units: 7.5.  Aut (O. Tuncel)*

CHEM 591    Graduate Seminar I
This is a graduate (M.S.) seminar course. The instructor and students meet once a week for presentations and discussions. Topics of presentations are chosen by the mutual consent of the instructor and the students.  
*Credit units: None ECTS Credit Units: 1.  Aut (Z. C. Kuruoğlu) Spr (Z. C. Kuruoğlu)*

CHEM 599    Master’s Thesis
Credit units: None ECTS Credit Units: 56.  Aut (Z. C. Kuruoğlu) Spr (Z. C. Kuruoğlu)
CHEM 691  Advanced Seminar I
This is a graduate (Ph.D.) seminar course. The instructor and students meet once a week for presentations and discussions. Topics of presentations are chosen by the mutual consent of the instructor and the students. Credit units: None ECTS Credit Units: 1. Aut (Z. C. Kuruoğlu) Spr (Z. C. Kuruoğlu)

CHEM 699  Ph.D. Dissertation
Credit units: None ECTS Credit Units: 140. Aut (Z. C. Kuruoğlu) Spr (Z. C. Kuruoğlu)
DEPARTMENT OF MATHEMATICS


Part-time: A. M. Derya.

The Department of Mathematics offers undergraduate and graduate courses that lead to B.S., M.S. and Ph.D. degrees in Mathematics as well as undergraduate and graduate courses to all departments of the university.

The department emphasizes both pure and applied mathematics. Research in the department covers algebra, algebraic topology, algebraic geometry, functional analysis, algebraic number theory, analysis of nonlinear systems and general relativity.

UNDERGRADUATE PROGRAM

The undergraduate program in mathematics aims to serve two different purposes through a highly flexible curriculum.

On the one hand we educate the future mathematicians both with the pure and applied interests. For this we have a carefully prepared program whose success is tested over and over again during the last two decades. Only highly motivated and research oriented students choose specialized mathematics courses and together with equally motivated and talented classmates they experience a challenging and rewarding learning process. The program allows students to choose and specialize on their research subjects and they may start to do projects with their chosen mentors.

On the other hand we realize that some of our students decide not to pursue a research oriented path in mathematics. They want to prepare themselves for the challenges of the new era with a solid background in mathematics. Modern times require multivariate skills for jobs which were neither existent nor conceivable before. Our curriculum allows such students to structure their own education by allowing them to choose from the rich pool of courses offered on the campus by any department. This allows them to specialize on a subject of their choice with the advantage of having a strong mathematical basis.

The flexibility of our curriculum allows us to mentor and train both prospective mathematicians and widely educated individuals who will have a definite edge in the competitive job market for jobs which require talented and knowledgeable team members.

Our curriculum thus prepares students, according to their own choice, either for graduate work and research in mathematics, or for successful future in jobs such as economics, finance, business and education, just to name a few roads walked by our past graduates.

UNDERGRADUATE CURRICULUM

FIRST YEAR

<table>
<thead>
<tr>
<th>Autumn Semester</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>ENG 101</td>
<td>English and Composition I</td>
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<tr>
<td>GE 100</td>
<td>Orientation</td>
</tr>
<tr>
<td>MATH 101</td>
<td>Calculus I</td>
</tr>
<tr>
<td>MATH 123</td>
<td>Abstract Mathematics I</td>
</tr>
<tr>
<td>PHYS 101</td>
<td>General Physics I</td>
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<tr>
<td>TURK 101</td>
<td>Turkish I</td>
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<table>
<thead>
<tr>
<th>Spring Semester</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>ENG 102</td>
<td>English and Composition II</td>
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<tr>
<td>MATH 102</td>
<td>Calculus II</td>
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### SECOND YEAR

<table>
<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>MA TH 124 Abstract Mathematics II</td>
<td>4 / 7</td>
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<tr>
<td>PHYS 102 General Physics II</td>
<td>4 / 6</td>
</tr>
<tr>
<td>TURK 102 Turkish II</td>
<td>2 / 2</td>
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#### Autumn Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>CS 113 Introduction to Computing for Engineers</td>
<td>4 / 7</td>
</tr>
<tr>
<td>GE 250 Collegiate Activities Program I</td>
<td>1 / 1</td>
</tr>
<tr>
<td>HIST 200 History of Turkey</td>
<td>4 / 8</td>
</tr>
<tr>
<td>MATH 213 Advanced Calculus I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 223 Linear Algebra I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 240 Differential Equations</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MBG 105 Principles of Biology</td>
<td>3 / 5</td>
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#### Spring Semester

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<thead>
<tr>
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<tbody>
<tr>
<td>CS 114 Introduction to Programming for Engineers</td>
<td>4 / 7</td>
</tr>
<tr>
<td>GE 251 Collegiate Activities Program II</td>
<td>1 / 1</td>
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<tr>
<td>MATH 210 Finite and Discrete Mathematics</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 214 Advanced Calculus II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 224 Linear Algebra II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 253 Introduction to Number Theory</td>
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### THIRD YEAR

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<thead>
<tr>
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<tbody>
<tr>
<td>HUM 111 Cultures Civilizations and Ideas I</td>
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</tr>
<tr>
<td>Electives (3)</td>
<td>9 / 18</td>
</tr>
<tr>
<td>MATH Elective</td>
<td>3 / 6</td>
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#### Autumn Semester

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<thead>
<tr>
<th>Course</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>HUM 112 Cultures Civilizations and Ideas II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>Electives (4)</td>
<td>12 / 24</td>
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<td>MATH Elective</td>
<td>3 / 6</td>
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#### Spring Semester

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<thead>
<tr>
<th>Course</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>Electives (3)</td>
<td>9 / 18</td>
</tr>
<tr>
<td>MATH Elective</td>
<td>3 / 6</td>
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<tr>
<td>Non Technical Elective</td>
<td>3 / 6</td>
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</table>

### FOURTH YEAR

#### Autumn Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits / ECTS Credits</th>
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</thead>
<tbody>
<tr>
<td>Electives (3)</td>
<td>9 / 18</td>
</tr>
<tr>
<td>MATH Elective</td>
<td>3 / 6</td>
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<tr>
<td>Non Technical Elective</td>
<td>3 / 6</td>
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#### Spring Semester

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>Electives (3)</td>
<td>9 / 18</td>
</tr>
<tr>
<td>MATH Elective</td>
<td>3 / 6</td>
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<tr>
<td>Non Technical Elective</td>
<td>3 / 6</td>
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</tbody>
</table>

### MATHEMATICS ELECTIVE COURSES

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits / ECTS Credits</th>
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</thead>
<tbody>
<tr>
<td>MATH 202 Complex Analysis</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 302 Complex Analysis II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 313 Real Analysis I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 314 Real Analysis II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 323 Algebra I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 324 Algebra II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 345 Differential Geometry I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 346 Differential Geometry II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 414 Functional Analysis</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 415 Analysis of Differentiable Functions</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 420 Introduction to Cryptography</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 430 Introduction to Complex Geometry</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 431 Introduction to Algebraic Geometry</td>
<td>3 / 6</td>
</tr>
</tbody>
</table>
MINOR PROGRAM

The minor program in mathematics is designed to give the students a short view of what constitutes modern mathematics beyond the more computational Calculus courses. The mathematics courses taken by students in other disciplines are usually geared towards using certain methods. However, one might also want to understand the reasons, mechanisms, and the axiomatic structure underlying the results. For this, one must also learn the proofs of mathematical theorems and obtain from them further mathematical results. This is what is generally considered doing mathematics.

In the minor program, students take 4 required courses, 2 from each of mathematics’ two classical well-established areas, algebra and analysis. They form a well-balanced introduction to modern mathematics. They are also essential for an understanding of more advanced courses in these and other areas, two of which should be taken as electives. A good selection of electives would include courses in other areas as well so that students would have an idea of some of the newer developments in modern mathematics. The purpose is not to specialize in a narrow area, but rather to broaden one’s understanding.

Prerequisite Courses:
MATH 102 Calculus II
MATH 106 Introduction to Calculus II
MATH 114 Multi Variable Calculus
MATH 116 Intermediate Calculus III

CURRICULUM

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>MATH 213 Advanced Calculus I</td>
<td>3 / 6</td>
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<tr>
<td>MATH 323 Algebra I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>Electives (2)</td>
<td>6 / 12</td>
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<tr>
<td>MATH 202 or MATH 302</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 223 or MATH 224</td>
<td>3 / 6</td>
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</table>

ELECTIVE COURSES

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>MATH 214 Advanced Calculus II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 215 Mathematical Analysis</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 224 Linear Algebra II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 240 Differential Equations</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 253 Introduction to Number Theory</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 302 Complex Analysis II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 313 Real Analysis I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 314 Real Analysis II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 324 Algebra II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 345 Differential Geometry I</td>
<td>3 / 6</td>
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<tr>
<td>MATH 346 Differential Geometry II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 414 Functional Analysis</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 431 Introduction to Algebraic Geometry</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 443 Partial Differential Equations</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 453 Algebraic Number Theory</td>
<td>3 / 6</td>
</tr>
</tbody>
</table>

GRADUATE PROGRAMS

The aim of the program is to develop students into mathematicians who can pursue original and creative research. The program emphasizes research in pure and applied mathematics. At present,
research in the graduate program is focused on algebra, algebraic number theory, algebraic geometry, algebraic topology, analytic number theory, complex analysis, functional analysis, non-linear differential equations and general relativity.

Master of Science in Mathematics

Admission: All applicants are required to have a B.S. degree in mathematics, or in a related field of science or engineering. Students with a B.S. degree in areas other than mathematics may be requested to take several undergraduate courses in the field to acquire necessary background. Evaluation of applicants is based on their ALES (Akademik Personel ve Lisansüstü Eğitim Girisi Sınavı - Academic Personnel and Postgraduate Education Entrance Examination) scores, past academic records, reference letters and an interview. Applicants who are not Turkish citizens and Turkish citizen applicants who are residents of another country may take GRE instead of ALES. All non-native speakers of English are required to submit a proof of satisfactory knowledge of English.

Degree Requirements: In addition to at least 24 credit units of course work, the M.S. degree candidate must prepare and successfully defend a thesis. Expected duration to complete the M.S. program is four semesters; the maximum duration is six semesters.

CURRICULUM

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>GE 590 Academic Practices</td>
<td>- / 12</td>
</tr>
<tr>
<td>MATH 501 Real Analysis I</td>
<td>3 / 7.5</td>
</tr>
<tr>
<td>MATH 503 Complex Analysis I</td>
<td>3 / 7.5</td>
</tr>
<tr>
<td>MATH 523 Algebra I</td>
<td>3 / 7.5</td>
</tr>
<tr>
<td>MATH 543 Methods of Applied Mathematics I</td>
<td>3 / 7.5</td>
</tr>
<tr>
<td>MATH 599 Master's Thesis</td>
<td>- / 56</td>
</tr>
<tr>
<td>Graduate Elective</td>
<td>3 / 7.5</td>
</tr>
<tr>
<td>Graduate Seminars in Mathematics</td>
<td>- / 1</td>
</tr>
<tr>
<td>MATH Graduate Electives (2)</td>
<td>6 / 15</td>
</tr>
<tr>
<td>Restricted Graduate Elective</td>
<td>3 / 7.5</td>
</tr>
</tbody>
</table>

The descriptions provided here for different elective course groups are only for guidance. The complete list of courses in each elective group are given in the electronic registration system.

Graduate Elective Courses: All 5XX or higher level courses with at least 3 credits offered by Graduate School of Engineering and Science.*

MATH Graduate Elective Courses: All 5XX or higher level MATH coded courses with at least 3 credits.

Restricted Graduate Elective Courses: MATH 502, MATH 504, MATH 524, MATH 544

Doctor of Philosophy in Mathematics

Admission: All applicants are required to have a B.S. degree in mathematics, or in a related field of science or engineering. Evaluation of applicants is based on their ALES (Akademik Personel ve Lisansüstü Eğitim Girisi Sınavı - Academic Personnel and Postgraduate Education Entrance Examination) scores, past academic records, reference letters and an interview. Applicants who are not Turkish citizens and Turkish citizen applicants who are residents of another country may take GRE instead of ALES. All non-native speakers of English are required to submit a proof of satisfactory knowledge of English.

Degree Requirements: 24 credit units of course work beyond the M.S. level or 48 credits of course work beyond the B.S. level is required. Ph.D. candidates must pass a qualifying exam typically on their fourth semester, and then must prepare a thesis work proposal. Preparing and

*Graduate School of Engineering and Science comprises graduate programs of the departments of Computer Engineering, Electrical and Electronics Engineering, Industrial Engineering, Mechanical Engineering, Chemistry, Mathematics, Molecular Biology and Genetics, Physics, and the interdisciplinary graduate programs Material Science and Nanotechnology, and Neuroscience.
defending a dissertation based on original research is the essence of the program. A dissertation based on original research is the essence of the program. The expected duration to complete the Ph.D. program is eight semesters for students who enter the program after an M.S. degree, and ten semesters for those who enter after a B.S. degree. The maximum durations are 12 and 14 semesters, respectively.

**Doctor of Philosophy in Mathematics**

**CURRICULUM**

<table>
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<td>GE 690 Academic Practices</td>
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<tr>
<td>MATH 611 Algebraic Topology I</td>
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<tr>
<td>MATH 699 Ph.D. Dissertation</td>
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<tr>
<td>Graduate Seminars in Mathematics</td>
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<td>Restricted Graduate Electives (2)</td>
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Doctor of Philosophy in Mathematics (After a Bachelor's Degree)

**CURRICULUM**

<table>
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<tr>
<th>Courses</th>
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<tr>
<td>GE 690 Academic Practices</td>
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<tr>
<td>MATH 501 Real Analysis I</td>
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</tr>
<tr>
<td>MATH 503 Complex Analysis I</td>
<td>3 / 7.5</td>
</tr>
<tr>
<td>MATH 523 Algebra I</td>
<td>3 / 7.5</td>
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<tr>
<td>MATH 543 Methods of Applied Mathematics I</td>
<td>3 / 7.5</td>
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<tr>
<td>MATH 611 Algebraic Topology I</td>
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</tr>
<tr>
<td>MATH 699 Ph.D. Dissertation</td>
<td>- / 140</td>
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<tr>
<td>Graduate Electives (2)</td>
<td>6 / 15</td>
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<tr>
<td>Graduate Seminars in Mathematics (2)</td>
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<tr>
<td>MATH Graduate Electives (6)</td>
<td>18 / 45</td>
</tr>
<tr>
<td>Restricted Graduate Electives (3)</td>
<td>9 / 22.5</td>
</tr>
</tbody>
</table>

The descriptions provided here for different elective course groups are only for guidance. The complete list of courses in each elective group are given in the electronic registration system.

**Graduate Elective Courses:** All 5XX or higher level courses with at least 3 credits offered by Graduate School of Engineering and Science.*

**MATH Graduate Elective Courses:** All 5XX or higher level MATH coded courses with at least 3 credits.

**Restricted Graduate Elective Courses:** MATH 502, MATH 504, MATH 524, MATH 544

**COURSE DESCRIPTIONS**

**MATH 101 Calculus I**


**MATH 102 Calculus II**

Sequences and series, power series, Taylor series. Functions of several variables: partial derivatives and gradient, free and constrained extrema, multiple integrals, Fubini's theorems. Line integrals, Green's theorem.

*Graduate School of Engineering and Science comprises graduate programs of the departments of Computer Engineering, Electrical and Electronics Engineering, Industrial Engineering, Mechanical Engineering, Chemistry, Mathematics, Molecular Biology and Genetics, Physics, and the interdisciplinary graduate programs Material Science and Nanotechnology, and Neuroscience.

MATH 103 Introductory Mathematics

MATH 105 Introduction to Calculus I
Inequalities, absolute value. Cartesian plane, graphs of equations (lines, circles and parabolas). Functions, functions in economics, trigonometric functions. Limits, continuity. Derivative, differentiation rules, chain rule, implicit differentiation, marginal functions in economics. Maximum and minimum values, increasing and decreasing functions, the first derivative test, concavity, the second derivative test, curve sketching using calculus, optimization problems and applications in business and economics. Credit units: 4 ECTS Credit Units: 7. Aut (M. G. Davenport, S. Karadağ) Spr (Ü. Özger)

MATH 106 Introduction to Calculus II
Indefinite integral, definite integral, fundamental theorem of calculus, method of substitution, area between two curves. Inverse functions and their derivatives, exponential and logarithmic functions, inverse trigonometric functions. Indeterminate forms and the Hôpital's Rule. Geometric series, compound interest, exponential growth and decay. Techniques of integration (integration by parts, rationalizing substitution, partial fractions), improper integrals. Differential equations (solvable and first-order linear equations) and initial-value problems. Three-dimensional coordinate system, functions of several variables, partial derivatives, the chain rule. Maximum and minimum values, the second partials test, the Method of Lagrange Multipliers. Double integrals. Credit units: 4 ECTS Credit Units: 7, Prerequisite: MATH 105. Aut (Ü. Özger) Spr (M. G. Davenport, S. Karadağ)

MATH 110 Discrete Mathematics

MATH 119 Statistics for Lawyers
This course introduces students of law the basic ideas of probability and statistics. Topics covered include data evaluation and analysis, conditional probabilities, distributions, Bayesian methods, sampling, confidence intervals, hypothesis testing and elementary regression analysis. Credit units: 3 ECTS Credit Units: 6. Aut (M. Akçay) Spr (M. Akçay)

MATH 123 Abstract Mathematics I

MATH 124 Abstract Mathematics II

MATH 132 Discrete and Combinatorial Mathematics
Fundamental principles of counting including rules of sums and product, permutations and combinations. Fundamentals of logic and integers including mathematical induction, recursive definitions, prime numbers, greatest common divisor, cartesian products and relations, pigeonhole principle, partial orders, equivalence relations and partitions. The principle of inclusion and exclusion. Sums and recurrence relations: first and second order linear recurrence relations, finite and infinite calculus, infinite sums. Integer functions including floor and ceiling applications and recurrences, and the modulo operation. Generating functions including the method of generating functions for solving recurrences and exponential generating functions. Introduction to graph theory including graph isomorphism, Euler tours, Hamiltonian paths and cycles, planar graphs, and graph coloring. Credit units: 3 ECTS Credit Units: 6. Prerequisite: MATH 101 or MATH 111 or MATH 113. Aut (Ö. Ünlü, H. Yeşilyurt) Spr (A. M. Güloğlu, Ö. Ünlü)
MATH 202  Complex Analysis
Algebra of complex numbers, topology of the complex plane. Analytic functions, Cauchy-Riemann equations, power series. Complex line integrals, Cauchy theorem, Cauchy integral formula, Taylor series. Mean value property, Liouville theorem, isolated zeros, uniqueness theorem, maximum modulus principle. Isolated singularities, singularities at infinity, Laurent series. Residues, evaluation of improper integrals. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MATH 102 or MATH 114. Aut (O. Oral)

MATH 210  Finite and Discrete Mathematics
Principles of counting, permutations, combinations. The pigeonhole principle. Graphs, trees, cliques and independent sets. Permutations and groups. Subgroups, Lagrange's theorem. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MATH 102 or MATH 114. Aut (L. Barker)

MATH 213  Advanced Calculus I
The real number system, least upper bound property. Sequences in R, Cauchy sequences, limsup and liminf. Limit and continuity in R, uniform continuity. Differentiation in R, Cauchy integral in R, fundamental theorem of calculus. Infinite series of numbers, absolute convergence. Sequences and series of functions, uniform convergence, power series. Credit units: 3 ECTS Credit Units: 6, Prerequisite: (MATH 123 and MATH 114) or (MATH 123 and MATH 102). Aut (A. Gheondea)

MATH 214  Advanced Calculus II
Euclidean spaces, topology of $\mathbb{R}^n$. Differentiability on $\mathbb{R}^n$, differentials, inverse and implicit function theorems. Riemann integral on $\mathbb{R}^n$, Jordan regions, change of variables. Vector calculus, curves and surfaces, Green, Gauss, Stokes theorems Credit units: 3 ECTS Credit Units: 6, Prerequisite: MATH 213. Spr (A. Gheondea)

MATH 215  Mathematical Analysis
The real number system. The complex field. Finite, countable, uncountable sets. Metric spaces. Connected sets, connected sets. Sequences, Cauchy sequences. Series of numbers, summation by parts. Continuity, uniform continuity. Continuity and compactness, continuity and connectedness. Sequences and series of functions, uniform convergence, power series, uniform convergence and continuity/integration/differentiation. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MATH 102 or MATH 106 or MATH 114 or MATH 116.

MATH 220  Linear Algebra

MATH 223  Linear Algebra I

MATH 224  Linear Algebra II

MATH 225  Linear Algebra and Differential Equations

MATH 227  Introduction to Linear Algebra
Introduction to matrices, basic definitions and properties. Linear equations; inverse and rank of a matrix; existence and classification of solutions; Gaussian elimination. Characteristic equation of a matrix; eigenvalues, eigenvectors. Numerical techniques. Applications. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MATH 106. Aut (O. Oral) Spr (O. Oral)

MATH 230  Probability and Statistics for Engineers
Basic concepts of probability (sample spaces and events, permutations, combinations, conditional probability and independence). Discrete and continuous random variables, their probability distributions, expected value and distribution parameters. Discrete probability distribution functions (Binomial, geometric, negative binomial, Poisson distributions). Continuous probability distributions (uniform, normal, exponential, gamma and $X^2$ dis-

MATH 240 Differential Equations
First and second order differential equations, existence and uniqueness of solutions. Linear homogeneous dif-

MATH 241 Engineering Mathematics I

MATH 242 Engineering Mathematics II
Differential equations of first order, separable equations. Linear differential equations of higher order, homoge-

MATH 250 Introduction to Probability
Basic concepts of probability, conditional probability. Random variables, expectation and variance. Binomial, geometric, negative binomial, hypergeometric, Poisson random variables. Moment generating functions. Con-
tinuous random variables: Uniform, Exponential, Gamma, Normal, Beta, Weibull distributions. Bivariate and marginal distributions. Conditional distributions, covariance and correlation coefficient, conditional expectations. Credit units: 3 ECTS Credit Units: 6. Prerequisite: MATH 102 or MATH 112 or MATH 114. Aut (A. Kerimov) Spr (N. Zheltukhina)

MATH 253 Introduction to Number Theory
Divisibility, congruences, quadratic reciprocity, arithmetical functions, irrational numbers, simple continued frac-
tions, Diophantine equations. Credit units: 3 ECTS Credit Units: 6. Spr (Staff)

MATH 255 Probability and Statistics
Basic concepts of probability, expectation and variance, distribution functions, Bayes’ formula, marginal and conditional distributions, the distributions of sample statistics, law of large numbers, central limit theorem, intro-
duction to hypothesis testing. Credit units: 4 ECTS Credit Units: 7. Prerequisite: MATH 102. Aut (L. Önural) Spr (E. Ankan)

MATH 260 Introduction to Statistics

MATH 262 Statistical Methodology
Organization and description of data. Basic concepts of probability. Binomial, Poisson distributions. The normal distribution. $X^2$, t and F distributions. Simple and multiple regression. Analysis of categorical data. Some nonparametric tests. Biological and medical science applications using a statistical software such as MINITAB or SAS. Credit units: 3 ECTS Credit Units: 6. Spr (N. Zheltukhina)

MATH 264 Statistics for Social Sciences
Introduction to statistics with special emphasis on the utilization of statistical methods in social sciences: Orga-
nization of data, measures of center and variability. Basic probability concepts. Discrete and continuous random variables and their distributions. Inferences about the mean. Applications using statistical computer programs. Credit units: 3 ECTS Credit Units: 6. Aut (S. Kadavyçi̇lar) Spr (M. Akçay)

MATH 291 Summer Project I
A project on a specific topic in an area of mathematics to be carried out by the students under the supervision of a faculty member. Credit units: None ECTS Credit Units: 3.
MATH 302  Complex Analysis II
Evaluation of sums by residues. Argument principle, Rouché theorem, open mapping theorem. Conformal
mapping, mapping by elementary functions. Riemann sphere, linear fractional transformations. Schwarz lemma,
automorphisms of the disc and the upper half plane. Schwarz-Christoffel transformations. Applications to fluid
flow and electrostatics. Harmonic functions, Poisson integral formula. Infinite products, entire and meromorphic
functions, gamma and zeta functions. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MATH 202 or MATH
210. Spr (A. Degtyarev)

MATH 310  Topology
Topological spaces, connected and compact spaces, continuous functions, product spaces, the Tychonoff theo-
rem, separation axioms, separation by continuous functions, complete metric spaces, applications. Fundamental
group and covering spaces: homotopy, fundamental group, covering spaces. Credit units: 3 ECTS Credit Units:
6.

MATH 311  Real Analysis I
Metric spaces, sequences, completeness, Baire’s theorem. Continuity. Completion of a metric space. Compact-
ness and connectedness. Contraction mapping theorem and its applications. Product spaces. Credit units: 3
ECTS Credit Units: 6, Prerequisite: MATH 213. Aut (A. Goncharov)

MATH 312  Real Analysis II
Lebesgue outer measure, measurable sets. Lebesgue integral, convergence theorems. Functions of bounded
variation, absolutely continuous functions. $L^p$ spaces. General measure and integration theory. Radon-Nikodym
theorem. Product measures, Fubini’s theorem. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MATH 311.
Spr (A. Goncharov)

MATH 319  Interpolation and Approximation
Chebyshev polynomials. Polynomial interpolation. Divided differences. Lebesgue constants. Hermite interpo-
of the best approximation. Uniqueness of the best approximation. Haar systems. Fekete points. Leja se-
quence and approximation of the Green function. Polynomial inequalities. Some extremal problems. Degree of
approximation. Jackson and Bernstein theorems. Interpolation and approximation by splines. Credit units: 3
ECTS Credit Units: 6.

MATH 323  Algebra I
Symmetries of regular polygons and polyhedra. Permutation groups and abstract groups. Lagrange’s Theorem
and the Orbit-Stabilizer Theorem. Quotient groups and the Isomorphism Theorems. Sylow’s Theorem. Direct and
Semidirect Product Recognition Theorems. Symmetric and alternating groups. The simplicity of the alternating
groups of degree at least 5. Classical linear groups. Rings. The Chinese Remainder Theorem, primitive roots,
and the Structure Theorem for Finitely-Generated Abelian Groups. Jordan-Holder Theorem. Credit units: 3
ECTS Credit Units: 6. Aut (L. J. Barker)

MATH 324  Algebra II
Symmetries of polynomial equations. Rings and modules. Quotient rings and polynomial rings. Field Extensions.
Ruler-and-compass constructions. Euclidian domains, principal ideal domains, unique factorization domains.
Finitely generated modules of principal ideal domains. Eisenstein’s Criterion. Galois groups. The Fundamental
Theorem of Galois Theory. The Unsolvability of the Quintic. Credit units: 3 ECTS Credit Units: 6, Prerequisite:
MATH 323. Spr (M. Sezer)

MATH 325  Representation Theory
Module theory, semisimple rings and modules, Artin-Wedderburn theorem. Characters, orthonormality properties
of character tables. Induction, restriction and inflation of characters. Calculating character tables. Burnside’s
solubility theorem, Frobenius’ normal complement theorem. Credit units: 3 ECTS Credit Units: 6.

MATH 337  Introduction to Soliton Theory
The Korteweg-de Vries equation, properties of the KdV solutions, integrability of the KdV equation, initial value
problem for the KdV equation, inverse scattering theory, the Lax method, multi-soliton solutions, geometrical
approach to integrable models, the Toda lattice, Zakharov-Shabat formulation. Credit units: 3 ECTS Credit Units:
6.

MATH 345  Differential Geometry I
Euclidean spaces and differential forms, frames, calculus on surfaces. Shape operators. Gaussian and mean
curvatures. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MATH 214.

MATH 346  Differential Geometry II
Intrinsic geometry of surfaces. Riemannian geometry. Geodesics. Gauss-Bonnet theorem. Global structure of
surfaces. Credit units: 3 ECTS Credit Units: 6. Prerequisite: MATH 345.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATH 391</td>
<td>Summer Project II</td>
<td>A project on a specific topic in an area of mathematics to be carried out by the students under the supervision of a faculty member.</td>
<td>None</td>
</tr>
<tr>
<td>MATH 420</td>
<td>Introduction to Cryptography</td>
<td>This course is designed as an introduction to public key cryptography. We will review the mathematical background material as needed but rather than giving rigorous proofs of the theorems we emphasize their computational aspects by presenting algorithms and their implementations. Topics include Diffie-Hellman Key Exchange, Standard and Elliptic ElGamal Public Key Cryptosystem, RSA Public Key Cryptosystem, The Knapsack Cryptosystem, Digital Signatures and Hash Functions.</td>
<td>3</td>
</tr>
<tr>
<td>MATH 430</td>
<td>Introduction to Complex Geometry</td>
<td>Vector bundles. Sheaf theory and sheaf cohomology. Kähler manifolds. Chow rings. Lefschetz (1,1)-theorem. The hodge conjecture, i.e. the (p,p) version of Lefschetz's theorem.</td>
<td>3</td>
</tr>
<tr>
<td>MATH 431</td>
<td>Introduction to Algebraic Geometry</td>
<td>Plane curves, conics and cubics. Affine varieties, Hilbert basis theorem, Zarisky topology, Hilbert's nullstellensatz. Coordinate rings, morphisms. Projective varieties, birational morphism. Smoothness, dimension and the tangent space. The 27 lines on a cubic surface.</td>
<td>3</td>
</tr>
<tr>
<td>MATH 443</td>
<td>Partial Differential Equations</td>
<td>Pfaffian systems, linear and nonlinear PDE's of first order. Second order PDE, characteristic curves and characteristic equations. Laplace equation, wave equation, heat equation. Method of integral transforms, Fourier series, Green's function.</td>
<td>3</td>
</tr>
<tr>
<td>MATH 445</td>
<td>Analysis on Manifolds</td>
<td>The algebra and topology of $\mathbb{R}^n$ review of differentiation and integration inverse and implicit function theorems change of variables tensors and differential forms integration on chains integration on manifolds and stokes' theorem.</td>
<td>3</td>
</tr>
<tr>
<td>MATH 491</td>
<td>Senior Project I</td>
<td>A project on a specific topic in an area of mathematics to be carried out by the students under the supervision of a faculty member.</td>
<td>3</td>
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<tr>
<td>MATH 492</td>
<td>Senior Project II</td>
<td>A project on a specific topic in an area of mathematics to be carried out by the students under the supervision of a faculty member.</td>
<td>3</td>
</tr>
</tbody>
</table>
MATH 503 Complex Analysis I

MATH 504 Complex Analysis II

MATH 505 Introduction to Complex Geometry
Vector bundles. Sheaf theory and sheaf cohomology. Kähler manifolds. Chow rings. Lefschetz (1,1)-theorem. The hodge conjecture, i.e. the (p,p) version of Lefschetz's theorem. Credit units: 3 ECTS Credit Units: 7.5. Spr (A. S. Sertöz)

MATH 507 Introduction to Potential Theory

MATH 523 Algebra I
Category-theoretic language. Review of groups, rings, modules. Applications of Zorn’s Lemma, including the algebraic closure of a field. Galois theory. Credit units: 3 ECTS Credit Units: 7.5. Aut (M. Sezer)

MATH 524 Algebra II

MATH 525 Group Representations

MATH 535 Topology of Algebraic Varieties

MATH 541 Manifold Theory
Differentiable manifolds, smooth mappings, tangent cotangent bundles, differential of a map, submanifolds, immersions, imbeddings, vector fields, tensor fields, differential forms, orientation on manifolds, integration on manifolds, Stokes’ theorem. Lie derivative of tensor fields. Credit units: 3 ECTS Credit Units: 7.5. Aut (B. Ünal)
MATH 543  Methods of Applied Mathematics I
Functions spaces, orthogonal polynomials and Fourier analysis, generalized functions. Ordinary differential equations, Green’s function, Sturm-Liouville problem, hypergeometric functions. Perturbation methods, regular perturbations, singular perturbations, boundary layer analysis, the WKB approximation. Credit units: 3 ECTS Credit Units: 7.5. Aut (M. Gürses)

MATH 544  Methods of Applied Mathematics II

MATH 583  Topics in Mathematical Physics I
Credit units: 3 ECTS Credit Units: 7.5, Prerequisite: Consent of the Instructor.

MATH 597  Graduate Seminars in Mathematics I
Each graduate student who enrolls must present at least one one-hour talk about his/her research topic. Attendance to the seminars is mandatory. Credit units: None ECTS Credit Units: 1. Aut (M. Kocatepe) Spr (M. Kocatepe)

MATH 598  Graduate Seminars in Mathematics II
Each graduate student who enrolls must present at least one one-hour talk about his/her research topic. Attendance to the seminars is mandatory. Credit units: None ECTS Credit Units: 1. Aut (M. Kocatepe) Spr (M. Kocatepe)

MATH 599  Master’s Thesis
Credit units: 3 ECTS Credit Units: 7.5. Aut (M. Kocatepe) Spr (M. Kocatepe)

MATH 605  Topics in Functional Analysis I
Credit units: 3 ECTS Credit Units: 7.5, Prerequisite: Consent of the Instructor.

MATH 606  Selected Topics in Functional Analysis
Prerequisite: Consent of the Instructor. Credit units: 3 ECTS Credit Units: 7.5.

MATH 609  Several Complex Variables
General theory: Holomorphic functions of several complex variables, integral formulas, Bergman kernel, domains of holomorphy, holomorphic convexity, plurisubharmonicity, d-bar problem. Special theory: Function theory on the unit ball, automorphisms, Hardy spaces, boundary behavior. Credit units: 3 ECTS Credit Units: 7.5. Spr (H. T. Kapıçan)
MATH 645  Riemannian Geometry I

MATH 646  Riemannian Geometry II
The Gauss lemma, Riemannian distance, Riemannian completeness, Hopf-Rinow theorem. Jacobi fields, symmetric spaces, isometries and killing vector fields. First and second variations, the index form, conjugate and focal points, homogeneous spaces, lie groups and lie algebras. Complex and almost complex manifolds. Hermitian and Kaehlerian manifolds. Credit units: 3 ECTS Credit Units: 7.5. Aut (B. Unal)

MATH 653  Introduction to Analytical Number Theory
Primes in an arithmetic progression; Gauss' sum; primitive characters; Dirichlet's class number formula; the distribution of the primes; Riemann's zeta-function and Dirichlet $L$-functions; Explicit formulae and prime number theorems; the large sieve and Bombieri-Vinogradov theorem. Credit units: 3 ECTS Credit Units: 7.5.

MATH 654  Analytic Number Theory
Integer points, trigonometric sums, infinite products, entire functions, the gamma function, the Riemann zeta-function, zeros of the zeta-function, the prime number theorem, Dirichlet $L$-functions, primes in arithmetic progressions, the circle method, the Goldbach conjecture, Waring's problem. Credit units: 3 ECTS Credit Units: 7.5. Aut (A. M. Guloglu)

MATH 699  Ph.D. Dissertation
Credit units: None ECTS Credit Units: 140. Aut (M. Kocatepe) Spr (M. Kocatepe)
DEPARTMENT OF MOLECULAR BIOLOGY AND GENETICS

I. Yuluğ (Chair), Ç. Çekiç, E. Erbay, A. O. Güre, İ. Gürsel, Ö. Konu, T. Özçelik, Ö. Şahin.

Part-time: A. Arslan Ergül, E. Bilget Güven.

The Department of Molecular Biology and Genetics provides undergraduate and graduate courses in basic and applied areas of molecular biology and genetics. The undergraduate program offers B.S. degree in Molecular Biology and Genetics and the graduate program leads to M.S. and Ph.D. degrees in Molecular Biology and Genetics. The department is equipped with modern facilities for gene analysis, cell biology, protein chemistry, recombinant DNA technology and animal experiments. The education is research oriented. The undergraduate program concentrates initially on basic knowledge in life sciences and related fields, followed by a specialized training in molecular biology and genetics. Research laboratories of the department are used for graduate student training and for the senior projects for undergraduate students. The main research activities of the department are on molecular genetics, molecular biology, molecular cell biology, molecular virology, molecular immunology, structure-function relationship of proteins and new biotechnologies.

UNDERGRADUATE PROGRAM

The undergraduate program aims to equip students with basic knowledge in life sciences with special emphasis on molecular biology and genetics. The education program in the first two years concentrates on basic knowledge in biology, genetics and microbiology in addition to physics, chemistry and mathematics. The last two years are dedicated to a specialized training in molecular biology, molecular cell biology and biotechnology. Theoretical courses are completed with laboratory courses with hands-on experiments.

UNDERGRADUATE CURRICULUM

FIRST YEAR

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<tr>
<th>Autumn Semester</th>
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<tr>
<td>CHEM 101 Principles of Chemistry I</td>
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</tr>
<tr>
<td>ENG 101 English and Composition I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>GE 100 Orientation</td>
<td>1 / 1</td>
</tr>
<tr>
<td>MATH 101 Calculus I</td>
<td>4 / 7</td>
</tr>
<tr>
<td>MBG 101 Biology I</td>
<td>4 / 7</td>
</tr>
<tr>
<td>TURK 101 Turkish I</td>
<td>2 / 2</td>
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<table>
<thead>
<tr>
<th>Spring Semester</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>CHEM 102 Principles of Chemistry II</td>
<td>4 / 6</td>
</tr>
<tr>
<td>ENG 102 English and Composition II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MATH 102 Calculus II</td>
<td>4 / 7</td>
</tr>
<tr>
<td>MBG 102 Biology II</td>
<td>4 / 7</td>
</tr>
<tr>
<td>TURK 102 Turkish II</td>
<td>2 / 2</td>
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SECOND YEAR

<table>
<thead>
<tr>
<th>Autumn Semester</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>CHEM 233 Principles of Organic Chemistry I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>CS 113 Introduction to Computing for Engineers</td>
<td>4 / 7</td>
</tr>
<tr>
<td>GE 250 Collegiate Activities Program I</td>
<td>1 / 1</td>
</tr>
<tr>
<td>HIST 200 History of Turkey</td>
<td>4 / 8</td>
</tr>
<tr>
<td>MBG 210 Genetics</td>
<td>4 / 7</td>
</tr>
<tr>
<td>PHYS 101 General Physics I</td>
<td>4 / 6</td>
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<tr>
<th>Spring Semester</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>CS 114 Introduction to Programming for Engineers</td>
<td>4 / 7</td>
</tr>
<tr>
<td>GE 251 Collegiate Activities Program II</td>
<td>1 / 1</td>
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<tr>
<td>MATH 262 Statistical Methodology</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MBG 223 Molecular Genetics</td>
<td>4 / 7</td>
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<td>PHYS 102 General Physics II</td>
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THIRD YEAR

Autumn Semester

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<th>Course Title</th>
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<tbody>
<tr>
<td>HUM 111</td>
<td>Cultures, Civilizations and Ideas I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MBG 301</td>
<td>Molecular Biology of the Cell I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MBG 311</td>
<td>Biochemistry I</td>
<td>4 / 7</td>
</tr>
<tr>
<td>MBG 324</td>
<td>Molecular Biology of the Gene</td>
<td>4 / 7</td>
</tr>
<tr>
<td>MBG 326</td>
<td>Introduction to Bioinformatics</td>
<td>3 / 6</td>
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Spring Semester

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits / ECTS Credits</th>
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</thead>
<tbody>
<tr>
<td>HUM 112</td>
<td>Cultures, Civilizations and Ideas II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MBG 302</td>
<td>Molecular Biology of the Cell II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MBG 312</td>
<td>Biochemistry II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MBG 316</td>
<td>Physiology</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MBG 338</td>
<td>Microbiology</td>
<td>4 / 7</td>
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</table>

FOURTH YEAR

Autumn Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>MBG 391</td>
<td>Summer Practice</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MBG 416</td>
<td>Science and Ethics</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MBG 491</td>
<td>Senior Project I</td>
<td>3 / 6</td>
</tr>
<tr>
<td></td>
<td>Restricted Elective</td>
<td>3 / 6</td>
</tr>
<tr>
<td></td>
<td>Technical Elective</td>
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Spring Semester

<table>
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<tr>
<th>Course Code</th>
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<tr>
<td>MBG 418</td>
<td>Genomics</td>
<td>4 / 6</td>
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<tr>
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<td>Non Technical Electives (2)</td>
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<tr>
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RESTRICTED ELECTIVES

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<td>MBG 415</td>
<td>Genetic Engineering and Biotechnology</td>
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<tr>
<td>MBG 470</td>
<td>Immunology</td>
<td>3 / 6</td>
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<tr>
<td>MBG 471</td>
<td>Membrane Biology</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MBG 472</td>
<td>Introduction to Stem Cells</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MBG 473</td>
<td>Biomolecules, Biomaterials and Bioprocesses</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MBG 474</td>
<td>Introduction to Computational Biology</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MBG 475</td>
<td>Molecular Basis of Evolution</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MBG 480</td>
<td>Cell Cycle and Apoptosis</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MBG 481</td>
<td>Protein Chemistry</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MBG 482</td>
<td>Computational Approaches to Biology</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MBG 483</td>
<td>Developmental Biology</td>
<td>3 / 6</td>
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<tr>
<td>MBG 485</td>
<td>DNA Damage and Repair Mechanisms</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MBG 487</td>
<td>Special Techniques in Molecular Genetics</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MBG 488</td>
<td>Introduction to Human Genetics</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MBG 489</td>
<td>Genetics and Biology of Cancer</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MBG 492</td>
<td>Senior Project II</td>
<td>3 / 6</td>
</tr>
</tbody>
</table>

MINOR PROGRAM

MBG minor program aims to provide introductory knowledge in life sciences with the selected emphasis on Molecular Biology and Genetics. The curriculum in the minor program provides a foundation in basic areas with the following aspects: the structure and expression of genes, biochemistry of proteins, cell signaling, development, the basis of inherited diseases, molecular biology of cancer, biotechnology, genomics and bioinformatics. Students are required to take four fundamental courses. "Biology I and II" provide essential knowledge about molecules of the life, central dogma, DNA, RNA, proteins, organization of the cell, and embryogenesis and genetic diseases. These courses also provide an introduction to cell division and differentiation, molecular biology methods, recombinant DNA technology, and biotechnology, which help prepare the students for advanced
The "Principles of Genetics" course covers Mendelian genetics, theory of inheritance, genetic mapping, and population genetics topics in general. Finally, "Molecular Biology of the Cell" investigates how the molecular mechanisms, which are studied in the other courses, serve the cells. These courses will supply the knowledge for the minor candidates who will choose two advanced courses offered from our department related to their specific interests. Additional advanced courses can be selected according to the students’ specific needs toward their future career. The department appoints an advisor for students in the program. All elective courses are subject to advisor approval.

Prerequisite Courses: None

CURRICULUM

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>MBG 101 Biology I</td>
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<tr>
<td>MBG 102 Biology II</td>
<td>4 / 7</td>
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<tr>
<td>MBG 209 Principles of Genetics</td>
<td>3 / 6</td>
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<tr>
<td>MBG 301 Molecular Biology of the Cell I</td>
<td>3 / 6</td>
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<td>Electives (2)</td>
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ELECTIVE COURSES

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<tr>
<td>MBG 326 Introduction to Bioinformatics</td>
<td>3 / 6</td>
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<tr>
<td>MBG 415 Genetic Engineering and Biotechnology</td>
<td>3 / 6</td>
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<tr>
<td>MBG 416 Science and Ethics</td>
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<tr>
<td>MBG 418 Genomics</td>
<td>4 / 6</td>
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<td>MBG 471 Membrane Biology</td>
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<td>MBG 472 Introduction to Stem Cells</td>
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<td>MBG 473 Biomolecules, Biomaterials and Bioprocesses</td>
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<td>MBG 475 Molecular Basis of Evolution</td>
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<td>MBG 487 Special Techniques in Molecular Genetics</td>
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<td>MBG 488 Introduction to Human Genetics</td>
<td>3 / 6</td>
</tr>
<tr>
<td>MBG 489 Genetics and Biology of Cancer</td>
<td>3 / 6</td>
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</tbody>
</table>

GRADUATE PROGRAMS

The graduate programs are organized to provide an excellent training in basic and applied research areas of molecular biology and genetics. The main research activities of the department are on molecular genetics (genetic predisposition to cancer, tumor suppressor genes, gene-disease associations), molecular biology (regulation of transcription, differential expression, epigenetics), molecular cell biology (cell cycle, apoptosis, signal transduction). Immunology, bioinformatics, metabolic diseases.

Master of Science in Molecular Biology and Genetics

Admission: All applicants are required to have a B.S. degree in molecular biology and genetics, biology, or in a related field of science or engineering. Students with a B.S. degree in chemistry, chemical engineering, physics or a related field may also apply; however, such students may be requested to take several undergraduate courses in molecular biology and genetics to acquire necessary background in the field. Evaluation of applicants is based on their ALES (Akademik Personel ve Lisansüstü Eğitim Girişi Sınavı - Academic Personnel and Postgraduate Education Entrance Examination) scores, past academic records, reference letters and an interview. Applicants who are not Turkish citizens and Turkish citizen applicants who are residents of another country may take GRE instead of ALES. All non-native speakers of English are required to submit a proof of satisfactory knowledge of English.

Degree Requirements: In addition to at least 24 credit units of course work, the M.S. degree candidate must prepare and successfully defend a thesis. Expected duration to complete the M.S. program is four semesters; the maximum duration is six semesters.
**CURRICULUM**

**Courses** | Credits / ECTS Credits
--- | ---
GE 590 Academic Practices | 3 / 7.5
MBG 502 Advanced Cellular Biology | 3 / 7.5
MBG 503 Advanced Molecular Biology | 3 / 7.5
MBG 505 Advanced Molecular Genetics | 3 / 7.5
MBG 599 Master's Thesis | 56 / -
Seminars in Molecular Biology and Genetics | 1 / -
Unrestricted graduate electives (5) | 15 / 30

The descriptions provided here for different elective course groups are only for guidance. The complete list of courses in each elective group are given in the electronic registration system.

**Unrestricted Graduate Elective Courses:** Selected 5XX or higher level courses with at least 3 credits offered by different departments.

**Doctor of Philosophy in Molecular Biology and Genetics**

**Admission:** All applicants are required to have a B.S. degree in molecular biology and genetics or in biology. Other related professional degree holders such as M.D. or veterinary M.D. may also apply. Evaluation of applicants is based on their ALES (Akademik Personel ve Lisansüstü Eğitim Giriş Sınavı - Academic Personnel and Postgraduate Education Entrance Examination) scores, past academic records, reference letters and an interview. Applicants who are not Turkish citizens and Turkish citizen applicants who are residents of another country may take GRE instead of ALES. All non-native speakers of English are required to submit a proof of satisfactory knowledge of English.

**Degree Requirements:** 24 credit units of course work beyond the M.S. level or 48 credits of course work beyond the B.S. level is required. Ph.D. candidates must pass a qualifying exam typically on their fourth semester, and then must prepare a thesis work proposal. Preparing and defending a dissertation based on original research is the essence of the program. A dissertation based on original research is the essence of the program. The expected duration to complete the Ph.D. program is eight semesters for students who enter the program after an M.S. degree, and ten semesters for those who enter after a B.S. degree. The maximum durations are 12 and 14 semesters, respectively.

**Doctor of Philosophy in Molecular Biology and Genetics**

**CURRICULUM**

**Courses** | Credits / ECTS Credits
--- | ---
GE 690 Academic Practices | 3 / 7.5
MBG 513 Bioinformatics | 3 / 7.5
MBG 601 Human Genetics | 3 / 7.5
MBG 602 Molecular and Cellular Immunology | 3 / 7.5
MBG 603 Molecular Bases of Cancer | 3 / 7.5
MBG 699 Ph.D. Dissertation | 140 / 1
Unrestricted graduate electives (4) | 12 / 24

**Doctor of Philosophy in Molecular Biology and Genetics (After a Bachelor's Degree)**

**CURRICULUM**

**Courses** | Credits / ECTS Credits
--- | ---
GE 590 Academic Practices | 3 / 7.5
MBG 502 Advanced Cellular Biology | 3 / 7.5
MBG 503 Advanced Molecular Biology | 3 / 7.5
MBG 505 Advanced Molecular Genetics | 3 / 7.5

**Department of Molecular Biology and Genetics**
MBG 513 Bioinformatics ................................................................. 3 / 7.5
MBG 601 Human Genetics ............................................................ 3 / 7.5
MBG 602 Molecular and Cellular Immunology ............................. 3 / 7.5
MBG 603 Molecular Bases of Cancer .......................................... 3 / 7.5
MBG 699 Ph.D. Dissertation .......................................................... 9 / 22.5
MBG graduate electives (3) ......................................................... - / 140
Seminars in Molecular Biology and Genetics (2) .......................... - / 2
Unrestricted graduate electives (6) .............................................. 18 / 36

The descriptions provided here for different elective course groups are only for guidance. The complete list of courses in each elective group are given in the electronic registration system.

Unrestricted Graduate Elective Courses: Selected 5XX or higher level courses with at least 3 credits offered by different departments.

MBG Graduate Elective Courses: All 5XX or higher level MBG coded courses with at least 3 credits.

**COURSE DESCRIPTIONS**

**MBG 101 Biology I**
Molecules of the life, central dogma (DNA, RNA, protein), organization of the cell, embryogenesis and genetic diseases. Credit units: 4 ECTS Credit Units: 7. Aut (A. O. Gür)

**MBG 102 Biology II**
Introduction to cell division and differentiation introduction to the molecular biology methods, recombinant DNA technology, biotechnology. (Laboratory work is obligatory) Credit units: 4 ECTS Credit Units: 7. Prerequisite: MBG 101. Spr (I. Yılığ)

**MBG 105 Principles of Biology**
This course is for students from the Physics, Chemistry and Mathematics Departments. Molecules of life, organization of the cell, chromosomes and cell division, patterns of inheritance, evolution, recombinant DNA technology, genetic diseases. Credit units: 3 ECTS Credit Units: 5. Aut (E. Bilgel Güven)

**MBG 110 Introduction to Modern Biology**
This course is for students from Faculty of Engineering. Molecules of life, organization of the cell, chromosomes and cell division, genetics, molecular genetics, recombinant DNA technology, genetic diseases, evolution, animal development, biotechnology. Credit units: 3 ECTS Credit Units: 6. Aut (E. Bilgel Güven, Ç. Çekici, E. Erbay, T. Özyelik, Ö. Şahin) Spr (A. Arslan Ergül, E. Bilgel Güven, Ö. Şahin)

**MBG 209 Principles of Genetics**
Transmission genetics, gene and chromosomal mutations, linkage and mapping, molecular genetic applications, population and quantitative genetics, molecular evolution, model organism genomics and bioinformatics. Credit units: 3 ECTS Credit Units: 6. Aut (Ö. Konu)

**MBG 210 Genetics**
Mendelian genetics, chromosome theory of inheritance, linkage, genetic mapping in eukaryotes and prokaryotes, chromosomal mutations, gene mutations, molecular genetics, population genetics, quantitative genetics, molecular evolution. Credit units: 4 ECTS Credit Units: 7. Aut (Ö. Konu)

**MBG 222 Fundamentals of Molecular Genetics**
Molecular biology of gene regulation, fundamentals of DNA repair and recombination, detailed analysis of transposition and retrotransposition in eukaryotes, molecular mechanisms of eukaryotic and prokaryotic protein synthesis. Credit units: 3 ECTS Credit Units: 6. Spr (A. Arslan Ergül)

**MBG 223 Molecular Genetics**
Mechanism of protein synthesis, usage of the genetic code, protein localization, the structure of genetic material, regulation of transcription, recombination, repair, and transposition in bacteria, an introduction to gene rearrangements. (Laboratory work is obligatory) Credit units: 4 ECTS Credit Units: 7. Spr (A. Arslan Ergül)

**MBG 301 Molecular Biology of the Cell I**
This course aims an in-depth understanding of cell signaling. We start by studying the signal/receptor families individually, and move on to a synthesis by studying examples from developmental biology and cancer. Selected original articles that from the foundations and principles of cell signaling are analyzed and criticized thoroughly as part of the coursework. Credit units: 3 ECTS Credit Units: 6. Prerequisite: MBG 101 or MBG 105 or MBG 110. Aut (A. O. Gür)
MBG 302 Molecular Biology of the Cell II
Germ cells and fertilization, early embryonic development, stem cells, generation and maintenance of differentiated cells, immune cells, cancer cells, specialized techniques in cell biology, light and fluorescent microscopy, flow cytometry, techniques used for cell proliferation and apoptosis studies. (Laboratory work is obligatory) MBG 301, consent of the instructor. Credit units: 4 ECTS Credit Units: 7. Spr (Ç. Çekić)

MBG 311 Biochemistry I
Introductory biochemistry, bioenergetics, protein structure, protein purification and characterization, enzymatic activity, kinetics, allostery, vitamins and coenzymes. Credit units: 4 ECTS Credit Units: 7. Aut (Ö. Şahin)

MBG 312 Biochemistry II
Introduction to intermediary metabolism, polysaccharides, energy storage, lipids and membrane structure nucleic acid structure and nucleotide metabolism. Credit units: 3 ECTS Credit Units: 6. Spr (E. Bilge Güven)

MBG 316 Physiology
Homeostatic and biological control mechanisms in major body systems, including skeletal system, muscle system, nervous system, circulatory system, respiratory system, digestive system, excretory system, reproductive system and immune system. Credit units: 3 ECTS Credit Units: 6. Spr (Ç. Çekić)

MBG 324 Molecular Biology of the Gene
Molecular biology of eukaryotes including genome organization and chromosome structure, gene structure, protein structure and synthesis, regulation of gene expression. RNA splicing and processing, catalytic RNA. (Laboratory work is obligatory) Credit units: 4 ECTS Credit Units: 7. Prerequisite: consent of the instructor. MBG 101 and MBG 102. Aut (I. Yuluğ)

MBG 326 Introduction to Bioinformatics
Computer use in molecular biology networks, access to online databases, structure comparison, structure prediction. Homology based protein 3-D structure modeling. Credit units: 3 ECTS Credit Units: 6. Aut (Ö. Konu)

MBG 338 Microbiology
Structure, growth and physiology of microorganisms, classification of bacteria, diverse activities of bacteria, viruses, microbial pathogenicity, exploitation of microorganisms by man. Credit units: 4 ECTS Credit Units: 7. Spr (I. Gürsel)

MBG 391 Summer Practice
A project on a special topic in an area of biology to be carried out by the student under the supervision of a faculty member, at the department or another institution. Credit units: None ECTS Credit Units: 9. Aut (ÈO. Konu) Spr (ÈO. Konu)

MBG 416 Science and Ethics
Scientific concepts, history of science, the birth of modern science, science and society, ethics of science. Credit units: 3 ECTS Credit Units: 6. Aut (ÈE. Erbay)

MBG 418 Genomics

MBG 452 Practical Biology
This course is for students from faculty of Education. Practical techniques for the biology laboratory, biological experiments, and problem solving in biology. The course involves one hour of discussion and four hours of laboratory work per week. The students carry out practical projects. Credit units: 3 ECTS Credit Units: 6.

MBG 470 Immunology
Adaptive and innate immunity, humoral and cell mediated immunity, the lymphoid system, antibody structure and function, antigen-antibody interactions, the antibody response, immunological tolerance, immunity to diseases, complements and hypersensitivity, cytokines, major histocompatibility complex. Credit units: 3 ECTS Credit Units: 6. Aut (I. Gürsel)

MBG 473 Biomolecules, Biomaterials and Bioprocesses
Utilization of biological macromolecules as a biomaterial, principles applied to harness these biological complex molecules in biology, medicine and pharmaceutical biotechnology discussion of the selected cutting edge research papers. Credit units: 3 ECTS Credit Units: 6. Aut (I. Gürsel)
MBG 475  Molecular Basis of Evolution
Darwin and the origin of species, the mechanisms of molecular evolution, genomic evolution, variation in species, genes in populations, molecular phylogenetics, transitions and evolution of modern humans. Credit units: 3 ECTS Credit Units: 6.

MBG 485  DNA Damage and Repair Mechanisms
Homologous recombination and role of double strand breaks, base excision repair pathway, mismatch repair, nucleotide excision repair and links with transcription, DNA double strand break repair and V(D)J recombination, cellular responses to DNA damage. Credit units: 3 ECTS Credit Units: 6. Spr (A. O. Güre)

MBG 487  Special Techniques in Molecular Genetics
Principles of specific methods used in the molecular genetics site-directed mutagenesis, phage display technology, cDNA selection, exon trapping, library making and screening. Discussions of selected research papers. (No lab session.) Credit units: 3 ECTS Credit Units: 6. Spr (I. Yuluğ)

MBG 488  Introduction to Human Genetics
Principles of human genetics, patterns of single gene inheritance, human molecular genetics, the human gene map, cytogenetics, the molecular and biochemical basis of genetic disease, genetic counseling, prenatal diagnosis. Credit units: 3 ECTS Credit Units: 6. Spr (T. Özçelik)

MBG 491  Senior Project I
A project on a specific topic in an area of molecular biology or genetics to be carried out by the student under the supervision of a faculty member. Credit units: 3 ECTS Credit Units: 6. Aut (A. O. Güre) Spr (A. O. Güre)

MBG 492  Senior Project II
A project on a specific topic in an area of molecular biology or genetics to be carried out by the student under the supervision of a faculty member. Credit units: 3 ECTS Credit Units: 6. Prerequisite: MBG 491. Spr (A. O. Güre)

MBG 502  Advanced Cellular Biology
Cell structure and function, the cytoskeleton, intracellular compartments, vesicular trafficking, the cell-division cycle, cell junctions, cell adhesion, extracellular matrix and development. Credit units: 3 ECTS Credit Units: 7.5. Aut (Ç. Çekic)

MBG 503  Advanced Molecular Biology

MBG 505  Advanced Molecular Genetics
Organization of the genome, Mendelian and non-Mendelian inheritance, mitochondrial genome, mutigene families and repetitive DNA, polymorphism and polymorphic markers, genetic mapping, physical mapping, models of studying gene structure and function. Credit units: 3 ECTS Credit Units: 7.5. Spr (Ö. Konu)

MBG 509  Special Topics in Molecular Biology I
Current topics in molecular biology, comprehensive reading, critical evaluations of scientific references, seminar presentations and class participation. Credit units: 3 ECTS Credit Units: 7.5. Aut (Ö. Şahin)

MBG 510  Special Topics in Molecular Biology II
Current topics in molecular biology, comprehensive reading, critical evaluations of scientific references, seminar presentations and class participation. Credit units: 3 ECTS Credit Units: 7.5. Spr (Ö. Şahin)

MBG 513  Bioinformatics
Commonly used databases in molecular biology, genetics and related fields, homology search for genes and proteins, primer design, molecular operations, restriction mapping, structure prediction. Credit units: 3 ECTS Credit Units: 7.5. Spr (Ö. Konu)

MBG 516  Biomolecules, Biomaterials and Bioprocesses
Basic biomolecules (from simple molecules such as amino acids to macro molecules such as proteins and DNA) and principles of biology from material science perspective. This course must be a core course given very early in the curriculum. Credit units: 3 ECTS Credit Units: 7.5.

MBG 599  Master's Thesis
Credit units: None ECTS Credit Units: 56. Aut (I. Yuluğ) Spr (I. Yuluğ)

MBG 601  Human Genetics
Molecular genetics of human diseases, chromosomal abnormalities, biochemical genetics, genetic basis of cancer, genome projects, molecular medicine, genetic counseling, DNA based diagnostics, population genetics. Credit units: 3 ECTS Credit Units: 7.5. Spr (T. Özçelik)
MBG 602 Molecular and Cellular Immunology
Basic elements of the immune system, molecular biology of antigen recognition, B and T lymphocytes, cellular and genetic basis of immunity, regulation and development of immune system, immune system deficiencies in humans, vaccination and adaptive immunotherapy. Credit units: 3 ECTS Credit Units: 7.5. Spr (İ. Gürsel)

MBG 603 Molecular Bases of Cancer
Cancer as a multi gene disease, oncogenes, tumor suppressor genes, mutator genes, gene therapy of cancer, germ-line and somatic mutations and cancer, genes involved in abnormal proliferation and metastatic behavior of cancer cells. immune response to cancer, familial cancers, virus-induced cancers. Credit units: 3 ECTS Credit Units: 7.5. Spr (Ö. Şahin)

MBG 608 Principles of Gene Expression
Mechanisms of transcription, chromatin modifying and remodeling complexes, regulation of tissue specific gene expression, consequences of gene expression deregulation. Credit units: 3 ECTS Credit Units: 7.5.

MBG 612 Special Topics in Genetics I
Current topics in molecular genetics, comprehensive reading, critical evaluation of scientific literatures seminar presentations and class participation. Credit units: 3 ECTS Credit Units: 7.5. Aut (Ö. Şahin)

MBG 613 Special Topics in Genetics II
Current topics in molecular genetics, comprehensive reading, critical evaluation of scientific literatures seminar presentations and class participation. Credit units: 3 ECTS Credit Units: 7.5. Spr (Ö. Şahin)

MBG 616 Experimental Molecular Biology and Genetics I
An introduction to basic molecular biology and genetics techniques. The student spends a half semester with one of the research groups and participates in some aspects of the research being pursued by the faculty member. Credit units: 3 ECTS Credit Units: 7.5. Aut (İ. Yuluğ)

MBG 617 Experimental Molecular Biology and Genetics II
An introduction to advanced molecular biology and genetics techniques. The student spends a half semester with one of the research groups and participates in some aspects of the research being pursued by the faculty member. Credit units: 3 ECTS Credit Units: 7.5. Spr (T. Özçelik)

MBG 618 Advanced Developmental Biology
The concepts of development in a variety of organisms. Molecular mechanisms of embryonic development in model organisms. Early development, developmental abnormalities. The correlation between the expression and function of gene and cell fate and tissue interactions. Discussion of classic and current research articles. Credit units: 3 ECTS Credit Units: 7.5.

MBG 623 Seminars in Molecular Genetics I
The course will be based on class presentations and discussions of novel concepts in Molecular Genetics. Articles selected by the staff will be introduced and discussed with the students in the form of paper presentations and seminars. Students will be encouraged to carry out a critical analysis of novel as well as milestone "classical" articles in the field of Molecular Genetics. Credit units: None ECTS Credit Units: 1. Aut (İ. Gürsel) Spr (İ. Yuluğ)

MBG 624 Seminars in Molecular Genetics II
The course will be based on class presentations and discussions of novel concepts in Molecular Genetics. Articles selected by the staff will be introduced and discussed with the students in the form of paper presentations and seminars. Students will be encouraged to carry out a critical analysis of novel as well as milestone "classical" articles in the field of Molecular Genetics. Credit units: None ECTS Credit Units: 1. Aut (Staff) Spr (İ. Yuluğ)

MBG 699 Ph.D. Dissertation
Credit units: None ECTS Credit Units: 140. Aut (İ. Yuluğ) Spr (İ. Yuluğ)
DEPARTMENT OF PHYSICS


Part-time: A. U. Yılmazer.

The Department of Physics offers courses that lead to B.S., M.S., and Ph.D. degrees. The department facilities compound semiconductor research and technology laboratory consisting of Class 100 and Class 10 000 clean rooms housing a mask aligner, SEM, PECVD, RIE, UHV evaporator, magnetron sputterer, RTP, I-V, C-V and microwave measurement setups. Experimental research areas include PL and Raman Spectroscopy and III-V micro and optoelectronic device technologies. Research areas include the study of condensed matter physics, optoelectronic devices, nanoscience, lasers and photonics, statistical physics, material science, semiconductor physics, computational physics, ultrafast optics, surface physics, mesoscopic physics.

UNDERGRADUATE PROGRAM

The undergraduate program is structured with the assumption that the student will continue his or her education towards an M.S. and a Ph.D. degree in Physics. The Department therefore admits a small number of highly qualified students every year. The program enables the student to attain a basic background in all areas of physics and at the same time provides a solid background in the area of condensed matter physics. A number of elective courses are offered for students whose interests may develop in other areas.

UNDERGRADUATE CURRICULUM

### FIRST YEAR

#### Autumn Semester

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<td>ENG 101</td>
<td>English and Composition I</td>
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<td>GE 100</td>
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<td>MATH 101</td>
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<td>General Physics I</td>
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<td>ENG 102</td>
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<td>PHYS 102</td>
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<td>PHYS 124</td>
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### SECOND YEAR

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<td>MATH 241</td>
<td>Engineering Mathematics I</td>
<td>4 / 7</td>
</tr>
<tr>
<td>MBG 105</td>
<td>Principles of Biology</td>
<td>3 / 5</td>
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<tr>
<td>PHYS 211</td>
<td>Waves, Fluids and Thermodynamics</td>
<td>4 / 6</td>
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#### Spring Semester

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>GE 251</td>
<td>Collegiate Activities Program II</td>
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<tr>
<td>MATH 242</td>
<td>Engineering Mathematics II</td>
<td>4 / 6</td>
</tr>
</tbody>
</table>
The minor program is designed to attract bright students from other majors and provide them with a strong background in the main concepts that are usually found in a physics undergraduate curriculum. The program is designed to expose the students to both theoretical and experimental methods in physics and lead them towards interdisciplinary research areas. The strong physics background provided by the minor program will be advantageous to students who choose to go on to graduate study in Physics as well as other science and engineering disciplines.

**Prerequisite Courses:**

- PHYS 101 General Physics I
- PHYS 102 General Physics II
- MATH 101 Calculus I
- MATH 102 Calculus II

**MINOR PROGRAM**

**PHYS 212** Optics and Modern Physics ........................................ 4 / 6
**PHYS 218** Analytical Mechanics .................................................. 3 / 6
**PHYS 242** Advanced Calculus for Applications in Physics .................. 3 / 6
Elective ......................................................................................... 3 / 6

**THIRD YEAR**

**Autumn Semester**

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<thead>
<tr>
<th>Course</th>
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<tr>
<td>HUM 111</td>
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<td>PHYS 291</td>
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<td>PHYS 315</td>
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<td>PHYS 325</td>
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<tr>
<td>PHYS 371</td>
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<tr>
<td>Technical Elective</td>
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**Spring Semester**

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<td>PHYS 374</td>
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<tr>
<td>Elective</td>
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<tr>
<td>Physics Elective</td>
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**FOURTH YEAR**

**Autumn Semester**

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<td>PHYS 491</td>
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<td>Non Technical Elective</td>
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<tr>
<td>Physics Elective</td>
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**Spring Semester**

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<th>Credits / ECTS Credits</th>
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<tr>
<td>PHYS 492</td>
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<td>Elective</td>
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<td>Non Technical Elective</td>
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<td>Technical Electives (2)</td>
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**COURSES**

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<th>Course</th>
<th>Credits / ECTS Credits</th>
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<td>PHYS 334</td>
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<td>PHYS 374</td>
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<tr>
<td>Electives (2)</td>
<td>6 / 12</td>
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</tbody>
</table>
ELECTIVE COURSES

PHYS 211 Waves, Fluids and Thermodynamics ........................................... 4 / 6
PHYS 212 Optics and Modern Physics ....................................................... 4 / 6
PHYS 315 Electromagnetic Theory I .......................................................... 3 / 6
PHYS 316 Electromagnetic Theory II ......................................................... 3 / 6
PHYS 326 Quantum Mechanics II ............................................................. 3 / 6
PHYS 415 Optics ....................................................................................... 3 / 6
PHYS 445 Condensed Matter Physics I ....................................................... 3 / 6
PHYS 446 Condensed Matter Physics II ...................................................... 3 / 6
PHYS 453 Nuclear and Particle Physics ...................................................... 3 / 6

GRADUATE PROGRAMS

The graduate program aims to develop students into scientists who can pursue original and creative research activities. This program is an important part of the research activity which aims to produce significant scientific output on an international level. The graduate program emphasizes research in various fields of condensed matter physics, in relation to the rapidly developing high technology fields such as photonics, nanoscience and nanotechnology. Presently, research is in progress in the theoretical and experimental study of tunneling, physics of electrons in lower dimensionalities, nanoscience, statistical mechanics, many-body physics, strongly correlated electrons, properties of new materials, fabrication and theoretical analysis of new devices, computational physics, ultrafast optics, optoelectronic devices.

Master of Science in Physics

Admission: All applicants are required to have a B.S. degree in physics, or in a related field of science or engineering. Students with a B.S. degree in areas other than physics may be requested to take several undergraduate courses in the field to acquire the necessary background. Evaluation of applicants is based on their ALES (Akademik Personel ve Lisansüstü Eğitim ve İnovasyonları - Academic Personnel and Postgraduate Education Entrance Examination) scores, past academic records, reference letters and an interview. Applicants who are not Turkish citizens and Turkish citizen applicants who are residents of another country may take GRE instead of ALES. All non-native speakers of English are required to submit a proof of satisfactory knowledge of English.

Degree Requirements: In addition to at least 24 credit units of course work, the M.S. degree candidate must prepare and successfully defend a thesis. Expected duration to complete the M.S. program is four semesters; the maximum duration is six semesters.

CURRICULUM

Courses ........................................ Credits / ECTS Credits
GE 590 Academic Practices ......................................................... - / 12
PHYS 541 Electromagnetic Theory I ......................................................... 3 / 7.5
PHYS 542 Electromagnetic Theory II ......................................................... 3 / 7.5
PHYS 543 Advanced Quantum Mechanics I ........................................ 3 / 7.5
PHYS 544 Advanced Quantum Mechanics II ........................................ 3 / 7.5
PHYS 553 Methods of Mathematical Physics I ........................................ 3 / 7.5
PHYS 599 Master’s Thesis ................................................................. - / 56
Graduate Electives (3) ................................................................. 9 / 22.5
Graduate Seminar in Physics .......................................................... - / 1

The descriptions provided here for different elective course groups are only for guidance. The complete list of courses in each elective group are given in the electronic registration system.

Graduate Elective Courses: All 5XX or higher level courses with at least 3 credits offered by Graduate School of Engineering and Science.

*Graduate School of Engineering and Science comprises graduate programs of the departments of Computer Engineering, Electrical and Electronics Engineering, Industrial Engineering, Mechanical Engineering, Chemistry, Mathematics, Molecular Biology and Genetics, Physics, and the interdisciplinary graduate programs Material Science and Nanotechnology, and Neuroscience.
Doctor of Philosophy in Physics

Admission: All applicants are required to have a B.S. degree in physics, or in a related field of science or engineering. Evaluation of applicants is based on their ALES (Akademik Personel ve Lisansüstü Eğitimleri Giriş Sınavı - Academic Personnel and Postgraduate Education Entrance Examination) scores, past academic records, reference letters and an interview. Applicants who are not Turkish citizens and Turkish citizen applicants who are residents of another country may take GRE instead of ALES. All non-native speakers of English are required to submit a proof of satisfactory knowledge of English.

Degree Requirements: 24 credit units of course work beyond the M.S. level or 48 credits of course work beyond the B.S. level is required. Ph.D. candidates must pass a qualifying exam typically on their fourth semester, and then must prepare a thesis work proposal. Preparing and defending a dissertation based on original research is the essence of the program. A dissertation based on original research is the essence of the program. The expected duration to complete the Ph.D. program is eight semesters for students who enter the program after an M.S. degree, and ten semesters for those who enter after a B.S. degree. The maximum durations are 12 and 14 semesters, respectively.

Doctor of Philosophy in Physics

COURSES

CURRICULUM

Courses Credits / ECTS Credits
GE 690 Academic Practices ................................................................. 3 / 7.5
PHYS 552 Statistical Mechanics .......................................................... 3 / 7.5
PHYS 580 Experimental Methods in Applied Physics .............................. 3 / 7.5
PHYS 699 Ph.D. Dissertation ............................................................... 18 / 45
Graduate Electives (6) ................................. ............................................. 140
Graduate Seminar in Physics ...................................................... - / 1

Doctor of Philosophy in Physics (After a Bachelor's Degree)

COURRICULUM

Courses Credits / ECTS Credits
GE 690 Academic Practices ................................................................. 3 / 7.5
PHYS 541 Electromagnetic Theory I .................................................... 3 / 7.5
PHYS 542 Electromagnetic Theory II .................................................. 3 / 7.5
PHYS 543 Advanced Quantum Mechanics I ...................................... 3 / 7.5
PHYS 544 Advanced Quantum Mechanics II .................................... 3 / 7.5
PHYS 552 Statistical Mechanics .......................................................... 3 / 7.5
PHYS 553 Methods of Mathematical Physics I .................................... 3 / 7.5
PHYS 580 Experimental Methods in Applied Physics .............................. 3 / 7.5
PHYS 699 Ph.D. Dissertation ............................................................... 140
Graduate Electives (9) .............................................................. 27 / 67.5
Graduate Seminar in Physics (2) ...................................................... - / 2

The descriptions provided here for different elective course groups are only for guidance. The complete list of courses in each elective group are given in the electronic registration system.

Graduate Elective Courses: All 5XX or higher level courses with at least 3 credits offered by Graduate School of Engineering and Science.*

COURSE DESCRIPTIONS

PHYS 101 General Physics I

Standards and units; vectors and coordinate systems; kinematics; dynamics; work, energy and power; conservation of energy; dynamics of system of particles; collisions; rotational kinematics and dynamics; equilibrium of

*Graduate School of Engineering and Science comprises graduate programs of the departments of Computer Engineering, Electrical and Electronic Engineering, Industrial Engineering, Mechanical Engineering, Chemistry, Mathematics, Molecular Biology and Genetics, Physics, and the interdisciplinary graduate programs Material Science and Nanotechnology, and Neuroscience.

PHYS 102 General Physics II
Charge and matter; electric field and Gauss’ law; DC circuits; magnetic field; Ampère’s law; Faraday’s law; inductance; magnetic properties of matter; Maxwell’s equations. Credit units: 4 ECTS Credit Units: 6. Prerequisite: MATH 101 or MATH 111 or MATH 113 or PHYS 101 or PHYS 111. Aut (S. Çiraci, A. Gök, B. Hetényi, A. U. Yılmazer) Spr (A. Aydınlı, M. Bayindır, C. Bulutay, Ş. Büyükağlı, O. Gülseren, C. Kocabaoğlu, M. Navascues Cobo, M. Ö. Oktel, E. Özbaş)

PHYS 107 Basic Physics I
The course aims to present the basic concepts and laws of mechanics at the level where the relevant mathematics does not require a prior knowledge of calculus. The topics studied include: vectors; translational and rotational kinematics and dynamics of particles and systems; work and energy; collisions; harmonic oscillations. Credit units: 4 ECTS Credit Units: 6. Aut (B. Tanatar)

PHYS 108 Basic Physics II
The course aims to present the basic concepts and laws of electricity and magnetism at the level where the relevant mathematics does not require a prior knowledge of calculus. The topics studied include: charge and matter; Coulomb’s law; electric field and potential; DC circuits; magnetic field; Ampère’s and Faraday’s laws. Credit units: 4 ECTS Credit Units: 6.

PHYS 117 Basic Physics: Mechanics
The course aims to present the basic concepts and laws of mechanics at the level where the relevant mathematics does not require a prior knowledge of calculus. The topics studied include: vectors; translational and rotational kinematics and dynamics of particles and systems; work and energy; collisions; harmonic oscillations. Credit units: 3 ECTS Credit Units: 6. Aut (B. Tanatar)

PHYS 118 Basic Physics II
The course aims to present the basic concepts and laws of electricity and magnetism at the level where the relevant mathematics does not require a prior knowledge of calculus. The topics studied include: charge and matter; Coulomb’s law; electric field and potential; DC circuits; magnetic field; Ampère’s and Faraday’s laws. Credit units: 3 ECTS Credit Units: 4.

PHYS 120 Orientation for Physics Majors
Introduction to the different aspects of the “physics department” for first year physics majors. Students will be introduced to the department and its members. Faculty members and students meet once a week for discussions and presentations to introduce a variety of subjects areas. Students are expected to become familiar with their prospective academic life as a physicist. Credit units: 1 ECTS Credit Units: 2. Aut (B. Tanatar)

PHYS 124 Freshman Project
A project on a specific topic in physics or a closely related area will be undertaken by the student under the supervision of a faculty member. The course will expose the student to research through projects that required no prior knowledge beyond the high school level. Additional teaching goals include practicing critical thinking, analyzing cause and effect relationships, planning controlled experiments as well as gaining familiarity with useful skills such as literature search and scientific document preparation. Credit units: 2 ECTS Credit Units: 2. Spr (G. Volpe)

PHYS 200 Physics for Poets
This course aims to present basic ideas of modern science to non-science majors with very little background in mathematics and physics. Scientific objectivity, science of mechanics, Newton’s laws, electricity and magnetism, waves, special and general relativity, cosmology, atoms, particles and waves, uncertainty principle, quantum theory, fundamental constituents of matter, forces of nature. Credit units: 3 ECTS Credit Units: 5. Spr (G. Volpe)

PHYS 211 Waves, Fluids and Thermodynamics
Fluid mechanics, gravitation, periodic motion, mechanical waves, sound, and hearing, temperature and heat, thermal properties of matter, first and second laws of thermodynamics. Credit units: 4 ECTS Credit Units: 6. Aut (F. Ö. Ilday)

PHYS 212 Optics and Modern Physics
Electromagnetic waves, nature of propagation of light, geometrical optics, interference, diffraction, relativity, photons as particles, particles as waves, quantum mechanics, atomic physics, particle physics. Credit units: 4 ECTS Credit Units: 6. Prerequisite: PHYS 101 or PHYS 111. Spr (F. Ö. Ilday)
PHYS 218  Analytical Mechanics
Generalized coordinates, constraints, variational principles, Lagrange’s equations, central force problem, motion in non-inertial frames, rigid body dynamics, Hamilton’s equations, theory of small vibrations. Credit units: 3
ECTS Credit Units: 6, Prerequisite: PHYS 101 or PHYS 111. Spr (B. Tanatar)

PHYS 242  Advanced Calculus for Applications in Physics
Special functions of mathematical physics, hypergeometric functions, Sturm-Liouville theory, Green’s functions, integral transforms, integral equations, probability. Credit units: 3 ECTS Credit Units: 6, Prerequisite: MATH 102 or MATH 114. Spr (Z. A. Ercelebi)

PHYS 280  Physics for Administrators
This course intends to impart to the student, a knowledge of physics relevant to everyday life decisions. Although the course is designed for a student with a minimal background in mathematics and science, the subjects discussed will be advanced topics in Physics. Emphasis will be on understanding the basic concepts, and the ability to make “order of magnitude” computations. Subjects covered will include Energy and Power; Atoms and Heat; Gravity, Force, and Space; Nuclei and Radioactivity; Nuclear Reactors and Weapons; Electricity and Magnetism; Waves; Light; Invisible Light; Climate Change; Alternative Energy; Quantum Physics. Credit units: 3 ECTS Credit Units: 6.

PHYS 291  Summer Practice
The summer practice entails the students carrying out a project on a specific topic in physics or a related area. The project can be carried out under the supervision of an experienced researcher at a university, a research institution or an industrial entity. The nature of the work can range anywhere from applied or engineering to pure research. The main goal is to introduce the student to real-life work environments, be it in an industrial setting or a traditional academic research environment. The main learning goals include attaining experience of working on a specific, well-defined project to its completion, including preparation of periodic and final progress reports in a professional manner, gaining experience with functioning in a team of co-workers. Minimum duration 30 work days. Credit units: None ECTS Credit Units: 6. Aut (C. Kocabas)

PHYS 315  Electromagnetic Theory I
Electrostatics; Coulomb’s and Gauss’ laws, the scalar potential. Solutions to the Laplace equation in rectangular, spherical and cylindrical coordinate systems with various boundary conditions. Poisson’s equation; energy in the electric field; electrostatics of materials; capacitance. Magnetostatics: Biot-Savart and Ampere’s laws, the field vector potential; energy in the magnetic field; magnetostatics of materials; Faraday’s law; inductance. Credit units: 3 ECTS Credit Units: 6. Aut (Z. A. Ercelebi)

PHYS 316  Electromagnetic Theory II
Maxwell’s equations; electromagnetic waves; reflections from boundaries; propagation in waveguides; radiation from accelerating charges; Lorentz transformations of electric and magnetic fields. Credit units: 3 ECTS Credit Units: 6, Prerequisite: PHYS 315 or consent of the instructor.

PHYS 325  Quantum Mechanics I
Wave packets and uncertainty; the postulates of quantum mechanics; eigenfunctions and eigenvalues; simple problems in one dimension; general structure of wave mechanics; operator methods in quantum mechanics; harmonic oscillator; path integral formulation of quantum mechanics; systems of many degrees of freedom; symmetry; rotational invariance and angular momentum; hydrogen atom. Credit units: 3 ECTS Credit Units: 7. Aut (C. Yalabik) Spr (M. Oktel)

PHYS 326  Quantum Mechanics II
Spin; addition of angular momenta; approximation methods in quantum mechanics; atoms and molecules; scattering theory; quantum theory of electromagnetic radiation. Credit units: 3 ECTS Credit Units: 6, Prerequisite: PHYS 325. Spr (C. Yalabik)

PHYS 334  Statistical Physics
The laws of thermodynamics; applications of thermodynamics; basic probability concepts; elementary kinetic theory; classical microcanonical, canonical and grand canonical ensembles; classical ideal gas; equipartition of energy; quantum mechanical ensembles; ideal Fermi and Bose systems; black body radiation, phonons, the electron gas; magnetism; introductory nonequilibrium statistical physics. Credit units: 3 ECTS Credit Units: 6. Aut (B. Hetenyi) Spr (Z. C. Kuruoglu)

PHYS 371  Numerical Methods in Physics
Solutions to linear systems of equations; roots of polynomials and other nonlinear functions; statistical applications; determinants, eigenvalues, and eigenvectors, solutions to differential equations; applications of FFT; utilization of scientific software packages. (Emphasis will be placed on physical applications.) Credit units: 3 ECTS Credit Units: 6. Spr (O. Gulseren)

PHYS 374  Experimental Methods of Physics
Laboratory safety, principles of experimentation, statistical analysis of data such as error calculation, propagation of error, least squares fitting, instrumentation techniques such as vacuum physics and technology, temperature
measurements, cryogenics and selected experiments in modern physics such as Franck-Hertz experiment, x-ray diffraction, electron diffraction, superconductivity, electron spin resonance, gamma absorption. Credit units: 4
ECTS Credit Units: 6. Spr (C. Kocabas)

**PHYS 415 Optics**
Survey of optics, covering electromagnetic waves, interference, diffraction, reflection and refraction, laser gain. This will be followed by discussions of selected advanced topics, such as optical resonators, cw and pulsed lasers, including the interaction of light with matter, nonlinear optics, and fiber optics. The particular selection of the advanced topics can vary from year to year. Credit units: 3 ECTS Credit Units: 6.

**PHYS 420 Nanoscience and Nanotechnology I**

**PHYS 438 Atomic and Molecular Physics**
Transition properties and the selection rules for atoms; many electron atoms; Born-Oppenheimer approximation; molecular structure; electronic, vibrational, and rotational energies of molecules; general methods for calculations; spectroscopic methods. Credit units: 3 ECTS Credit Units: 6.

**PHYS 442 Introduction to Nonlinear and Quantum Optics**
Classical electromagnetic field; classical nonlinear optics; continuous waves approach in field interaction theory; elements of laser theory; optical bistability; saturation and modulation spectroscopy; time-dependent phenomena in lasers; coherent transients; quantized electromagnetic field; essentially quantum effects; system-reservoir interactions; quantum theory of laser. Credit units: 3 ECTS Credit Units: 6. Aut (C. Bulutay)

**PHYS 445 Condensed Matter Physics I**
Crystal diffraction; crystal binding; phonons and lattice vibrations; thermal, acoustic and optical properties; free electron model; energy bands, electron-phonon interactions; semiconductors; transport properties. Credit units: 3 ECTS Credit Units: 6. Aut (S. Çiraci)

**PHYS 446 Condensed Matter Physics II**
Dielectric properties; diamagnetism and paramagnetism; ferromagnetism and anti-ferromagnetism; magnetic resonance; electron-phonon interactions; super-conductivity; optical properties. Credit units: 3 ECTS Credit Units: 6.

**PHYS 449 Group Theory**
Abstract group theory; theory of group representations; physical applications of group theory; full rotation groups and angular momentum; applications in molecular and solid state physics. Credit units: 3 ECTS Credit Units: 6.

**PHYS 453 Nuclear and Particle Physics**
Introduction to subatomic particles; properties of nuclei and nucleons; spin and magnetic moments; nuclear reactions; radioactivity; alpha and beta decays; nucleon interactions and nucleon scattering at low energies; nuclear models; elementary particles. Credit units: 3 ECTS Credit Units: 6. Spr (A. Gökalp)

**PHYS 457 Special Topics in Theoretical Physics**

**PHYS 458 Introduction to the Physics of Low-Dimensional Systems**
Many-body physics in one and two dimensions, classical two-dimensional models, strategies towards exact solutions, quantum lattice models, magnetism, second quantization, symmetries in quantum physics, specifics of low-dimensional physics, exact solutions based on the Bethe ansatz, geometric phases in physics, topology in physics, polarization and conductivity, quantum Hall effect, topological insulators. Credit units: 3 ECTS Credit Units: 6.

**PHYS 477 Ultrafast and Non Linear Optics**
General introduction to the field of ultrashort optics and nonlinear optics. Nonlinear and dispersive pulse propagation, optical solutions, laser dynamics, mode-locking, ultrashort lasers, commonly used nonlinear optical processes. Credit units: 3 ECTS Credit Units: 6.

**PHYS 491 Senior Project I**
A project on a specific topic in an area of physics to be carried out by the student under the supervision of a faculty member. Credit units: 3 ECTS Credit Units: 6. Aut (G. Volpe)
PHYS 492  **Senior Project II**  
A project on a specific topic in an area of physics to be carried out by the student under the supervision of a faculty member.  
*Credit units: 3 ECTS  Credit Units: 6. Spr (G. Volpe)*

PHYS 515  **Advanced Optics**  
Photon and wave pictures of electromagnetic radiation. Huygen's principle, interference and interferometry, far-field and near-field diffraction, coherence, polarization, ray optics and optical resonators with ABCD matrix formalism. Selected modern topics such as fiber optics, optical communications, lasers, electro-optic modulation and nonlinear optics are discussed.  
*Credit units: 3 ECTS  Credit Units: 7.5.*

PHYS 520  **Nanoscience and Nanotechnology I**  
*Credit units: 3 ECTS  Credit Units: 7.5.*

PHYS 538  **Light-Matter Interactions**  
One- and multi-electron atoms; atoms in classical static and AC fields; diatomic molecules; molecules in external fields; quantization of electromagnetic field; mode expansion of quantized light; coupling of two-level systems with light; electromagnetically-induced transparency; coherent control of matter with light.  
*Credit units: 3 ECTS  Credit Units: 7.5.*

PHYS 541  **Electromagnetic Theory I**  
*Credit units: 3 ECTS  Credit Units: 7.5.*

PHYS 542  **Electromagnetic Theory II**  
*Credit units: 3 ECTS  Credit Units: 7.5.*

PHYS 543  **Advanced Quantum Mechanics I**  
*Credit units: 3 ECTS  Credit Units: 7.5.*

PHYS 544  **Advanced Quantum Mechanics II**  
Approximation methods, many particle systems, scattering theory, second quantization.  
*Credit units: 3 ECTS  Credit Units: 7.5.*

PHYS 545  **Solid State Theory I**  
*Credit units: 3 ECTS  Credit Units: 7.5.*

PHYS 546  **Solid State Theory II**  
*Credit units: 3 ECTS  Credit Units: 7.5.*

PHYS 550  **Physics of Semiconductor Devices**  
*Credit units: 3 ECTS  Credit Units: 7.5.*

PHYS 551  **Analytical Mechanics**  
*Credit units: 3 ECTS  Credit Units: 7.5.*

PHYS 552  **Statistical Mechanics**  
Distribution functions; the concept of entropy, the H-function; classical statistical mechanics; ensembles, partition functions. The equipartition theorem. Quantum statistical mechanics: partition function, Fermi-Dirac and Bose-Einstein distributions.  
*Credit units: 3 ECTS  Credit Units: 7.5.*

PHYS 553  **Methods of Mathematical Physics I**  
Sturm-Liouville theory. Special functions: Gamma functions; Bessel functions; Legendre polynomials; integral transforms; integral equations; calculus of variations.  
*Credit units: 3 ECTS  Credit Units: 7.5.*
PHYS 559  Group Theory
Abstract group theory; theory of group representations; physical applications of group theory, full rotation groups and angular momentum; applications in molecular and solid state physics; permutation symmetry applications to many particle systems. Credit units: 3 ECTS Credit Units: 7.5.

PHYS 561  Special Topics in Condensed Matter Physics I
Credit units: 3 ECTS Credit Units: 7.5.

PHYS 562  Special Topics in Condensed Matter Physics II
Credit units: 3 ECTS Credit Units: 7.5.

PHYS 565  Special Topics in Condensed Matter Physics III
Credit units: 3 ECTS Credit Units: 7.5.

PHYS 566  Special Topics in Condensed Matter Physics IV
Exactly solved models in quantum and classical physics. Two-dimensional Ising model; dual lattices, transfer matrix, monodromy matrix, star-triangle relations and the Yang-Baxter equation; Ice models. The coordinate Bethe ansatz for some lattice (Heisenberg, Hubbard) and continuous models (Lieb-Liniger gas). The relation between the solution of one-dimensional quantum and two-dimensional classical models; algebraic Bethe ansatz. Introduction to numerical approaches which provide solutions to the above models including Monte Carlo methods and the density-matrix renormalization group method. Credit units: 3 ECTS Credit Units: 7.5.

PHYS 571  Special Topics in Applied Physics I
Nonlinear Optics: Linear and nonlinear polarization, Maxwell's constitutive and wave equations, harmonic and anharmonic oscillator, second harmonic generation, optical parametric oscillation, spontaneous and stimulated raman scattering, two photon absorption, coherent anti stokes raman scattering, degenerate four wave mixing, brillouin scattering, absorption. Credit units: 3 ECTS Credit Units: 7.5.

PHYS 573  Special Topics in Applied Physics III

PHYS 577  Ultrafast and Non Linear Optics
General introduction to the field of ultrafast optics and nonlinear optics. Nonlinear and dispersive pulse propagation, optical solutions, laser dynamics, mode-locking, ultrafast lasers, commonly used nonlinear optical processes. Credit units: 3 ECTS Credit Units: 7.5.

PHYS 580  Experimental Methods in Applied Physics

PHYS 591  Graduate Seminar I
This is a graduate (M.S. and Ph.D.) seminar course. The instructor and students meet once a week for presentations and discussions. Topics of presentations are chosen by the mutual consent of the instructor and the students. Credit units: None ECTS Credit Units: 1. Aut (C. Bulutay) Spr (C. Bulutay)

PHYS 592  Graduate Seminar II
This is a graduate (M.S. and Ph.D.) seminar course. The instructor and students meet once a week for presentations and discussions. Topics of presentations are chosen by the mutual consent of the instructor and the students. Credit units: None ECTS Credit Units: 1. Aut (C. Bulutay) Spr (C. Bulutay)

PHYS 599  Master's Thesis
Credit units: None ECTS Credit Units: 56. Aut (O. G"uleren) Spr (O. G"uleren)

PHYS 612  Quantum and Nonlinear Optics
Quantization of the electromagnetic field; coherent and squeezed states; atom-field interaction; coherent trapping; electromagnetically-induced transparency; quantum theory of laser; cavity quantum electrodynamics; review of nonlinear optical effects; quantum theory of nonlinear optical susceptibility; low-light-level nonlinear optics. Credit units: 3 ECTS Credit Units: 7.5. Aut (C. Bulutay)

PHYS 651  Many Body Theory
Exchange Symmetry, Fermions and Bosons, Second Quantization Formalism, Free Bosons, Bose-Einstein Condensation, Free Fermions, Temperature Dependence, Interactions, Hartree-Fock and Random Phase approximation, BCS theory, Gross-Pitaevskii equation, Bogoliubov deGennes equation, Green's functions, diagrammatic perturbation theory. Second Quantization, Coherent state path integrals for Bosons and Fermions, Gell-Mann
Low equation, Green’s functions, diagrammatic perturbation theory, applications to weakly interacting Fermi and Bose Systems. Credit units: 3 ECTS Credit Units: 7.5.

**PHYS 652 Advanced Statistical Mechanics**
Random variables and their transformations, the langevin and fokker-planck equations, boltzmann transport equation, the h-function, and its solutions the wigner function the master equation, detailed balance. The ising model, solution to the 1-D model. The 2-D ising model-high and low temperature series, mean field theory. Introduction to phase transitions and critical phenomena-the critical exponents. The monte-carlo method, simulated annealing and molecular dynamics. The renormalization group theory and its application to the ising model. Other model systems with more complicated phase diagrams-multicriticality. Dynamic criticality-self ordered criticality. Credit units: 3 ECTS Credit Units: 7.5.

**PHYS 673 Nuclear and Particle Physics**
Introduction to subatomic particles, nuclear models, elementary particles, symmetries, strong and weak interaction physics, and experimental techniques in nuclear and particle physics, accelerators. Credit units: 3 ECTS Credit Units: 7.5.

**PHYS 699 Ph.D. Dissertation**
Credit units: None ECTS Credit Units: 140. Aut (O. Gülseren) Spr (O. Gülseren)
There are two interdisciplinary graduate programs:

- Materials Science and Nanotechnology
- Neuroscience

that lead to M.S. and Ph.D. degrees in the Graduate School of Engineering and Science.

The graduate programs in Materials Science and Nanotechnology (MSN) offer a multi-disciplinary research environment, endorsing studies from different scientific disciplines. The specific areas of interest are nano and microelectronics, nanophotonics, spintronics, femtosecond lasers, nanobiotechnology and nanomedicine, supramolecular nanosystems, bioinspired and biomimetic materials, systems biology, atomic scale imaging, nanotextile, advanced materials design and manufacturing of nanofibers, nanotribology, novel nanomaterials for electrochemical energy storage, hydrogen economy and solar energy. MSN program provides students with an in-depth understanding of materials in the nanometer scale starting from quantum theory of matter, and involve the design, fabrication and application of novel nanostructures for functional materials to be used in biomedical, environmental and energy research and for enhanced sustainability. Graduates of MSN program are highly coveted in academia as well as in industry.

The graduate programs in Neuroscience provide students with a strong theoretical neuroscience background and opportunities to learn cutting edge methods and technology in the area. The mission is to provide students with the instruction, research experience, and mentoring they need to become leaders in research and education. The particular areas of interest are systems neuroscience, cellular and molecular neuroscience, developmental neuroscience, cognitive neuroscience, social neuroscience, behavioral neuroscience, neuroengineering, neuroeconomics, neuroprosthetics, neurogenomics, and optogenetics. As part of their work, students in the programs have access to advanced neuroimaging, nanotechnology, and biotechnology labs and equipment.

**ACADEMIC STAFF**

Michelle Marie Adams, Associate Professor

Engin Umut Akkaya, Professor
Ph.D., Chemistry, The Ohio State University, Columbus 1989. Molecular and Supramolecular Synthetic Chemistry and Exploration of Emerging Functions.

Selim Aksoy, Associate Professor

Ergin Atalar, Professor
Ph.D., Electrical and Electronics Engineering, Bilkent University, 1991. Image guided medical interventions, magnetic resonance imaging, antenna design for MRI.

Mehmet Bayındır, Professor
Ph.D., Physics, Bilkent University, 2002. Microstructured fibers and fiber devices, photonic band gap materials, left-handed metamaterials, materials for infrared optics, synthetic optoelectronic devices, nonlinearity in amorphous semiconductors, nanophotonics, fiber based sensors

Mehmet Zeyyad Baykara, Assistant Professor

Bilge Baytekin, Assistant Professor
Hasan Tarık Baytekin, Assistant Professor
Ph.D., Chemistry, Middle East Technical University, 2002. Organic and supramolecular chemistry, plasma treatment of polymers, surface characterization methods, mechanism of static electricity generation (tribocharging) and development of charge dissipation methods on insulators.

Necmi Bıyıklı, Assistant Professor
Ph.D., Electrical & Electronics Engineering, Bilkent University, 2004. Semiconductor thin films and nanostructures; III-nitride alloy growth and characterization; solar-cells; chemical and biological sensors; innovative RF-switches for wireless communications; micro and nanofabrication technology for novel electronic and optoelectronic device structures.

Hüseyin Boyaci, Associate Professor (on leave)

Salim Çiraci, Professor

Tolga Çukur, Assistant Professor
Ph.D., Electrical Engineering, Stanford University, 2009. Biomedical imaging, magnetic resonance imaging (MRI), signal processing, computational neuroscience.

Aykutlu Dana, Assistant Professor
Ph.D., Electrical Engineering, Stanford University, 2003. Force microscopy and spectroscopy; micro and nano electro-opto-mechanical system and sensors; plasmon resonance based detection; novel microscopy and spectroscopy; photovoltaic materials and devices.

Hilmi Volkan Demir, Associate Professor
Ph.D., Electrical Engineering, Stanford University, 2004. Light-emitting diodes (LEDs), photovoltaics (PV), semiconductor nanocrystal optoelectronics, energy transfer driven devices and sensors, nanoparticles/nanocomposites, nanophotonics, RF sensing bioimplants and medical devices.

Katja Doerschner, Assistant Professor (on leave)
Ph.D., Experimental Psychology, New York University, 2006. Perception of surface material, including color, in complex environments, perception of shape and motion.

Engin Durgun, Assistant Professor
Ph.D., Physics, Bilkent University, 2007. Computational materials design, solar fuels, cement chemistry, surface phenomena, multiferroics, hydrogen storage, nanowires/nanoclusters, magnetism/spintronics, nanobiology.

Çağlar Elbüken, Assistant Professor

Ebru Erbay, Assistant Professor

Emine Yegan Erdem, Assistant Professor

Mustafa Özgür Güler, Associate Professor
Ph.D., Chemistry, Northwestern University, 2006. Biomimetic materials; biomaterials; self-assembly; peptides; nanomaterials; hydrogels; regenerative medicine.
Çiğdem Gündüz Demir, Associate Professor
Ph.D., Computer Science, Rensselaer Polytechnic Institute, 2005. Medical image analysis, computational biology, pattern recognition, machine learning, computer vision.

Ali Osmay Güre, Assistant Professor

Mehmet Selim Hanay, Assistant Professor
Ph.D., Physics, California Institute of Technology (Caltech), 2011. Nanoelectromechanical systems, mass sensing.

Fatih Ömer liday, Associate Professor

Talip Serkan Kasırga, Assistant Professor
Ph.D., Physics, University of Washington, 2013. Experimental investigation of strong electronic correlation effects at low dimensional systems and their applications in hydrogen sensing, novel logic and storage devices, new generation light emitting diodes, using vanadium oxides and layered transition metal dichalcogenides.

Coskun Kocabas, Assistant Professor
Ph.D., Cornell University, 2012. Microarray data analysis, gene networks in nicotine’s pharmacological effects, zebrafish genetics.

Ali Kemal Okyay, Assistant Professor
Ph.D., Electrical Engineering, Stanford University, 2007. Photovoltaics (PV), semiconductor devices and sensors, nanophotonics, nano-biosensors, plasmonics enhanced nanodevices, nanoparticles/nanocomposites, thin film transistors (TFTs) and memory devices, flexible optoelectronics.

Bülend Ortaç, Assistant Professor
Ph.D., Physics, Rouen University, 2004. Fiber optic concepts; CW and pulsed laser; amplification systems; nonlinear optics; ultrafast laser physics; THz generation; application of laser systems.

Tayfun Özcêlik, Professor

Emine Ülkü Saritas, Assistant Professor
Ph.D., Electrical Engineering, Stanford University, 2009. Biomedical imaging, magnetic resonance imaging (MRI), magnetic particle imaging (MPI), signal and image processing, safety limits of magnetic fields in medical imaging systems.

Urartu Özgür Şafak Şeker, Assistant Professor
Ph.D., in Molecular Biology-Genetics and Biotechnology, Istanbul Technical University, 2009. Synthetic Biotechnology, Genetic Engineering, Bioinspired Materials and Bionanotechnology.

Ayşe Begüm Tekinay, Assistant Professor
Ph.D., Molecular Biology, Rockefeller University, 2006. Nanobiotechnology, regenerative medicine, stem cell differentiation, drug delivery, biosensors, human genetics, molecular characterization of novel genes, animal models.

Kâhan Topalli, Research Fellow
Ph.D., Electrical and Electronics Engineering, Middle East Technical University, 2007. THz sensing, RF MEMS/NEMS for reconfigurable antennas/transmitarrays/reflectarrays and microwave devices.
Dönüş Tuncel, Associate Professor  

Tamer Uyar, Associate Professor  

Giovanni Volpe, Assistant Professor  
Ph.D., Physics, ICFO - The Institute of Photonics Sciences, 2008. Condensed matter of Physics, Statical physics, soft matter, optical tweezers.

Eda Yılmaz, Research Fellow  
Ph.D., Chemistry, Bilkent University, 2011. Electrochemical energy storage systems, lithium-oxygen batteries, lithium-ion batteries, surface characterization, spectroscopy, design and synthesis of nanomaterials.

PART-TIME ACADEMIC STAFF

Hacı Hulusi Kafalığönü, Ph.D., Electrical and Computer Engineering, University of Houston, 2007.
GRADUATE PROGRAM IN MATERIALS SCIENCE AND NANOTECHNOLOGY


GRADUATE PROGRAMS

The graduate program in Materials Science and Nanotechnology is an interdisciplinary study and aims to develop researchers who can pursue outstanding and creative research in the diverse fields of nanoscience and nanotechnology, such as nanobiotechnology and nanomedicine; atomic scale imaging; nano and microelectronics; nanotextile; nanophotonics; femtosecond lasers; spintronics; advanced materials design and manufacturing of nanofibers; nanotribology, hydrogen economy and solar energy, etc. The graduate program provides an in depth understanding of materials in nanometer scale and present an excellent training starting from the quantum theory of matter and quantum statistical thermodynamics. The graduate courses to be taken by the students have to focus on his/her thesis work.

Master of Science in Materials Science and Nanotechnology

Admission: All applicants are required to have a B.S. degree in materials science and nanotechnology, or in a related field of science or engineering such as; physics, mathematics, chemistry, molecular biology and genetics, electrical and electronics, mechanical, chemical, materials science, metallurgy, food, etc. Evaluation of applicants is based on their ALES (Akademik Personel ve Lisansüstü Eğitim Girişi - Academic Personnel and Postgraduate Education Entrance Examination) scores, past academic records, reference letters and an interview. Applicants who are not Turkish citizens and Turkish citizen applicants who are residents of another country may take GRE instead of ALES. All non-native speakers of English are required to submit a proof of satisfactory knowledge of English.

Degree Requirements: In addition to at least 24 credit units of course work, the M.S. degree candidate must prepare and successfully defend a thesis. Expected duration to complete the M.S. program is four semesters; the maximum duration is six semesters.

CURRICULUM

Courses

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>GE 590</td>
<td>Academic Practices</td>
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<td>MSN 517</td>
<td>Fundamentals of Nanoscience</td>
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<td>MSN 518</td>
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<td>MSN 599</td>
<td>Master's Thesis</td>
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<td>Core courses (2)</td>
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<tr>
<td>Elective Courses (4)</td>
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<tr>
<td>MSN Graduate Seminar</td>
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</table>

The descriptions provided here for different elective course groups are only for guidance. The complete list of courses in each elective group are given in the electronic registration system.

Core Courses: All 5XX or higher level MSN coded courses with at least 3 credits. Elective Courses: All 5XX or higher level courses with at least 3 credits offered by Graduate School of Engineering and Science* and LAW 534.

The descriptions provided here for different elective course groups are only for guidance. The complete list of courses in each elective group are given in the electronic registration system.

*Graduate School of Engineering and Science comprises graduate programs of the departments of Computer Engineering, Electrical and Electronics Engineering, Industrial Engineering, Mechanical Engineering, Chemistry, Mathematics, Molecular Biology and Genetics, Physics, and the interdisciplinary graduate programs Material Science and Nanotechnology, and Neuroscience.
Core Courses: All 5XX or higher level MSN coded courses with at least 3 credits.

Elective Courses: All 5XX or higher level courses with at least 3 credits offered by Graduate School of Engineering and Science* and LAW 534.

Doctor of Philosophy in Materials Science and Nanotechnology

Admission: All applicants are required to have a B.S. degree in materials science and nanotechnology, or in a related field of science or engineering such as; physics, mathematics, chemistry, molecular biology and genetics, electrical and electronics, mechanical, chemical, materials science and metallurgy, food, etc. Evaluation of applicants is based on their ALES (Akademik Personel ve Lisansüstü Eğitimi Girişi Sınavı - Academic Personnel and Postgraduate Education Entrance Examination) scores, past academic records, reference letters and an interview. Applicants who are not Turkish citizens and Turkish citizen applicants who are residents of another country may take GRE instead of ALES. All non-native speakers of English are required to submit a proof of satisfactory knowledge of English.

Degree Requirements: 24 credit units of course work beyond the M.S. level or 48 credits of course work beyond the B.S. level is required. Ph.D. candidates must pass a qualifying exam typically on their fourth semester, and then must prepare a thesis work proposal. Preparing and defending a dissertation based on original research is the essence of the program. A dissertation based on original research is the essence of the program. The expected duration to complete the Ph.D. program is eight semesters for students who enter the program after an M.S. degree, and ten semesters for those who enter after a B.S. degree. The maximum durations are 12 and 14 semesters, respectively.

Doctor of Philosophy in Materials Science and Nanotechnology (After a Bachelor's Degree)

<table>
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<th>Courses</th>
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<tr>
<td>GE 690 Academic Practices</td>
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<tr>
<td>MSN 500 Concepts in Materials Science</td>
<td>3 / 7.5</td>
</tr>
<tr>
<td>MSN 512 Biomedical Materials</td>
<td>3 / 7.5</td>
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<tr>
<td>MSN 517 Fundamentals of Nanoscience</td>
<td>3 / 7.5</td>
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<tr>
<td>MSN 518 Fundamentals of Nanotechnology</td>
<td>3 / 7.5</td>
</tr>
<tr>
<td>MSN 699 Ph.D. Thesis</td>
<td>- / 140</td>
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<td>Core courses (2)</td>
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<td>Elective Courses (2)</td>
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<td>MSN Graduate Seminar</td>
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Doctor of Philosophy in Materials Science and Nanotechnology (After a Bachelor's Degree)

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<tr>
<td>Core courses (4)</td>
<td>12 / 30</td>
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*Graduate School of Engineering and Science comprises graduate programs of the departments of Computer Engineering, Electrical and Electronics Engineering, Industrial Engineering, Mechanical Engineering, Chemistry, Mathematics, Molecular Biology and Genetics, Physics, and the interdisciplinary graduate programs Material Science and Nanotechnology, and Neuroscience.
Elective Courses (8) .......................................................... 24 / 60
MSN Graduate Seminars (2) .............................................. * / 2

The descriptions provided here for different elective course groups are only for guidance. The complete list of courses in each elective group are given in the electronic registration system.

Core Courses: All 5XX or higher level MSN coded courses with at least 3 credits.

Elective Courses: All 5XX or higher level courses with at least 3 credits offered by Graduate School of Engineering and Science* and LAW 534.

### COURSE DESCRIPTIONS

**MSN 500 Concepts in Materials Science**
Fundamental concepts in materials science will be covered. Some of these topics are plastic deformation of crystalline solids and dislocations theory, defects in solids, diffusion phenomena, interfaces and kinetics of phase transformations. Also the topics will be covered are nucleation and growth in solids. Case study examples will be undertaken using examples from various metallic, ceramic or polymeric systems. **Credit units: 3 ECTS Credit Units: 7.5. Aut (E. Durgun)**

**MSN 501 Atomic Structure, Mechanical and Thermal Properties of Materials**
Modern materials science and current trends; classification of materials; atomic structure; lattice; crystal; point and space groups; reciprocal lattice and k-space; x-ray diffraction; noncrystalline materials; imperfections; binding and bonding; elastic and plastic properties; dynamics of atoms; dynamical matric and its symmetries; normal modes and phonons; Planck's distribution; thermal properties; free electron system; quantum size effect and confinement. **Credit units: 3 ECTS Credit Units: 7.5. Spr (E. Durgun)**

**MSN 503 Quantum Mechanics for Materials Science I**
The physical basis of quantum mechanics; operators; Schrödinger wave equation; wave packet; statistic interpretation and expectation value; energy and momentum eigenstates and eigenvalues; Hilbert space; uncertainty principles; Heisenberg representation; Poisson's brackets; matrix formulation; symmetry; unitary transformations; square well problems; linear harmonic oscillator and ladder operators; phonons; rotational invariance and angular momentum operators; spherically symmetric potentials and hydrogen atom. **Credit units: 3 ECTS Credit Units: 7.5.**

**MSN 510 Imaging Techniques in Materials Science and Nanotechnology**
Introduction to advanced imaging techniques including atomic force microscopy (AFM), scanning tunneling microscopy (STM), transmission electron microscopy (TEM), scanning electron microscopy (SEM), confocal microscopy. **Credit units: 3 ECTS Credit Units: 7.5. Spr (A. Dana)**

**MSN 512 Biomedical Materials**
Types of biomedical materials and the material selection criteria. Chemical and physical properties of metals, and polymers for use in biomedical applications. Material - Biological entity interaction; biocompatibility; biodegradation. Special biomedical products, biomaterials, tissue engineering, applications and issues; heart valves, artificial bones, implants, blood vessel grafts. **Credit units: 3 ECTS Credit Units: 7.5. Aut (M. Ö. Güler)**

**MSN 513 Micro and Nanostructured Sensors**
Introductory and fundamental concepts in sensors and transducers. Optical sensors including plasmonic sensors, fiber and waveguide based sensing. Electronic sensors including thin films, semiconductor device based sensors and novel electronic sensors using nanostructures. Magnetic and thermal sensors. Sensing based on mechanical effects, including acoustic sensors, microbalance, MEMS and NEMS structures and SAW resonators. Basic thermodynamics for biochemical sensors. Chemical sensing, biochemical sensing based on affinity and biocatalysis. Aspects of functionalization. Luminescence based sensing using labels. Integration of multiple component systems microfluidics. **Credit units: 3 ECTS Credit Units: 7.5.**

**MSN 515 Nanotechnology in Agriculture and Food**
Increase in world population and dwindling agricultural land compels us to search for methods to produce agricultural and food products efficiently. Nanotechnology research in food and agricultural production is a rapidly growing field. It is anticipated that novel approaches through nanotechnology will result in crucial changes in the food industry, changing the way food is produced, processed, packaged, transported and consumed. This course will highlight current research in agriculture and food industries and anticipated applications of nanotechnology in these fields. Subjects will be precision farming, smart delivery systems, and other developments in the field.

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*Graduate School of Engineering and Science comprises graduate programs of the departments of Computer Engineering, Electrical and Electronics Engineering, Industrial Engineering, Mechanical Engineering, Chemistry, Mathematics, Molecular Biology and Genetics, Physics, and the interdisciplinary graduate programs Material Science and Nanotechnology, and Neuroscience.*
agricultural sector due to nanotechnology, packaging, food safety and food processing. Previous knowledge in food engineering and biology is required. Credit units: 3 ECTS Credit Units: 7.5.

MSN 517 Fundamentals of Nanoscience
This course aims to provide a thorough introduction to physics and electronics related aspects of nanoscience and nanotechnology; Why we are interested in "nano", physics behind the nanoscience, understanding solids, making functional devices using solids: diodes to MOSFETs, quantum dots to HEMTs the world of functional solids, fabrication and material synthesis methods commonly used, characterization techniques used in nanoscience and nanotechnology. Mesoscopic electronics. Credit units: 3 ECTS Credit Units: 7.5. Aut (T. S. Kasırga)

MSN 518 Fundamentals of Nanotechnology
Perspectives of nanotechnology; nanometrology; standart and nanomanufacturing; nanoscale electronics; nanooptics, nanophotonics; nanomagnetism; nanomechanics; nanostucture and nanocomposite thin films, applications of thin films; nanocalysis; nanocomposites and fibers; biological and environmental nanoengineering; nanobiotechnology, biomimetics; medical nanotechnology; environmental nanotechnology. Credit units: 3 ECTS Credit Units: 7.5. Spr (H. T. Baytekin)

MSN 519 Applications of Microfluidics and Nanofluidics
Characteristics of micro/nanofluidics. Transport phenomena, non-dimensional numbers, diffusion, settling, wetting, fluidic components (pumps, valves, choice of material, fabrication/production techniques). Lab-on-a-Chip (LOC) devices, diagnostic devices, LOC for cellular studies, high throughput studies, DNA/protein microarrays and tissue engineering. Organ-on-a-chip. Credit units: 3 ECTS Credit Units: 7.5. Aut (Ç. Elbükên)

MSN 520 Materials and Technologies for Radio Frequency and Terahertz Devices

MSN 521 Biotechnology

MSN 522 Molecular Biomimicry and Synthetic Biology
Fundamentals of molecular biomimicry, and synthetic biology. Structure of biological molecules, self-assembly in biological systems, biological nanostructures, biology inspired material systems design, control of biomolecular interactions. Fundamentals of synthetic biological device design. Credit units: 3 ECTS Credit Units: 7.5. Aut (U. Ö. Şeker)

MSN 532 Selected Topics in Materials Science and Nanotechnology

MSN 533 Nanomaterials for Energy Conversion and Storage
A general overview to energy conversion and storage systems, potentials and thermodynamics of electrochemical cells, electrochemical methods, nanomaterials for electrochemical energy systems, dye sensitized solar cells, photocatalytic water splitting, proton exchange membrane fuel cells, direct methanol and solid oxide fuel cells, microbial fuel cells, hydrogen storage, supercapacitors, concepts in battery technology, lithium-ion batteries, next generation secondary batteries. Credit units: 3 ECTS Credit Units: 7.5. Spr (E. Yılmaz)

MSN 534 Polymeric Materials
Characterization of polymeric materials, structural analysis, surface and surface analysis (nuclear magnetic resonance, RAMAN, infrared, X-ray photoelectron spectroscopy, X-ray diffraction, electron and optical microscopy), thermal analysis (thermogrovisimetric differential scanning calorimetry), mechanical testing (tensile, dynamic mechanical analysis, rheological), molecular weight analysis (intrinsic viscosity, gel permeation chromatography). Credit units: 3 ECTS Credit Units: 7.5. Spr (T. Uyar)

MSN 535 Textile Materials
Fibrous materials; natural and synthetic fibers; characteristics and properties of fibers. Structure-property relationships, chemical structural analysis, physical properties, thermal properties and mechanical properties of
fibers. Fiber forming processes; fiber modifications by chemical and physical methods. High performance fibers and nanofibers and their applications in functional textiles and nanotextiles. **Credit units: 3 ECTS Credit Units: 7.5.**

**MSN 541 Nanobiotechnology**
Nanotechnology is the study of materials at nanoscale - generally with a size of 100nm or less. Nanobiotechnology is the application of nanotechnology in solution of problems of life sciences, which includes biology and medicine. The aim of this course is to help equip graduate level students from various disciplines with basic knowledge on nanotechnology and its applications. The course will cover basic imaging techniques, biosensors, targeted drug delivery methods, biofilms, etc. **Credit units: 3 ECTS Credit Units: 7.5. Aut (A. B. Tekinay)**

**MSN 543 Protein and Gene Engineering**
Protein and gene engineering are commonly used techniques for studying biological processes. These techniques are based on manipulation of biological materials at nanoscale. This course aims to educate graduate level students in these techniques in an advanced level concentrating on genetic techniques used for modification of proteins, single aminoacid substitutions, site-directed mutagenesis, random mutagenesis, multiple deletions, protein structure, gene engineering using knock-out technology, using bacterial chromosomes for gene engineering, etc. **Credit units: 3 ECTS Credit Units: 7.5.**

**MSN 551 Introduction to Micro and Nanofabrication**
Introduction to conventional methods in macro and nanofabrication. Basics of film deposition techniques, optical and electron beam lithography, wet and dry etching methods, implantation and diffusion. Applications of microfabrication to CMOS fabrication and micro and nanoelectromechanical systems. Some non-conventional methods of micro and nanostructure fabrication. **Credit units: 3 ECTS Credit Units: 7.5. Aut (N. Bıyıklı)**

**MSN 555 Nanomaterials Processing by Intense Laser Beam**
Fundamentals of laser materials interactions, laser ablation and thin film deposition, processing with ultrashort laser pulses, creating nanostructures with lasers, laser micro and nano machining, laboratory training and hand-on experiments. **Credit units: 3 ECTS Credit Units: 7.5. Spr (B. Ortac)**

**MSN 591 Nanotechnology and Its Impacts on Socio-Economic Structures**
This course involves lectures, which are combined with weekly workshops and a research paper that covers the whole semester. The scope of the program will be focused on implications of nanotechnology on socio-economic structures. It concentrates on investigating possible future scenarios, nanotechnology world economic trends, investments of various countries, nanotechnology, industry, business interactions, ethics, legal aspects, patent and intellectual property. National nanotechnology initiatives, world dynamics and decision systems, impacts on human life and society are also presented. **Credit units: 3 ECTS Credit Units: 7.5. Aut (O. Güvenen)**

**MSN 598 Seminar I**  
**Credit units: None ECTS Credit Units: 1. Aut (Ç. Elbüken) Spr (Ç. Elbüken)**

**MSN 599 Master's Thesis**  
**Credit units: None ECTS Credit Units: 56. Aut (M. Bayındır) Spr (M. Bayındır)**

**MSN 698 Seminar II**  
**Credit units: None ECTS Credit Units: 1. Aut (Ç. Elbüken) Spr (Ç. Elbüken)**

**MSN 699 Ph.D. Thesis**  
**Credit units: None ECTS Credit Units: 140. Aut (M. Bayındır) Spr (M. Bayındır)**
GRADUATE PROGRAM IN NEUROSCIENCE


Part-time: H. H. Kafalıgönül.

GRADUATE PROGRAMS

The graduate program in neuroscience is an interdisciplinary program designed to provide students with a broad background and training in the neuroscience field. Our mission is to provide students with the instruction, research experience, and mentoring they need to become leaders in research and education. Students will take a variety of courses that focus on both systems neuroscience and cellular and molecular neuroscience, as well as courses that are offered from different departments including Electrical and Electronics Engineering, Computer Engineering, Molecular Biology and Genetics, Physics and Psychology among others. Areas of research include systems neuroscience, cellular and molecular neuroscience, developmental neuroscience, cognitive neuroscience, social neuroscience, behavioral neuroscience, neuroengineering, neuroeconomics, neuroprosthetics and neurogenomics.

Master of Science in Neuroscience

Admission: All applicants are required to have a bachelor's degree in science or engineering or psychology or medicine or a related field. Evaluation of applicants is based on their ALES (Akademik Personel ve Lisansüstü Eğitimi Giriş Sınavı - Academic Personnel and Postgraduate Education Entrance Examination) scores, past academic records, reference letters and an interview. Applicants who are not Turkish citizens and Turkish citizen applicants who are residents of another country may take GRE instead of ALES. All non-native speakers of English are required to submit a proof of satisfactory knowledge of English.

Degree Requirements: In addition to at least 24 credit units of course work, the M.S. degree candidate must prepare and successfully defend a thesis. Expected duration to complete the M.S. program is four semesters; the maximum duration is six semesters.

CURRICULUM

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>GE 590 Academic Practices</td>
<td>12</td>
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<tr>
<td>NSC 510 Sensory and Motor Systems Neuroscience</td>
<td>7.5</td>
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<tr>
<td>NSC 511 Cellular, Molecular and Developmental Neuroscience</td>
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<tr>
<td>NSC 599 Neuroscience Master's Thesis</td>
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<tr>
<td>Neurosciences Seminar</td>
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<td>Restricted Electives (3)</td>
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The descriptions provided here for different elective course groups are only for guidance. The complete list of courses in each elective group are given in the electronic registration system.

Elective Courses: Selected 5XX or higher level courses with at least 3 credits offered by different departments.

Restricted Elective Courses: Selected 5XX or higher level CS, EEE, IE, LAW, MBG, ME, MSN, NSC, PHYS and PSYC coded courses with at least 3 credits.

Doctor of Philosophy in Neuroscience

Admission: All applicants are required to have a bachelor's degree in science or engineering or psychology or medicine or a related field. Evaluation of applicants is based on their ALES (Akademik Personel ve Lisansüstü Eğitimi Giriş Sınavı - Academic Personnel and Postgraduate Education Entrance Examination) scores, past academic records, reference letters and an interview. Applicants who are not Turkish citizens and Turkish citizen applicants who are residents of another country may take GRE instead of ALES. All non-native speakers of English are required to submit a proof of satisfactory knowledge of English.

Degree Requirements: In addition to at least 24 credit units of course work, the Ph.D. degree candidate must prepare and successfully defend a dissertation. Expected duration to complete the Ph.D. program is six semesters; the maximum duration is nine semesters.
Education Entrance Examination) scores, past academic records, reference letters and an interview. Applicants who are not Turkish citizens and Turkish citizen applicants who are residents of another country may take GRE instead of ALES. All non-native speakers of English are required to submit a proof of satisfactory knowledge of English.

**Degree Requirements:** 24 credit units of course work beyond the M.S. level or 48 credits of course work beyond the B.S. level is required. Ph.D. candidates must pass a qualifying exam typically on their fourth semester, and then must prepare a thesis work proposal. Preparing and defending a dissertation based on original research is the essence of the program. A dissertation based on original research is the essence of the program. The expected duration to complete the Ph.D. program is eight semesters for students who enter the program after an M.S. degree, and ten semesters for those who enter after a B.S. degree. The maximum durations are 12 and 14 semesters, respectively.

**Doctor of Philosophy in Neuroscience**

### CURRICULUM

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<tbody>
<tr>
<td>GE 690 Academic Practices</td>
<td>- / 24</td>
</tr>
<tr>
<td>NSC 510 Sensory and Motor Systems Neuroscience</td>
<td>3 / 7.5</td>
</tr>
<tr>
<td>NSC 511 Cellular, Molecular and Developmental Neuroscience</td>
<td>3 / 7.5</td>
</tr>
<tr>
<td>NSC 699 Neuroscience Ph.D. Dissertation</td>
<td>- / 140</td>
</tr>
<tr>
<td>Electives (4)</td>
<td>12 / 24</td>
</tr>
<tr>
<td>Neurosciences Seminar</td>
<td>- / 1</td>
</tr>
<tr>
<td>Restricted Electives (2)</td>
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</table>

**Doctor of Philosophy in Neuroscience (After a Bachelor’s Degree)**

### CURRICULUM

<table>
<thead>
<tr>
<th>Courses</th>
<th>Credits / ECTS Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>GE 690 Academic Practices</td>
<td>- / 24</td>
</tr>
<tr>
<td>NSC 510 Sensory and Motor Systems Neuroscience</td>
<td>3 / 7.5</td>
</tr>
<tr>
<td>NSC 511 Cellular, Molecular and Developmental Neuroscience</td>
<td>3 / 7.5</td>
</tr>
<tr>
<td>NSC 699 Neuroscience Ph.D. Dissertation</td>
<td>- / 140</td>
</tr>
<tr>
<td>Electives (7)</td>
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<tr>
<td>Neurosciences Seminars (2)</td>
<td>- / 2</td>
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<tr>
<td>Restricted Electives (7)</td>
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</tbody>
</table>

The descriptions provided here for different elective course groups are only for guidance. The complete list of courses in each elective group are given in the electronic registration system.

**Elective Courses:** Selected 5XX or higher level courses with at least 3 credits offered by different departments.

**Restricted Elective Courses:** Selected 5XX or higher level CS, EEE, IE, LAW, MBG, ME, MSN, NSC, PHYS and PSYC coded courses with at least 3 credits.

**COURSE DESCRIPTIONS**

**NSC 510 Sensory and Motor Systems Neuroscience**

Neural regulation of sensory and motor systems. Functions such as vision, audition, olfaction, gustation, motor movement, reproduction, sleep and biological rhythms, emotion, learning and memory and psychopathology.  
*Credit units: 3 ECTS Credit Units: 7.5. Aut (H. H. Kafaloglu)*

**NSC 511 Cellular, Molecular and Developmental Neuroscience**

The fundamental principles underlying neuronal biophysics; molecular, cellular and developmental processes. Cellular components of nervous tissue, membrane and action potentials, neurotransmitter regulation and in-
tracellular signaling, neural induction and pattern formation, neurogenesis, migration and synaptic regulation.  

Credit units: 3 ECTS Credit Units: 7.5. Aut (M. M. Adams)

NSC 512 Research Methods in Neuroscience  
Behavioral experimental design and analysis. Computational Modeling. Neural Networks. Molecular and cellular methods in neurons. Credit units: 3 ECTS Credit Units: 7.5. Spr (M. M. Adams)

NSC 513 Behavioural Neuroscience  
Seminar course in which students read a wide range of articles that relate to the overview of the neurological processes underlying organismic behavior. Survey on neurobiological explanations of topics such as sensation, movement, motivation, emotion, sleep, learning, neurological disorders, and recovery mechanisms. Credit units: 3 ECTS Credit Units: 7.5. Aut (A. Arslan Ergül)

NSC 514 Affective Neuroscience  
Biological basis of emotion. Overview of and historical basis for the field of affective neuroscience. Mapping affective experience and behavior to brain function, including cross-level integration of anatomical, chemical, and electrical data. Credit units: 3 ECTS Credit Units: 7.5.

NSC 515 Computational and Numerical Methods in Neuroscience  
Basic mathematical techniques for analysis and modeling of neural systems. Various methods in this highly active field are discussed. Credit units: 3 ECTS Credit Units: 7.5.

NSC 591 Pro-thesis Seminar I  
Presentations on the current and classical literature. Credit units: None ECTS Credit Units: 1. Aut (M. M. Adams) Spr (M. M. Adams)

NSC 599 Neuroscience Master’s Thesis  
Credit units: None ECTS Credit Units: 56. Aut (M. M. Adams) Spr (M. M. Adams)

NSC 612 Selected Topics in Neuroscience I  
Current topics in neuroscience. Survey of the literature related to a current selected topic of interest. Credit units: 3 ECTS Credit Units: 7.5. Spr (H. H. Kafaloglou)

NSC 613 Selected Topics in Neuroscience II  
Current topics in neuroscience. Survey of the literature related to a current selected topic of interest. Credit units: 3 ECTS Credit Units: 7.5.

NSC 670 Lab in Cellular, Molecular, and Developmental Neuroscience  
Experimental approaches in cellular, molecular and developmental neuroscience. Experiments on cell structure and organization of the vertebrate central nervous system, and mechanisms underlying neural signaling and plasticity. Laboratory instruction in anatomical, physiological, and biochemical methods for investigating the biology of nerve cells. Credit units: 3 ECTS Credit Units: 7.5.

NSC 671 Lab in Sensory and Motor Systems Neuroscience  
Experimental approaches in sensory and motor systems neuroscience. Laboratory instruction in neuroanatomy, sensory neurophysiology, modern neuroanatomical tracer techniques, psychophysics, and computational neuroscience. Credit units: 3 ECTS Credit Units: 7.5.

NSC 691 Pro-thesis Seminar II  
Presentations on the current and classical literature. Credit units: None ECTS Credit Units: 1. Aut (M. M. Adams) Spr (M. M. Adams)

NSC 699 Neuroscience Ph.D. Dissertation  
Credit units: None ECTS Credit Units: 140. Aut (M. M. Adams) Spr (M. M. Adams)
The school of Applied Languages offers four-year degree programs in two departments: Banking and Finance and Accounting Information Systems. Both departments offer students the opportunity to study topics important in banking, finance, and accounting information systems as well as developing advanced communication skills in English and French.

**ACADEMIC STAFF**

**Nazmi Demir**, Assistant Professor  

**Ebru Güven Solakoğlu**, Associate Professor  

**Orhan Güvenen**, Professor  

**Erin Maloney**, Instructor  

**Valery C. E. Paternotte**, Instructor  
Ph.D., Environmental Management, Universite Libre de Bruxelles, 2002.

**Seida Sevin**, Instructor  
M.A., Management, Hacettepe University, 1999.

**Mehmet Nihat Solakoğlu**, Associate Professor  

**PART-TIME ACADEMIC STAFF**

**Üğur Akdoğan**, Ph.D., Accounting and Finance, Marmara University, 2006.  
**Onur Aytar**, M.S., Computer Science, Northeastern University, Boston, M.A. USA, 2003.  
**Şenol Babuşcu**, Ph.D., Management, Hacettepe University, 1997.  
**Ömer Berki**, B.A., Faculty of Law, Ankara University, 1972.  

**Mahmut Akin Erkoç**, B.A., French Language and Literature, Hacettepe University, 1981.  
**Adalet Hazar**, Ph.D., Finance and Accounting, Gazi University, 2004.  
**Vedat Özer**, B.A., Department of Banking and Insurance, Gazi University, 1983.  
**Sedat Yetim**, Ph.D., Economics, Hacettepe University, 2000.
ACCOUNTING INFORMATION SYSTEMS

O. Güvenen (Chair), S. Sevin.


UNDERGRADUATE PROGRAM

This program blends topics from accounting, international auditing and information systems to develop the knowledge, skills and abilities needed in the accounting profession. The program also seeks to develop advanced communication skills in English and French, which are appropriate for accounting and business. The first year is a foundation course in accounting, application of information technology and languages. Starting in the second year, courses begin to focus more explicitly on the application and integration of information technology into the accounting process while financial and managerial accounting principles are introduced and developed. Communication skills in English and French are further developed with a greater emphasis on business and finance related work in language study.

Accounting Information System Component

The Accounting Information System component of the program provides an understanding of computer and information technology concepts and places strong emphasis on acquiring subject-specific knowledge in international auditing, accounting, finance, and the business environment. Furthermore, the program incorporates a one-month training period in the third and fourth year of study during which students work for firms or within an accounting department of a business.

Language Component

The language courses develop general oral and written language skills as well as more specialized skills such as report writing, negotiating, interpersonal communication, analyzing and synthesizing within the wider context of business. In language work most of the practical sessions may be function-based and devoted to a given skill (oral work, writing proposals) whereas others are topic based and focus more on Business Communications involving case studies that culminate in oral presentations and business reports. Communication skills in both English and French are developed through the use of real-life cases and involve students in team-based projects.

CURRICULUM

FIRST YEAR

<table>
<thead>
<tr>
<th>Autumn Semester</th>
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<tr>
<td>ACC 173</td>
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<tr>
<td>ACC 175</td>
<td>3 / 6</td>
</tr>
<tr>
<td>BF 161</td>
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<td>ENG 101</td>
<td>3 / 6</td>
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<tr>
<td>GE 100</td>
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<tr>
<td>SFL 101</td>
<td>3 / 6</td>
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<td>TURK 101</td>
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<tr>
<td>ACC 178</td>
<td>3 / 6</td>
</tr>
<tr>
<td>BF 162</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ENG 102</td>
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<td>SFL 102</td>
<td>3 / 6</td>
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SECOND YEAR

<table>
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<tr>
<td>ACC 253</td>
<td>Accounting I</td>
<td>3 / 6</td>
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<tr>
<td>ACC 271</td>
<td>Data Structures and Object Oriented Programming I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>BF 271</td>
<td>Applications in Probability and Statistics I</td>
<td>3 / 6</td>
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<tr>
<td>GE 250</td>
<td>Collegiate Activities Program I</td>
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<tr>
<td>HIST 200</td>
<td>History of Turkey</td>
<td>4 / 8</td>
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<td>SFL 201</td>
<td>French IV</td>
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<tr>
<td>SFL 207</td>
<td>Interpersonal Communication in Business Settings</td>
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Spring Semester

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<tbody>
<tr>
<td>ACC 258</td>
<td>Accounting II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ACC 272</td>
<td>Data Structures and Object Oriented Programming II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>BF 276</td>
<td>Applications in Probability and Statistics II</td>
<td>3 / 6</td>
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<tr>
<td>GE 251</td>
<td>Collegiate Activities Program II</td>
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<tr>
<td>SFL 202</td>
<td>French V</td>
<td>3 / 6</td>
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<tr>
<td>SFL 208</td>
<td>Written Business Communication</td>
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THIRD YEAR

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<tr>
<td>ACC 391</td>
<td>Summer Practice</td>
<td>- / 6</td>
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<tr>
<td>BF 383</td>
<td>Ethics, Responsibility and Citizenship</td>
<td>3 / 6</td>
</tr>
<tr>
<td>LAW 313</td>
<td>Business Law</td>
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<tr>
<td>SFL 307</td>
<td>English in Business Communication</td>
<td>3 / 6</td>
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<td>SFL 335</td>
<td>French in Financial Communication I</td>
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Spring Semester

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<tbody>
<tr>
<td>ACC 360</td>
<td>Cost Accounting and Computerized Accounting Applications</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ACC 374</td>
<td>Information Systems Security and Information Distortion (in French)</td>
<td>3 / 6</td>
</tr>
<tr>
<td>LAW 416</td>
<td>Introduction to Contract Law</td>
<td>3 / 4</td>
</tr>
<tr>
<td>SFL 308</td>
<td>English in Organizational Communication</td>
<td>3 / 6</td>
</tr>
<tr>
<td>SFL 336</td>
<td>French in Financial Communication II</td>
<td>3 / 6</td>
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<tr>
<td>SFL 490*</td>
<td>Common European Framework of Reference Level B1</td>
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FOURTH YEAR

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<tr>
<td>ACC 425</td>
<td>Commercial Law</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ACC 463</td>
<td>International Financial Reporting Standards (IFRS)</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ACC 473</td>
<td>Management Information Systems (in French)</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ACC 491</td>
<td>Summer Practice</td>
<td>- / 6</td>
</tr>
<tr>
<td>SFL 405</td>
<td>Intercultural Business Communication</td>
<td>3 / 6</td>
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<tr>
<td>SFL 431</td>
<td>French in Corporate Communication</td>
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Spring Semester

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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>ACC 454</td>
<td>International Auditing</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ACC 464</td>
<td>Taxation and Turkish Tax Law</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ACC 476</td>
<td>Graduation Project in Accounting Information Systems and Auditing</td>
<td>3 / 6</td>
</tr>
<tr>
<td>SFL 406</td>
<td>Integrated Marketing Communications (IMC)</td>
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<tr>
<td>SFL 432</td>
<td>Organizational Communication in French</td>
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ELECTIVES

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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>HART 111</td>
<td>Introduction to Archaeology</td>
<td>3 / 6</td>
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<tr>
<td>HART 117</td>
<td>Ways of Seeing: Approaches to Art and Architectural History</td>
<td>3 / 6</td>
</tr>
<tr>
<td>HART 221</td>
<td>Great Discoveries from the Ancient World</td>
<td>3 / 6</td>
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<tr>
<td>HART 225</td>
<td>Cultural Anthropology</td>
<td>3 / 6</td>
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<tr>
<td>HUM 111</td>
<td>Cultures Civilizations and Ideas I</td>
<td>3 / 6</td>
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<tr>
<td>HUM 112</td>
<td>Cultures Civilizations and Ideas II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>HUM 291</td>
<td>Selected Topics in the Humanities</td>
<td>3 / 6</td>
</tr>
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</table>

One elective course should be taken from the elective courses list offered by the Faculty of Humanities and Letters departments.
ACCOUNTING INFORMATION SYSTEMS

COURSE DESCRIPTIONS

ACC 170  Computer Applications II
Students learn the computer skills necessary for future courses in the Department of Accounting Information Systems, including advanced spreadsheets (functions and formulas, data analysis, objects, amortization, matrices, charts, pivot), graphic design, and software integration. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ACC 173. Spr (E. Maloney)

ACC 173  Computer Applications I
Students learn the computer skills necessary for general academia, including efficient usage of the Turkish QWERTY keyboard and general application software (word processing, presentation, spreadsheet, compression, photo editing). Credit units: 3 ECTS Credit Units: 6. Aut (E. Maloney)

ACC 175  Mathematics I
Review of algebra, applications of calculus, equations, logarithms to financial data, functions and graphs, applications of functions in business and economics, mathematics of finance. Interest rates, compounding, annuities, present and future values, amortization of mortgage loans and sinking funds for bonds. Credit units: 3 ECTS Credit Units: 6. Aut (E. Güven Solakoğlu)

ACC 178  Mathematics II
Introduction to matrix and vector equations, limits and continuity. Application of derivatives, integrals to financial and banking data. Multivariate calculus. Maximizing profit and utility and minimizing cost. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ACC 175. Spr (E. Güven Solakoğlu)

ACC 253  Accounting I
An introductory accounting course which covers the concepts and issues of financial accounting such as general accounting principles, the accounting cycle which starts with the analysis and recording of economic events and ends with the preparation of balance sheets and income statements for service and merchandise firms. Development of accounting principles and procedures related to assets, liabilities and owner’s equity. Credit units: 3 ECTS Credit Units: 6. Aut (S. Sevin)

ACC 258  Accounting II
Introduction to management accounting for internal reporting and decision making. Topics include cost volume profit analysis, cost behavior, activity based costing, process and job order costing, budgeting and budget variance analysis, pricing, responsibility accounting and performance evaluation. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ACC 253. Spr (S. Sevin)

ACC 271  Data Structures and Object Oriented Programming I
Fundamental programming in a high level language and introduction to programming principals. Topics include program structure and organization, object-oriented programming (classes, objects, types), data structures (lists, stacks, queues, hash tables), basic user interfaces. Java is the principal programming language. Credit units: 3 ECTS Credit Units: 6. Aut (O. Aytar)

ACC 272  Data Structures and Object Oriented Programming II
Introduction to systems development providing a foundation for systems implementation cycle, systems analysis and object oriented program design techniques and project management. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ACC 271. Spr (O. Aytar)

ACC 286  Cost Accounting and Computerized Accounting Applications
Advanced topics in financial and managerial accounting, with special emphasis on accounting practices applicable in Turkey. The uniform accounting plan, inventory accounts, preparation and reporting of financial statements (balance sheet, income statement, cash flow statement, and statement of shareholders’ equity) and in-depth study on cost accounting. Special emphasis will be given to adjusting and closing entries with popular accounting software packages (Likom, Logo, SAP). Credit units: 3 ECTS Credit Units: 6, Prerequisite: ACC 258. Spr (S. Sevin)

ACC 374  Information Systems Security and Information Distortion (in French)
Information Systems privacy and security in the context of software, hardware, networks and databases. The very important impact of information systems security and information distortion to research, socio-economic systems with specific reference to accounting information systems, banking and finance and decision making systems. Credit units: 3 ECTS Credit Units: 6. Spr (O. Güvenen)

ACC 391  Summer Practice
One-month training period. (see www.bilkent.edu.tr/~sal) Credit units: None ECTS Credit Units: 6. Aut (Staff) Spr (Staff)
ACC 425  Commercial Law
This course offers an introductory and basic study of Turkish commercial law (all chapters of TTK - Turkish Commercial Code Nr.6102 and connected Codes) and fundamental principles of international commercial law such as ICC-Inco terms, ITC Model Contracts, payment varieties, arbitration procedures etc. Credit units: 3 ECTS Credit Units: 6. Aut (Q. Berk) 

ACC 454  International Auditing
The primary objective of the course is to distinguish between accounting and auditing through familiarizing the students with the basic auditing concepts. Topics such as types of audits and auditors, audit reports for financial statements, professional ethics, evidence accumulation and verification procedures, internal control and auditing engagements are discussed. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ACC 463. Spr (U. Akdoğan) 

ACC 463  International Financial Reporting Standards (IFRS)
This course is an introductory course on international financial reporting. It focuses on the main aspects of international account and financial reporting standards by comparing with Turkish Accounting System. Topics covered include preparation of financial statements, inventory, cash flow statements, accounting policies plant, property and equipment, revenue, investment property, intangible assets, operating segments, impairment of assets, provisions, contingent liabilities and assets, foreign exchange rates, inflation and some financial instruments. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ACC 253 and ACC 258. Aut (Staff) 

ACC 464  Taxation and Turkish Tax Law
This course comprises the principles of tax law, taxation process, income tax, corporation tax, value added tax, real estate tax, inheritance tax, tax penalties, conflicts of taxation and some other taxes in the Turkish system. Credit units: 3 ECTS Credit Units: 6. Spr (A. Başpinar) 

ACC 473  Management Information Systems (in French)
Management and information technologies and communications (ITC), knowledge-based economy and knowledge society, business plan and business model, business models for electronic markets, electronic commerce, systems development and documentation techniques, data bases, impact of ITC on public and corporate governance, information and decision-making. Credit units: 3 ECTS Credit Units: 6, Aut (O. Güvenen) 

ACC 476  Graduation Project in Accounting Information Systems and Auditing
This project is designed to expose students to real life situations involving Accounting Information Systems and Auditing. The students will put into practice the knowledge and Skills acquired from their previous courses by creating an accounting information system and auditing project. This will be done by establishing a virtual company through which students will identify business processes and transactions, gather data elements to create the accounting information system and apply to these two components, internal controls in terms of user rights and security policies. Students will be guided throughout the project and will follow a combination of classes, workshops and seminars given by professionals. To complete this course, students will prepare and present a written project which will based on assessing the risks of the created accounting information system and auditing. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ACC 258 and ACC 360. Spr (O. Aytar) 

ACC 491  Summer Practice
One-month training period. (see www.bilkent.edu.tr/~sal) Credit units: None ECTS Credit Units: 6. Aut (Staff) Spr (Staff)
BANKING AND FINANCE

N. Demir (Chair), E. Güven Solakoğlu, E. Maloney, V. C. E. Paternotte, M. N. Solakoğlu.


UNDERGRADUATE PROGRAM

This program is designed to provide a solid understanding of banking and financial studies and to develop advanced communication skills in English and French which are necessary for banking and finance. The first year is a foundation course in both banking/finance and languages. Starting in the second year, courses become more specialized, allowing in-depth study of banking and finance topics with a focus on real-world applications.

Banking/Finance Component

The banking and finance component of the program is carried out in English and French as a second foreign language. It seeks to develop competence in financial markets and organizations. This is complemented by the use of computer assisted applications related to banking and finance. Additionally, two one-month training periods are incorporated into the summer programs aiming to familiarize students with the working environment in financial institutions and other business organizations.

Language Component

The language courses develop general oral and written language skills as well as more specialized skills such as translating, report writing, negotiating, analyzing and synthesizing within the wider context of business. In the language work most of the practical sessions may be function-based and devoted to a given skill (oral work, translation into Turkish). Other language work is topic-based and focuses more on business communications involving case studies that culminate in oral presentations and business reports.

CURRICULUM

FIRST YEAR

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<thead>
<tr>
<th>Autumn Semester</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>ACC 175 Mathematics I</td>
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<tr>
<td>BF 161 Economics I</td>
<td>3 / 6</td>
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<tr>
<td>BF 173 Computer Applications I</td>
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<td>ENG 101 English and Composition I</td>
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<td>GE 100 Orientation</td>
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<td>SFL 101 French I</td>
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<td>TURK 101 Turkish I</td>
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<td>BF 174 Computer Applications II</td>
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<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>SFL 103 French III</td>
<td>3 / 6</td>
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SECOND YEAR

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<thead>
<tr>
<th>Autumn Semester</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>ACC 253 Accounting I</td>
<td>3 / 6</td>
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<tr>
<td>BF 271 Applications in Probability and Statistics I</td>
<td>3 / 6</td>
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<tr>
<td>Course ID</td>
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<tr>
<td>GE 250</td>
<td>Collegiate Activities Program I</td>
</tr>
<tr>
<td>HIST 200</td>
<td>History of Turkey</td>
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<tr>
<td>SFL 201</td>
<td>French IV</td>
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<tr>
<td>SFL 207</td>
<td>Interpersonal Communication in Business Settings</td>
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<td></td>
<td>Restricted Elective</td>
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<td></td>
<td><strong>Spring Semester</strong></td>
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<tr>
<td>ACC 258</td>
<td>Accounting II</td>
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<tr>
<td>BF 264</td>
<td>Elements of Money and Banking I</td>
</tr>
<tr>
<td>BF 276</td>
<td>Applications in Probability and Statistics II</td>
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<tr>
<td>GE 251</td>
<td>Collegiate Activities Program II</td>
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<td>SFL 202</td>
<td>French V</td>
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<td>SFL 208</td>
<td>Written Business Communication</td>
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<tr>
<td>ACC 425</td>
<td>Commercial Law</td>
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<tr>
<td>BF 365</td>
<td>Elements of Money and Banking II</td>
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<tr>
<td>BF 391</td>
<td>Summer Practice</td>
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<tr>
<td>SFL 307</td>
<td>English in Business Communication</td>
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<td>SFL 335</td>
<td>French in Financial Communication I</td>
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<td><strong>Spring Semester</strong></td>
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<tr>
<td>BF 362</td>
<td>Banking Operations</td>
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<tr>
<td>BF 372</td>
<td>Computerized Financial Applications</td>
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<tr>
<td>BF 384</td>
<td>Introduction to Financial Econometrics</td>
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<tr>
<td>SFL 308</td>
<td>English in Organizational Communication</td>
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<td>SFL 336</td>
<td>French in Financial Communication I</td>
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<td><strong>FOURTH YEAR</strong></td>
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<tr>
<td>BF 469</td>
<td>Banking Law</td>
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<tr>
<td>BF 473</td>
<td>Computerized Brokerage and Dealer Operations</td>
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<tr>
<td>BF 491</td>
<td>Summer Practice</td>
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<td>SFL 405</td>
<td>Intercultural Business Communication</td>
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<td>SFL 431</td>
<td>French in Corporate Communication</td>
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<td>Restricted Elective</td>
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<td><strong>Spring Semester</strong></td>
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<td>BF 422</td>
<td>Graduation Project in Banking and Finance</td>
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<tr>
<td>BF 488</td>
<td>Computerized Insurance Services and Operations</td>
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<td>LAW 416</td>
<td>Introduction to Contract Law</td>
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<td>SFL 406</td>
<td>Integrated Marketing Communications (IMC)</td>
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<td>SFL 432</td>
<td>Organizational Communication in French</td>
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<td><strong>ELECTIVES</strong></td>
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<tr>
<td>BF 461</td>
<td>Corporate Finance</td>
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<td>BF 462</td>
<td>Investments</td>
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<td>BF 464</td>
<td>International Finance</td>
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<td>BF 467</td>
<td>Research in Finance</td>
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<td>BF 479</td>
<td>Issues in Banking</td>
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<td>BF 480</td>
<td>Applied Capital Markets</td>
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<tr>
<td>BF 485</td>
<td>Introduction to Bank Risk Analysis and Evaluation</td>
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<tr>
<td>COMD 207</td>
<td>Film History</td>
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<tr>
<td>FA 271</td>
<td>History of Art I</td>
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<tr>
<td>FA 272</td>
<td>History of Art II</td>
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<tr>
<td>HART 111</td>
<td>Introduction to Archaeology</td>
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<tr>
<td>HART 117</td>
<td>Ways of Seeing: Approaches to Art and Architectural History</td>
</tr>
<tr>
<td>HART 221</td>
<td>Great Discoveries from the Ancient World</td>
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At least two elective courses should be taken from the elective courses list offered by BF (Banking/Finance), and MAN (Management) departments, and the Faculty of Humanities and Letters departments.

**COURSE DESCRIPTIONS**

**BF 161 Economics I**  
Supply and demand analysis, the pricing system, theory of consumer behavior, theory of production, market structures; perfect competition, monopoly, other forms of imperfect competition, distribution of income; factor mobility, factor pricing.  
*Credit units: 3 ECTS Credit Units: 6. Aut (N. Demir)*

**BF 162 Economics II**  
*Credit units: 3 ECTS Credit Units: 6. Spr (N. Demir)*

**BF 173 Computer Applications I**  
Learning the computer skills necessary for general academia, including efficient usage of 1) the Turkish QWERTY keyboard; 2) operating system software; and 3) application software (wordprocessing, internet, presentation, compression and photo editing).  
*Credit units: 3 ECTS Credit Units: 6. Aut (E. Maloney)*

**BF 174 Computer Applications II**  
Learning the computer skills necessary for a degree in Banking and Finance, including advanced spreadsheeting (functions, formulas, data analysis, objects and symbols, amortization, matrices, and charts), and software integration.  
*Credit units: 3 ECTS Credit Units: 6, Prerequisite: BF 173. Spr (E. Maloney)*

**BF 264 Elements of Money and Banking I**  
Introduction to monetary and financial institutions, central banks and monetary policy, the transmission mechanism of money, money supply process, inflation and inflation targeting, money supply and demand as related to aggregate real supply and demand for goods and services, Keynesians versus Monetarists, Monetary policy versus government budget, PSBR, budget versus inflation, monetary and fiscal policy effects under fixed versus floating exchange rate policy, putting all together: the IS-LM-FE model.  
*Credit units: 3 ECTS Credit Units: 6, Prerequisite: BF 162. Spr (N. Demir)*

**BF 271 Applications in Probability and Statistics I**  
Introduction to probability, the central limit theorem, data collection, descriptive statistics of central tendency and dispersion, the normal distribution, summarizing and interpreting financial data, histograms, examining relationships between economic and financial variables using graphical techniques, simple correlation, sampling and point and interval estimates of parameters.  
*Credit units: 3 ECTS Credit Units: 6. Aut (E. Güven Solakoğlu, M. N. Solakoğlu)*

**BF 276 Applications in Probability and Statistics II**  
Parametric and non-parametric tests of hypothesis, ANOVA, simple and multiple regressions based on excel and other statistical package programs, index numbers, time series and panel data all applied to financial and banking data.  
*Credit units: 3 ECTS Credit Units: 6, Prerequisite: BF 271. Spr (E. Güven Solakoğlu, M. N. Solakoğlu)*

**BF 362 Banking Operations**  
Canons of lending, personal borrowers, other borrowers, general principles of security, review and control of accounts. Interpretation of financial statements, Interbank Nostro and Vostro accounts, remittance and receipt of funds, rates of exchange, financing international trade for exporters and importers.  
*Credit units: 3 ECTS Credit Units: 6, Prerequisite: BF 252. (Prerequisite not required when offered as elective to other departments). Spr (Ş. Babuşcu)*

**BF 365 Elements of Money and Banking II**  
Overview financial markets and institutions, financial sector versus real economy, rates of returns: HPR, APR, EAR, risk and term structure of interest rate, bond market, pricing bonds, duration and bond price elasticity; stock...
BF 372 Computerized Financial Applications
This course aims to develop skills of empirical work by applying financial theories to real life problems with computers. It covers tools of financial statement analysis, forecasting, risk measurement in finance, technical analysis of stock markets, Markowitz portfolio design, the Capital Asset Pricing Model (CAPM) and performance assessment of portfolios. Credit units: 3 ECTS. Credit Units: 6, Prerequisite: BF 264. Aut (N. Demir)

BF 383 Ethics, Responsibility and Citizenship
The aim of this course is to introduce ethical issues in relation to business and corporations. Emphasis will be given to the notion of corporate citizenship and its contribution to the framing of business ethics and to concepts of corporate social responsibility (CSR). Credit units: 3 ECTS. Credit Units: 6. (S. Sevin)

BF 384 Introduction to Financial Econometrics
Introductory level econometrics course designed to analyse financial time series and panel data with emphasis on model building and estimating parameters with the use of least squares techniques and maximum likelihood theories, testing stationarity, cointegration and volatility hypotheses for univariate and multivariate time series models. Credit units: 3 ECTS. Credit Units: 6. Prerequisite: BF 271 and BF 276 and BF 365. Spr (N. Demir)

BF 391 Summer Practice
One-month training period. (see www.bilkent.edu.tr/sal) Credit units: None. ECTS Credit Units: 6. Aut (Staff)

BF 422 Graduation Project in Banking and Finance
This course is designed for students to apply undergraduate class work to real life situations. In the first part, students will be exposed to a number of carefully selected topics through classes, workshops and seminars. In the second part, the course will have three components: research, a written project, and a project presentation. This course will create a model of real life work, including planning, reading, analyzing, doing research, writing, interpreting, and presenting findings. Credit units: 3 ECTS. Credit Units: 6, Prerequisite: BF 372 and BF 384. Aut (M. N. Solakoğlu) Spr (M. N. Solakoğlu)

BF 461 Corporate Finance
The functions of financial markets and institutions, financial tables, ratio analysis, time value of money, valuation of stocks and bonds, investment and financing decisions, risk and return, derivatives, financial planning. Credit units: 3 ECTS. Credit Units: 6, Prerequisite: BF 252 and BF 365. (Prerequisite not required when offered as elective to other departments). Aut (M. N. Solakoğlu)

BF 464 International Finance
The international financial environment, the international monetary system, balance of payments and parity conditions, spot and forward markets, foreign exchange risk management, forecasting FX rates, economic exposure, transactions exposure, translation exposure, international financial markets, international portfolio diversification, trade financing, direct foreign investment decisions, strategy, political risk, capital budgeting. Credit units: 3 ECTS. Credit Units: 6.

BF 467 Research in Finance
This course aims to build research skills in finance and banking. Identification of the related literature and analysis will be covered. Focus will be on building an econometric model to analyse the research objective. Credit units: 3 ECTS. Credit Units: 6.

BF 469 Banking Law
Sources of law: relevance to the business of banking, conflict resolving, judicial and quasi-judicial processes, court system, quasi-judicial bodies, bank ombudsman, contract law: role of contract law in banking, nature and elements of a contract, banker/customer contract. Property and its use as security; real and personal property, security functions and types. A bank’s rights and duties as a mortgagee. Credit units: 3 ECTS. Credit Units: 6. Prerequisite: BF 362. Aut (Ş. Babaçoğlu)

BF 473 Computerized Brokerage and Dealer Operations
Computerized Brokerage and Dealer Operations Applications with special emphasis on stocks, foreign exchange (FX) and commodity markets. Credit units: 3 ECTS. Credit Units: 6, Prerequisite: BF 365 and BF 384. Aut (N. Elliatoğlu)

BF 480 Applied Capital Markets
Structure of capital markets: stocks, bonds, mortgages etc. and capital market institutions such as capital markets board, stock exchange markets, legal and institutional requirements of the equity markets. Credit units: 3 ECTS. Credit Units: 6. Aut (A. Hazar) Spr (A. Hazar)
BF 485  Introduction to Bank Risk Analysis and Evaluation
This course covers the Basel 1-2 (The New Accord) topics with particular emphasis on the three pillars of Basel 2: Minimum capital requirements, supervisory review of capital adequacy and public disclosure for market discipline. Topics such as external rating, internal rating; different approaches to the measurement of credit risk and operational risk, steps for the adaptation of the new accord in Turkey are also covered. Credit units: 3 ECTS Credit Units: 6.

BF 488  Computerized Insurance Services and Operations
The insurance sector and its public and private institutions; principles, basics and legal aspects of insurance services and operations in Turkey and abroad; Insurance operations in practice: Computerized insurance services, use of special software currently used for insurance services and operations. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ACC 258. Spr (V. Özer)

BF 491  Summer Practice
One-month training period. (see www.bilkent.edu.tr/sal) Credit units: None ECTS Credit Units: 6. Aut (Staff) Spr (Staff)

SFL 101  French I
The aim of this course is to develop basic communication skills in French for social and professional use. Students will be exposed to basic communication situations related to everyday communication through which they will learn the basic structures of French grammar and acquire essential notions of French culture. Credit units: 3 ECTS Credit Units: 6, Aut (M. A. Erkoç; M. Özataç; Y. Tanbi)

SFL 102  French II
This course expands on the skills acquired in SFL 101 and emphasizes language skills needed to describe and carry out typical tasks in the workplace. Special attention will be given to terminology and pronunciation. Credit units: 3 ECTS Credit Units: 6, Prerequisite: SFL 101. Spr (M. Özataç; Y. Tanbi)

SFL 103  French III
This course emphasizes language skills needed to interact socially in a professional environment and aims to further develop language awareness and accuracy in language use by engaging students with texts, both written and audio, from different contexts. Students will learn how to describe a company, follow instructions, write effectively and develop the ability to present information related to work settings cohesively and coherently both orally and in writing and to express ideas and opinions effectively. Credit units: 3 ECTS Credit Units: 6, Prerequisite: SFL 102.

SFL 201  French IV
This course aims at developing the ability to listen and read complex texts for gist and detail and to apply this knowledge and understanding to speaking and writing. Emphasis will be given to texts related to banking, finance and accounting and case studies will focus on customer relationships and banking services. Credit units: 3 ECTS Credit Units: 6, Prerequisite: SFL 103. Aut (C. Cangır)

SFL 202  French V
This course builds on the skills acquired in SFL 201. Besides professional skills and specific terminology concerning investment opportunities and types of credit, students will also deal with the intercultural aspect of business. Credit units: 3 ECTS Credit Units: 6, Prerequisite: SFL 201. Spr (C. Cangır)

SFL 207  Interpersonal Communication in Business Settings
Theories and practice in verbal and nonverbal communication with a focus on interpersonal relationships. Emphasis on improving interpersonal skills and helping students increase their communication competence in business-related exchanges. Credit units: 3 ECTS Credit Units: 6, Aut (B. Blackwell Gülen)

SFL 208  Written Business Communication
Develops understanding of communication theories and builds skills in written communication emphasizing style and audience awareness. Practical applications center on external and internal business correspondence. Letters, memos that inform persuade, grant and refuse are stressed. Credit units: 3 ECTS Credit Units: 6, Spr (B. Blackwell Gülen)

SFL 307  English in Business Communication
This course aims to develop communicative competency in writing short reports, conducting meeting and delivering presentations through assignments designed to meet real organizational needs. Credit units: 3 ECTS Credit Units: 6, Prerequisite: SFL 208. Aut (B. Blackwell Gülen)

SFL 308  English in Organizational Communication
Covering a range of communication issues and practices within businesses and other organizations, emphasis is placed on effective communication through oral and written reporting, proposals, negotiations and team presentation. Credit units: 3 ECTS Credit Units: 6, Prerequisite: SFL 307. Spr (B. Blackwell Gülen)

SFL 335  French in Financial Communication I
This course aims to improve students’ ability to communicate effectively in a wide-range of accounting and financial contexts. Realistic case studies related to finance, banking operations, investments and economics will
be used to develop language skills. Emphasis will be given to a variety of topic areas such as financial reporting, corporate governance, mergers and acquisitions, insurance, investment banking. **Credit units: 3 ECTS Credit Units: 6, Prerequisite: SFL 202. Aut (A. Demir, V. C. E. Paternotte)**

**SFL 336 French in Financial Communication II**
This course aims to improve students’ ability to communicate effectively in a wide-range of accounting and financial contexts. Realistic case studies related to finance, banking operations, investments and economics will be used to develop language skills. Emphasis will be given to a variety of topic areas such as financial reporting, corporate governance, mergers and acquisitions, insurance, investment banking. **Credit units: 3 ECTS Credit Units: 6, Prerequisite: SFL 335. Spr (A. Demir, V. C. E. Paternotte)**

**SFL 392 Common European Framework of Reference Level B2**
French Language Proficiency text. All students entering the Translation and Interpretation (TRIN) programs in September 2009 are required to pass the Common European Framework of Reference test. (Level B2) in order to graduate. **Credit units: None ECTS Credit Units: 1. Spr (Staff)**

**SFL 405 Intercultural Business Communication**
This course focuses on business communication in intercultural environments. Cross-cultural communication theories and a cultural framework will be used to assist in the analysis, evaluation and creation of appropriate business messages addressed to specific audiences in both English and French. Practical applications center on designing a multilingual/multicultural website. **Credit units: 3 ECTS Credit Units: 6. Aut (L. J. Reisman)**

**SFL 406 Integrated Marketing Communications (IMC)**
This course introduces students to the areas that comprise IMC: public relations, advertising, direct marketing, sales promotions, events promotions and online communication. Using these communication tools, students learn how to target an audience (in English + French), assess communication options and formulate IMC plans for organizations. **Credit units: 3 ECTS Credit Units: 6. Spr (L. J. Reisman)**

**SFL 431 French in Corporate Communication**
This course aims to develop communications competency in writing short reports, conducting meetings and delivering presentations through assignments designed to meet real organizations. **Credit units: 3 ECTS Credit Units: 6, Prerequisite: SFL 436. Spr (V. C. E. Paternotte)**

**SFL 432 Organizational Communication in French**
Covering a range of communication issues and practices within business and other organizations, emphasis is placed on effective communication in French through oral and written reporting, proposals, negotiations and team presentations. **Credit units: 3 ECTS Credit Units: 6, Prerequisite: SFL 431. Spr (V. C. E. Paternotte)**

**SFL 490 Common European Framework of Reference Level B1**
French Language Proficiency text. All students entering the Banking and Finance (BF) and Accounting Information Systems (ACC) programs in September 2009 are required to pass the Common European Framework of Reference test. (Level B1) in order to graduate. **Credit units: None ECTS Credit Units: 1. Aut (Staff) Spr (Staff)**
The School of Applied Technology and Management comprises three academic departments:

- **Business Information Management**
- **Computer Technology and Information Systems**
- **Tourism and Hotel Management**

The Department of Business Information Management (BIM) provides an "Applied Business" education with enriched "Information Management" and "Business Communications" components. BIM courses are designed to prepare innovative, adaptable graduates who have administrative and management skills and a solid grounding in the primary functions of business; who have the ability to use information effectively and to manage information resources and systems strategically; and who have sound teamwork and interpersonal communication abilities and can apply these skills equally to internal and external audiences. A very valuable part of the curriculum is the Industrial Training placement. This gives the student a "real life" business experience and adds a practical perspective to the theoretical studies. Students can specialize in the desired area of the study program through a wide variety of elective courses.

The Computer Technology and Information Systems Department (CTIS) aims to provide a first rate education in the field of computers and information technologies for college and high school graduates who are willing to apply themselves diligently to a computer education and who wish to prepare themselves for the broad range of exciting career opportunities, in this dynamic and rapidly expanding field. The CTIS curriculum is designed to meet the popular and expanding IT industry requirements like mobile application development, networks and web technologies, software engineering, data warehousing, and information storage and management where technical background is not sufficient and needs to be supported by social skills. To accomplish this, CTIS technical courses are complemented by a range of business studies. These include both management and social/communication courses. Main goal is to graduate students who are technically both competent and confident, who are innovative, adaptable, and who have sound teamwork and interpersonal communication skills.

The Department of Tourism and Hotel Management (THM) aims to prepare students for managerial and supervisory positions in hotel, restaurant and travel establishments, encouraging them to establish their own firms in hospitality and travel industries. Hotel and restaurant business, culinary arts and travel industry studies emphasized with management courses are taught theoretically. On-premise training facilities including the Practice Restaurant; fully equipped demonstration kitchen, the small quantity food laboratory, practice kitchen are the practical side of the curriculum. The THM Department also conducts industrial training programs, so that students may complete internships and externships providing real life experience with well known leading international hotel and restaurant chains and multinational travel and tour operators offering a healthy blend of theoretical and applied learning of the 21st century. Bilkent Hotel and Conference Center - Ankara is a significant part of the Departments’ training programs.

**ACADEMIC STAFF**

**Mustafa Akgül**, Associate Professor  
Ph.D., Combinatorics and Optimization, University of Waterloo, 1981. Combinatorial optimization, mathematical programming, linear programming, theoretical computer science, nonsmooth optimization.

**Beyhan Akporay**, Instructor  
M.S., Technology Management, University of Maryland University Collage, 2007. Software engineering, distributed systems, project management.
Duygu Albayrak, Instructor
Ph.D., Computer Education and Instructional Technology, Middle East Technical University, 2012. Discrete mathematics, information technologies. E-learning, distance learning, effectiveness of educational strategies, learning management systems, software engineering education.

Syed Amjad Ali, Assistant Professor

Aysegul Altaban, Instructor
Ph.D., Industrial Engineering, Middle East Technical University, 2013. Management Information Systems, introductory mathematics, calculus for Business studies, Business computer Applications, semester internship.

Oguz Benice, Instructor
Diploome, Etudes Superieures en Hotellerie et Restauration, Ecole Hoteilliere de Lausanne, Switzerland, 1992. Food and beverage operations, food and beverage management, Food production techniques.

Ibrahim Boz, Instructor

Jamel Ben Chafra, Instructor
MBA, Bilkent University, 1996. Rooms division management, service operations management, industrial training project, Finance, Accounting, Hospitality Management Accounting.

Ayse Bas Collins, Associate Professor
Ph.D., Educational Sciences, Middle East Technical University, 1999. Human resources management, senior project, social psychology, organizational behavior, Industrial Training Project, Research Techniques.

Hacer Cinar, Instructor
B.A., Business Administration, Hacettepe University, 1984. Accounting, tourism management applications, industrial training project, Managerial Accounting, Hospitality management accounting.

Gulgun Demirel, Instructor

Elif Denizci, Instructor

Fatma Guzel Esen, Instructor

Anthony Burnett Evans, Instructor

Serkan Gencl, Instructor
Ph.D., Computer Engineering, Middle East Technical University, 2010. Computer graphics, operating systems, website design and implementation.

Eda Gurel, Assistant Professor
Ph.D., Business Administration, Hacettepe University, 2006. Marketing, world travel destinations, world geography, industrial training project, Strategic marketing, Electives, Senior project, Economics.

Arzu Sibel Ikinci, Instructor
Ebru İnanç, Instructor

Güneş Karamullaoğlu, Instructor
MBA, Social Sciences, Gazi University, 2000. Travel operations and management, tour development and implementation, event management, industrial training project, Introduction to Business, Seminars on tourism industry, Tourist Attractions of Turkey, Dynamics of tourism, Senior project.

Burcu Liman, Instructor
M.S., Computer Engineering, Atlıml University, 2006. JAVA programming, e-learning, learning management systems.

Ayşe Nurİye Örer, Instructor
Ph.D., Dietetics and Nutrition, Hacettepe University, 1995. Nutrition and sanitation, hygiene, health studies, nutritional anthropology, industrial training project, Senior project.

Elif Sibel Özdięk, Instructor

Nazende Özkaramete Coşkun, Instructor
Ph.D., Economics, Yeditepe University, 2007. Microeconomics, Macroeconomics, Tourism economics, Quantitative Decision Techniques, Senior project, Industrial training project.

Perin Öztin, Instructor (on leave)
MBA, Alaska Pacific University, 1987. Tourist attractions of Turkey, senior project, electives, Introduction to business, Industrial training project.

Aykut Pekcan, Assistant Professor

Vural Polat, Instructor (on leave)

Kamer Rodoplu, Instructor

Nur Sağlam, Instructor

Ökay Say, Instructor

Mustafa Siyahhann, Instructor
M.S.J., Ohio University, 1974. Introduction to Business, Tourism Law, Principles of Marketing, senior project Industrial training project, Strategic marketing.

Neşe Şahin Özçelik, Instructor

Esin Şenol, Instructor
MBA, Atlıml University, 2008. Purchasing and cost analysis, Food and beverage cost control, health studies, industrial training project, purchasing, micros fidelio materials control-cheftec, Business mathematics.
Serpil Tın, Instructor  
M.S., Electrical and Electronics Engineering, Middle East Technical University, 1991. Computer networks, data communications, software engineering, algorithms and programming languages, management information systems.

Satılmış Topçu, Assistant Professor  

Erkan Uçar, Instructor  
Ph.D., Information Systems, Middle East Technical University, 2012. Software engineering, programming languages, IT outsourcing, business process reengineering, artificial intelligence.

Ali Ünal, Instructor  
M.A., Bahçeşehir University, 2003. Food and beverage service, restaurant service, behavior and etiquette.

Rabia Üşenmez, Instructor  

Hamdi Murat Yıldırım, Instructor  
Ph.D., Mathematics, Middle East Technical University, 2007. Algorithms, operating systems, cryptography.

Füşun Yürüten, Instructor  
M.S., Computer Engineering, Middle East Technical University, 1993. Database management systems, object oriented system analysis and design, systems development, programming languages.

VOCATIONAL SPECIALISTS

Neval Gökşel  
B.S., Computer Technology and Information Systems, Bilkent University, 2013.

Nimet Ceren Serim  
M.S., Computer Engineering, Atılım University, 2009.

Leyla Sezer  
M.S., Computer Engineering, Atılım University, 2009

Hatice Zehra Yılmaz  

PART-TIME ACADEMIC STAFF


Şerdar Bilecen, B.S., Electrical and Electronic Engineering, Middle East Technical University, 1987.


Dilek Lüle, B.S., Business Administration, Middle East Technical University, 1988. International Business.


Engin Şenel, MBA, Bilkent University, 2005.
BUSINESS INFORMATION MANAGEMENT

N. Sağlam (Chair), A. Altaban, G. Demirel, F. G. Esen, A. B. Evans, A. S. İkinci, E. İnanç, E. S. Özdilek, R. Uşenmez.


All major organizations place a high value on graduates who combine general business knowledge with solid computer and information management training, plus strong communication and interpersonal skills. The BIM study program is designed to prepare its students for this challenge. Specifically the curriculum has three main focuses:

**Business Administration:** Business Administration courses constitute almost 40% of the curriculum. To provide a foundation in basic administrative and management skills, students are given a wide range of business studies. In addition to specialized courses like accounting, finance, statistics and law, students also gain a clear perspective of the human, organizational and social factors related to successful business operations, through a range of supporting business studies which provide a foundation in basic administrative and management skills.

**Information Management:** The courses on information management area address goals such as active information finding, quantitative reasoning, analytical thinking and problem solving. Starting with extensive hands-on experience and business-oriented applications, students then learn to evaluate, select, implement and manage information systems. By the time they graduate, Business Information Management graduates will have experienced all phases of project development through a web based project, which introduces ‘creative elements’, graphics design, plus new challenges in Information Systems Analysis and Information Architecture.

**Business Communications:** Business Information Management aims to graduate students who have strong teamwork and interpersonal communication abilities, developed through courses that focus on writing, speaking, presenting, debating and negotiating in English. The students also strengthen their verbal and written communication skills through an experience in various communication techniques such as; drama, presentation techniques, team discussions and the use of audio visual aids.

**Internship:** The curriculum includes both a 50-day summer training program and a full-semester corporate internship. These training programs are a significant part of the BIM curriculum and an important component of the students' development. Students experience first hand, the challenges, opportunities and frustrations of business life. They learn how to interact with people from a variety of backgrounds and to serve as contributing team members. They also gain the perspective and self-confidence they will need when selecting a career upon graduation. In fact, our students frequently receive offers for later full-time employment during their internship periods.

**CURRICULUM**

**FIRST YEAR**

<table>
<thead>
<tr>
<th>Autumn Semester</th>
<th>Credits / ECTS Credits</th>
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<tr>
<td>BIM 100 Introductory Mathematics</td>
<td>2 / 4</td>
</tr>
<tr>
<td>BIM 103 Keyboarding</td>
<td>3 / 6</td>
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<tr>
<td>ECON 105 Principles of Economics I</td>
<td>3 / 5</td>
</tr>
<tr>
<td>ENG 101 English and Composition I</td>
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<tr>
<td>GE 100 Orientation</td>
<td>1 / 1</td>
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<tr>
<td>SOC 101 Introduction to Sociology</td>
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<tr>
<td>TURK 101 Turkish I</td>
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<tr>
<th>Spring Semester</th>
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<tr>
<td>BIM 107 Calculus for Business Studies</td>
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<tr>
<td>BIM 121 Business Computer Applications I</td>
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<td>ECON 106 Principles of Economics II</td>
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<td>ENG 102 English and Composition II</td>
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<tr>
<td>PSYC 100 Introduction to Psychology</td>
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<td>TURK 102 Turkish II</td>
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<td>Semester</td>
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<td>Autumn</td>
<td>BIM 122 Business Computer Applications II</td>
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<td></td>
<td>BIM 201 Problem Solving and Programming</td>
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<td>BIM 205 Principles of Accounting</td>
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<td>BIM 223 Business Communications</td>
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<td>BIM 418 Management Information Systems</td>
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<td>GE 250 Collegiate Activities Program I</td>
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<td>Unrestricted I- Elective</td>
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<td>BIM 215 Database Management Systems</td>
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<td>BIM 224 Managerial Communications</td>
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<td>BIM 260 Financial Statement Analysis</td>
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<td>GE 251 Collegiate Activities Program II</td>
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<td>HIST 200 History of Turkey</td>
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<td>Autumn</td>
<td>BIM 108 Business Statistics</td>
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<td>BIM 206 Managerial Accounting</td>
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<td>BIM 242 Web Site Design</td>
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<td>BIM 390 Summer Internship</td>
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<td>LAW 313 Business Law</td>
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<td>BIM 310 Semester Internship</td>
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<td>Third</td>
<td>BIM 261 Corporate Finance</td>
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<td>BIM 341 Web Based Application Development</td>
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<td>BIM 375 Public Relations Management</td>
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<td>BIM 316 Information Systems Analysis</td>
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<td>BIM 417 Senior Seminars in Business Information Management</td>
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<td>BIM 492 Strategic Management</td>
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<td>Restricted Electives (2)</td>
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<tr>
<td>Spring</td>
<td>ACC 272 Data Structures and Object Oriented Programming II</td>
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<td>ACC 360 Cost Accounting and Computerized Accounting Applications</td>
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<td>ACC 425 Commercial Law</td>
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<td>ACC 454 International Auditing</td>
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<td>ACC 463 International Financial Reporting Standards (IFRS)</td>
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<td>ACC 464 Taxation and Turkish Tax Law</td>
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<td>ACC 476 Graduation Project in Accounting Information Systems and Auditing</td>
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<td>BF 264 Elements of Money and Banking I</td>
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<td>BF 362 Banking Operations</td>
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<td>BF 383 Ethics, Responsibility and Citizenship</td>
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<td>BF 384 Introduction to Financial Econometrics</td>
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<td>BF 464 International Finance</td>
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<td>BF 480 Applied Capital Markets</td>
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<td>BF 485 Introduction to Bank Risk Analysis and Evaluation</td>
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<td>BF 488 Computerized Insurance Services and Operations</td>
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<td><strong>RESTRICTED ELECTIVES</strong></td>
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**SECOND YEAR**

**THIRD YEAR**

**FOURTH YEAR**

**RESTRICTED ELECTIVES**
<table>
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<tr>
<th>Course Code</th>
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<td>Decision Analysis</td>
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<tr>
<td>BIM 402</td>
<td>Advanced Selling Skills</td>
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<tr>
<td>BIM 405</td>
<td>Organizational Behaviour</td>
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<td>BIM 416</td>
<td>International Business</td>
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<td>BIM 419</td>
<td>Strategic Brand Management</td>
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<tr>
<td>BIM 423</td>
<td>Advertising Management</td>
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<tr>
<td>BIM 425</td>
<td>Contemporary Practices in Human Resources Management</td>
<td>3 / 6</td>
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<td>BIM 426</td>
<td>Small Group and Team Communication</td>
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<tr>
<td>BIM 441</td>
<td>UFO: Undefined Fields in creating Opinion</td>
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<td>BIM 450</td>
<td>Multimedia Techniques</td>
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<td>BIM 490</td>
<td>Project Management</td>
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<td>BIM 497</td>
<td>Business Transformation with ERP Systems</td>
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<td>COMD 203</td>
<td>Introduction to Communication Studies I</td>
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<td>COMD 204</td>
<td>Introduction to Communication Studies II</td>
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<td>COMD 305</td>
<td>Digital Video Production I</td>
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<td>COMD 306</td>
<td>Digital Video Production II</td>
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<td>COMD 321</td>
<td>Analysis of Moving Image</td>
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<td>COMD 341</td>
<td>Media and Society</td>
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<td>COMD 342</td>
<td>Popular Culture</td>
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<td>COMD 346</td>
<td>Introduction to Advertising</td>
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<td>COMD 347</td>
<td>Media Industries</td>
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<td>COMD 354</td>
<td>Interactive Media Design and Development</td>
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<td>COMD 355</td>
<td>Social Media Marketing</td>
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<td>COMD 364</td>
<td>Video Production for Non-majors</td>
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<td>COMD 424</td>
<td>Media Theory and Methods</td>
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<td>COMD 433</td>
<td>Gender and Media</td>
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<td>COMD 437</td>
<td>Post-production Techniques</td>
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<td>COMD 439</td>
<td>International Public Relations</td>
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<td>COMD 442</td>
<td>Special Topics in Visual Studies</td>
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<td>COMD 461</td>
<td>Public Relations and Communication Campaigns</td>
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<td>COMD 462</td>
<td>Special Topics in Advertising</td>
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<td>COMD 471</td>
<td>Media Ethics</td>
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<td>CTE 211</td>
<td>Programming Languages I</td>
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<td>CTE 212</td>
<td>Programming Languages II</td>
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<td>CTE 403</td>
<td>Research Methods in Education</td>
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<td>CTE 422</td>
<td>Project Management and Development II</td>
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<td>GRA 209</td>
<td>Graphic Design for Non-Majors</td>
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<td>GRA 210</td>
<td>Web Design</td>
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<td>IR 303</td>
<td>International Law</td>
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<td>IR 305</td>
<td>International Organizations</td>
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<td>IR 333</td>
<td>Foreign Policy Analysis</td>
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<td>IR 335</td>
<td>International Relations Theory</td>
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<td>IR 338</td>
<td>Politics of International Economy</td>
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<td>IR 347</td>
<td>The International System</td>
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<td>IR 350</td>
<td>Negotiation and Mediation in Politics</td>
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<td>IR 351</td>
<td>Globalization</td>
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<td>IR 439</td>
<td>Turkish Foreign Policy</td>
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<td>IR 493</td>
<td>European Union</td>
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<td>IR 494</td>
<td>Causes and Prevention of War</td>
<td>3 / 6</td>
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<td>MAN 101</td>
<td>Introduction to Business I</td>
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<td>MAN 102</td>
<td>Introduction to Business II</td>
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<tr>
<td>MAN 256</td>
<td>Introduction to Management Science</td>
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<td>MAN 302</td>
<td>Business Forecasting</td>
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<td>MAN 306</td>
<td>Market Research</td>
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<td>MAN 322</td>
<td>Money and Banking</td>
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<td>MAN 333</td>
<td>Marketing Principles</td>
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<td>MAN 341</td>
<td>Production Management</td>
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<td>MAN 361</td>
<td>Organization Theory</td>
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Course Descriptions

BIM 100 Introductory Mathematics
Basics of algebra, operations with fractions and ratio/propotions, operations with algebraic expressions, factoring polynomials, details of linear equations, linear and absolute value inequalities, interpreting verbal questions with sets, systems of equations (algebraic/graphical solutions) and verbal (non-business) applications, basics of statistics, introduction to break-even logic on graphs, exponential and radical expressions and logical statements and truth tables, graph theory and related visual reasoning. Credit units: 2 ECTS Credit Units: 4. Aut (A. Altaban) Spr (A. Altaban)

BIM 103 Keyboarding
With the proliferation of personal computers and computer workstations, keyboarding proficiency has become an important skill for employees at all levels of an organization, and is of immediate value to undergraduate students. This course introduces the touch typewriting system to beginning students. The emphasis is upon developing the correct techniques to achieve speed and accuracy, using a personal computer. By the end of this course, the student will be able to touch type without visual assistance on a standard keyboard. Credit units: 3 ECTS Credit Units: 6. Aut (G. Demirel) Spr (G. Demirel)

BIM 107 Calculus for Business Studies

**BIM 108 Business Statistics**

In this course, statistics and its role in managerial decision making; discrete and continuous numerical data; level of measurement for numerical data; graphical description of data, descriptive measures, basic counting rules, probability concepts, discrete probability distributions; continuous probability distributions; standard, normal, t, chi square and f distribution; sampling and statistical inference; hypothesis testing; bivariate data; regression, correlation will be covered. Credit units: 3 ECTS Credit Units: 5, Prerequisite: BIM 107 or THM 164. Aut (S. Kadıyঁtçılılar, N. Özkarame Coşkun) Spr (A. Durukal)

**BIM 121 Business Computer Applications I**

Learning about and understanding computers and technology to make informed technological choices. Fundamental concepts of information technology, managing and organizing computers and file structures, detailed instruction in use of word processor and presentation programs. Beyond the theoretical topics in written and visual communication, laboratory sessions employing widely accepted software programs. Credit units: 3 ECTS Credit Units: 6. Aut (A. S. İkinci) Spr (A. S. İkinci)

**BIM 122 Business Computer Applications II**

Advanced and in-depth coverage of spreadsheets. Starting from the very basics - spreadsheet anatomy, data types, data entry, editing and formatting -and progressing to advanced use of a spreadsheet, through case studies that employ a range of mathematical, statistical, financial, logical and lookup functions. Use of macros plus graphical data representations. Data sorting and filtering techniques Creating a spreadsheet model that may be safely and easily used by others. Credit units: 3 ECTS Credit Units: 6, Prerequisite: BIM 121. Aut (F. G. Esen) Spr (N. Sağlam)

**BIM 191 Business Computer Applications**

Review of the hardware and software components of the computer, ZIP Files, data organization and storage methods. In-depth study of word processing, spreadsheet and presentation packages. Credit units: 3 ECTS Credit Units: 5. Aut (A. Altaban, R. Üşmenmez) Spr (R. Üşmenmez)

**BIM 201 Problem Solving and Programming**

The aim of the course is to improve the students' analytical thinking and problem solving skills using a programming approach. The course will cover the basic problem solving concepts that the students need to know and understand when working with any programming language or application. The fundamental steps of structured programming, building conditions, repetition, functions and array manipulation are the main topics covered in the course. Credit units: 4 ECTS Credit Units: 7. Aut (Staff) Spr (N. Fennmen)

**BIM 205 Principles of Accounting**

The course introduces the business environment, basic mechanics of record keeping and reporting of financial statement information. The topics covered include the generally accepted accounting principles, the accounting cycle, preparation and reporting of financial statements (balance sheet, income statement, and statement of shareholders' equity). The course aims to familiarize students with various tools and techniques in accounting. A widely used accounting software and Microsoft Excel are used for recording transactions and preparation of financial statements. Credit units: 3 ECTS Credit Units: 5. Aut (H. Çınar) Spr (H. Çınar)

**BIM 206 Managerial Accounting**

Principles, techniques, and uses of accounting in the planning and control of business organizations from a management perspective. Evaluation of business and financial data for decision making at different levels of management, in service, merchandising and manufacturing businesses. Responsibility accounting, reporting centers, cost volume profit analysis, cost behaviour, costing systems, pricing methods, budgetary process and operations budget, preparation and analysis of the statement of cash flows. Spreadsheets and fundamental business mathematics among the methods used during the course. Credit units: 3 ECTS Credit Units: 6, Prerequisite: BIM 205. Aut (A. Pekcan)

**BIM 215 Database Management Systems**

Explanation of the techniques and methodologies of Database Management Systems, in particular with the Entity Relationship approach to data modeling and the relational model of DBMS. File systems and the relational database in the concepts part. Entity relationship (E-R) modeling, normalization of database tables and Structured Query Language (SQL) in the design phase. Labwork projects during which students analyze, design, create and manipulate databases. Contributions of DBMS to an organization's operations, control and planning activities. Credit units: 4 ECTS Credit Units: 7, Prerequisite: BIM 201. Aut (F. G. Esen) Spr (F. G. Esen)
BIM 223 Business Communications
This course is aimed at students in all fields, but especially for future managers who should be aware of the vital role of communications in effective organizational management. The course will help students evaluate their own behaviour to better understand themselves and to understand how to effectively interact with others. The course covers aspects of both interpersonal and intrapersonal communication and uses a performance-based approach that helps the students to position themselves for success in tomorrow's job market. Credit units: 3 ECTS Credit Units: 6. Aut (E. S. Özdişik) Spr (E. İnanç)

BIM 224 Managerial Communications
The course aim is to study and understand all aspects of behaviour at work, to explore how leaders use power and influence to achieve organizational commitment and effectiveness. In this course, students will discuss topics ranging from organizational culture, appropriate types of power, influence with and without authority, to business ethics plus effective goal setting and planning. Students learn concepts and strategies to navigate and apply influence in an organization. The course will cover a tactical-versus-strategic approach to address challenges and achieve higher business goals. Credit units: 3 ECTS Credit Units: 6. Prerequisite: BIM 223. Spr (E. S. Özdişik)

BIM 242 Web Site Design
Web Site Development basics which include: Internet and Web Terminology, creating web pages with XHTML and contrasting with HTML-5, configuring text, color, and page layout with CSS, web development process using media and interactivity on Web pages and embedding JavaScript. Analysis, design and publishing of web sites using popular web authoring tools and image editing tools. Working in teams to prepare a Web site as a project, which will be demonstrated to other project groups and a jury at the end of the semester. Credit units: 3 ECTS Credit Units: 6. Aut (R. Özenmez) Spr (R. Özenmez)

BIM 260 Financial Statement Analysis
The first half of this course is devoted to an in-depth study of the content of Financial Statements, commencing with a review of IFRS and accrual accounting. Students then learn to analyze, interpret and draw conclusions about a company's "health" based on its financial statements. Topics include earnings quality, cash flow analysis, ratio analysis and capital structure. Trend analyses and common size statements are created using Excel. Upon completion students will understand both the importance and limitations of using financial statements to evaluate how well a company is managing its operating, investing and financing activities. Credit units: 3 ECTS Credit Units: 6. Aut (A. B. Evans) Spr (H. Çınar)

BIM 261 Corporate Finance
Building on the knowledge gained in BIM 260 Financial Statement Analysis, this course focuses on how corporations plan and attain financial objectives. The challenge is to efficiently and profitably raise, allocate and manage the firm's capital resources; the goal is to maximize company cash flows, stock value and thus shareholder wealth. Topics in this exploratory course include TVM, capital markets, WACC, capital budgeting, working capital management, short versus long term funding, dividend policy, plus financial forecasting and planning. Credit units: 3 ECTS Credit Units: 6. Prerequisite: BIM 260 or BIM 360. Aut (A. B. Evans) Spr (A. B. Evans)

BIM 262 Hospitality Industry Computerization
Introduction to introduce students to the principles of MIS (Management Information Systems). Exploration of the role of Information in operational and management decision making in the hotel industry. Using a simulated hotel and a live property management system. Experiencing the day-to-day activities performed at each stage of the "guest-cycle", from reservations, room assignment and check-in to check-out, payment and departure. Designed to meet both the front-office and back-office requirements of any size hotel or hotel chain. Hands-on experience in the many facets of hotel management. Credit units: 3 ECTS Credit Units: 5. Aut (N. Sağlam) Spr (N. Sağlam)

BIM 306 Decision Analysis
The objective of this course is to explore basic tools of decision making. A familiarity with elementary mathematical subjects such as functions, linear equations, matrices, probability theory and basic statistical concepts is required. These fundamental subjects are reviewed briefly in the beginning of the course. In studying these subjects, emphasis is given on the description and logic of different techniques instead of a rigorous mathematical treatment. Therefore the student will be able to choose the suitable tools and go through more detailed information sources if necessary in the future. Keeping this approach in mind, Multiple Regression and Modelling, Analysis of Time Series, Analysis of Variance, Index Numbers, Quality Control and game theory are explored. In the studying problems involving Decision-Making Under Uncertainty, the concepts of relative cost and profit tables, decision trees, Bayes' Theorem, marginal analysis and utility are introduced. Credit units: 3 ECTS Credit Units: 6. Prerequisite: BIM 106 or BIM 108. Aut (A. Durukan) Spr (S. Kadayıfçılar)

BIM 310 Semester Internship
One semester work in industry. Opportunity to apply present knowledge in a real-life environment, and to observe, document and evaluate the operations of a department. Requirement to present an analysis of
experience, identifying the factors contributing to the success and/or problems of the department. Contributions to the department during internship evaluated by the organization. Credit units: 6 ECTS Credit Units: 22. Prerequisite: BIM 390. Aut (G. Demirel) Spr (A. Altaban, G. Demirel, E. S. Özülek)

**BIM 316 Information Systems Analysis**

The course offers a layout that reflects real-world systems analysis skills and techniques within the framework of the systems development life cycle (SDLC). Strategic planning, review of systems requests, and the steps in a preliminary investigation are included in analyzing the business case. Creation of a logical model for the new system by using entity-relationship diagrams, data flow diagrams and process description tools are the basic topics discussed in the enterprise modeling. Microsoft Project, a project management tool, is used to plan, schedule, monitor and manage IT projects. Upon successful completion of this course, students will know how to translate business requirements into information systems that support a company's short- and long-term objectives. Credit units: 3 ECTS Credit Units: 7. Prerequisite: BIM 215. Aut (E. Şenel) Spr (E. Şenel)

**BIM 341 Web Based Application Development**

Development of an interactive and comprehensive web-based application using the PHP scripting language. Coding of a database-driven website where visitors can register, log into the system, review products or services using selected categories, place on-line orders or requests using shopping carts, and follow-up orders in the capacity of either a customer or a system administrator. Term projects in teams to fully apply what learned in the course. Credit units: 4 ECTS Credit Units: 7. Prerequisite: BIM 201 and BIM 215 and BIM 242. Aut (A. S. İnciç) Spr (A. S. İnciç)

**BIM 375 Public Relations Management**

This course teaches students the basic concepts of effective public relations and prepares them for the ethical practice of public relations in today’s fast-changing, competitive world. The students are expected to attain an advanced standing and possess a knowledge of the most current issues and developments in this field. As a final hands-on-project, the students are encouraged to conduct scientific research and carry out a PR project with a selected firm from industry, and thus have an opportunity to apply their learnings in an actual business situation. Credit units: 3 ECTS Credit Units: 6. Prerequisite: BIM 224. Aut (E. S. Özülek) Spr (E. S. Özülek)

**BIM 390 Summer Internship**

Exposure to the workplace, in a supervised setting. Summer Training assignments scheduled and monitored through the school’s Industrial Training Office. Obtaining practical real-life experience of the working environment. A minimum of thirty (30) working days, undertaken during the summer break following completion of the second academic year. Credit units: None ECTS Credit Units: 9.

**BIM 402 Advanced Selling Skills**

The selling process as a platform to address the needs of complex sales situations. Enhancement of the sales performance of even the best sales Representatives when there is a requirement to go beyond the basic selling models particularly in large volume sales situations. Credit units: 3 ECTS Credit Units: 6.

**BIM 405 Organizational Behaviour**

This course covers the foundation for the study and application of organizational behavior. The perspective, historical background, methodology and theoretical framework for human behavior in organizations are studied. The aim is to define the purpose and nature of the field of organizational behavior, differentiate between the dominant perspectives in the field, differentiate between various types of behavior modification theories and techniques, analyze different concepts related with decision-making, change management, managing stress, conflict and communication. Attention is given to the micro perspective (perception, personality and attitudes, motivation, and learning), the dynamics (group dynamics, conflict, stress, power and politics, and leadership), and organizational culture. Credit units: 3 ECTS Credit Units: 6. Spr (E. S. Özülek)

**BIM 406 International Business**

Insight to the drivers of globalization and the challenges and opportunities faced by multinational enterprises. The process from both the environment perspective and adapting marketing mix to international markets. Different approaches to globalization, such as exporting or setting up production and marketing facilities in foreign countries. Visionary leadership, organizational culture and structure, functions and processes, human resources management and finance. Application and interpretation of business rules in an international environment, coping with changing social and technological environments and positioning goods and services in them. Credit units: 3 ECTS Credit Units: 6. Spr (D. Lüle)

**BIM 416 Negotiation Skills**

Negotiation is a life skill. Every day we negotiate with colleagues, suppliers or customers. Negotiation skills can have a serious impact on profits, project deadlines, your reputation with your colleagues and your ability to implement change successfully. This course will help students to: Recognise the strengths and weaknesses of their negotiation style; Plan and prepare effectively for a negotiation; Cope with difficult negotiations; Know how to trade concessions conditionally, and; Adapt their style in differing situations. Credit units: 3 ECTS Credit Units: 6. Aut (S. Bilecen)
BIM 417 Senior Seminars in Business Information Management
This course comprises a series of seminars designed to help the students to plan and launch their business careers. The course features an engaging discovery-oriented approach to career development, one that includes exploration of the world of work, student’s personal needs and preferences, and strategies for finding an optimal match for the student in the world of work. The guest speakers for this course will share their personal experiences and observations of the sector in which they are employed. Students will benefit from exposure to a broad range of different business functions and departments, such as HR, IT, Sales, Marketing, and PR. Credit units: 3 ECTS Credit Units: 5. Aut (E. S. Özdílek)

BIM 418 Management Information Systems
Using and managing information technologies to design business processes, improving business decision making and to achieving operational excellence. Internet technologies that provide a platform for business collaboration processes among all stakeholders in today’s networked enterprises and global markets. Five major areas of information: Foundation Concepts; Information Technologies; Business Applications; Development Processes and Management Challenges. Given with a managerial perspective and heavy emphasis on business scenario analyses. Leading information technology professionals hosted as guest speakers. Credit units: 3 ECTS Credit Units: 5. Aut (A. Altaban)

BIM 419 Strategic Brand Management
Brand management strategy is the platform that drives all other marketing functions within an organization, including product development, distribution, pricing strategies and marketing communications strategies. The aim of this course is to review the history of brands and branding, their importance, and the role of brand equity in a firm. Also, students will find out how to analyze brand management strategies, learn how to manage brand equity, create a brand identity and positioning; establish a competitive advantage; and capitalize on consumer insight. Product pricing, distribution strategy and measuring brand equity are also covered. Credit units: 3 ECTS Credit Units: 6. Aut (E. Özdílek)

BIM 423 Advertising Management
Introduction to both the theory and practice of advertising. Important insights into how advertising is conducted. Advertising foundations and environment. The origins of advertising, and where it fits in today’s market. Social issues, ethics, regulation, and responsibility. Print, broadcast, and interactive online media. The creative process discussed and directly applied. Performing as an advertising agency and preparing a campaign in a field of choice for a product or service. Students themselves develop throughout the semester. Gaining of the knowledge needed to manage a basic advertising campaign from the client side. Credit units: 3 ECTS Credit Units: 6. Aut (C. Başanır)

BIM 425 Contemporary Practices in Human Resources Management
Strategic implications of “people” issues within organizations. Contemporary Human Resources Management (HRM) practices to assist the organization in meeting business objectives, through the effective the performance and job satisfaction of its employees. Developing and delivering HR programs, to ensure that HRM adds value to the organization. Basic knowledge and practice in job analysis, personnel planning, recruitment, selection, hiring, orientation, performance management, motivation, compensation, training, leadership, change management and business ethics. Analyzing case studies, identifying problems and their causes, and proposing solutions. Credit units: 3 ECTS Credit Units: 6. Aut (A. C. Ağın)

BIM 426 Small Group and Team Communication
This course examines how group behavior affects organizational effectiveness, decision making, conflict resolution, and strategies for efficient group and task management. Through activities in this course, students will explore their leadership skills specifically related to groups and group social process. Emphasis will be placed on such topics as group decision-making, participation in groups, power and authority, and a variety of communication styles. Through active participation and observation of team dynamics, students will examine the principles of building and sustaining highly effective teams. The highly interactive approach used in this course connects theory with experience through team-based activities. Credit units: 3 ECTS Credit Units: 6. Aut (E. İnançı) Spr (E. İnançı)

BIM 441 UFO: Undefined Fields in creating Opinion
Rational or irrational decisions in business and non-business life. Irrational decisions and even unethical ones often made by human beings. Why human beings act in such a way and what may be done to understand this behavior. Integrating psychology and business decision making plus the iterative use of the question "why" as an analytical tool and problem resolution technique. Credit units: 3 ECTS Credit Units: 6. Spr (S. Bilecen)

BIM 450 Multimedia Techniques
Good story-telling is a key ability for a creative mind, regardless of the field of work. This course introduces students to multimedia tools and techniques that help develop this story-telling ability. Through practical exercises and weekly assignments students, working in groups, will produce a short film, employing various digital media, such as graphics, video, animation, sound, etc. Script writing, screenplay and movie making techniques will be covered. The course will focus on special multimedia editing softwares such as Adobe Premiere and Adobe
Photoshop. Adobe Flash technology will also be examined to understand the basics of animation and interactivity.  
*Credit units: 3 ECTS Credit Units: 6. Spr (Ç. Başaran)*

**BIM 490 Project Management**
Project management is the application of knowledge, skills, tools, and techniques to project activities to meet project requirements. The course introduces the project management discipline and the project management life cycle. It covers a comprehensive view of the project management processes (initiating, planning, executing, monitoring and controlling, and closing) and PMI's (Project Management Institute) project management methodology including nine knowledge areas (Scope Management, Integration Management, Time Management, Cost Management, Quality Management, Risk Management, Procurement Management, Human Resource Management and Communication Management). The students will also learn the advanced features of MS-Project and will be able to use it in their project implementation.  
*Credit units: 3 ECTS Credit Units: 6.*

**BIM 492 Strategic Management**
There are three interrelated phases in this Capstone course. Firstly students learn the processes of Strategic Management plus Porter’s Generic Strategies and Five-Forces. In the second phase student teams use what they have learned to run a $100 million company, using a dynamic business simulator that requires integration of many management functions, including product development, production, pricing and marketing, financial planning and forecasting and strategic positioning of the firm within market segments. This enables students to apply knowledge they have obtained in their previous three years of study. In the final phase students are introduced to “Blue Ocean Strategy” and contrast this with the competitive models learned at the start of the course.  
*Credit units: 3 ECTS Credit Units: 6. Prerequisite: BIM 310. Aut (A. B. Evans, B. Kivrak) Spr (A. B. Evans)*

**BIM 497 Business Transformation with ERP Systems**
Principles of ERP systems and usage of ERP systems to perform fundamental business processes. Basic ERP terminology and navigating through an ERP system. Interaction of major business processes with ERP in the functional areas such as Sales and Distribution, Production Planning, Financial Accounting, and Human Capital Management.  
*Credit units: 3 ECTS Credit Units: 6. Spr (Ç. Onbaşı)*
COMPUTER TECHNOLOGY AND INFORMATION SYSTEMS


Department of Computer Technology and Information Systems offers a four-year B.S. degree in information technology (IT) and information systems (IS) with a curriculum concentrated in software development and designed to meet the popular and expanding IT industry requirements. A semester-long industrial training opportunity - in their 3rd year - enables our students to practically apply their background on topics like database, data communications and networking, Internet and web applications, software engineering, programming and even get solid job offers from contemporary software companies.

There are various technical elective courses - most being supported by our academic alliances formed with global IT leaders - enabling senior students to specialize in parallel to their interests.

Technical courses are complemented by a range of business studies. These include both management and social/communication courses. Our aim is to graduate students who are technically both competent and confident, who are innovative, adaptable, and who have sound teamwork and interpersonal communication skills.

CURRICULUM

FIRST YEAR

Autumn Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits / ECTS Credits</th>
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</thead>
<tbody>
<tr>
<td>CTIS 151</td>
<td>Introduction to Programming</td>
<td>5 / 8</td>
</tr>
<tr>
<td>CTIS 163</td>
<td>Discrete Mathematics</td>
<td>4 / 7</td>
</tr>
<tr>
<td>CTIS 165</td>
<td>Fundamentals of Information Systems</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ENG 101</td>
<td>English and Composition I</td>
<td>3 / 6</td>
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<tr>
<td>GE 100</td>
<td>Orientation</td>
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<td>TURK 101</td>
<td>Turkish I</td>
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Spring Semester

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
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<tbody>
<tr>
<td>CTIS 152</td>
<td>Algorithms and Data Structures</td>
<td>5 / 8</td>
</tr>
<tr>
<td>CTIS 164</td>
<td>Technical Mathematics with Programming</td>
<td>4 / 7</td>
</tr>
<tr>
<td>CTIS 166</td>
<td>Information Technologies</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ENG 102</td>
<td>English and Composition II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>THM 105</td>
<td>Introduction to Business</td>
<td>3 / 5</td>
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<tr>
<td>TURK 102</td>
<td>Turkish II</td>
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SECOND YEAR

Autumn Semester

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<th>Course Code</th>
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<tbody>
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<td>CTIS 251</td>
<td>Object Oriented Programming I</td>
<td>5 / 8</td>
</tr>
<tr>
<td>CTIS 255</td>
<td>Web Technologies I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>CTIS 259</td>
<td>Database Management Systems and Applications</td>
<td>5 / 6</td>
</tr>
<tr>
<td>CTIS 261</td>
<td>Computer Networks I</td>
<td>4 / 7</td>
</tr>
<tr>
<td>ECON 103</td>
<td>Principles of Economics</td>
<td>3 / 6</td>
</tr>
<tr>
<td>GE 250</td>
<td>Collegiate Activities Program I</td>
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Spring Semester

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<th>Course Code</th>
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<tbody>
<tr>
<td>CTIS 252</td>
<td>Object Oriented Programming II</td>
<td>5 / 8</td>
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<tr>
<td>CTIS 256</td>
<td>Web Technologies II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>CTIS 262</td>
<td>Computer Networks II</td>
<td>4 / 7</td>
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<tr>
<td>CTIS 264</td>
<td>Computer Algorithms</td>
<td>3 / 6</td>
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<td>GE 251</td>
<td>Collegiate Activities Program II</td>
<td>4 / 8</td>
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<tr>
<td>HIST 200</td>
<td>History of Turkey</td>
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<td>Non Technical Elective</td>
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430 SCHOOL OF APPLIED TECHNOLOGY AND MANAGEMENT
**THIRD YEAR**

<table>
<thead>
<tr>
<th>Autumn Semester</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>CTIS 290</td>
<td>Summer Internship</td>
</tr>
<tr>
<td>CTIS 359</td>
<td>Principles of Software Engineering</td>
</tr>
<tr>
<td>CTIS 363</td>
<td>Ethical and Social Issues in Information Systems</td>
</tr>
<tr>
<td>CTIS 487</td>
<td>Mobile Application Development</td>
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<tr>
<td>ELS 301</td>
<td>Advanced Communication Skills</td>
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<td>Management Elective</td>
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<tr>
<td>Spring Semester</td>
<td>Credits / ECTS Credits</td>
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<tr>
<td>CTIS 310</td>
<td>Semester Internship</td>
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<thead>
<tr>
<th>Autumn Semester</th>
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<tbody>
<tr>
<td>CTIS 411</td>
<td>Senior Project I</td>
</tr>
<tr>
<td>CTIS 415</td>
<td>Advanced Software Engineering</td>
</tr>
<tr>
<td>CTIS 457</td>
<td>Survey in Information Technologies</td>
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<td>Restricted Electives (2)</td>
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<td>Unrestricted Elective</td>
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<tr>
<td>Spring Semester</td>
<td>Credits / ECTS Credits</td>
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<tr>
<td>CTIS 456</td>
<td>Senior Project II</td>
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<tr>
<td>CTIS 458</td>
<td>Seminars in Information Systems</td>
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<td>Restricted Electives (2)</td>
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<td>Unrestricted Elective</td>
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**MANAGEMENT ELECTIVES**

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<th>Course</th>
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<tbody>
<tr>
<td>BIM 223</td>
<td>Business Communications</td>
</tr>
<tr>
<td>BIM 224</td>
<td>Managerial Communications</td>
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<tr>
<td>BIM 260</td>
<td>Financial Statement Analysis</td>
</tr>
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<td>BIM 261</td>
<td>Corporate Finance</td>
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<tr>
<td>BIM 306</td>
<td>Decision Analysis</td>
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<tr>
<td>BIM 375</td>
<td>Public Relations Management</td>
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<tr>
<td>BIM 416</td>
<td>Negotiation Skills</td>
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<tr>
<td>BIM 419</td>
<td>Strategic Brand Management</td>
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<tr>
<td>BIM 425</td>
<td>Contemporary Practices in Human Resources Management</td>
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<tr>
<td>BIM 426</td>
<td>Small Group and Team Communication</td>
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<tr>
<td>BIM 441</td>
<td>UFO: Undefined Fields in creating Opinion</td>
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<tr>
<td>BIM 492</td>
<td>Strategic Management</td>
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<tr>
<td>MAN 216</td>
<td>Elements of Finance</td>
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<td>MAN 333</td>
<td>Marketing Principles</td>
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<td>THM 202</td>
<td>Principles of Management</td>
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<td>THM 301</td>
<td>Human Resources Management</td>
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<td>THM 309</td>
<td>Principles of Marketing</td>
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<td>THM 327</td>
<td>Event Management</td>
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<td>THM 391</td>
<td>Business Forecasting</td>
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<td>THM 403</td>
<td>Organizational Behavior</td>
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<td>THM 415</td>
<td>Finance</td>
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<td>THM 477</td>
<td>Planning for Profit</td>
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**RESTRICTED ELECTIVES**

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<thead>
<tr>
<th>Course</th>
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<tbody>
<tr>
<td>CTIS 480</td>
<td>iOS Application Development</td>
</tr>
<tr>
<td>CTIS 483</td>
<td>Database Administration</td>
</tr>
<tr>
<td>CTIS 484</td>
<td>Advanced Topics in Programming</td>
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<tr>
<td>CTIS 485</td>
<td>Information Storage and Management</td>
</tr>
<tr>
<td>CTIS 486</td>
<td>Linux System Administration</td>
</tr>
<tr>
<td>CTIS 488</td>
<td>Data Analysis</td>
</tr>
<tr>
<td>CTIS 489</td>
<td>Interactive Computer Graphics Programming</td>
</tr>
<tr>
<td>CTIS 491</td>
<td>Software Validation Verification and Testing</td>
</tr>
</tbody>
</table>
COURSE DESCRIPTIONS

CTIS 151 Introduction to Programming
An introduction to programming from both design and programming standpoints. Syntax and semantics of programming languages, programming style, program debugging and testing, data representation, simple arithmetic expressions, decision and control statements, using arrays, introduction to standard libraries, structured and modular programming techniques will be covered using C language. (Four hours lecture, four hours lab, one hour recitation.) Credit units: 5 ECTS Credit Units: 8. Aut (B. Liman, S. Tõn) Spr (O. Say, S. Tõn)

CTIS 152 Algorithms and Data Structures
Implementation of abstract data types and structures. Dynamic data structures. Strings, stacks, queues, linked lists, doubly linked lists. Multidimensional structures. Recursion. Implementation of basic searching and sorting methods. File I/O (Four hours lecture, four hours lab, one hour recitation.) Credit units: 5 ECTS Credit Units: 8. Prerequisite: CTIS 151. Aut (O. Say) Spr (S. Tõn)

CTIS 163 Discrete Mathematics
An introductory course in discrete mathematics. The course covers logic and proof, elements of logic, mathematical induction and operations relations and functions and counting methods. Boolean algebra, abstract data types, graph theory, theory of trees, combinational circuits, automata theory, grammars and languages. (Four hours lecture.) Credit units: 4 ECTS Credit Units: 7. Aut (D. Albayrak) Spr (D. Albayrak, S. Töpçü)

CTIS 164 Technical Mathematics with Programming
The fundamental concepts in technical mathematics and calculus using programming. Functions and graphs, linear equations, quadratic equations, trigonometry, inequalities, exponential and logarithms, matrices and determinants, plane analytic geometry, differentiation and integration. (Four hours lecture.) Credit units: 4 ECTS Credit Units: 7. Prerequisite: CTIS 151. Spr (S. Genç)

CTIS 165 Fundamentals of Information Systems
The fundamental concepts of information systems with historical and evolutionary perspectives. Systems, organizational and strategic role and added value of information systems, decision support systems, data mining, Management information systems (MIS), information systems planning, data management, computer networking, internet, analysis, design, development, and maintenance of information systems, competitive edge of information systems. Credit units: 3 ECTS Credit Units: 6. Aut (E. Uçar) Spr (E. Uçar)

CTIS 251 Object Oriented Programming I
Object oriented programming paradigm by focusing on the principal concepts such as objects, classes, encapsulation, modular design and hierarchy between classes, inheritance, polymorphism and abstract classes using Java language. (Four hours lecture, three hours lab.) Credit units: 5 ECTS Credit Units: 8. Prerequisite: CTIS 152. Aut (O. Say) Spr (O. Say)

CTIS 252 Object Oriented Programming II
Advanced subjects of object oriented programming in Java. JApplet, multi-Frame, JDialog, Java I/O, file operators, object serialization, Generics, Collections, Threaded and multi-threaded programming, Thread Synchronization, JDBC, overview of SQL Language, overview of JDBC and its drivers, JDBC APIs: connections, statements, result sets, using JDBC: updates, queries, basic networking, overview of networking, networking concepts, identifying the computer's IP address, using the InetAddress Class, Sockets, implementing the Client Side of a Socket, implementing the Server Side of a Socket, Developing a multi-threaded Server, Datagram Socket, Servlet, Java Server Pages, personalizing the Site, displaying Dynamic Contents, Remote Method Invocation (RMI), Java Beans, J2EE, Model View Controller (MVC). (Four hours lecture, four hours lab.) Credit units: 5 ECTS Credit Units: 8. Prerequisite: CTIS 251. Aut (B. Liman, N. Şahin Özçelik) Spr (N. Şahin Özçelik)
CTIS 255  Web Technologies I
The necessary background information and the technologies to develop and maintain a professional web site. The design and implementation of interactive web pages by using web technologies like HTML, DHTML, CSS, JavaScript and Flash. (Three hours lecture in lab.) Credit units: 3 ECTS Credit Units: 6, Prerequisite: CTIS 151. Aut (S. Genç)

CTIS 256  Web Technologies II
Developing information systems using web as the main interface between users and the system. Design techniques and concepts using PHP, my SQL, ASP, JSP e-commerce concepts and XML. (Three hours lecture in lab.) Credit units: 3 ECTS Credit Units: 6, Prerequisite: CTIS 255. Aut (S. Genç) Spr (N. Şahin Özcêlik)

CTIS 259  Database Management Systems and Applications
Fundamentals of SQL, Views, Constraints, Triggers, Transaction Processing, Entity-Relationship (E-R) Data Model, Relational Data Model, Relational Schema, Functional Dependency and Normalization, Logical Database Design, Relational Algebra, Concurrency Control by using Oracle Database Management System. (Four hours lecture, three hours lab.) Credit units: 5 ECTS Credit Units: 8, Prerequisite: CTIS 152. Aut (F. Yûrûten) Spr (F. Yûrûten)

CTIS 261  Computer Networks I

CTIS 262  Computer Networks II

CTIS 264  Computer Algorithms
The analysis of algorithms and problem solving techniques. Major concepts including; sorting, searching, divide and conquer algorithms, dynamic programming, greedy algorithms, graph algorithms, cryptographic algorithms and string matching algorithms. (Three hours lecture.) Credit units: 3 ECTS Credit Units: 6, Prerequisite: CTIS 152 and CTIS 163. Aut (D. Albayrak) Spr (D. Albayrak)

CTIS 290  Summer Internship
First exposure to the workplace, in a supervised setting. Assignments scheduled and monitored through CTIS Internship Coordinator. Observation of an organization via provided IS/IT solutions and obtaining practical real-life experience. A minimum of twenty (20) working days, undertaken during the summer months following the completion of the second academic year. An internship report to be submitted upon completion of the program. Credit units: None ECTS Credit Units: 6. Aut (F. Yûrûten)

CTIS 310  Semester Internship
One semester work in industry the student with an opportunity to apply present knowledge in a real-life environment and to observe, document and evaluate the operations of a computing department. Presentation of an analysis of experience, identifying the factors contributing to the success and/or problems of the department. Credit units: 6 ECTS Credit Units: 22, Prerequisite: CTIS 290. Aut (B. Akporay, D. Albayrak, S. A. Ali, S. Genç, O. Say, N. Şahin Özcêlik, S. Tin, E. Uçar, H. M. Yoldrm, F. Yûrûten) Spr (B. Akporay, D. Albayrak, S. A. Ali, S. Genç, O. Say, N. Şahin Özcêlik, S. Tin, E. Uçar, H. M. Yoldrm, F. Yûrûten)

CTIS 359  Principles of Software Engineering
Software processes; requirements analysis and specification, design, development and testing methodologies, and software lifecycle. Importance of planning and managing the software processes. Software modeling, review of Unified Modeling Language and CASE technology. Software development, planning, management and engineering standards such as ISO/IEC 12207 and EIA/IEEE J-STD-016-1995. An in-depth introduction to the concepts and techniques for software development. Experience team-oriented software engineering through conventional software life cycle models via small-scale software project. (Three hours lecture, one hour lab.) Credit units: 3 ECTS Credit Units: 6, Prerequisite: CTIS 251 and CTIS 259. Aut (B. Akporay)
CTIS 363 Ethical and Social Issues in Information Systems
Basic understanding of IT history, awareness of current issues, and familiarity with ethics. An overview of ethical theories and related problems with privacy, networking, security and reliability. Issues related to social networking, government surveillance, privacy, security, and intellectual property to allow students to become responsible and ethical professionals. (Three hours lecture.) Credit units: 3 ECTS Credit Units: 6, Prerequisite: CTIS 165. Aut (R. Ayfer) Spr (R. Ayfer)

CTIS 411 Senior Project I
A capstone course and the first part of a yearlong senior team project. Teamwork on assigned projects to complete the initial phases of the software development lifecycle which are initial project plan, requirements specification, and software design. Development of a product prototype and its presentation before continuing to second part of this course which is "CTIS456 Senior Project II". Credit units: 2 ECTS Credit Units: 3, Prerequisite: CTIS 310 and CTIS 359. Aut (B. Akporay) Spr (B. Akporay)

CTIS 415 Advanced Software Engineering
In-depth coverage of concepts taught in "CTIS359 Principles of Software Engineering". Introduction to contemporary and advanced software engineering systems and techniques. Development of software systems by using several examples. Credit units: 2 ECTS Credit Units: 3, Prerequisite: CTIS 310. Aut (B. Akporay) Spr (B. Akporay)

CTIS 456 Senior Project II
A capstone course and the second part of a yearlong senior team project. Later phases of the software development lifecycle which are project implementation and testing. Credit units: 4 ECTS Credit Units: 7, Prerequisite: CTIS 411. Spr (D. Albayrak, S. A. Ali, S. Genç, O. Say, N. Şahin Özçelik, H. M. Yıldırım, F. Yürüten)

CTIS 457 Survey in Information Technologies
Student teams performing research on related IT and/or IS topics mainly focusing on new trends and technologies. At the end of the semester, preparation of a research thesis and making a presentation. (Two hours lecture.) Credit units: 2 ECTS Credit Units: 3, Prerequisite: CTIS 310. Aut (D. Albayrak, O. Say, N. Şahin Özçelik, H. M. Yıldırım) Spr (H. M. Yıldırım)

CTIS 458 Seminars in Information Systems
During this final semester course, managerial level guest speakers from the IT industry, provide weekly seminars. Each team of 3-4 students, get prepared for the topics for two weeks before the seminar date. At the end of each seminar, Q-A sessions and panel discussions are held. Main aim of the course is to enable senior level students get familiar with latest technologies and hot topics as well as to get acquainted with the corporates and organizations in the IT and Software Industry. (Two hours lecture) Credit units: 2 ECTS Credit Units: 3, Prerequisite: CTIS 310. Spr (E. Uçar)

CTIS 480 IOS Application Development
A programming course for iOS enabled devices. Overview of iOS, App store, creating developer account, using Xcode, understanding iOS frameworks, understanding model-view-controller, learning Objective-C, learning Swift, using Storyboard, using Playground, using different view controllers, view controller lifecycle, understanding views outlets and actions, writing basic applications and testing them, alerts, timers, gestures, graphics and multimedia programming, persistence, documents and core data, file handling, database storage, accessing built-in applications, push notifications, web services, displaying maps, sensor programming, iCloud programming,Bonjour programming, Bluetooth programming. Credit units: 4 ECTS Credit Units: 6, Prerequisite: CTIS 310 and CTIS 487. Spr (S. A. Ali)

CTIS 483 Database Administration
Installing Oracle Software, Oracle Grid Infrastructure installation for a standalone server, Creating Database Using DBCA, Oracle Database Server Architecture, Managing Database Instance, Database Configurations, Memory Structures, Process Structures, Managing ASM Instance, Network Environment, Database Storage Architecture, Transactions, Administering User Security, Concurrency Control Mechanisms, Crash Recovery Components, Managing Undo-Redo Data, Database Auditing and Database Maintenance, Performance Management, Backup and Recovery Concepts, Moving Data, Database Restart. Whole content will be explained in Oracle environment and students will have rights to take Oracle Database 11g: Administration 1 1Z0-052 exam as part of the Oracle Academy membership, and be able to take Oracle Database 11g Administrator Certified Associate (OCA). (Four hours lecture, one hour lab.) Credit units: 4 ECTS Credit Units: 7, Prerequisite: CTIS 259 and CTIS 310. Aut (F. Yürüten) Spr (F. Yürüten)

CTIS 484 Advanced Topics in Programming
Object oriented programming concepts using C++ programming language. Developing applications for processors with parallel computing resources. Fundamental concepts and in-depth knowledge about parallel, distributed, grid and cloud computing programming principles, programming GPUs (CUDA), communication models, memory utilization and limitations of these processors. Credit units: 4 ECTS Credit Units: 7, Prerequisite: CTIS 251 and CTIS 310. Spr (O. Say)
CTIS 485 Information Storage and Management
Introduction to information storage systems, data protection using RAID, intelligent storage systems, storage networking and virtualization technologies, business continuity, local and remote replication techniques, cloud computing, storage security, monitoring and reporting. (Four hours lecture) Credit units: 4 ECTS Credit Units: 6, Prerequisite: CTIS 310. Aut (S. A. Ali)

CTIS 486 Linux System Administration
Practical issues in Linux system administration. Installation, software management, and user management issues. Linux shell utilities, file system management, core system daemon, kernel and compilation concepts. Networking: TCP/IP and network configuration, local and network security with applications of Internet protocols like HTTP, SMTP, and DNS. (Three hours lecture in lab.) Credit units: 3 ECTS Credit Units: 6, Prerequisite: CTIS 166 and CTIS 310. Spr (M. Akgül)

CTIS 487 Mobile Application Development
An introductory mobile programming course for Android enabled devices. Android SDK installation, Android market overview, designing simple applications by using different Views and layouts and performing event handling, intents, standard and customized ListView, Expandable ListView, customizing different Views, graphics programming, fragments, gestures, multimedia programming, SQLite database, shared preferences, network programming, AsyncTask, JSON and XML data parsing, developing Android services and sensor programming. (Four hours lecture, two hours lab.) Credit units: 4 ECTS Credit Units: 7, Prerequisite: CTIS 251. Aut (S. A. Ali, N. Şahin Özçelik) Spr (N. Şahin Özçelik)

CTIS 488 Data Analysis
The concepts and applications in statistics. Frequency distribution, central tendency, probability of samples, variability, hypothesis testing, ANOVA, correlation and regression analysis. (Three hours lecture.) Credit units: 3 ECTS Credit Units: 6, Prerequisite: CTIS 310.

CTIS 489 Interactive Computer Graphics Programming
2D and 3D programming concepts to create interactive graphics applications such as simulators, computer games, real-time visualization applications using OpenGL API, Video hardware architecture, 2D/3D mathematics, GLUT library, 2D primitive drawing, 2D transformations, 2D animation, 3D object modeling and drawing, 3D transformations, perspective projection, orthogonal projection, hidden surface removal, I/O handling, texture mapping, lighting, alpha blending, special effects such as fogging and particles. (Three hours lecture in lab.) Credit units: 3 ECTS Credit Units: 6, Prerequisite: CTIS 291. Aut (S. Genc)

CTIS 491 Software Validation Verification and Testing
Software inspections and reviews, requirements tracing, and system and component testing. Test planning, test case design, defect reporting and tracking, and control of testing process on sample software projects. (Three hours lecture.) Credit units: 3 ECTS Credit Units: 6, Prerequisite: CTIS 310. Aut (S. Tın)

CTIS 492 Information Systems Outsourcing
Fundamental concepts of information systems. Management information in organizations, decision support systems, enterprise resource planning, information systems is planning, organizing for information system projects, IS project lifecycle models, IS development and maintenance principles, organization, management and control IS, information technology (IT) and IT-enabled services outsourcing, voluntary and involuntary outsourcing for both consumers and producers of IT and IT-enabled services, variables that impact outsourcing and the impacts of outsourcing from business as well as social perspectives. (Three hours lecture.) Credit units: 3 ECTS Credit Units: 6, Prerequisite: CTIS 310. Aut (E. Uçar)

CTIS 493 Information Systems Project Management
The project management discipline and the project management life cycle. The management of project teams and project communications, project selection, scheduling, and control tools and techniques such as Net Present Value (NPV), Return on Investment (ROI), Work Breakdown Structures (WBS), Critical Path Method (CPM), and Earned Value (EV) management Project risk, quality, and procurement management (Three hours lecture.) Credit units: 3 ECTS Credit Units: 6, Prerequisite: CTIS 310. Spr (B. Akporay)

CTIS 496 Data Security in Computing
The security aspects of computing systems. Survey of cryptographic tools used to provide security, such as shared key encryption (DES, 3DES, AES, etc.); public key encryption, key exchange, and digital signature (Diffie-Hellmann, RSA, DSS, etc.). Reviews of how these tools are utilized in the internet protocols and applications such as Kerberos, SSL, IPSEC, TLS, and others. Network security issues, such as viruses, intrusion, firewalls, and others. (Three hours lecture.) Credit units: 3 ECTS Credit Units: 6, Prerequisite: CTIS 310. Spr (H. M. Yıldırım)
CTIS 497  Scaling Networks
CCNA Routing and Switching: Introduction to scaling networks, LAN redundancy, link aggregation, wireless LANs, operation and configuring OSPF for IPv4 and IPv6, operation and configuring EIGRP for IPv4 and IPv6, troubleshooting networks. (Four hours lecture in lab.) Credit units: 4 ECTS Credit Units: 6, Prerequisite: CTIS 262 and CTIS 310.

CTIS 498  Wide Area Networks
TOURISM AND HOTEL MANAGEMENT


Tourism is the fastest growing sector not only in our country, but also in the world. Since the world became a global market, the multi-national corporations are entering into this leading sector to a large extent. Thus students who select Tourism and Hotel Management as their area of specialization will have a chance to follow a curriculum that prepares them for a career both domestically and world-wide.

The practical and theoretical courses have a wide spectrum extending from department specific travel, hotel and food and beverage operations courses to managerial skill development, accounting, finance courses supported with English as teaching medium, second foreign languages, internships and project courses.

### CURRICULUM

#### FIRST YEAR

<table>
<thead>
<tr>
<th>Autumn Semester</th>
<th>Credits / ECTS Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIM 100 Introductory Mathematics</td>
<td>2 / 4</td>
</tr>
<tr>
<td>BIM 191 Business Computer Applications</td>
<td>3 / 5</td>
</tr>
<tr>
<td>GE 100 Orientation</td>
<td>1 / 1</td>
</tr>
<tr>
<td>THM 105 Introduction to Business</td>
<td>3 / 5</td>
</tr>
<tr>
<td>THM 163 Dynamics of Tourism</td>
<td>3 / 5</td>
</tr>
<tr>
<td>TURK 101 Turkish I</td>
<td>2 / 2</td>
</tr>
<tr>
<td>Second Foreign Language (I)</td>
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</table>

<table>
<thead>
<tr>
<th>Spring Semester</th>
<th>Credits / ECTS Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIM 107 Calculus for Business Studies</td>
<td>3 / 5</td>
</tr>
<tr>
<td>BIM 205 Principles of Accounting</td>
<td>3 / 5</td>
</tr>
<tr>
<td>ECON 105 Principles of Economics I</td>
<td>3 / 5</td>
</tr>
<tr>
<td>ENG 102 English and Composition II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>THM 166 Health Studies</td>
<td>1 / 1</td>
</tr>
<tr>
<td>TURK 102 Turkish II</td>
<td>2 / 2</td>
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<tr>
<td>Second Foreign Language (II)</td>
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#### SECOND YEAR

<table>
<thead>
<tr>
<th>Autumn Semester</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>BIM 282 Hospitality Industry Computerization</td>
<td>3 / 5</td>
</tr>
<tr>
<td>ECON 106 Principles of Economics II</td>
<td>3 / 5</td>
</tr>
<tr>
<td>GE 250 Collegiate Activities Program I</td>
<td>3 / 5</td>
</tr>
<tr>
<td>THM 168 Nutrition and Sanitation</td>
<td>3 / 5</td>
</tr>
<tr>
<td>THM 202 Principles of Management</td>
<td>3 / 5</td>
</tr>
<tr>
<td>THM 243 Rooms Division Management</td>
<td>3 / 5</td>
</tr>
<tr>
<td>THM 245 Purchasing and Cost Analysis</td>
<td>3 / 5</td>
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</table>

<table>
<thead>
<tr>
<th>Spring Semester</th>
<th>Credits / ECTS Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIM 108 Business Statistics</td>
<td>3 / 5</td>
</tr>
<tr>
<td>BIM 381 Food and Beverage Computer Applications</td>
<td>3 / 5</td>
</tr>
<tr>
<td>GE 251 Collegiate Activities Program II</td>
<td>1 / 1</td>
</tr>
<tr>
<td>THM 244 Food Production Techniques</td>
<td>3 / 3</td>
</tr>
<tr>
<td>THM 246 Restaurant Service</td>
<td>4 / 4</td>
</tr>
<tr>
<td>THM 247 Food and Beverage Management</td>
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</table>
### THIRD YEAR

#### Autumn Semester

<table>
<thead>
<tr>
<th>Course Code</th>
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</thead>
<tbody>
<tr>
<td>THM 300</td>
<td>Summer Internship</td>
<td>3 / 6</td>
</tr>
<tr>
<td>THM 301</td>
<td>Human Resources Management</td>
<td>3 / 5</td>
</tr>
<tr>
<td>THM 309</td>
<td>Principles of Marketing</td>
<td>3 / 5</td>
</tr>
<tr>
<td>THM 313</td>
<td>Hospitality Management Accounting</td>
<td>3 / 5</td>
</tr>
<tr>
<td>THM 323</td>
<td>International Cuisines</td>
<td>4 / 4</td>
</tr>
</tbody>
</table>

#### Spring Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits / ECTS Credits</th>
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</thead>
<tbody>
<tr>
<td>THM 310</td>
<td>Semester Internship</td>
<td>6 / 22</td>
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### FOURTH YEAR

#### Autumn Semester

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits / ECTS Credits</th>
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</thead>
<tbody>
<tr>
<td>THM 326</td>
<td>Tourism Policies and Sustainability</td>
<td>3 / 5</td>
</tr>
<tr>
<td>THM 348</td>
<td>Service Operations Management</td>
<td>3 / 5</td>
</tr>
<tr>
<td>THM 403</td>
<td>Organizational Behavior</td>
<td>3 / 5</td>
</tr>
<tr>
<td>THM 409</td>
<td>Tourism Law</td>
<td>3 / 5</td>
</tr>
<tr>
<td>THM 415</td>
<td>Finance</td>
<td>3 / 6</td>
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#### Spring Semester

<table>
<thead>
<tr>
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<th>Course Title</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>THM 418</td>
<td>Senior Project</td>
<td>3 / 4</td>
</tr>
<tr>
<td>THM 419</td>
<td>Tourism Management Applications</td>
<td>3 / 5</td>
</tr>
<tr>
<td>THM 420</td>
<td>Seminars on Tourism Industry</td>
<td>2 / 2</td>
</tr>
<tr>
<td>THM 423</td>
<td>Tourism Economics</td>
<td>3 / 5</td>
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</table>

#### ELECTIVES

**SECOND FOREIGN LANGUAGE-(I)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>FRE 111</td>
<td>Basic French I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>FRL 131</td>
<td>Basic Arabic I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>FRL 141</td>
<td>Basic Persian I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>FRL 155</td>
<td>Basic Chinese I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>FRL 175</td>
<td>Basic Kurdish I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>GER 111</td>
<td>Basic German I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ITA 111</td>
<td>Basic Italian I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>JAP 111</td>
<td>Basic Japanese I</td>
<td>3 / 6</td>
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<tr>
<td>RUS 111</td>
<td>Basic Russian I</td>
<td>3 / 6</td>
</tr>
<tr>
<td>SPA 111</td>
<td>Basic Spanish I</td>
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</table>

**SECOND FOREIGN LANGUAGE-(II)**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits / ECTS Credits</th>
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<tbody>
<tr>
<td>FRE 112</td>
<td>Basic French II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>FRL 132</td>
<td>Basic Arabic II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>FRL 142</td>
<td>Basic Persian II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>FRL 156</td>
<td>Basic Chinese II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>FRL 176</td>
<td>Basic Kurdish II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>GER 112</td>
<td>Basic German II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>ITA 112</td>
<td>Basic Italian II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>JAP 112</td>
<td>Basic Japanese II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>RUS 112</td>
<td>Basic Russian II</td>
<td>3 / 6</td>
</tr>
<tr>
<td>SPA 112</td>
<td>Basic Spanish II</td>
<td>3 / 6</td>
</tr>
</tbody>
</table>
TOURISM AND HOTEL MANAGEMENT
439

RESTRICTED ELECTIVES

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>THM 252</td>
<td>Tourist Attractions of Turkey</td>
<td>3 / 5</td>
</tr>
<tr>
<td>THM 327</td>
<td>Event Management</td>
<td>3 / 5</td>
</tr>
<tr>
<td>THM 391</td>
<td>Business Forecasting</td>
<td>3 / 5</td>
</tr>
<tr>
<td>THM 392</td>
<td>Nutrition and General Health</td>
<td>3 / 5</td>
</tr>
<tr>
<td>THM 396</td>
<td>Case Studies for Tourism</td>
<td>3 / 5</td>
</tr>
<tr>
<td>THM 453</td>
<td>Total Quality Management</td>
<td>3 / 5</td>
</tr>
<tr>
<td>THM 475</td>
<td>Strategic Marketing for the Hospitality Industry</td>
<td>3 / 5</td>
</tr>
<tr>
<td>THM 476</td>
<td>Research Techniques</td>
<td>3 / 5</td>
</tr>
<tr>
<td>THM 477</td>
<td>Planning for Profit</td>
<td>3 / 5</td>
</tr>
<tr>
<td>THM 478</td>
<td>Hotel Investment Decision</td>
<td>3 / 5</td>
</tr>
<tr>
<td>THM 487</td>
<td>Concept and Design for Food and Beverage Outlets</td>
<td>3 / 5</td>
</tr>
<tr>
<td>THM 493</td>
<td>Nutritional Anthropology</td>
<td>3 / 5</td>
</tr>
</tbody>
</table>

ART AND HUMANITIES ELECTIVES

All 3 credits undergraduate courses starting with the following course codes are included: ADA, AMER, COMD, ELIT, FA, FRE, FRL, GER, GRA, HART, IAED, ITA, JAP, LAUD, PHIL, RUS, and SPA.

UNRESTRICTED ELECTIVE ELECTIVES

All 3 credits undergraduate courses starting with the following course codes are included: CTE, HCIV, IR, LAW, MAN, MSC, POLS, PSYC, TE, and THR.

MINOR PROGRAM

Food and Beverage Management Minor is intended to invite the ones who are interested in the Food and Beverage field. It will cover almost all the related information in the field starting with the fundamentals of nutrition and sanitation. The Minor will give the students both the theoretical and mostly practical knowledge in the Food and Beverage operations so that the students will accumulate food preparation and service knowledge that will be enlarged and enhanced by the cost analysis and management courses.

Health Tests: For THM 244, THM 246 and THM 323 courses each student has to have certain health tests, at the start of the semester, and the results must be appropriate for food and beverage operations. Those with health discrepancies can not continue. Students attending the minor program need to pay for health test expenses.

Duration, Attendance and Timing: THM 246 and THM 323 Courses start at 08:30 in the morning and lasts 6 hours. THM 244 course is organized either in the morning time or afternoon and lasts 4 hours. For operational courses THM 244, THM 246 and THM 323 attendance and timely arrival of students are extremely important. Students need to follow the special rules related instructors set. Those rules are given to students at the first lecture of the semester. First week of these courses are for orientation, operation starts with the second week. Absenteeism allowances of these courses are also very low and followed strictly, to be announced by instructors. This is due to the fact that “Le Piment Rouge” is accepting guests, like a commercial restaurant.

Uniforms: For THM 244, THM 246 and THM 323 courses: each student has to purchase special uniforms, on their own expenses. Those uniforms are ordered at the start of each semester, and with second week onwards students are required to attend with these uniforms on. This is due to hygiene requirements. Uniforms purchased for THM 244 course are used also for THM 323 course. THM 246 course requires another set of uniforms. Students are provided a changing room and lockers.

Kitchen Facilities: THM 244 and THM 323 courses are practiced in kitchens. Due to operational limitations, each section can accommodate maximum 26 students for THM 244 course and 12 students for THM 323 course. For THM 246 course the enrollment limit is 12 students.

Prerequisite Courses: None
CURRICULUM

Courses | Credits / ECTS Credits
--- | ---
THM 168 Nutrition and Sanitation | 3 / 5
THM 244 Food Production Techniques | 3 / 3
THM 245 Purchasing and Cost Analysis | 3 / 5
THM 246 Restaurant Service | 4 / 4
THM 247 Food and Beverage Management | 3 / 5
THM 323 International Cuisines | 3 / 5

COURSE DESCRIPTIONS

THM 105 Introduction to Business
An overall view to all the relevant functions of a business. Aspects of the entire business organization and functional area knowledge. The nature of businesses and the necessary orientation to the areas that will require functional specialization later on. Credit units: 3 ECTS Credit Units: 5. Aut (M. Siyahhan, E. Şenol) Spr (E. Şenol)

THM 163 Dynamics of Tourism
The position of tourism as the world's largest industry which has led to the widespread acknowledgment of the decisive role it plays in shaping the world. A global overview of the industry; trends, its socio-cultural and economic impact, motivators, hospitality related services, transportation, intermediaries and attractions. Credit units: 3 ECTS Credit Units: 5. Aut (G. Karamullaoglu) Spr (G. Karamullaoglu)

THM 166 Health Studies
The knowledge and skills necessary to help people whose first-aid problems have to be addressed promptly and properly. Conducted by the professionals of the Ministry of Health in its facilities and a required passing grade for completion. Credit units: 1 ECTS Credit Units: 1. Aut (A. N. Örer) Spr (A. N. Örer)

THM 167 Behavior and Etiquette
The purpose of this course is to provide basic knowledge and practical guidelines on everyday manners and common courtesies. It also aims at giving a perspective for proper behavior and etiquette acceptable in social and business situations. To sensitize students to the rules of protocol and dynamics of contrasting cultures is also another aim of this course. Credit units: 1 ECTS Credit Units: 1. Aut (A. Unal)

THM 168 Nutrition and Sanitation
Nutrition and sanitation. Under nutrition, information about food, nutrients and health interrelations, common nutritional problems and their prevention by means of proper nutritional interventions. Under sanitation, information in response to today's concern over adequate sanitation and health. Credit units: 3 ECTS Credit Units: 5. Aut (A. N. Örer) Spr (A. N. Örer)

THM 172 World Travel Destinations
Provides geographic knowledge for effective and efficient service in the travel industry. Terms and concepts that are important to a travel counselor are studied. Also, the geographic resources and man-made attractions that function as a tourist destination, and the developments taking place on a world-wide basis are examined. Credit units: 3 ECTS Credit Units: 5. Aut (E. Gurel)

THM 202 Principles of Management
Insights into the basic managerial functions, primarily planning, organizing, leading and controlling. History of management with the basic premise to relate the past to the present and encourage the students to investigate and learn unified, universal, valid principles and theories applicable in the field. Credit units: 3 ECTS Credit Units: 5. Aut (A. Pekcan) Spr (A. Pekcan)

THM 242 Social Psychology
Includes some of the fundamental components of the study of tourism from a social-psychological standpoint. The course will study tourism along two dimensions: by an understanding of the social, organizational and the community contexts of tourism. Credit units: 3 ECTS Credit Units: 5. Aut (A. B. Collins) Spr (A. B. Collins)

THM 243 Rooms Division Management
Basic skills necessary for the operations in housekeeping and front office. Concepts and techniques of rooms sales forecasting, revenue budgeting, analysis of rooms sales and profit, break-even analysis, rooms pricing and yield management. Credit units: 3 ECTS Credit Units: 5. Aut (J. B. Chafra) Spr (J. B. Chafra)
THM 244 Food Production Techniques
Most common tools and equipment and basic methods used in the preparation of foods. Various products used with common basic preparation methods; use and interpretation of recipes, as well as planning menus considering the traditional organization of medium to large kitchen operations. Credit units: 3 ECTS Credit Units: 3. Aut (O. Benice) Spr (O. Benice)

THM 245 Purchasing and Cost Analysis
Skills and knowledge for effective management of purchasing and cost analysis in a hotel. Determination of standards, development of operating budget, cost-volume-profit analysis, as well as basic operating activities, such as menu planning, purchasing, receiving, storing, issuing, production and serving. Knowledge required to prepare food and beverage reconciliation reports. Credit units: 3 ECTS Credit Units: 5. Aut (E. Şenol) Spr (E. Şenol)

THM 246 Restaurant Service
Knowledge for effective management of food and beverage services. Conducted in two sessions. First, theoretical knowledge before the service starts, then experience by working in a fine dining room. (LePiment Rouge Restaurant.) Credit units: 4 ECTS Credit Units: 4. Aut (A. Ünal) Spr (A. Ünal)

THM 247 Food and Beverage Management
Basic service principles and knowledge for budgeting and effective management of food service operations. Restaurant marketing, menu analysis, menu pricing strategies and guest relations. Credit units: 3 ECTS Credit Units: 5. Aut (O. Benice) Spr (O. Benice)

THM 248 Purchasing and Cost Analysis
Skills and knowledge for effective management of purchasing and cost analysis in a hotel. Determination of standards, development of operating budget, cost-volume-profit analysis, as well as basic operating activities, such as menu planning, purchasing, receiving, storing, issuing, production and serving. Knowledge required to prepare food and beverage reconciliation reports. Credit units: 3 ECTS Credit Units: 5. Aut (E. Şenol) Spr (E. Şenol)

THM 252 Tourist Attractions of Turkey
Regional distribution of touristic activities with an emphasis on the natural, historical and archaeological attractions along with their characteristics as tourism products in Turkey. The field trip to selected destinations being an integral part the course. Credit units: 3 ECTS Credit Units: 5. Aut (İ. Boz) Spr (M. Siyahhan)

THM 259 Co-Op Management Application
An integration of hospitality work experience and class room instruction along with the practical management application opportunities in the hospitality industry. Completion of 40 work hours in a semester and attainment of on-the-job training goals are required. Hospitality position to be secured prior to the start of the semester. Credit units: None ECTS Credit Units: 1. Aut (G. Karamullağlu)

THM 300 Summer Internship
An intensive exposure to the tourism workplace and hands-on-experience in tourism related fields. Credit units: None ECTS Credit Units: 15. Aut (G. Karamullağlu)

THM 301 Human Resources Management
Basic knowledge in human resources field. Equal employee opportunities and law, job analysis and job design, personal planning and recruiting, employee testing and selection, interviewing candidates, training and developing employees, evaluating employee performance, and pay for performance and financial incentives. Credit units: 3 ECTS Credit Units: 5. Aut (A. B. Collins) Spr (A. B. Collins)

THM 309 Principles of Marketing
Basic marketing concepts and principles considering the major trends and forces impacting marketing in today's high-tech era of customer value and relationships. Strategic marketing planning, segmentation, target marketing and positioning, understanding consumer behavior, new product development and product life cycle strategies and developing the marketing mix. A practical marketing-management approach and a number of real-life examples and stories that show how these basic concepts and principles are put into action in today's modern marketing world with the help of the case studies covered. Credit units: 3 ECTS Credit Units: 5. Aut (E. Gürel) Spr (E. Gürel)

THM 310 Semester Internship
One semester work in the industry. An opportunity to apply acquired theoretical knowledge to a real-life environment as well as to observe, document and evaluate the operations in tourism and hotel related entities. Credit units: 6 ECTS Credit Units: 22. Prerequisite: THM 300. Aut (O. Benice, İ. Boz, J. B. Chatra, H. Çinar, G. Karamullağlu, A. N. Öner) Spr (O. Benice, H. Çinar, G. Karamullağlu, A. N. Öner)

THM 313 Hospitality Management Accounting
Main issues in management accounting. Hotel revenue accounting: revenue accounts, operational and non-operational revenues, Internal control of revenues, Hotel revenue accounting (industry practice), VAT applications, journal entry of front office transactions, journal entry of rebates, journal entry of food and beverage sales, daily general cashier report, journal entry of cash transactions, hotel expense accounting, financial information system, classification of expenses and payroll-related expenses, hotel departmental statements / schedules, hotel income statement, Property and equipment accounting, other non-current assets accounting, hotel balance sheet, statement of cash flows, operational budget, ratio analysis, and inventory accounting. Credit units: 3 ECTS Credit Units: 5. Prerequisite: BIM 205 or THM 106. Aut (H. Çinar) Spr (H. Çinar)
THM 323 International Cuisines
Work (as small groups) in a luxurious restaurant’s kitchen. The opportunity to prepare different menus from a variety of well-known international cuisines. Credit units: 4 ECTS Credit Units: 4, Prerequisite: THM 244 or THS 221. Aut (E. Denizci) Spr (E. Denizci)

THM 326 Tourism Policies and Sustainability
Mass tourism development in Turkey during the early 1980’s along with a debate on whether such type of tourism is sustainable or not. Analysis of various coastal and cultural tourism destinations in Turkey in regard to sustainability and its contribution to local economy. From an international perspective, conceptual and theoretical knowledge in regard to sustainable tourism. Credit units: 3 ECTS Credit Units: 5. Aut (İ. Boz) Spr (G. Karamullağlı)

THM 327 Event Management
Historic development and importance of meetings and conventions, together with the terminology and classification. Prominent event destinations in the world and their attributes. Costing details and operation process of small to medium size events. Credit units: 3 ECTS Credit Units: 5. Aut (Ç. I. Boz) Spr (G. Karamullağlı)

THM 348 Service Operations Management
The dimensions of successful service firms and enlightened management as well as creative entrepreneurial opportunities. The role of service in an economy, the nature of services, service strategy, new service development, service quality, process improvement, the service encounter, managing capacity and demand, and growth and globalization of services. Credit units: 3 ECTS Credit Units: 5. Aut (J. B. Chafra) Spr (J. B. Chafra)

THM 392 Nutrition and General Health
Fascination of the science of nutrition and the fun and excitement of nutrition. Understanding how the scientific facts apply to people’s health in daily life. Credit units: 3 ECTS Credit Units: 5. Aut (A. N. Örer) Spr (A. N. Örer)

THM 403 Organizational Behavior
The analytical approach to studying organizational behavior. Introduction to organizational behavior discipline, diversity in organizations, emotions and moods, perception and individual decision making, motivation concepts, foundations of group behavior, communication, leadership, power and politics, conflict and negotiation, foundation of organization structure, organizational culture, and human resource policies and practices. Credit units: 3 ECTS Credit Units: 5. Aut (A. Pekcan) Spr (A. Pekcan)

THM 409 Tourism Law
Laws and regulations affecting our lives and specifically those that govern the operations in tourism industry. General legal system, concepts and applications, commercial law, consumer protection regulations as well as tourism regulations, travel agency regulations and legal background governing the operation of tourist guides. Credit units: 3 ECTS Credit Units: 5. Aut (M. Siyahhan) Spr (E. Öncü)

THM 415 Finance
Basic techniques and concepts necessary to effectively manage the limited financial resources while evaluating various investment opportunities. Introduction to financial management, understanding financial statements, taxes and cash flows, time value of money (basics, annuities and other topics), risk and return, debt valuation and interest rates, stock valuation, investment decision criteria, and analyzing project cash flows. Credit units: 3 ECTS Credit Units: 6. Aut (J. B. Chafra) Spr (J. B. Chafra)

THM 418 Senior Project

THM 419 Tourism Management Applications
Management challenges in the hospitality industry as well as practical applications of general management theories to tourism and hospitality industry. Introduction to worldwide tourism industry’s management approaches, strategic management, franchise and management systems, tourism industry life cycle, human systems, yield (revenue) management, hotels’ property operations, feasibility study and vanguard management. Credit units: 3 ECTS Credit Units: 5. Aut (H. Çinar) Spr (H. Çinar)

THM 420 Seminars on Tourism Industry
Weekly seminars by guest speakers from various tourism related industries. Credit units: 2 ECTS Credit Units: 2. Aut (G. Karamüllağlı) Spr (A. N. Örer)

THM 423 Tourism Economics
In addition to theoretical aspects of tourism economy, Turkey’s domestic, inbound and outbound tourism as well contribution of tourism industry to Turkey’s national economy. Economic and accounting costs, firm’s costs in the short and long run, economies of scale, firms’ types of growth, market structures and tourism, price discrimination and tourism, externality and tourism, government intervention in the market, public goods and tourism, Turkey’s tourism industry profile, inbound tourism expenditures, foreign inbound accommodation
category, foreign inbound purpose of visit, outbound tourism expenditures, outbound purpose of visit, domestic tourism expenditure category, Tourism Satellite Accounts (TSA), analysis of Canadian Tourism Satellite Accounts, Turkey’s Gross Domestic Products, Turkey’s balance of payment, and Turkey’s employment statistics. Credit units: 3 ECTS Credit Units: 5, Prerequisite: (THM 107 and THM 205) or (ECON 105 and ECON 106). Aut (I. Boz) Spr (M. Siyahhan)

THM 453 Total Quality Management
The ways to set standards in hotels, restaurants, airlines and other hospitality companies to provide harmonious work and monitoring, evaluating and redesigning the quality requirements in tourism industry. Credit units: 3 ECTS Credit Units: 5.

THM 475 Strategic Marketing for the Hospitality Industry
The strategies of management of the marketing function, the preparation of internal and external analyses, objectives strategies, action plans, and controls to develop and maintain a strategic fit between the organization's goals and capabilities/resources and its changing marketing opportunities. Guidance to the development and preparation of strategic planning of any hospitality operation. Credit units: 3 ECTS Credit Units: 5.

THM 476 Research Techniques
Main fundamentals of science, fundamentals of research, kinds of research and steps in the research process. Determination of methodology, selection of data collection techniques, analysis techniques and reporting phase. Credit units: 3 ECTS Credit Units: 5. Aut (A. B. Collins) Spr (A. B. Collins)

THM 478 Hotel Investment Decision
Theories and techniques which are available and will help management determine the financial feasibility of investments in the hospitality facilities. Credit units: 3 ECTS Credit Units: 5.

THM 487 Concept and Design for Food and Beverage Outlets
Basic knowledge for developing concepts for fine dining restaurants, cafes, fast food units and cafeterias. Choosing a good location, designing the interior and exterior of the restaurant, equipping the kitchen and the dining room and managing the pre-opening and opening phases of the restaurants. Credit units: 3 ECTS Credit Units: 5. Aut (O. Benice) Spr (O. Benice)

THM 493 Nutritional Anthropology
Culture and food relations in human population, inform eating habits and kitchen culture through history. Assigned readings, case studies and presentations as centerpieces on the complex dynamics of culinary arts and culture of different societies in the history. Credit units: 3 ECTS Credit Units: 5. Aut (A. N. Örner) Spr (A. N. Örner)
SCHOOL OF ENGLISH LANGUAGE

Firdevs Tijen Aksit, Ph.D., Acting Director
Hande Işil Mengü, Ph.D., Assoc. Director

Bilkent University School of English Language (BUSEL) has two programs: the English Language Preparatory Program, and, the Faculty Academic English program. The former program prepares students to meet the English language requirements for study in the different faculties and schools of Bilkent University. The latter program provides credit bearing courses in English for Academic Purposes to the students in the faculties and schools once they have met the English language requirements for study in their chosen fields.

ACADEMIC STAFF

Hasan Acar, Instructor

Ümmügülşüm Acı, Instructor
B.A., Foreign Language Teaching, Middle Eastern Technical University, 2009.

Bilge Adriyatik, Instructor

Semra Akbaş, Instructor
M.A., Translation and Interpretation, Hacettepe University, 2007.

Gamze Akbıyık, Instructor

Yeter Akbulut, Instructor
B.A., English Language Teaching, METU, 2014.

Ayşe Akçam Hendry, Instructor
M.A., English Language and Literature, Hacettepe University, 1993.

Begüm Akçelebi, Instructor
B.A., Foreign Language Education, Middle Eastern Technical University, 2013.

Füsun Akman, Instructor
B.A., English Language Teaching, Marmara University, 2001.

Özlem Aksu Kurtoğlu, Instructor

Neslihan Akşan, Instructor

Firdevs Tijen Aksit, Assistant Professor
Ph.D., Educational Sciences (educational administration and planning), Middle East Technical University, 2006. Educational management, English language teacher training, psychology of learning.

Nazan Akyüz Penbegül, Instructor

Ciler Akyüz Penbegül, Instructor

Kızıldağ Altuntaş, Instructor
B.A., English Language Teaching, Boğaziçi University, 2010.

Fatma Tuğçe Arkan, Instructor
M.A., English Language Teaching, Middle East Technical University, 1998.

Aysen Arslankurt, Instructor

Şule Aslan, Instructor
Ebru Atakurt, Instructor

Gülcan Ateş, Instructor

Hilal Atlı, Instructor
M.A., Management in Education, Bilkent University, 2005.

Nazan Avcıbaşoğlu, Instructor
B.A., English Language Literature, Ankara University, 1971.

Sevilcan Birnur Aydemir, Instructor
M.A., Educational Sciences, Bilkent University, 2010.

Marianne Elaine Barker, Instructor

Hüseyra Başol Çetin, Instructor
M.A., American Culture and Literature, Hacettepe University, 2001.

Emel Bekişoğlu, Instructor
M.A., English Language and Literature, Bilkent University, 1993.

David Cedric Bennette, Instructor

Hannah Louise Bird, Instructor
M.S., Public Affairs and Lobbying, Brunel University, 2010.

Iain Board, Instructor

Andrew Bonar, Instructor

Özben Bozkaya, Instructor
B.A., English Language and Literature, Hacettepe University, 1987.

Özlem Boztepe Ovayurt, Instructor
M.A., Management in Education, Bilkent University, 2006.

Sibel Meryem Bölat, Instructor

Samrita Brar, Instructor

Joanna Claudia Bray, Instructor
M.A., English Language Teaching, Reading University, 2014.

Linda May Susan Bruce Özdemir, Instructor

Duygu Bulal, Instructor

David Christopher Butcher, Instructor

Çiğdem Büyüktaş Şener, Instructor

Hülya Can, Instructor
B.A., English Language Teaching, Middle East Technical University, 2007.

Türküüm Aziyye Cankatan, Instructor

Seçil Chouseinoglu (Canbaz), Instructor
Sarah Marie Christian, Instructor

Fatma Efser Civelekoglu, Instructor

Sinead Catherine Crampton, Instructor

Özge Çakmak, Instructor
M.A., Management in Education, Bilkent University, 2013.

Beril Celen, Instructor

Neşe Ayşe Çelik, Instructor
B.A., English Language Teaching, Middle East Technical University, 1991.

Şermin Çelik, Instructor

Samime Çelik Aktaş, Instructor

Sevda Çelik Barut, Instructor

Burcu Çetin, Instructor
B.A., English Language Teaching, Middle East Technical University, 2012.

Gökşen Çetin, Instructor

Elif Çotuksöken, Instructor

Bilge Çöllüoğlu Yakar, Instructor

Hossein Dabir, Instructor
M.A., English Language and Literature, Ankara University, 1996.

Müge Dağlı, Instructor

John William Day, Instructor
Ph.D., Social Anthropology & Middle Eastern Studies, Harvard University, 2013.

Neşe Demir, Instructor
B.A., Foreign Language Teaching, Middle East Technical University, 2013.

Pınar Demir, Instructor

Mehmet Demirkaya, Instructor
M.A., English Literature, Middle East Technical University, 2001.

Melek Develi, Instructor
B.A., English Language Teaching, Middle East Technical University, 2011.

Bobby Nicholas Devery, Instructor
B.A., Economics, Sociology & Political Science, National University of Galway, 2008.

Travis Brent Dingler, Instructor

Ryan JoAnn Donaghy, Instructor
Natalie Ann Donohue, Instructor
B.A., TESOL with a Modern Language (Japanese), University of Central Lancashire, 2012.

Jeffrey Michael Doonan, Instructor

John Dourneen, Instructor

Antony Graham Durrant, Instructor

Ebru Emine Ecer, Instructor
B.A., English Language Teaching, Middle East Technical University, 1996.

Hafize Eğir, Instructor (on leave)

Zeynep Eken Kaptan, Instructor

Marlene Denice Elwell, Instructor
M.A., Teacher of English to Speakers of Other Languages, San Jose State University, 1998.

Ender Emiroğlu, Instructor
M.A., Management in Education, Bilkent University, 2013.

Selen Emre, Instructor
B.A., English Language and Literature, Hacettepe University, 2008.

Jeffrey Paul Engell, Instructor
M.S., Entrepreneurship, Lunds University, 2009.

Mutlu İüş Ergun, Instructor

Merve Ersoy, Instructor
M.A., Comparative Literature & Arts, Brock University, 2014.

Müge Erten, Instructor
M.S., Educational Sciences, Middle East Technical University, 2004.

Talip Esmer, Instructor
M.A., English Language and Literature, Ankara University, 1999.

Dilek Ethemer, Instructor

Sibel Evliyagil, Instructor
M.A., Management in Education, Bilkent University, 2011.

Özge Ezici Çetin, Instructor

Çiğdem Piçici, Instructor
M.A., Management in Education, Bilkent University, 2012.

Emine Geçgil, Instructor
M.S., English Language Teaching, Hacettepe University, 2007.

Nora Louise Gibbons, Instructor

Julia Goggin, Instructor
B.S., Geography and Sociology, University College, Dublin, 1981.

Emma Louise Goulty, Instructor

Birgül Gulener, Instructor
M.A., Management in Education, Bilkent University, 2006.
Gamze Güner, Instructor

Ayşegül Güney, Instructor
B.A., American Culture & Literature, Bilkent University, 2012.

Sabriye Gür, Instructor

Salıha Gürbüzdal, Instructor

Merve Gürel, Instructor
B.A., American Language and Literature, Hacettepe University, 2008.

Hakan Güven, Instructor

Hatice İknur Halıcı Yılmaz, Instructor

Annelise Kay Hein, Instructor

Karlie Erin Herndon, Instructor

Patrick Himmelspach, Instructor
B.A., History and Geography, Dickinson State University, 1993.

Shawnda Kay Hines, Instructor

Steven Hobson, Instructor

Christopher John Hunt, Instructor

Paul Hurley, Instructor
B.A., Humanities (English Literature and Spanish), Thames Valley University, 1994.

İpek Hûyükülü, Instructor
B.A., American Culture & Literature, Başkent University, 2011.

Alena Irishkulova, Instructor
M.A., English Language Teaching, Middle East Technical University, 2012.

Gökçen Işık, Instructor

Aynur Kadıoğlu, Instructor
M.A., English and American Literature, Ruhr University, 1997.

Funda Kamanlı, Instructor

Güleyse Kansu, Instructor
B.A., English Language Teaching, Middle East Technical University, 2010.

Elif Kantarcioglu, Instructor

Elif Kaya, Instructor

Sema Kaya, Instructor
İklil Kaya Yıldırım, Instructor

Oya Kayaalp, Instructor
B.A., English Language and Literature, Ankara University, 1990.

Sema Keşkekci, Instructor

Meral Kocaç, Instructor
B.A., Philosophy, Middle East Technical University, 1988.

Zeynep Kireçci, Instructor

Remziye Köç, Instructor

Seçil Kuka, Instructor
B.A., English Language Teaching, Middle East Technical University, 2011.

Sevil Kultufan Kılıç, Instructor (on leave)

Nihal Kurtay, Instructor

Hülya Kurgüllü, Instructor

Marinus Hendrik Johanne Langbroek, Instructor

Robert Lee Lockwood, Instructor
B.S., Counseling Psychology, Toccoa Falls College, 2005.

Robert McNamara Loomis, Instructor
M.A., Middle Eastern Studies, University of Chicago, 2011.

Patrick Benedict Lyons, Instructor

Nihal Mavi, Instructor

Vanessa McDonagh, Instructor

Hande Işıl Mengü, Instructor
Ph.D., English Language Teaching, Hacettepe University, 2005.

Bürin Menküer-Çeçen, Instructor
M.A., English Literature, Middle East Technical University, 1997.

Özlem Mert Akkaya, Instructor

Sara Kate Morrison Süer, Instructor

Hasan Mullaoğlu, Instructor
B.A., English Language and Literature, Hacettepe University, 1987.

Sarah Penelope Mutlu, Instructor
M.A., Political Science, University of Ottawa, 2011.

Marci Nelson Özer, Instructor
John O'Dwyer, Assistant Professor
Ph.D., Curriculum and Project-Evaluation, University of Surrey, 2005.

İlkan Orğan, Instructor

Yan Trefor Overfield Shaw, Instructor
M.A., Post-1900 Literatures, Theories & Cultures, University of Manchester, 2009.

Umran Ölmaz Board, Instructor

Pınar Esma Önkol, Instructor
Ph.D., Educational Sciences, Middle East Technical University, 2011.

Ümmü Gaye Özsarslan, Instructor
M.A., Teaching English to Speakers of Other Languages, Minnesota State University, 2006.

Seda Özdoğan, Instructor

Zeynep Özek Vural, Instructor

Elif Hande Özer, Instructor

Aysê Funda Özeski, Instructor

Vildan Özkam, Instructor
B.A., English Language & Literature, Hacettepe University, 2012.

Kamile Özkartal, Instructor

Aysê Özmen Özdemir, Instructor

Figen Özsoy Görgülü, Instructor

Tülay Özyurt Erkan, Instructor

Nuran Pekedlis, Instructor
B.A., English Language & Literature, Istanbul University, 2012.

Ceyda Peksen, Instructor

Kyle Robert Pfeiffer, Instructor

Wendy Laura Phillips, Instructor

Philip Poole, Instructor

Jennifer Nicole Powell, Instructor

Nazmiye Aslı Sağ, Instructor

Pelin Sakalsız, Instructor (on leave)
Pembe Müşerref Saracoğlu, Instructor

Çiğdem Selim-Dabir, Instructor
M.A., English Language and Literature, Ankara University, 1996.

Semih Sert, Instructor
Ph.D., Education, Middle East Technical University, 2008.

Hülya Severgün, Instructor
B.A., English Language Teaching, Middle East Technical University, 2009.

Bryan Patrick Sheehan, Instructor

Valerie Moira Sherwood, Instructor

Katherine Skipper, Instructor
M.S., Teaching English to Speakers of Other Languages, University of Southern California, 2011.

David Jonathan Slattery, Instructor
M.A., English Language & Literature, Mary Immaculate College, 2013.

Katie Marie Smyth, Instructor
B.A., Modern Languages (French & Irish), National University of Ireland Galway, 2011.

Ersin Soylu, Instructor
Ph.D., Educational Administration, Middle East Technical University, 2014.

Peter Paul Stephan, Instructor
Ph.D., British Literature, Stony at Stony Brook, 1996.

Canan Suyolu, Instructor

Halime Feyza Sütcü, Instructor
B.A., Foreign Language Education, Middle East Technical University, 2011.

Deniz Şahinbaş Şen, Instructor

Merve Şanal, Instructor
B.A., English Language Teaching, Gazi University, 2010.

Seçil Şanlı, Instructor

Elif Şen, Instructor
Ph.D., English Language Teaching, Middle East Technical University, 2002. English language teacher training, curriculum development, discourse analysis.

Sera Suzan Şengil, Instructor
B.A., American Culture & Literature, Bilkent University, 2008.

Lorie Marie Tan, Instructor

Meltem Tarhan, Instructor

Özgür Taşkesen, Instructor

Özlem Terzioğlu, Instructor

Carole Thomas, Instructor
Casey Lane Thornton, Instructor
M.A., TESOL, Murray State University, 2012.

Şeyma Toker, Instructor
B.A., Foreign Language Education, Middle East Technical University, 2013.

Burcu Torun, Instructor

Muzaffer Tunca, Instructor

Özlem Sydney Turgut, Instructor

Emel Turğut, Instructor

Robin Harry Mark Turner, Instructor

Esra Tunay, Instructor

Gizem Türkan Balan, Instructor
M.A., Human Resources Development in Education, Middle East Technical University, 2008.

Gülnur Uğuz, Instructor

Cahit Uluğ, Instructor

Behiye Fisun Unsworth, Instructor

Aysenur Deniz Urso, Instructor
B.A., Psychology, Laurentian University, 2002.

Gökçen Uyaroğlu, Instructor

Gülüçin Üge, Instructor (on leave)

Ayça Üner, Instructor

Suphi Burak Üskent, Instructor
M.A., Management in Education, Bilkent University, 2011.

Amber Lynn Vredevoogd, Instructor

Özlem Vural, Instructor

Jean Warak, Instructor

Lee Russell Wilkes, Instructor

Efe Burak Yakar, Instructor

Clare Yalçın, Instructor
Bilge İşil Yazıcı, Instructor

Yeşim Yeloloğlu, Instructor
M.A., English Language Teaching, Middle East Technical University, 2005.

Nilüfer Yeşil, Instructor

Nurdan Yeşil, Instructor

Pelin Yetkin, Instructor

Fatma Gül Yıldırım, Instructor

Serap Yıldırım Varol, Instructor

Halime Yıldız, Instructor

Ada Pelin Yılmaz, Instructor

Zeliha Yılmaz, Instructor

Gülay Yığıt, Instructor

Bengu Yurtseven, Instructor
M.S., English Language Teaching, Middle East Technical University, 2004.

Ahu Yüceer, Instructor

Pelin Yücel, Instructor
B.A., English Language and Literature, Bilkent University, 2006.

Ayşe Deniz Yüzibir Gürge, Instructor

Emine Zafer Nizam, Instructor

Megan Nicole Zamora, Instructor
B.A., English, The University of Texas at Austin, 2013.

Özlem Zengin Ünal, Instructor
B.A., English Language Teaching, Hacettepe University, 2010.
ENGLISH LANGUAGE PREPARATORY PROGRAM

Elif Kantarcioglu, Ph.D., Director

The medium of instruction at Bilkent University is English. The BUSEL English Language Preparatory Program aims to equip students with the necessary language and study skills for successful entry to and study in their chosen faculties and schools. There is an emphasis on English for Academic Purposes (EAP) in the program as a whole, which recognizes that students need more than linguistic input in order to be successful in their studies. During their stay in the program, students are required to develop the ability to analyze texts and information sources, as well as critical thinking skills and awareness of their own learning styles and preferences. The program is demanding and requires a full-time commitment on the part of the students.

Newly arriving students are required to take the Certificate of Proficiency in English Examination (COPE)* in September. Students who meet the required standards will pass directly into their freshman year. Students whose English does not meet the required standards will be placed in the Preparatory Program courses at different levels based on their results in the COPE exam.

The Preparatory Program consists of six levels (Beginner, Elementary, Pre-Intermediate, Intermediate, Upper Intermediate, Pre-Faculty) which build on one another. Each level includes the production of a complete learning portfolio (vocabulary journal, written and spoken outcomes, and homework assignments). The courses are explained below but it is important to realize that, in addition to class work, students are expected to attend tutorials, make use of computerized learning facilities, do regular independent study, and produce assignments. Students will be evaluated continuously through achievement tests, learning portfolio assessment and assignments. Those students who have successfully completed the exit levels may sit the proficiency test and, if successful, be eligible to enter their freshman year.

Beginner Course

This course provides students who enter Bilkent University with little or no background in the English language with a basic foundation in the English language. Throughout the course students are introduced to basic texts related to their everyday contexts and needs which help them to develop and consolidate the foundations of the language. The texts used are ones that expose the students to new language through an emphasis on fairly accurate grammar and lexis.

By the end of the level students will be able to read and understand simple, very short descriptive texts with visual support; will be able to listen to simple, very short texts and identify speakers, context and relationships. They will be able to produce very short texts in writing and in speaking by linking words or groups of words in short sentences.

Elementary Course

This course provides grounding in the English language and equips students with the necessary basic skills essential for work at higher levels. At this level, the development of learners’ reading and listening skills goes hand in hand with the development of their language: in other words, the focus is on developing reading skills through an emphasis on fairly accurate grammar and lexis, through texts, short monologues and dialogues related to the everyday contexts and needs of the students. In the development of learners’ writing skills the focus is on developing writing skills at sentence level through emphasis on accurate grammar and lexis. Writing sentences and short texts comprised of simple connected sentences will enable learners to consolidate the language they are being introduced to. As their language develops they will be able to write gradually longer detailed texts, which are of a descriptive and/or narrative nature, on concrete topics relevant to their immediate

*4-year Department Students- A pass at (i) FCE/CAE/CPE or (ii) a score of at least 6.5 in IELTS (academic exam), with a minimum of 5.5 scored in every section, or (iii) a score of 550 on TOEFL PBT, with a minimum of 4 on the Test of Written English (TWE) or a score of 80 on TOEFL iBT, with a minimum of 20 scored in every section (Listening, Reading, Speaking, Writing), or (iv) a score of 87 on KPDS/ÜDS allows students the right to enter directly into the departments (ETS students inclusive).
environment and interests. In speaking, the focus is on producing simple, short utterances which will enable learners to consolidate the language they are being introduced to, as well as to notice new language. There is also an emphasis on fairly accurate grammar, lexis and pronunciation. As their language develops they will be able to produce gradually longer and more detailed utterances about themselves, everyday contexts and needs.

By the end of the level, learners should be able to understand short, simple texts containing high-frequency vocabulary, and identify gist and specific information. They will have developed the basic language to start reading and listening to more detailed texts, narratives, and descriptions at the subsequent level. In writing, learners need to have developed the basic language to be able to start writing longer, simple narratives and descriptions that have more detail. This will prepare learners to write more detailed narratives and descriptions at the subsequent level. In speaking, learners need to have developed the basic language to take part in simple communicative tasks and express basic everyday needs and wants. This will prepare them for the short conversations/exchanges of information they will have to deal with at the subsequent level.

**Pre-Intermediate Course**

At Pre-intermediate, the development of learners’ reading skills is still closely linked to the development of their language. Learners will be introduced to texts in the form of narratives and descriptions in everyday contexts that have more detail than at the previous level. In listening learners will be able to listen to short texts to consolidate the language they are being introduced to, as well as to notice new language. At this level, the development of learners’ writing skills is still closely linked to the development of their language. Writing short texts will enable learners to continue consolidating the language they are being introduced to. As their language develops they will be able to write longer and more detailed texts on concrete topics relevant to their immediate environment and interests. The development of learners’ speaking skills is also closely linked to the development of their language. They are expected to already have the basic language to be able to carry out simple spoken tasks at the beginning of this level. As their language develops, they will be able to produce gradually longer and more detailed utterances.

By the end of the level, learners should be able to process and construct overall meaning from longer and more detailed descriptions and narratives. They will have developed the language and basic reading skills to be able to start reading more formal, well-structured and informative texts at the subsequent level. For listening they will be ready to start listening to short well-structured informative talks at the subsequent level. In writing, the learners need to have developed the language to be able to write longer, more detailed narratives and descriptions. It is expected that by producing well constructed stand-alone texts, learners will be prepared for the multi-paragraph format that they will have to deal with at the subsequent level. In speaking, learners should be able to take part in short conversations where they can have a simple exchange of information and also give brief descriptions on familiar topics. This will prepare them for the short oral presentations/talks they will need to give at the subsequent level.

**Intermediate Course**

At this level, learners start to explicitly develop the skills and sub-skills of reading and listening. They are expected to have already built up their language levels and the skill of careful reading and listening to be able to start reading and listening to longer texts that are more academic-like. They will learn how to become better readers through the application of the relevant sub-skills and understand of text organization, while still continuing to develop/consolidate their language. At this level learners will learn how to become better listeners through the application of the relevant sub-skills and understanding of text organization, while still continuing to develop and consolidate their language. At Intermediate, the learners are expected to have built up their language skills to be able to start producing simple, structured essays with an introduction, development and conclusion. In speaking, learners start to explicitly develop the skills and sub-skills of speaking.
They are expected to have already built up their language levels and speaking skills to be able to communicate in simple everyday contexts. At this level learners will learn how to become better speakers through the application of the relevant sub-skills and understanding of how to initiate and maintain conversation. It is also expected that they start becoming more fluent when speaking, and that they develop tolerance for their own errors which do not hinder communication or task achievement.

By the end of the level, learners should be able to construct meaning from informative as well as narrative and descriptive texts. It is expected that exposure to such informative texts will prepare learners for the more academic style of language that they will have to deal with at the subsequent level. In writing learners need to have developed the basic language to be able to write longer narratives, descriptions and informative texts in a simple essay format that are supported with some detail and examples. Learners should be able construct meaning through simple talks, presentations and conversations. This will prepare them for more academic presentations they need to give at the subsequent level.

**Upper Intermediate Course**

At this level, learners will further develop the skills and sub-skills of reading and listening. Learners will be expected to already have the language, the reading and listening skills, and knowledge of text structure and organization to help them start dealing with more complex academic-like texts. Students will be expected to construct meaning from texts in which arguments are put forward and defended or supported through ideas, as well as through details and examples. At Upper Intermediate, learners are expected to have the language and writing skills, including how to write a good paragraph to put forward and support an argument in a well-structured essay. Learners will have the general English language skills to express themselves confidently but they will need to develop their academic language. At this level learners will learn how to become more confident, intelligible and natural-sounding speakers through the application of the relevant sub-skills and development of meta-cognitive awareness of their own speaking abilities. Learners will be expected to develop an argument and defend or support it through ideas (as well as through details and examples), and structure their presentations using relevant discourse markers, fillers, back-chaining and signposting.

By the end of the level, learners should be able to construct meaning from discursive as well as narrative, descriptive and informative texts, even when they are less-structured. Learners need to have developed the language to be able to write discursive essays that are well-supported. It is expected that by producing such essays, learners will be prepared for the more detailed, complex style of argumentations they will have to deal with at the subsequent level. Learners should be able to enter discussions and conversations on familiar topics with less preparation, and give well-structured oral presentations. This will prepare them for the formal presentations, discussions and debates they will deal with at the subsequent level.

**Pre-Faculty Course**

At Pre-Faculty, learners further refine the skills and sub-skills of reading and listening. Learners will be expected to already have the necessary language, reading and listening skills, and knowledge of text structure and argumentation. At this level they will be expected to construct meaning from texts with different rhetorical purposes in which different relationships have been utilized (i.e. advantage/disadvantage, compare/contrast, problem/solution, cause/effect, reason/result, etc.). At this level, learners are expected to have developed a good working knowledge of topic sentences, thesis statements, paragraphs and the essay structure. Learners will further refine their academic language and writing skills to write a more propositionally complex essay. Learners further develop the skills and sub-skills of speaking. They will be expected to give longer, better-prepared, structured and supported oral presentations which show an awareness of audience. It is expected that learners will continue to develop their academic language and there will also be a focus on non-verbal communication. They are also expected to be able to take part in debates, extended discussions and
conversations in a clearly participatory fashion, where they will be expected to develop an argument and defend or support it by taking a stance, clearly expressing their ideas and expanding them logically with examples and justification.

By the end of Pre-Faculty, learners should be able to construct meaning from discursive as well as narrative, descriptive and informative texts, even when they are less-structured with different rhetorical purposes and modes. It is expected that exposure to discursive texts will prepare learners for the academic style of argumentation that they will have to deal with in their faculties and departments. The listening texts used will prepare them for the variety of presentations/lectures/talks/discussions that they will be exposed to in their faculties and departments. Learners should be able to write well-structured, propositionally complex discursive essays that are well-supported. It is expected that by producing such essays, learners will be prepared for the types of academic writing required in their faculties and departments. In speaking learners should be able to take active part in formal/informal discussions, give longer and more structured oral presentations, and engage in debates using appropriate language, register and pronunciation which is intelligible and does not cause undue strain on the listener. This will prepare learners for the more academic style of speaking required in their faculties and departments as well as preparing them to interact naturally with foreign instructors and students.

**Tutorials**

In addition to normal teaching hours, students are also given instruction individually or in small groups of 3-5 to further meet their needs.
FACULTY ACADEMIC ENGLISH PROGRAM


COURSE DESCRIPTIONS

ENG 101 English and Composition I
The central basis of ENG 101 is to introduce students to an academic approach to thinking, reading, speaking and writing in an integrated, meaningful manner such that they are able to apply the skills learnt to their departmental studies. In addition, the ENG 101 course aims to further develop the students' linguistic accuracy and range in English.


ENG 102 English and Composition II
The central basis of ENG 102 is to consolidate students' academic approach to thinking, reading, speaking and writing and language usage, as initiated in ENG 101. In addition, the ENG 102 course aims to develop the students' abilities to synthesise and evaluate information and conduct basic, independent research.


ENG 117 Advanced English Grammar I
This course is designed specifically to help students to further develop competency in grammar, vocabulary and modes of written expression under timed conditions. In order to improve their self-editing skills, students will keep a portfolio of their written work.

Credit units: 3 ECTS Credit Units: 4. Aut (S. Akbas, S. Keskekci, B. Menkucer-Cegen)

ENG 118 Advanced English Grammar II
This course is designed to build on the skills developed in ENG 117, specifically by helping literature students to improve their competency in grammar, vocabulary and modes of written expression under timed conditions. In order to improve their self-editing skills, students will keep a portfolio of their written work.

Credit units: 3 ECTS Credit Units: 4, Prerequisite: ENG 117. Spr (S. Evliyagil, S. Keskekci, R. M. Loomis)

ENG 206 Business Communications
The objective of this course is to develop professional communication skills necessary for Business Administration majors as they enter the business world. Coursework includes writing proposals, memos, persuasive letters, and business reports as well as conducting business meetings and presentations through adopting documents to particular needs and audiences via authentic business communication cases.

Credit units: 3 ECTS Credit Units: 5, Prerequisite: ENG 102. Aut (Z. Ozek Vural) Spr (H. Basol Cetin, T. A. Cankatan, Z. Ozek Vural)

ENG 241 Sophomore Academic English I
This course aims to reinforce and develop students' academic English skills beyond the level reached in the Freshman year. This is done in conjunction with Phil 241, with a particular focus on reading, thinking, writing and speaking about influential social and political philosophy texts.

Credit units: 3 ECTS Credit Units: 5. Aut (F. T. Aksit)
ENG 242 Sophomore Academic English II
This course aims to reinforce and develop students' academic English skills beyond the level reached in the Freshman year. This is done in conjunction with Phil 242, with a particular focus on reading, thinking, writing and speaking about influential social and political philosophy texts. Credit units: 3 ECTS Credit Units: 5, Prerequisite: ENG 241.

ENG 312 Introduction to Creative Writing
Based on students' accumulated knowledge of elements and technical underpinnings of literary genres, this course aims to help students gain a deeper practical and theoretical understanding of their own values and aspirations as writers of English. Students are expected to improve their written expression in terms of style, language, vocabulary and creativity with specific focus on the metaphorical and figurative aspects of language. Taught in a workshop-based environment, the course emphasizes how the process of pre-writing, writing and revision can lead to fiction, poetry and creative non-fiction. Assignments will encourage the creation and revision of drafts, and will give students the opportunity to experiment, practice, edit/improve their work, and discuss one another's work in the course forums. Credit units: 3 ECTS Credit Units: 6, Prerequisite: ENG 102 or ENG 118. Spr (J. Dourneen)

ENG 401 Technical Report Writing and Presentation
The objective of this course is to assist computer engineering students in effectively presenting various types of information in both the written and oral modes. Students will be expected to become competent in writing and organizing technical reports and in effectively presenting academic and technical papers. The tasks performed as part of the course will mirror the tasks students will be expected to do in their prospective professional lives and in their faculty classes. Credit units: 2 ECTS Credit Units: 4, Prerequisite: ENG 102 or ENG 104. Aut (A. Akçam Hendry, H. Dabir, J.M. Doonan, T. Esmer, P.E. Önkol, K. Skiper) Spr (A. Akçam Hendry, E. Bekişoğlu, I. Board, S. M. Christian, J. Goggin, R. Koç, M. H. J. Langbroek, P.E. Önkol, S. Sert, R. H. M. Turner, N. Yeşil)

ENG 406 Graduate Writing and Presentation Seminar
ENG 406 is primarily a writing seminar for graduate students. The course will focus on issues of style, voice, logic, grammars, and audience awareness in students' written work. In addition, students will learn and discuss how to present their papers effectively to an audience of peers. The objective of the course is to develop in students a scholarly identity within the conventions of their discipline. Students’ own writing will serve as the basis for class discussions. Credit units: 3 ECTS Credit Units: 5.

ELS 301 Advanced Communication Skills
Credit units: 3 ECTS Credit Units: 4, Prerequisite: ELS 102 or ENG 102. Aut (R. Koç, V. M. Sherwood) Spr (V. M. Sherwood)
The Vocational School of Computer Technology and Office Management offers two-year programs in the following areas:

- Commerce and Administration
- Computer Technology and Programming

The school places an emphasis on maintaining a continuous dialogue with business and industry. This cooperation allows for a dynamic curriculum to reflect the changing needs of these environments. A training period under the supervision of the School is incorporated into the summer programs to familiarize the students with their respective industrial areas of study.

**ACADEMIC STAFF**

**Can Uğur Ayfer**, Instructor  
M.S., Computer Engineering, Middle East Technical University, 1980. Internet programming, operating systems, network applications.

**Reyyan Ayfer**, Instructor  
M.S., Computer Engineering, Middle East Technical University, 1981. Database management, programming languages, data structures, information ethics and security.

**Ahmet Durukal**, Instructor  

**Esra Findik**, Assistant Professor  
Ph.D., Library Information Sciences, Hacettepe University, 1985. Etiquette and modern business manners, business writing techniques in Turkish.

**Sezer Kadıyıfçılarp**, Instructor  

**VOCATIONAL SPECIALISTS**

**Aslı Ömerbeyoğlu**  
M.S., Business Administration, Atılım University, 2006. Accounting standards, computer aided accounting applications.
COMMERCCE AND ADMINISTRATION

A. Durukal (Acting Chair).

Commerce and Administration is a two-year program leading to an Associate of Science degree in business administration. Students are given a strong background in business, marketing, human resource management and financial applications, and trained so that they are familiar with the software packages widely used in business.

The curriculum of the department covers business administration, production management, marketing, human resources management, economics, statistics, accounting and finance courses. Apart from the "must" courses in the curriculum, students select two elective courses in their second year. The elective courses offered by the Department aim not only at broadening the student's knowledge on certain topics, but also to guide the student into a deeper understanding of various options in the field of business administration.

At the end of their first year students are required to successfully complete a 30-day industrial training program. Industrial training is aimed to develop the students practical skills in business applications. During their industrial training period, students are expected not only to apply their knowledge and experience gained during the first year, but also to familiarize themselves with the actual business world, and concepts which may be new to them.

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<td>CAD 111 Principles of Management</td>
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<td>CAD 113 Microeconomics</td>
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<td>CAD 125 Business Mathematics</td>
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<td>ENG 101* English and Composition I</td>
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<tr>
<td>GE 100 Orientation</td>
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<td>TURK 101 Turkish I</td>
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<td>CAA 223 Advanced Spreadsheet Applications</td>
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<td>CAD 114 Principles of Marketing</td>
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<td>CAD 126 Statistics</td>
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<td>CAD 128 Principles of Financial Accounting</td>
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<td>CAD 231 Macroeconomics</td>
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<td>ENG 102* English and Composition II</td>
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<td>TURK 102 Turkish II</td>
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* Depending on the result of the COPE exam, students may take ELS 103 - ELS 104 - ELS 203 - ELS 204 in place of ENG 101 - ENG 102.

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<th>Autumn Semester</th>
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<td>CAD 200 Summer Training</td>
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<tr>
<td>CAD 211 Organizational Behavior</td>
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<tr>
<td>CAD 218 Marketing Management</td>
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<td>CAD 225 Management Science</td>
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<td>CAD 229 Principles of Managerial Accounting</td>
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<td>CAD 212 Production Management</td>
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<td>CAD 216 Human Resources Management</td>
<td>3 / 6</td>
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<tr>
<td>HIST 200 History of Turkey</td>
<td>4 / 8</td>
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</tbody>
</table>
COURSE DESCRIPTIONS

CAD 200  Summer Training
This course provides for the evaluation of the 30-day industrial training period students are required to complete during the summer break following their first year. During their industrial training period, students are expected not only to apply their knowledge and experience gained during their first year, but also to familiarize themselves with the actual business world, and concepts which may be new to them. Credit units: 2 ECTS Credit Units: 9,
Prerequisite: CAD 111. Aut (A. Durukal) Spr (A. Durukal)
COMPUTER TECHNOLOGY AND PROGRAMMING

R. Ayfer (Chair), C. U. Ayfer.

Computer Technology and Programming offers a two-year program which provides foundations of a concise computer science education through its carefully designed curriculum. The curriculum includes contemporary computing topics and ultimately earns the students an Associate of Science degree.

The curriculum emphasizes basic theory as well as practical experience in a variety of operating environments, tools and programming languages. It is designed to equip students with strong problem solving abilities, critical thinking abilities and skills for lifelong learning. Students who complete the program will have a thorough knowledge and experience in structured and object-oriented programming in Windows and UNIX environments. Programming languages such as C, C++, Java, visual programming tools, relational database management systems, and data communications are the major topics covered during the program. Students are required to design and implement various programming projects in partial fulfillment of the curriculum.

The courses are combination of theory and laboratory practice in up to date lab facilities. Facilities including a network of personal computers in laboratories and multiple UNIX servers, all connected to the campus backbone. Instruction is supported by the department computational facilities including a network of personal computers in laboratories and multiple UNIX servers, all connected to the campus backbone.

The program specifics are designed and frequently updated to reflect changes in the IT industry. This dynamism in the curriculum adapts the students to the needs and expectations of the industry as well as prepares them to continue their academic studies leading to a B.S. degree in Computer Science.

The compulsory 30 days industrial training has proven to be a valuable interaction between the industry and the department, and it provides strong recruitment opportunities for the students.

**CURRICULUM**

**FIRST YEAR**

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<tr>
<th>Autumn Semester</th>
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<tbody>
<tr>
<td>CTP 101</td>
<td>Introduction to Programming</td>
</tr>
<tr>
<td>CTP 105</td>
<td>Programming Environment</td>
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<tr>
<td>CTP 107</td>
<td>Discrete Mathematics</td>
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<td>English and Composition I</td>
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<td>Orientation</td>
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<td>Turkish I</td>
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<td>Business Applications</td>
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<td>Computer Programming for Business</td>
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<td>CTP 118</td>
<td>Computer Organization</td>
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<td>TURK 102</td>
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**SECOND YEAR**

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<th>Autumn Semester</th>
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<tbody>
<tr>
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<tr>
<td>CTP 201</td>
<td>Object Oriented Programming I</td>
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<tr>
<td>CTP 203</td>
<td>Operating Systems</td>
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<td>CTP 209</td>
<td>Systems Development</td>
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</table>
CTP 227  User Interface Design and Development ........................................ 3 / 6
HIST 200  History of Turkey ................................................................. 4 / 8

Spring Semester  

CTP 202  Object Oriented Programming II ............................................ 5 / 8
CTP 204  Networking Principles and Applications ....................................... 3 / 5
CTP 206  Database Management Systems ............................................... 4 / 6
CTP 208  Programming for the Internet .................................................. 3 / 5
CTP 210  Term Project ............................................................................ 4 / 6

COURSE DESCRIPTIONS

CTP 200  Summer Training
The aim is to provide students an opportunity to take part in the real business environment and understand the requirements of the industry. Students are expected not only to apply their knowledge and experience gained during their first year but also to familiarize themselves with technologies and concepts new to them. This thirty day training period is undertaken during the summer break following a successful completion of the first year. Credit units: None ECTS Credit Units: 9, Prerequisite: CTP 102 and CTP 108. Aut (S. Uğurlubilek)
The objective of the two-year program in the Vocational School of Tourism and Hotel Services is to prepare students for various positions in hotels, restaurants, and travel agencies. With the rapidly growing potential of tourism, as a leading industry in the economy, the need for well-trained staff is obvious. Success in the hotel and restaurant industry requires substantial professional knowledge, business sense, and human relations skills. For this reason, the curriculum of the Vocational School of Tourism and Hotel Services aims at achieving “hands-on” experience. The wide use of laboratories (e.g., training kitchen, restaurant, etc.) and the existence of a practice hotel (Bilkent Hotel and Conference Center - Ankara, rated a five-star hotel by the Ministry of Culture and Tourism) provide the students with a firm background in professional skills. Attention is also given to communication skills, foreign languages, and computer applications.

A 60-day industrial training program at an establishment in the hotel or travel industry is compulsory. This takes place during the summer months after the successful completion of the first year.

**ACADEMIC STAFF**

**Öğuz Benice**, Instructor  
Diplôme, Études Supérieures en Hôtellerie et Restauration, École Hôtelière de Lausanne, Switzerland, 1992. Food and beverage operations, food and beverage management, Food production techniques.

**Jamel Ben Chafra**, Instructor  
MBA, Bilkent University, 1996. Rooms division management, service operations management, industrial training project, Finance, Accounting, Hospitality Management Accounting.

**Hacer Çınar**, Instructor  
B.A., Business Administration, Hacettepe University, 1984. Accounting, tourism management applications, industrial training project, Managerial Accounting, Hospitality management accounting.

**Güneş Karamullaoğlu**, Instructor  
MBA, Social Sciences, Gazi University, 2000. Travel operations and management, tour development and implementation, event management, industrial training project, Introduction to Business, Seminars on tourism industry, Tourist Attractions of Turkey, Dynamics of tourism, Senior project.

**Nazende Özkaramete Coşkun**, Instructor  
Ph.D., Economics, Yeditepe University, 2007. Microeconomics, Macroeconomics, Tourism economics, Quantitative Decision Techniques, Senior project, Industrial training project.

**Perin Öztin**, Instructor (on leave)  
MBA, Alaska Pacific University, 1987. Tourist attractions of Turkey, senior project, electives, Introduction to business, Industrial training project.

**Mustafa Siyahhan**, Instructor  

**Ali Ünal**, Instructor  
M.A., Başkent University, 2003. Food and beverage service, restaurant service, behavior and etiquette.
HOSPITALITY SERVICES


Hospitality Services Program

The Hospitality Services (HS) program is designed to provide students with relevant education in hotel, restaurant and travel industry, furnishing them with theoretical as well as practical knowledge applicable for the real life circumstances. Emphasis is given on hands-on experience, speaking ability of an additional foreign language and use of computer systems.

CURRICULUM

FIRST YEAR

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<tbody>
<tr>
<td>BIM 181</td>
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SECOND YEAR

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RESTRICTED ELECTIVES

BIM 282  Hospitality Industry Computerization  ........................................  3 / 5
THM 392  Nutrition and General Health ..........................................................  3 / 5
THM 396  Case Studies for Tourism .................................................................  3 / 5
THM 453  Total Quality Management ..............................................................  3 / 5
THM 475  Strategic Marketing for the Hospitality Industry ............................  3 / 5
THM 478  Hotel Investment Decision ...............................................................  3 / 5
THM 487  Concept and Design for Food and Beverage Outlets ......................  3 / 5
THM 493  Nutritional Anthropology .................................................................  3 / 5

SECOND FOREIGN LANGUAGE COURSES

One of the following four-semester sequences of courses in Japanese, Chinese, Russian, German, Italian, French or Spanish can be taken to fulfill the second foreign language requirements:

Japanese : JAP 111/112/113/114
Chinese : FRL 165/166/167/168
French : FRE 111/112/113/114
German : GER 111/112/113/114
Italian : ITA 111/112/113/114
Spanish : SPA 111/112/113/114
Russian : RUS 111/112/113/114
PHYSICAL EDUCATION UNIT

Hayri Özkan, Ed.D., Director

The mission of the Physical Education and Sports Center is to provide the environment and programs through which the students of Bilkent University can participate and attain a healthy lifestyle. By participating in quality health, physical education and sports programs the students enrich their campus lives and develop to their fullest individual capacity.

The Physical Education and Sports Center does not offer any degree in physical education. However, the students may take up to three courses for credit over and above their departmental requirements. In addition, grades will appear on transcripts and will affect their GPA and CGPA. Students may choose from a rich selection of physical education and sports courses offered every semester.

ACADEMIC STAFF

Ahsen Bilen, Instructor

Kagan Eynak, Instructor
B.S., Physical Education and Sports, Gazi University, 1984.

Hayri Özkan, Instructor

PART-TIME ACADEMIC STAFF

Celaleddin Merih Altınkaya, B.S., Linguistics Department, Hacettepe University, 1989.
Sarp Baturalp, B.S., School of Sports Sciences and Technology, Hacettepe University, 2000.
Yağmur Yeliz Doyan, B.S., Physical Education and Sports, Gazi University.
Tayfun Evyapan, B.S., Faculty of Language History and Geography, Ankara University, 2008.
Seda Günaltay, B.S., Medical University, Ankara University, 2008.
Ömer Mikilliçik, B.S., Physical Education and Sports, Gazi University, 1979.
Kuntay Velioğlu, B.S., Sports Sciences and Technology, Hacettepe University, 1999.

COURSE DESCRIPTIONS

PE 110 Tennis
This course involves analyzing and teaching basic techniques (serve, forehand, backhand, volley), rules and strategies of the game. Credit units: 1 ECTS Credit Units: 2. Aut (C. M. Altınkaya) Spr (C. M. Altınkaya)

PE 115 Squash
The purpose of this course is to teach the proper techniques such as forehand, backhand, serve, movements in the court, rules and strategies of the game of squash. The students will also learn the important principles in order to play squash safely. Credit units: 1 ECTS Credit Units: 2. Aut (H. Özkan, O. Sanrı) Spr (O. Sanrı)

PE 116 Intermediate Squash
Improvement of techniques such as forehand, backhand, serve and development of advanced shots such as boast, drop, lob, etc. Development of strategies, long rallies and effective movements necessary in a competitive game situation. Learning the rules and regulations in order to play the game at a competitive level. Credit units: 1 ECTS Credit Units: 2. Prerequisite: PE 115.

PE 125 Table Tennis
The purpose of this course is to teach basic techniques such as serve, forehand, backhand and footwork, rules and strategies of the game. Credit units: 1 ECTS Credit Units: 2. Aut (Staff)

PE 130 Basketball
Students learn basic techniques (receiving, passing, dribbling, shooting), rules and strategies of the game. Credit units: 1 ECTS Credit Units: 2. Aut (K. Eynak, K. Velioğlu) Spr (K. Eynak)
PE 135 Volleyball
This course is aimed at teaching the basic techniques (receiving, passing, serving, smash, block), rules and strategies of the game. Credit units: 1 ECTS Credit Units: 2. Aut (Ö. Mihaliççik)

PE 160 Strength Training
Students learn basic concept and principles, and benefits of strength training. Major muscle groups, how strength gain occurs, techniques and methods of training will be covered. Credit units: 1 ECTS Credit Units: 2. Aut (A. Bilen) Spr (A. Bilen)

PE 170 Turkish Folk Dancing
Introduction to famous Turkish folk dances (Antep, Adıyaman, Zeybek, Kalkas, Horon, etc.) from different regions of Turkey. Students will become aware of the cultural aspects and appreciate the traditional values of this multicultural society. Credit units: 1 ECTS Credit Units: 2.

PE 176 Beginning Yoga
The purpose of this courses is to enhance the students overall wellbeing, concentration and performance by improving their breath capacity and postural awareness. The students will be able to learn how to improve their life / health, strength, flexibility-balance not only on the mat but also during daily activities, (when there is so much expectation, pressure and studying during the semester) only by practicing basic yoga postures, simple breathing techniques and meditation. Credit units: 1 ECTS Credit Units: 2. Aut (S. Günsaltay) Spr (S. Günsaltay)

PE 177 Intermediate Yoga
The purpose of this courses is to enhance the students overall wellbeing, concentration and performance by improving their breath capacity and postural awareness. The students will be able to learn how to improve their life / health, strength, flexibility-balance not only on the mat but also during daily activities, by practicing intermediate yoga postures, the mind will be channeled to improve concentration, proprioceptive and introspective aspects of their physical and emotional self, by using digital pranayama techniques and mindfulness meditation techniques. Credit units: 1 ECTS Credit Units: 2. Aut (S. Günsaltay)

PE 178 Beginning Pilates
This course based on the Pilates principles of strengthening and flexibility. The class will focus on developing core strength but involves a complete mindful whole body workout. The students will be able to learn how to improve their life/health, strength, flexibility-balance not only on the mat but also during daily activities. Credit units: 1 ECTS Credit Units: 2. Aut (A. Bilen, Y. Doyan) Spr (A. Bilen)

PE 179 Yoga Integrity
A course in a workshop format which includes lecture, demonstrations and practice. 2 hour class with first part as a practice session that leads to theory by teaching yoga postures (asanas) and second part that analyzes various anatomic structures in order to be able to create flexibility and strength. 8 limbs of yoga as a guide to learning the basic philosophy of yoga and its application during class hours. A key tool to use effectively in daily life if/when needed. Recognition of the body holistically during the practice of asanas, pranayamas and relaxation techniques so as to achieve stress management. Using energy effectively and eliminating unnecessary thoughts and efforts to avoid injuries and to achieve well-balanced and well-grounded personality. Credit units: 1 ECTS Credit Units: 2. Spr (Staff)

PE 180 Football (Soccer)
Students learn basic aspects of football such as; passing, dribbling, shooting, fainting techniques, rules and strategies of the game. Credit units: 1 ECTS Credit Units: 2.

PE 192 Aikido
The purpose of this courses is to teach the basic principles, techniques and movements of Aikido. By participating in this self defense course, the students will improve their strength and flexibility, gain self confidence, respect for self and others and develop an appreciation of the sport. Credit units: 1 ECTS Credit Units: 2. Aut (T. Evyapan) Spr (T. Evyapan)

PE 205 Orienteering
Student will develop the knowledge and competencies needed to be successful at the orienteering. Student will develop cognitive skills needed to navigate with map and compass. They will also know and practice safety measures needed to participate in this course. Credit units: 1 ECTS Credit Units: 2. Aut (N. Fenmen) Spr (N. Fenmen)
GENERAL EDUCATION COURSES

The following courses are not department-specific and are offered across departments and in some cases, across faculties. Some of these courses, "GE 100 - Orientation", GE250 and GE251 are required for all university students.

GE 100 Orientation
Introduction to university’s academic and social environment by series of activities. Talks by university administrators and guest speakers, workshops, concerts and tours of departments. Sports centers, computing facilities and library also part of orientation program. Complete set of activities and required minimum in orientation book. Mandatory for first-year students. Credit units: 1 ECTS Credit Units: 1, Prerequisite: GE 250. Aut (Staff) Spr (Staff)

GE 250 Collegiate Activities Program I
Ground for students to engage in diversity, creativity and commitment outside coursework. Participation in various activities provided mainly by student clubs. Student activity in designing and shaping course as well as monitoring and grading performance. Grading based on points accumulated by participation to activities. Mandatory for four-year students and to be taken in third semester. Prerequisite of GE251, non-credit, pass/fail course: http://bilkent.edu.tr/ge250. Credit units: None ECTS Credit Units: 1, Aut (Staff) Spr (Staff)

GE 251 Collegiate Activities Program II
Second part of GE250/251 sequence. Total points accumulated during GE 250 and GE 251 converted to letter grade. Credit units: 1 ECTS Credit Units: 1, Prerequisite: GE 250. Aut (Staff) Spr (Staff)

GE 301 Science Technology and Society

GE 304 Technology Society and Professional Development Seminar
Seminar course featuring guest speakers from industry, business, government, or non-governmental organizations, as well as academicians. The seminars either contribute to students’ professional or career development or perspectives; discuss current issues, trends, or challenges in technology; or are related to the social, political, cultural, ethical, legal, economic, environment and sustainability, health and safety, reliability or similar dimensions of technology and engineering. Credit units: 1 ECTS Credit Units: 1, Spr (H. Özaktas)

GE 401 Innovative Product Design and Development I
The first one of a sequence of two courses - namely GE 401 and GE 402. Fundamentals of design - from the conception of an idea to a marketable end product within the framework of a simulated start-up company. Inception of a start-up company. Business plan preparation; fundamentals of project management; product design stages; incorporation of standards, quality directives, social and environmental factors. Seminars by experts in the field. Concept demonstration of the end-product. Credit units: 3 ECTS Credit Units: 6, Prerequisite: (EEE 212 and EEE 313 and EEE 321) or (CS 202 and CS 319) or (IE 271 and IE 375) or MAN 321 or ECON 301 or GRA 301 or COMD 305, Aut (J. Aksiyote Gürür, Ö. T. Baycan, H. A. Güvenir, Y. Karpat, T. Reyhan)

GE 402 Innovative Product Design and Development II
The second one of a sequence of two courses - namely GE 401 and GE 402. Presentation of the simulated companies to potential investors of a virtual stock market at a "Traders’ Conference". The simulated start-up companies are listed in a virtual stock market immediately after the "Traders’ Conference". Simulation of marketing of products; simulation of investor relations and company publicity to investors; modification and finalization of initial business plans; simulation of quality certification processes. Completion and presentation of working prototypes of the end products. Planning and design of the associated production plant. Seminars from experts related to start-up company management issues. Credit units: 3 ECTS Credit Units: 6, Prerequisite: GE 401. Spr (J. Aksiyote Gürür, Ö. T. Baycan, H. A. Güvenir, Y. Karpat, T. Reyhan)

GE 440 Transdisciplinary Senior Project on Globalization
This is a one-semester course offered to senior students in Departments of Economics, International Relations and Political Science and Public Administration. It is designed to enhance students’ transferable skills in learning beyond their disciplinary boundaries and applying theoretical material to real life issues. Students form teams and prepare a senior project working with supervisors from different fields. The chosen theme for GE440 is "Globalization". Globalization involves the intermeshing of various aspects of peoples’ lives regardless of their geographic location. In the globalizing world, people, capital, cultures, ideas are travelling in an unprecedented level. So are crime, global warming, and diseases. Globalization with advantages and disadvantages shapes
and transforms us and the world we live in. In this course, teams study and explore different dimensions of these complex transformations and resistances in a transdisciplinary manner. Credit units: 6 ECTS Credit Units: 12.

GE 441 Transdisciplinary Senior Project on European Union
This is a one-semester course offered to senior students in Departments of Economics, International Relations and Political Science and Public Administration. It is designed to enhance students’ transferable skills in learning beyond their disciplinary boundaries and applying theoretical material to real life issues. Students form teams and prepare a senior project working with supervisors from different fields. The chosen theme for GE 441 is “European Union”. The course is designed to introduce students to the political and economic aspects of the EU. It starts with an overview of the political and economics frameworks regarding the European integration, followed by a discussion of several policy areas relevant to the EU including but not limited to the single market, EMU, CAP, regional policy, and foreign and external relations. These topics allow the students to study each in an interdisciplinary framework. Credit units: 6 ECTS Credit Units: 12.

GE 442 Transdisciplinary Senior Project on Negotiation
This is a one-semester course offered to senior students in Departments of Economics, International Relations and Political Science and Public Administration. It is designed to enhance students’ transferable skills in learning beyond their disciplinary boundaries and applying theoretical material to real life issues. Students form teams and prepare a senior project working with supervisors from different fields. The chosen theme for GE 442 is “Negotiation”. Negotiation is a communicative process used for dispute resolution applied to almost every aspect of social, economic and political life. The academic literature on the topic is highly interdisciplinary as well. The course aims at teaching students a basic understanding of negotiation in a theoretical and applied manner. The theoretical part of the course will cover three main disciplinary perspectives: game-theoretic bargaining models, social-psychological dynamics and intercultural communication. Credit units: 6 ECTS Credit Units: 12.

GE 443 Transdisciplinary Senior Project on Social Challenges in Turkey
This is a one-semester course offered to senior students in Departments of Economics, International Relations and Political Science and Public Administration. It is designed to enhance students’ transferable skills in learning beyond their disciplinary boundaries and applying theoretical material to real life issues. Students form teams and prepare a senior project working with supervisors from different fields. The chosen theme for GE 443 is “Social Challenges in Turkey”. Resolving national challenges and designing policies to overcome such challenges requires mobilizing the common expertise of various areas of knowledge of economics, international relations and political science. In this course students will explore Turkey’s challenges and propose solutions to these challenges within an interdisciplinary framework. Credit units: 6 ECTS Credit Units: 12. Aut (J. W. Day, A. Gökolu, S. Sayek Böke) Spr (J. W. Day, F. T. Erman, A. Gökolu, A. E. Yeldan)

GE 444 Transdisciplinary Senior Project on Human Mobility and Development
This is a one-semester course offered to senior students in Departments of Economics, International Relations and Political Science and Public Administration. It is designed to enhance students’ transferable skills in learning beyond their disciplinary boundaries and applying theoretical material to real life issues. Students form teams and prepare a senior project working with supervisors from different fields. The chosen theme for GE 444 is “Human Mobility and Development”. This course aims to address the increased human mobility and its effects on development. Global migration has presented profound challenges and opportunities for the economic, political, and social structures in both developing and developed countries. At the nexus of development, economics, and global politics, understanding Human Mobility and Development presents an interesting transdisciplinary puzzle and its effects requires mobilising the expertise of various areas of knowledge including economics, international relations and political science. Credit units: 6 ECTS Credit Units: 12. Aut (A. Bonar, C. E. Mutlu, S. Özçürümez Bölükbaba) A. E. Yeldan

GE 445 Transdisciplinary Senior Project on Power and Development
This is a one-semester course offered to senior students in Departments of Economics, International Relations and Political Science and Public Administration. It is designed to enhance students’ transferable skills in learning beyond their disciplinary boundaries and applying theoretical material to real life issues. Students form teams and prepare a senior project working with supervisors from different fields. The chosen theme for GE 445 is “Power and Development”. In the 21st century, individuals and social groups have developed new consciousness, formed new alliances, and improvised new methods of resistance to life-determining structures and processes of global politics and economy, which restrict individual rights and freedoms. Importantly, the protest movement has a trans-border character affecting global political and economic relations. The course is designed to study power relations in contemporary politics and economy and the resistance that has emerged globally and locally. Credit units: 6 ECTS Credit Units: 12. Aut (A. Bilgic, B. İnce, T. M. Kara, B. F. Unsworth) Spr (A. Bilgic, B. İnce, T. M. Kara, S. Sert)

GE 471 Business and Legal Considerations for Technology Startups
This course is geared towards the needs of students from different disciplines who are interested in acquiring the strategic and legal knowledge, and developing a set of practical skills necessary for designing, launching and growing innovation-based technological ventures (“IBTVs”). The course comprises the following parts: (i) the formation and financing mechanisms of start-up ventures, (ii) the selection, design and R&D of the IBTV’s product
or business model, and (iii) the legal aspects of patent and other exclusivities that are of material importance to the IBTV. The course has a greater focus on the organizational and legal aspects of the IBTV. The intent is to impart critical organizational and legal knowledge to the founders or advisors of an IBTV who must often surmount complex issues in areas outside their traditional bases of learning. **Credit units:** 3 ECTS

**Credit Units:** 4. **Aut (S. Utku)**

**GE 590 Academic Practices**
Preparation of graduate students for academic studies and research. Practical classroom teaching, practical lab assistance and teaching, practice in conducting exams and grading assignments. **Credit units:** None ECTS

**Credit Units:** 12. **Aut (Staff) Spr (Staff)**

**GE 690 Academic Practices**
Preparation of doctoral students for their academic careers. Practical classroom teaching, practical lab assistance and teaching, practice in conducting exams and grading assignments. Attendance in various research seminars or scholarly talks offered regularly at the departments. Participation in a series of independent modules including workshops, short courses, and seminars in the Fall and Spring semesters on "Academic Integrity", "Effective Teaching", and other topics such as doing literature searches and publishing. **Credit units:** None ECTS

**Credit Units:** 24. **Aut (Staff) Spr (Staff)**
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