<table>
<thead>
<tr>
<th></th>
<th>KEY DIRECTORY</th>
</tr>
</thead>
</table>
| 1. | Rectorate Building  
At Meydanı Sok. 34413  
Sultanahmet | 212.518 1600 |
| 2. | Vocational School of Social  
Sciences, Soğanağa,  
Nur Sok. 9/11 Beyazıt | 212. 517 2014-16 |
| 3. | Faculty of Economic and  
Administrative Sciences,  
Bağcıklıevler | 212. 507 9925 |
| 4. | Institute of Social Sciences,  
Reşsam Namık İşmail Sok.  
No. 1  
Bağcıklıevler | 212. 506 4724 |
| 5. | Faculty of Communication  
Güzelebağlı Büyükçiftlik Sok.  
No. 6, Nişantaşı | 216. 231 6610 |
| 6. | Faculty of Dentistry,  
Güzelebağlı Büyükçiftlik  
Sok. No. 6 Nişantaşı | 212. 241 2057-59 |
| 7. | Faculty of Pharmacy,  
Tibbiye Cad. No. 49  
Haydarpaşa | 216. 414 2962 |
| 8. | Faculty of Economic and  
Administrative Sciences,  
Department of Public Administration  
(French medium), Tarabya | 212. 223 1237 |
| 9. | Department of Physical Education and Sports,  
Atatürk Faculty of Education, Anadolu Hisan | 216. 332 0552 |
| 10. | Faculty of Economic and  
Administrative Sciences,  
Dep. of Labor Economics,  
Anadolu Hisan Campus | 216. 332 3820 |
| 11. | Institute of Banking and Insurance, Anadolu Hisan Campus | 212. 231 9030 |
| 12. | Faculty of Fine Arts, Küçük Çamlıca, Acıbadem Cad.  
81018 Kadıköy | 216. 326 2667 |
| 13. | Faculty of Divinity,  
Tophaneiğilnü Cad.  
Bağlarbaşı-Üsküdar | 216. 310 5311 |
| 14. | Vocational School of Divinity,  
Bağlarbaşı-Üsküdar | 216. 310 5311 |
| 15. | University Hospital,  
Tophaneiğilnü Cad.  
No. 13-15 81900  
Altunizade Üsküdar | 216. 327 1010 |
| 16. | Faculty of Law, Tribbiye Cad.  
81014 Haydarpaşa | 216. 338 8903 |
| 17. | Faculty of Medicine,  
Haydarpaşa  
Hastaneiler Cad.  
Haydarpaşa | 216. 336 0212 |
| 18. | School of Health Related Services,  
Hastaneiler Cad.  
81326 Haydarpaşa | 216. 336 4766 |
| 19. | Institute of Health Sciences,  
Hastaneiler Cad., 81326  
Haydarpaşa | 216. 414 4423 |
| 20. | Atatürk Faculty of  
Education, Göztepe  
Campus 81040 Kadıköy | 216. 345 9090-2 |
| 21. | Faculty of Engineering,  
Göztepe Campus 81040  
Kadıköy | 216. 347 9403 |
| 22. | Department of Foreign Languages, Göztepe  
Campus 81040 Kadıköy | 216. 345 9090 |
| 23. | Faculty of Economic and  
Administrative Sciences,  
English medium Departments | 216. 336 5273 |
| 24. | European Community Institute, Jean Monnet  
Building, Göztepe  
Campus 81040 | 216. 338 4196 |
| 25. | Institute of Science,  
Göztepe Campus 81040 | 216. 345 9090 |
| 26. | Özmen Akta Women’s Dormitory, Göztepe Campus 216. 336 8006 |
| 27. | Guest House, Göztepe  
Campus 81040 | 216. 349 1679 |
| 28. | School of Technical Sciences, Göztepe  
Campus 81040 | 216. 418 2504 |
| 29. | Institute of Turkish and  
Turko Studies,  
Göztepe Campus 81040 | 216. 345 9090/242 |
| 30. | Faculty of Arts and  
Sciences, Göztepe  
Campus 81040 | 216. 348 7759 |
"Hiç bir zaman hatırlarınızdan çıkmasın ki, Cumhuriyet sizden 'fikri hür, vicdani hür, irfanı hür' nesiller ister".

25 Ağustos 1924, Ankara
Muallimler Birliği Kongresi

"We should never forget that the Republic wants generations with independent minds, free consciences and unfettered knowledge".

25 August 1924, Ankara
Teachers’ Association Congress

Mustafa Kemal ATATÜRK
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FOREWORD

Marmara University was first founded in 1883 as "The Hamidiye School of Higher Commercial Education" and since its inception it has been prominent in pioneering education in commercial studies at undergraduate and graduate levels. The opening of the school was performed by the Minister of Commerce, Abdullah Suphi Pasha on 16 January 1883, and on the same day lectures were given by the Minister of Education, Münif Tahir Pasha. The school was originally located at a mansion of Babiali, close to Topkapı Palace.

By the end of the first decade, the school had acquired a high reputation for the standard of its courses and the general educational level of its entrants. This reputation was well founded, as the lecturers were prominent people in the government and industry of the time. The courses were given not only in economics and commerce but also included vocational orientation of the courses. As a result of this, many of the past public figures in Turkish society were graduates of the school and this tradition still continues today.

Throughout its century long history, the school underwent various changes in its name and infrastructure until the foundation of Marmara University: After the establishment of the Higher Education Board (YÖK) in 1981 in Türkiye, the decision was made to found three new universities in Istanbul. Marmara University, which is the largest of these, was founded in 1982 on the premises of the Academy of Commercial and Economics Sciences and it merged with other institutions of higher education.

Presently, in 1995 the University has 13 Faculties, 11 Institutes, 8 Schools of Higher Education and 24 Research Centers. It is the fourth largest university in Türkiye. We have 34 111 undergraduate students, 7586 graduate students, and 4439 students in 2 year programs (a total of 46 136 students). There are 2467 academic and 1228 administrative personnel.

Thus, even though the University has a tradition dating back to the nineteenth century, at the same time it is a new, modern and forthcoming university that has grown and spread very rapidly, partly in response to the acute demand for institutions of higher education in an expanding city of presently about 10 million people. Türkiye has a young population. University entrance rests on an extremely competitive national examination system. We take pride in our students, quite a number of whom rank among the first top 1% nationally.

The diversity of the fields offered at Marmara University makes us one of the uniquely rich universities in the country. Under one academic roof we
tration needs more planning and some of our campuses are still very much under construction.

Marmara University is a Turkish state university. On the positive side, this means tuition fees are lower for the students. At the same time, we function with serious economic shortcomings. We are grateful to the benefactors who have generously supported education at Marmara University through their contributions to various foundations and programs.

Our University carries the fundamental ideal of achieving excellence in undergraduate and graduate education, in research and in public service. We see these as inseparably interrelated areas. For the realization of the above ideal, the University has established several goals, including the following: to educate students to their highest potential of intellectual achievement and personal growth; to develop scholars, professionals, artists, and scientists who will contribute to the advancement of humankind both nationally and internationally; to conduct research that advances the frontiers of knowledge and to engage in public service.

In a world of continuing war, violence, strife and inter-cultural conflict our University embraces ideals of human worth, justice and global peace. We believe that international recognition and co-operation between institutions of higher education contribute not only to the advancement of knowledge, science and education but also to the greatly needed development and strengthening of friendship ties between cultures, regions and nations the world. For the attainment of these objectives, I believe Marmara University makes a difference.

In this catalog we have tried to include as much information as possible, but obviously we could not include everything. We apologize for any omissions the catalog may contain. Nevertheless, we hope that this initial post-graduate English catalog will be a source of information to you about our University and about the programs available. We are proud of Marmara University and of its programs. We encourage you to become acquainted with us and with the many programs and resources available to the community through our University.

Prof. Dr. Ömer Faruk BATIREL
Rector
OFFICERS OF THE UNIVERSITY

Rector : Prof. Dr. Ömer Faruk BATIREL
Deputy Rectors : Prof. Dr. Ahmet Hayri DURMUŞ

Deans

Atatürk Faculty of Education : Prof. Dr. Hikmet SAVCI
Faculty of Arts and Sciences : Prof. Dr. M. Çetin VARLIK
Faculty of Communication : Prof. Ateş VURAN
Faculty of Dentistry : Prof. Dr. Nesrin EMEKLİ
Faculty of Divinity : Prof. Dr. İbrahim Kâfi DÖNMEZ
Faculty of Economic and Administrative Sciences : Prof. Dr. Ahmet Hayri DURMUŞ
Faculty of Engineering : Prof. Dr. Nüket YETİŞ
Faculty of Fine Arts : Prof. Erol ETİ
Faculty of Health Education : Prof. Dr. Osman HAYRAN
Faculty of Law : Prof. Dr. Fehim ÜÇİŞIK
Faculty of Medicine : Prof. Dr. Nurda TÖZÜN
Faculty of Pharmacy : Prof. Dr. Meral Keyer UYSAL
Faculty of Technical Education : Prof. Dr. İhsan GÖK

Directors of Schools

School of Banking and Insurance : Prof. Dr. İlhan ULUDAĞ
School of Nursing : Doç. Dr. Hediye EKİZLER
School of Physical Education and Sports : Prof. Dr. Bilge AYKURT
Vocational School of Divinity : Prof. Dr. İsmail Lütfü ÇAKAN
Haydarpaşa Vocational School of Health Services : Prof. Dr. Tuğrul BİREN
Zeynep Kamil Vocational School of Health Services : Doç. Dr. Hediye EKİZLER
Vocational School of Health Related Professions : Prof. Dr. Şanda ÇALI
Vocational School of Social Sciences : Prof. Dr. Osman ALTUĞ
Vocational School of Technical Sciences : Prof. Dr. Mete DOĞRÜER
Faculty of Dentistry
Faculty of Divinity
Faculty of Economic and Administrative Sciences
Faculty of Engineering
Faculty of Fine Arts
Faculty of Law
Faculty of Medicine
Faculty of Pharmacy
Faculty of Technical Education
School of Nursing
School of Physical Education and Sports
Vocational School of Divinity
Vocational School of Health Related Professions
Institute of Banking and Insurance
Institute of Educational Sciences
European Community Institute
Institute of Gastroenterology
Institute of Health Sciences
Institute of Middle Eastern and Islamic Countries
Institute of Social Sciences
Institute of Technical Sciences
Institute of Turkish and Turkic Studies
Vocational School of Social Sciences
Vocational School of Technical Sciences
Haydarpaşa Vocational School of Health Services
Zeynep Kamil Vocational School of Health Services

Abbreviations for Faculties and Institutes

AFE Atatürk Faculty of Education
DFL Department of Foreign Languages
DAPHR Department of Atatürk’s Principles and the History of the Turkish Renovation
FAS Faculty of Arts and Sciences
FC Faculty of Communication
FD Faculty of Dentistry
FDI Faculty of Divinity
FEAS Faculty of Economic and Administrative Sciences
FE Faculty of Engineering
FFA Faculty of Fine Arts
FL Faculty of Law
FM Faculty of Medicine
FP Faculty of Pharmacy
FTE Faculty of Technical Education

Şahin AKÇA
Ahmet KAHRAMAN
Yıldız ÖZKAN
Nazif TOBYIYIK
Duran ATLI
Mehmet Ali KUDU
Nimet BELEN
Neval ANDAK
Tümer BAYLAN
Lale VARAN
Özay ATMACA
İbrahim GÜNTÜRKÜN
Saniye ÇORLU
Ünzile KURT
Aysel KORKMAZ
Ali Ekber BAL
Selami AYDIN
Neval ANDAK (temporary)
Süleyman KOCAOĞLU
Kamuran ORHAN
Ümran ALAFTAN
Neriman MERİÇ (temporary)
Muhsin ARVAS
Meral AŞMAN
Sabiha BALKAN (temporary)
Government of the University

The Rector, as chief officer of the University, presides over the Senate and the University Executive Council. The chief executive body of the University is the University Executive Council consisting of Deans, and Members elected by the University Senate. The Senate is the principal Academic Body, consisting of Deans, Directors of Institutes, Directors of Vocational schools, and Members elected by the Faculties. Senate sub committees deal with a wide range of subjects: Matters relating to curriculum and examinations are dealt with by the Board of Faculties, Schools and Institutes. Each Faculty, School or Institute has its own Council and Board.

History of the University

1 – Marmara University was founded on January 16, 1883 under the name of "Hamidiye College of Higher Commercial Education". At the time it was the only leading higher education institute for studies in Economics and Commerce. Until 1923, courses were taught in various buildings in Istanbul. However, in 1923, with the Declaration of the Turkish Republic, the Institute was relocated the Rectorate Building in Sultanahmet. This had criminally been used as the Ministry of Agriculture during the Ottoman Empire. From 1923 to 1959, the college was called the "Higher Educational School of Economics and Commerce". In the year 1959 the name was change to "Academy of Economics and Commercial Sciences".

2 – In accordance with Act 1472, in the year 1972, some of the private Schools of Higher Education in Istanbul were nationalized and hence incorporated into this long established institution. Among these schools were Dentistry, Pharmacy and Journalism. With the incorporation of six other Ak- saray, Şişli, Galatasaray Economics and Commerce, Journalism, and Nişantaşi, The Istanbul Academy of Economics and School of Dentistry and Pharmacy, Commercial Sciences became the third largest institution in the field of Economics and Commerce, after Istanbul University and Istanbul Technical University. This expansion accelerated the operational process of the Academy becoming a University. Ord. Prof. Dr. Nihad S. Sayar, then Director of the Academy of Economics and Commercial Sciences, named the University "Marmara".

4 – In 1979 the Economics, Business Administration, International Relations, Commercial Sciences, Dentistry, Pharmacy and School of Journalism began
Table I: Student Population at Marmara University

<table>
<thead>
<tr>
<th>Program</th>
<th>Male</th>
<th>Female</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 Year Study Programs</td>
<td>2186</td>
<td>2253</td>
<td>4439</td>
</tr>
<tr>
<td>Undergraduate</td>
<td>20504</td>
<td>13607</td>
<td>34111</td>
</tr>
<tr>
<td>Graduate</td>
<td>5329</td>
<td>2257</td>
<td>7586</td>
</tr>
<tr>
<td>Total</td>
<td>28,019</td>
<td>18,117</td>
<td>46,136</td>
</tr>
</tbody>
</table>

In 1995-1996 the University boasts 2467 full-time faculty members (See Table IV). In addition there are 69 foreign academic staff from a variety of countries.

GEOGRAPHICAL LOCATIONS OF MARMARA UNIVERSITY

Marmara University has an unusual situation in that the University expands over 8 main campuses that are located over both the Asian and the European sides of Istanbul (See Map). In addition to these main campuses the University has its main Rectorate offices in the Sultanahmet district of the city and a number of other institutions are located in various other regions of Istanbul. The University Hospital, for example is located in Altunizade. The 8 main campuses of Marmara University are Altunizade, Anadoluhisari, Bahçelevler, Göztepe, Haydarpaşa Nişantaşı, Acıbadem and Tarabya. The largest Campus is the Göztepe Campus. The distribution of faculties and Institutes of graduate programs as well as some other major university bodies are as follows:

1. **Acıbadem Campus**
   Institute of Fine Arts
   Faculty of Fine Arts

2. **Altunizade Campus**
   Faculty of Divinity

3. **Anadoluhisarı Campus**
   Faculty of Economic and Administrative Sciences

4. **Bahçelevler Campus**
   Institute of Social Sciences
   Faculty of Economic and Administrative Sciences.
### POSTGRADUATE STUDENTS

<table>
<thead>
<tr>
<th>Institutes</th>
<th>Students Newly Enrolled in 1996 - 1997</th>
<th>Total Number of Students in 1996 - 1997</th>
<th>Degrees Earned in 1995-1996</th>
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<td>DOCTORATE</td>
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</tr>
<tr>
<td></td>
<td>M</td>
<td>F</td>
<td>T</td>
</tr>
<tr>
<td>Institute of European Community</td>
<td>20</td>
<td>10</td>
<td>30</td>
</tr>
<tr>
<td>Institute of Banking and Insurance</td>
<td>17</td>
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<td>66</td>
</tr>
<tr>
<td>Institute of Science and Technology</td>
<td>30</td>
<td>106</td>
<td>136</td>
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<tr>
<td>Institute of Health Sciences</td>
<td>43</td>
<td>16</td>
<td>59</td>
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<tr>
<td>Institute of Social Sciences</td>
<td>270</td>
<td>611</td>
<td>881</td>
</tr>
<tr>
<td>Institute of Turkish and Turkic Studies</td>
<td>28</td>
<td>26</td>
<td>54</td>
</tr>
<tr>
<td>TOTAL</td>
<td>408</td>
<td>818</td>
<td>1226</td>
</tr>
<tr>
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<td>-------------</td>
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<tr>
<td>M</td>
<td>F</td>
<td>T</td>
<td>M</td>
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<tr>
<td>Atlantik Faculty of Education</td>
<td>38</td>
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<td>Faculty of Dentistry</td>
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<td>Faculty of Divinity</td>
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<td>Faculty of Health Sciences</td>
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<tr>
<td>Resident’s Office</td>
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<td>Institute of European Community</td>
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<td>Institute of Sciences and Engineering</td>
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<td>Institute of Turkish and Turkic Studies</td>
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<tr>
<td>School of Education and Sports</td>
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<tr>
<td>School of Nursing</td>
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<tr>
<td>Vocational School of Technical Sciences</td>
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<td>278</td>
<td>78</td>
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* M=male, F=female, T=total
tions at the libraries are organized according to the Dewey Decimal Classification scheme and catalogued in accordance with AACR 2. The Library of Congress Subject Headings are used. Each book is listed in the catalogue by author, title, and subject.

The services of the libraries are available to the faculty, students and administrative staff, as well as to users from other national universities and institutions. Books can be borrowed for one week by the students and two weeks to one month by the academic staff.

When the books needed are not available, other libraries in Turkey and abroad are contacted to supplement the resources. The main library can obtain any reference material needed from abroad through YÖK, which is connected to the Dialogue Center. Besides the main library in Bahçelievler, most of the departments have their own libraries. In addition, photocopy units are available to provide copies of any source for a reasonable fee.

Construction of the new Main Library Building, which will unite all the library units of Marmara University, is underway on Göztepe Campus.

Galleries

Marmara University Art Gallery displays a fine collection of 20th century art. These regular works of art are complemented by special exhibitions from across the nation and from Marmara University faculty and students. Faculty members and students are frequent exhibitors of handcraft in the gallery of the Department of Fine Arts.

Student Services Office

The Office is responsible for matters concerning enrollment, scholarships, financial aid, counselling, identity cards and graduation requirements. The alumni office is connected to this office and coordinates communication between graduates and student, faculty and administration; keeps updated information of graduates; makes arrangements to let graduates benefit from facilities of the University.

Health Care and Sports Office

The Health Care and Sports office provides and coordinates a number of vital services to students. Fully accredited health care is available through the University Health Care Center and Marmara University Research Hospital. At the University Health Care Centers which are located on the campuses there is no charge for students during regular hours and it is open 8 hours daily. Basic tests, medication, consultants, physicians, registered nurses, dentists
2. ACADEMIC POLICIES

Marmara University offers Master’s and Ph.D. degrees in Arts and Science to students of graduate standing. The degree of Master of Arts and Master of Science is given to students who complete a course of study lasting approximately four semesters, of which the first two semesters are designated to selective courses and the following two semesters to the selection and completion of a Master’s thesis.

Those students who have received a Master’s degree in their field of study can continue their education to receive a Ph.D. The requirements and regulations for such a degree are described in detail under each Institute’s heading.

Admission Requirements and Procedures

Students holding Bachelor’s degrees are eligible to apply for Master’s programs and those holding Master’s degrees are eligible to apply for doctoral programs in the Institutes of Marmara University. For further information students should apply to the respective Institutes.

Necessary Documents for Registration

1 – Proof of Proficiency in a foreign language required by the Institute.
2 – An undergraduate diploma for Master’s; a Master’s diploma or its equivalent for Ph.D. applicants (authorized by the Notary Public.)
3 – A grade point average of at least 2.40 or 60 out of 100 during undergraduate studies for Master’s applicants.
4 – A grade point average of at least 3.00 or 75 out of 100 during graduate studies for Ph.D. applicants.
5 – Foreign students who have completed their undergraduate studies abroad must submit their proof of equivalency (authorized by YÖK) and their diplomas (authorized by Notary Public).
6 – Proof of Turkish Proficiency obtained through TÖMER (for foreign students only).
7 – A certified copy of the birth certificate (Passport for foreign students).
8 – A C.V. (applicants of European Community Institute and Institute of Health Sciences).
9 – Two passport-size recent photographs.
10 – Official transcript for all graduate or undergraduate level course work completed up to the time of application (applicants of Institute of Health Sciences must submit two copies).
11 – Application form obtained from the Institutes during registration.
12 – Documents must be properly filed (two separate files for Institute of Health Sciences).
13 – The applicants of the Institute for Graduate Studies in Science and
<table>
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<tr>
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<th>10 Sept. 1997</th>
<th>10.00</th>
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<td>10.00</td>
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<td>Master's and Ph.D. Qualifiers</td>
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<tr>
<td>Faculty of Communication</td>
<td>(212) 233 04 47</td>
<td>(212) 246 74 28</td>
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<tr>
<td>Faculty of Dentistry</td>
<td>(212) 231 91 20</td>
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<tr>
<td>Faculty of Divinity</td>
<td>(216) 310 53 11 (9 lines)</td>
<td>(216) 341 02 98</td>
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<td>a) Turkish Medium Departments</td>
<td>(212) 507 99 25</td>
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<td>d) German Medium Departments</td>
<td>(216) 332 99 29</td>
<td>(216) 332 53 31</td>
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<tr>
<td>Faculty of Engineering</td>
<td>(216) 348 02 92</td>
<td>(216) 348 02 93</td>
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<tr>
<td>Faculty of Fine Arts</td>
<td>(216) 326 26 67 (4 lines)</td>
<td>(216) 339 18 83</td>
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<td>Faculty of Health Education:</td>
<td>(216) 399 93 84</td>
<td>(216) 399 93 71</td>
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<td>Faculty of Law</td>
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<td>(216) 338 77 10</td>
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<td>Faculty of Medicine:</td>
<td>(216) 336 02 12</td>
<td>(216) 414 47 31</td>
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<td>Faculty of Pharmacy:</td>
<td>(216) 414 29 62 (3 lines)</td>
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<tr>
<td>Faculty of Technical Education</td>
<td>(216) 336 57 70</td>
<td>(216) 337 89 87</td>
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</table>

**Schools**

- Vocational School of Divinity: (216) 342 61 80
- Haydarpaşa School of Health Services: (216) 418 23 85, (216) 336 51 00
- Vocational School of Health Related Professions: (216) 338 27 98
- Zeynep Kamil Vocational School of Health Services: (216) 342 69 18, (216) 418 16 06 - 07
- School of Nursing: (216) 418 37 73
- School of Physical Education and Sports: (216) 308 56 61, (216) 332 16 20
4. ACADEMIC CALENDAR

Graduate programs officially begin in October and end in January for the fall term, and begin in February and end in June for the spring term. Institutes differ slightly in their official days of opening and closure for each semester. The exact dates can be checked from the relevant institutions.

Academic Calendar for the 1996-1997 Year Graduate Programs:

Date of Opening: 1 October 1997
**Fall Semester**
- 1 October 1997 - 1-9 January 1997
- Mid-term Exams: 12-24 November 1997
- Retakes: 2-9 December 1997
- Finals: 20-23 January 1998
- Retakes: 2 January - 12-20 January 1997
**Spring Semester**
- 16 February 1998 - 9 March 1998
- Mid-term Exams: 13 April - 8 May 1998
- Retakes: 4-15 May 1998
- Finals: 1 June - 8 July 1998
- Retakes: 4 - 1 July - 31 July 1998

The above dates are general ones that apply to the first day on of opening and the last day of closing of all the programs offered. Students are advised to contact the respective Institutes for the exact dates.

The University is closed on Saturdays and Sundays.

Please also note that the following days are **national or religious** days of celebration in Turkey and the University is officially closed:

<table>
<thead>
<tr>
<th>Dates</th>
<th>Occasion of Celebration</th>
<th>Total Number of Days</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 29, 1997</td>
<td>Independence Day of Republic</td>
<td>One Day</td>
</tr>
<tr>
<td>January 1, 1998</td>
<td>New Years Day</td>
<td>One Day</td>
</tr>
<tr>
<td>29 January -</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 February 1998</td>
<td>End of Ramadan Holiday</td>
<td>Three Days</td>
</tr>
<tr>
<td>April 23, 1997</td>
<td>Children’s Day</td>
<td>One Day</td>
</tr>
<tr>
<td>7 April - 12 April</td>
<td>Religious Holiday</td>
<td>Four Days</td>
</tr>
<tr>
<td>May 19, 1997</td>
<td>National Youth and Sports Holiday in Memory of Atatürk</td>
<td>One Day (One day)</td>
</tr>
<tr>
<td>August 30, 1997</td>
<td>Victory Day</td>
<td></td>
</tr>
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</table>
II. INSTITUTES THAT OFFER GRADUATE PROGRAMS

1. INSTITUTE OF BANKING AND INSURANCE

Director : Prof. Dr. İlhan ULUDAĞ
Assistant Director : Prof. Dr. Nazım EKREN

Language of Instruction: Turkish and English

Institute of Banking and Insurance (IBI) was established in accordance with the rules and regulations of the Marmara University presidency in 1987.

The Institute of Banking and Insurance offers graduate programs leading to the Master of Art degrees in Banking, Capital Market and Stock Exchange, Insurance and the degree of Doctor of Philosophy in Banking.

Teaching is done by nationally and internationally renowned academicians together with experienced lecturers from financial services industry. A combination of Turkish and English is used as the medium of instruction.

In M.A. Programs, upon completion of the course work, normally in one year, the student is required to carry out a supervised research and complete a Master's thesis in at most two successive semesters. At the discretion of Executive Council of the Institute, this period may be extended by one semester.

The Ph.D. program in Banking includes a program of 48 credit hours completed in at most four successive semesters and a Ph.D. thesis to be completed in at least two, at most five semesters following the completion of course work.
Bank Financial Analysis: This course examines different accounts in a balance sheet of one bank at a time. Different balance sheet accounts are taken one-by-one and studied in terms of what they are, how they contribute to a balance sheet and what is their individual significance. After a theoretical approach, calculations regarding the analysis of these balance sheet accounts are carried out.

Central Banking in the World: Different central banking practices and history and the future of central banking are studied in the context of the course.

Corporate Finance and Privatization: Some of the subjects studied under this course include the following: Introduction to capital markets and its history; various investment instruments that companies use to fulfill their financial aims; company value and optimal company structure; dividend policies of companies; mergers and acquisitions.

Economics of Financial Services: Definition of money; determinants of supply and demand for money; central banking, commercial banking and other financial intermediaries, monetary policy. Turkish data and institutions are emphasized throughout the course.

Economy of Turkey: Macroeconomic structure and problems of Turkish economy are studied in sectoral basis.

Financial Institutions and Markets: The topics discussed in this course are: Financial intermediation, functions of financial intermediaries, commercial banking system, Turkish banking system, central banking, investment banking, development banking, pension funds as financial intermediaries, insurance companies as financial intermediaries, leasing firms, factoring and forfeiting, capital market versus money market.

Financial Table Analysis: This course examines company balance sheets and income statements. Various analysis systems are introduced to help students enhance their ability to analyze and understand the financial position of a company. Different ratios are used for analyzing these financial statements and then these ratios are interpreted in terms of company's well-being.

International Economics: Some of the subjects that are studied in this course include the following: International Monetary System, Pre-Bretton Woods, Bretton Woods System, The International Monetary Fund, International Liquidity Problems, The Balance of Payments, Exchange Rate Economics, Policy Analysis, Devaluation and Revaluation.

International Trade Finance: This course identifies the risks associated in international trade finance and highlights the various funding techniques available to overcome each of them. It also discusses the function of export credit agencies and services they can offer (insurance and credits).
Seminar: In this course students are required to prepare a term paper regarding different issues in banking with scientific methods. This course intends to help students in writing their master theses. Students make a presentation of their papers at the end of the year.

COURSE DESCRIPTIONS

Asset and Liability Management: This course reviews the current trends in banking regulation and their implications for asset and liability management. It also discusses the differences between a financial and a non-financial firm’s balance sheets.

Banking Law: Turkish Banking Law is studied through case studies.

Central Banking: This course reviews monetary policies, central bank roles, Federal Reserve System, Bundesbank, central bank independence, central bank credibility and open market operations.

Corporate Finance: New financial market instruments, such as convertibles, note issuance facilities, American Deposit Receipt, floating-rate notes, and new financial techniques such as swap, futures, options and securitisation are studied.

Financial Management in Banking: Financial management techniques that arise from banking industry specifics are covered.

Financial Markets and Services: The course covers principal activities of commercial banks in international financial systems, regulations, deregulations, thrift institutions, non financial-based financial services organizations, stock-exchange markets and instruments, monetary policy instruments and their efficiency, foreign exchange determination in supply and demand analysis and quantity theory of money.

Human Resource Management: This course covers people (organizational behavior, expectancy theory, self-assessment ratings), personnel recruitment (personnel selection, selection decisions), performance appraisal (performance feedback), career development, coaching (decision making, group decision, problem solving), managing change (a model of change, organizational change, forces for and against change, methods of achieving change).

Market Analysis: This course consists of sectoral and firm analyses in financial institutions.

New Financial Instruments: New financial instruments, such as net issuance facilities, zero-coupon bonds, floating-rate notes, etc. are studied.

Portfolio Management: Time value of money, risk analysis and measurement, stock valuation, fundamental analysis, firm analysis, technical analysis, capital asset pricing model portfolio theory and arbitrage pricing theory are covered.
Corporate Finance and Privatization Methods: The course covers introduction to capital markets and their history, investment instruments of companies for investment goals, companies value, optimal company structure, dividend policy, mergers, privatization methods.

Introduction to Investment: This course reviews future contract and forward contracts, swap transactions, options, differences between future contracts and forward contracts, types of options, capital structure analysis and evaluation of companies and capacity evaluation ratios.

International Investments: The course covers multinational companies and their transactions in the world. It aims to analyze investments of these companies.

Investment Banking: In this course financial derivative products are examined. Some of the subjects which are discussed in detail are forwards, options and swaps.

Istanbul Stock Exchange Market Operations: The course covers theoretical approach: definitions of markets, types and properties (financial, money, capital markets, interrelations, primary/secondary markets), evaluation of capital markets, legal framework of Turkey’s capital market, security markets of instruments, custody operations, clearing and settlement, ISE’s index, transactions in different markets, buying-selling procedures, types of orders, general evaluation of performance and expectations of ISE.

Management of Investment Organizations: The course covers financial markets, financial institutions in general and Turkish financial market/institutions, organizations and management, basic managerial functions, management of financial organizations.

New Financial Instruments: In this course new financial instruments such as factoring, forfeiting and leasing are studied. Applications and practices of them in Turkey are introduced to students.

Portfolio Analysis and Asset Allocation Techniques: The course identifies the time value of money, risk analysis and measurement. It examines stock valuation, fundamental analysis, technical analysis, capital asset pricing model (CAPM), and portfolio management techniques.

Quantitative Techniques: Covers introduction to linear programming, theory of simplex method, duality theory, sensitivity analysis, dual simplex method and parametric linear programming.

Reading and Understanding Financial News: The course covers international financial publications, the economic climate and the investment outlook, long-term interest rates and related instruments, money market instruments and leading economic indicators.
Insurance Law: The regulations that are made in insurance sector and protecting the rights of both the insurer and the insured.

Insurance Marketing: Giving students main skills in marketing, planning and implications in this sector. The strategic marketing duration, choosing the target market, service in insurance, pricing, intermediaries are some of the course subjects.

Insurance Mathematics: All the calculations that are used at insurance companies. Premium, rant, mortality calculations. Problem solving in life insurance.

Life Insurance: The description, function and types of life insurance. The pricing and administration, why there is a need, and what kind of policies the companies offer the customers.

Loss: Considering non-life branches; description of the branches, analysis of losses, payments, claims, liabilities, solutions to some cases when the insured and insurer have different judgements.

Marine Insurance: The conditions of marine insurance and the types of this insurance like shipping, Pand I etc. The legal regulations are also taken into consideration.

Property and Liabilities: The non-life branches, e.g. fire, marine, agriculture etc. Their characteristics and principles and their functions.

Quantitative Analysis: The main aim of this course is to teach students to make analysis by mathematical techniques. In this course several decision theories, simplex methods are emphasized.

Reinsurance: Definition of reinsurance, functions, methods, its history, why there is a need for insurance, its role within the sector.

Seminar: The main aim of this course is to give students some skills in the techniques of writing.

Statistics and Demography: Solving time series, trend analysis, description of regression, and correlation, aims of using these and analytical evaluation. Considering these techniques, students are expected to use these in insurance sector. Making an overall evaluation of the company within the sector.
2. INSTITUTE OF EDUCATIONAL SCIENCES

Director : Prof. Dr. Ayla OKTAY
Assistant Directors : Prof. Dr. Adnan KULAKSIZOĞLU
                    Assoc. Prof. Dr. Adil ÇAĞLAR

The Institute of Educational Sciences was established within the Marmara University in 1992.

The main areas of activities are:

1. Organizing graduate studies in the area of educational sciences.
2. Providing and managing a framework for researches in the area of educational sciences.
3. Planning and carrying out activities such as conferences, seminars and congresses in educational sciences in order to fulfill the needs of society.

MAIN BRANCHES:
The Institute’s main branches are as follows:
- Educational Sciences
- Early Childhood Education
- Adult Education
- Elementary Teacher Training
- Special Education
Ph.D PROGRAM IN EDUCATIONAL SCIENCES

First Semester
Contemporary Educational Systems
Economic Development and Education
Cognitive Psychology
Integration of Children of Special Needs
Modern Theoretical Paradigms in Education

Second Semester
Scientific Theories in Education
Development of Educational Sciences in Turkey
Modern Trends in Counseling
Social Change and Education
Advance Statistics
Human Resources Management

COURSE DESCRIPTIONS

Educational Statistics: Sampling theory; point prediction; interval scale; testing hypothesis; comparing sampling average with the average of a parameter; significance of the difference between two arithmetic averages. Correlation techniques; Pearson Correlation; phi coefficient; tetrachoric correlation; significance and correlation of point pairing series and pairing series and their significance.

Chi-Square; Adjustment of observations; measurements. Independence test of or index of. Analysis of variance. Along with the techniques students are required to study a post graduate thesis and prepare a report.

Individual Tests: Definitions of tests; characteristics of test; Types of tests and their areas of use. The differences of individual tests. Theoretical and practical application knowledge about Stanford-Binet Intelligence Test, WISC-R Intelligence Test, etc.

Vocational Guidance: Students are expected to acquire the basic knowledge and necessary skills needed in vocational guidance in secondary schools. The course mainly covers following subjects. Theories about vocational choice, Psycho technique, ergonomics, theories of intelligence, games which are helpful in self-evaluation, and probable diseases in some vocations.

Educational Planning Seminar: The concept of planning; the concept of economics planning; the concept of education planning which is a part of economics planning; the approach of economics planning, workforce planning; social demand approach; utility cost analysis; recent trends in education planning.

Psychology of Personality: The psychology of personality courses cover the theorists who approach the personality from different perspectives. These theories are discussed comparatively with at least one example and their measurement techniques are evaluated.

Research Techniques: Science and scientific methods; kinds of research, techniques of collecting data; questionnaires, observation, interview, documentary scanning; attitudes, attitude scales (Thurstone, Likert, Osgood and others). These topics
look to education according to social classes; Luis Althusser and education as an ideological state instrument; Nicós Poulantzas and decentralized administration in education. b) Anarchism and education: William Godwin and the use of logic; the ideas of Marx Stirner, Catherine Baker, W. Reich, A.S. Neil, etc. will be discussed.

Scientific Theories in Education: Epistemology, inductive reasoning, dependency of observation on theory; introduction to falsification of structural theories; righteousness; realism; instrumentalism; radical instrumentalism; pluralistic realism. The reflection of scientific theories on education.

Development of Educational Sciences in Turkey: Educational sciences at the beginning of the Turkish Republic; reconstruction period; years around 1950’s and today’s concepts are discussed.

Modern Trends in Counseling: The purpose of this course is to consider the treatment applications of psychological theories and the projection of these theories to psychological counseling.

Social Change and Education: Definition and dimensions of sociology; critical approach to the theories of social changes; the interaction between social changes and the institute of education.

Advance Statistics: Sampling theory; testing hypothesis; significance of the difference between two correlation coefficients; Analysis of variance: one, two and three ways; nonparametrical statistical techniques: Chi-Square; point testing; median testing; analysis of covariance. Within this course, students are required to prepare a research project.

Human Resources Management: "Personnel Management" and "Human Resources Management" in contemporary organizations; student-centered organizations; the functions of human resources management; human resources management in micro level; human resources management in macro level are discussed.

ELEMENTARY TEACHER TRAINING

Head of Program: Prof. Dr. Ali Osman ÖZCAN

This program was established for the candidates who completed their B.A. in relevant areas. The Elementary Teacher Training M.A. program is run by the Elementary Teacher Training Department of Atatürk Faculty of Education and was established in 1993. Qualified candidates have to complete 28 credits and a masters thesis in a 5-semester period.

Language of Instruction: Turkish
Curriculum Development in Science Education in Elementary Education I-II: Evaluation of objectives, process and context of science courses in the curriculum of elementary schools; analysis of objects according to the ages of students; development of concepts of science in relation to age level. Teaching of concept maps in science education by exploration and presentation, inductive reasoning; experiments which can easily be done in science courses in elementary schools.

Theory and Application Models in Elementary Education: Relationships among theory, model and application: samples of theory and application in Elementary schools; comparison among several countries, current situation in Turkey.

Learning and Teaching Theories and Models: Introduction to concepts of learning, teaching and education; learning theories; critics and application of these theories in education; critics of educational approaches; development of new models.

Fine Arts Education and Instruction: The historical development of fine arts; introduction to instructional curriculum and its applications; the relationship between art education and education using arts; development of creativity by means of art, development of understanding of aesthetics in child; and some projects in fine arts are discussed.

Educational Statistics: The role of statistics in education; basic concepts and techniques of statistics (sample, population, testing hypothesis, frequency, mean, percentage, correlation techniques, analysis and discussion of statistical data.

Group Dynamics and Classroom Interaction: The theoretical aspects of group dynamics; different techniques of correcting communication disorders in classroom; group dynamics and experience in guidance.

Curriculum and Curriculum Development in Elementary Education: Evaluation of curriculum; following up students' success, the recent studies in curriculum development; comparison of programs in different schools; evaluation of curriculums in Turkey.

EARLY CHILDHOOD EDUCATION

Head of Program: Prof. Dr. Ayla OKTAY

This program was established for the candidates who completed their education in the field of early-childhood education. In addition, those candidates who completed B.A. program in the areas of elementary school education, psychological services in Education, psychology and child development can apply for the program. This program is run by the Early Childhood Education Department and was first established in 1993. Qualified candi-
Literature and Education: Determining the role and function of literature in preschool level; discussing tale analysis method of Propp; application of this method on different Turkish tales; analysis of tale books in print which are prepared for preschool children.

Research Seminar: This course is an extension of research techniques course. Students are required to develop research samples and to analyze current researches about pre-school education and early childhood.

Theories and Application Models in Pre-School Education I-II: In this course, projection of contemporary psychological educational theories on to preschool education; the importance of pre-school education in different countries; educational systems and different models in pre-school education will be discussed.

Personnel Management: Human relations in organizations; communication network, hierarchical structure; administrator-staff relations; work analysis; evaluation of performance; productivity; motivation and job-satisfaction will be discussed.
Long before the establishment of the European Community Institute, Marmara University had a well-functioning "European Documentation and Research Center" and introduced a number of specialized courses on European Integration and European Law in a number of Faculties and Departments, including the Faculty of Law and the Faculty of Economic and Administrative Studies.

In compliance with the by-law concerning postgraduate education, the M.A. and Ph.D. students enrolled in the Institute attend courses for an academic year and afterwards prepare their M.A. and Ph.D. theses within the periods laid down by the aforementioned regulation. Most of them are regular courses which are taught every year, but some of them have been taught during one or some of the academic years since the establishment of the Institute.

The Turkish and foreign academic teaching staff of the Institution are prominent, published professionals who also teach in their respective fields.

**MASTER'S PROGRAM IN EUROPEAN COMMUNITY STUDIES**

**First Semester**

- Comparative Law
- The Law & Institutions of the EC
- EC-Turkish Relations I
- International Economics & Integration Theories I
- Competition Policy of the EC I
- Transport Policy of the EC
- Environmental Law & Policy in the EC I
- Public International Law
- Turkish Private Industry and Its Adaptation to EC Standards
- Int. to Turkish Tax Law I
- Decision Making Process in the EC: Interaction of Community Institutions
- Political Economy of Turkish Foreign Policy
- Macroeconomics
- Budgeting and Financing in the EU I

**Second Semester**

- The Law of Economy of the EC
- European Monetary System
- EC-Turkish Relations II
- International Economics & Integration Theories II
- Competition Policy of the EC II
- International Monetary Systems
- Intellectual Property Rights in the EC
- Social Policy, Labour Law, Labour Relations of Turkey with Member States II
- Int. to Turkish Tax Law II
- Customs Union and Indirect Taxation in the EC
- Budgeting and Financing in the EU II
The Law and Institutions of the European Community: West European Integration: Council of Europe, NATO, Coal and Steel Community, Euratom, EEC, the legal concept and status of the Communities; External Relations and EPC; Sources of Community Law; Treaties, Community legislation, Case Law. The institutions: their functions and powers; the decision-making process; the role of the European Court; Implementation and enforcement of Community Law; Relationship between Community and National Law.


EC-Turkish Relations I - II: Turkey's place in Europe from a historical point of view; Turkey's application for association in 1959; Political issues of Association Agreement and Turkey's Accession; in-depth analysis of the Association Agreement and Additional Protocol; Turkey's application for full membership.

Relations of Turkey With Member States I - II: Elaboration of External Relations of Turkey with the individual Member States of the European Union.

International Economics and Integration Theories I - II:
1 - Theories of International Trade
   - Comparative advantage and international division of labour.
   - Gains from free trade.
2 - Exchange rate determination
   - Implication of exchange rates determination for international trade.
3 - International payment, Macro analysis of Internal and External equilibrium.
4 - Departures from free trade.
   - Interventionist trade policies.
   - Import controls and domestic applications.
5 - Economic Integration
   - Trade diversion, trade creation and theory of integration.
   - Implications of economic integration for domestic development.

European Monetary System: Origins of the EMS, Monetary Developments in the EC, European Monetary Union. Working mechanism of the EMS, exchange rate mechanism, ECU, credit facilities, performance evaluation, liberalization of capital controls and the EMS, assessment of Turkey's possible membership in the EMS.
Public International Law: Sources of International Law: relations between international law and national law, with special emphasis on the operation of the EC law within national systems; subjects of international law, with special reference to international institutions; jurisdiction and exemption from jurisdiction (jurisdictional immunities); law of treaties with special reference to the treaties of the EC; the law of the sea; peaceful settlement of international disputes.

Agricultural Policy of the European Community I - II: A brief information on the historical development of CAP, the aims of the CAP, its basic policy tools, price concepts and price mechanism of the CAP, monetary compensatory amounts, decision-making process of the CAP.

Turkish Private Industry and Its Adaptation to European Community Standards: 1 – The position of Turkish Industry vis-a-vis the EC on Macroeconomics basis: a. Forecasts of significant macroeconomic quantities which influence our industry with regard to the EC. b. Forecasts of governmental policies, taking into consideration the process of adaptation to the EC. (The policies of finance, money, customs, economic incentives and exchange rates). 2 – The position of Turkish Industry vis-a-vis the EC on Microeconomic basis: a. A systematic study with a view to determining the power of any industry or a product to compete under the existing circumstances. b. Determination of the measures to be taken in order to adapt to EC.

Industrial Policy and Economics I - II: A perspective of Industrial Economics: Relevant theoretical background; The identification and measurement of monopoly power; Scale economies and capital requirements; Industrial concentration; Market structure and technological change; Integration, diversification and merger: Selected issues: The implications of Industrial Economics in respect of Turkish Economy and the EC.

European Company Law and Securities Regulations: Directives on various enterprises; Structures of companies; mergers of corporations; European Economic Co-operation Grouping; Proposed status for the Societas Europa (European Company), employee participation and company structure (Vredeling proposals and thereafter), European Community and the Multinationals, Securities Regulation, Prospectus, Admission to Stock Exchange Listing, Accounting Directives, Mutual Funds, Take-over Bids, Insider Trading.

European Law of Human Rights: Background to the preparation of the European Convention on Human Rights; Rights and Freedoms as guaranteed in the Convention; the enforcement mechanism: the European Commission on Human Rights, the European Court of Human Rights and the Council of Ministers; the built-in restrictions in the particular articles of the Convention; restrictions for the protection of others; protection of Human Rights within the European Community.
European Community and International Law: Special Seminar: Specific problems concerning the EC: international personality of the EC and related issues, treaty-making power of the EC with special emphasis on Treaties of Accession, an indepth analysis of previous Treaties of Accession (Spain, Portugal, Greece, U.K., Ireland, DK).

Defense of Europe: Security Cooperation and North Atlantic Treaty Organization: Historical background to the Alliance; the North Atlantic Treaty and its compatibility with the Charter of United Nations; the principles and scope of the North Atlantic Organization: NATO as a defense organization; structure of NATO; Defence planning and defence support in NATO: 1 - New developments in the Eastern Europe and defence planning; 2 - Disarmament and defence planning; Non-Governmental Activities of NATO: The North Atlantic Assembly and the North Atlantic Association; relations with UN and the CSCE.

Western European Union (WEU): Orgins of W.E.U. Signature of the Brussels Treaty of 17 March 1948; the principles and scope of the Brussels Treaty; the organs of W.E.U.; Decline of W.E.U. after establishment of NATO; New needs and tendencies to revive W.E.U; the Maastricht Treaty, provisions concerning CFSP of the EU.

Political Economy of Turkish Foreign Policy: International Economic Relations; evolution of international monetary system; foreign economic policy; external economic objects; international trade; politics of interdependence; liberal and radical economic thought; mechanisms of Foreign Policy.

Consumer Protection in the EC and in Turkey: Consumer policies; notion of consumer; the contents and criticism of Turkish consumer protection law; comparison with EC.

Political Economy of International Relations: Convergence of economy and politics; international trade and economic relations; evolution of international monetary system; new concepts in international relations; politics of interdependence; liberal and radical economic thought; alternative peredigms.

Foreign Policy Making and the EU I-II: Concept of foreign policy; decision-making process; the actors involved in foreign policy making; idealist, realist and behavioralist schools of thought.

Fiscal Law I-II: System of taxation; basic concepts, principles and implementation; the issue of the harmonization in the European Union; the Customs Union and taxation.

Patent Liceney Agreements: Patents in the European Union; International agreements on patents; basic concepts and definitions; principles and implementation; impact of competition law on patent licensing agreements.
4. INSTITUTE OF FINE ARTS

Director : Prof. Dr. Şermin ALYANAK
Assistant Director : Prof. Dr. Ateş ARCASOY

Language of Instruction: Turkish

Institute of Fine Arts is established under the Legislation Nr. 3837 date 3.07.1992. The objective of the Institute of Fine Arts is to conduct research and scientific activities in the field of Visual arts and/or design. The Institute of Fine Arts is cooperating with the Institute of Social Sciences to maintain the standarts and accreditation of the Art and Design Courses in graduate and post-graduate level.

The Institute is active within the Acibadem Campus of Faculty of Fine Arts, as an Institution of the Marmara University Rectorate.
After having accomplished the taught courses, each student is expected to propose a subject to his/her personal supervisor who is a full time lecturer in the Department of Ceramic and Glass and carry out a project and a written dissertation in the following four semesters.

**COURSE DESCRIPTIONS**

**Artistic Ceramic Design I-II (MA, Ph.D.):** The aim of these courses are designing of vessels-form, sculpture or mirror with different clays using different firing and glazing techniques.

**Industrial Ceramic Design I-II (MA, Ph.D.):** The aim of these courses are designing of the functioning-ware or unfunctioning-ware with different clays, for mass-production using different firing and glazing techniques.

**Glass Design I-II (MA, Ph.D.):** The aim of these courses are designing vessel, mirror or sculpture forms using different glass-forming methods.

**Artistic Ceramic in Architecture I-II (MA):** The aim of this course is designing ceramics for architecture (mirrors, sculptures) and to teach the mounting techniques.

**Industrial Cast Techniques I-II (MA):** The aim of this course is to teach how to work and form with plaster and make casts for mass-production.

**Technical Decor I-II (MA):** The aim of this course is to teach the techniques like: Luster, silkscreening-decals (underglaze decals, watermount-decals, studiomade-decals) contact printing methods, projected transparency methods, projected negative methods.

**Technological Research I-II (MA):** In this course the students can research different new glazes, clay bodies, stains and engobes.

**Technology I-II (Ph.D.):** This course gives the theoretical knowledge about the ceramics technology.

**Contemporary Ceramic Materials I-II (MA):** The behavior and properties of ceramics and composites are treated comprehensively. Development of personal research through experimentation and exploration of contemporary techniques.

**Sociology of Art I-II (Ph.D.):** The Art Sociology concerning the master as well as doctorate level program is developed in close connection with the History of Ideas. The social background of artistic works in their formal and substantial configuration and the reception of the artistic productions constitute the main topics elaborated. The liberty, originality and responsibility of the artistis living and creating in visible and invisible frameworks of industrialized societies play an important part in the program.
COURSE DESCRIPTIONS

Film Production I-II (MA): Pre-production stages are practised in fiction, documentary and experimental film categories, through the analysis of creative and technical groups' work.

Film Semiology I-II (MA): This course provides an approach to fundamental linguistic and semiological concepts, perception codes, cinema and language, signs, denotation and connotation, paradigm and syntagm. Comprehensive system of signs: Peirce, an approach towards connotation through this system, syntax, codes, mise en scene, sound, montage are the basic headlines of this course.

Theory of Art I-II (MA): This course is to provide the recognition of values and criterias in art; analyzing aspects like aesthetic (beauty) and goodness, righteousness. Theory of reflection in art, Plato, Aristoteles a.o.. Contemporary interpretations about the concept of beauty; in nature and in art. Properties and definitions of aesthetic values.

Techniques of Film-TV I-II (MA): This course provides a general approach to headlines like film script-dramatic elements, lighting, dramatic lighting, sound and music in film, film grammar, editing, acting, art direction and camera.

Art and Censorship I-II (MA): Although the emphasis is on film, censorship in all arts is also studied in this course. A general study of elements and systems is given first and then regulations and practise in Turkey are dealt with.

Mass Culture I-II (MA): Alongside with elitist culture (intellectuals' culture), popular culture and folklore are also studied. Music, literature and other arts, but primarily film and TV. Formation of mass culture and arabesque in social life. How mass culture can be made more refined.

Visual Editing I-II (MA): This course covers; research in the nature of editing, environmental perception and communication with the environment, film and perception of film by the audience, basic functions connecting shots, basic ten functions of editing two consecutive shots, contemporary editing forms and editing problems in contemporary cinema.

Film Production Problems I-II (Ph.D.): Pre-production, production and post-production, their characteristics and analysis, budget work, all these subjects are studied and practical work made in fiction, documentary and experimental film categories.


Modern Cinema I-II (Ph.D.): A general, historical view: Bazin, classical aesthetic, determining the period: End of the Second World War and the 60's, wide screen, ci-
MASTER'S PROGRAM IN ADVERTISING DESIGN

First Semester
Media Graphics I
Packaging Design I
Art Theory I
History of Thought I
Computer Related Design I
Semiotic Design I

Second Semester
Media Graphics II
Packaging Design II
Art Theory II
History of Thought II
Computer Related Design II
Semiotic Design II

MASTER'S PROGRAM IN PUBLICATION DESIGN

First Semester
Publication Graphics I
Illustration I
Art of Printing
Art Theory I
History of Thought I
Electives
Computer Related Design I

Second Semester
Publication Graphics II
Illustration II
Art of Printing II
Art Theory II
History of Thought II
Electives
Computer Related Design II

Second year is dedicated to the Final Art Work/Design Project, research report and thesis.

Ph.D. PROGRAM IN GRAPHIC ARTS

First Semester
History of Thought I
Publication Graphics I
Illustration I
Advertising Graphics I
Lettering and Typography I
Electives
Advertising I

Second Semester
History of Thought II
Publication Graphics II
Illustration II
Advertising Graphics II
Lettering and Typography II
Electives
Advertising II

After having accomplished the taught courses, each student is expected to propose a subject to his/her personal supervisor, who is a fulltime lecturer in the Department of Graphic Arts, and carry out a project/art work and a written dissertation in his/her chosen field in the following four semesters.

COURSE DESCRIPTIONS

Advertising Graphics I-II (MA, Ph.D.): The aim of the course is to supplement the students with the researches to create new communication forms and graphic design studies which will provide visual communication on the basis of production, marketing, consumer psychology motivations.
INDUSTRIAL DESIGN

Head of Program: Prof. Dr. Şermin ALYANAK

The Department of Industrial Design offers a two-year degree program leading to MA and Ph.D. maximum four years program. Aim of these courses is to explore the philosophy and the practise of Industrial Design. The students are encouraged to develop a broader understanding of the collaborative nature of Industrial Design taking courses and projects in Industrial Design and related disciplines. The students develop personal design skills, problem solving techniques, material and manufacturing knowledge, while they are expected to gain awareness of human behavior, changes in social values, quality and performance of products.

MASTER’S PROGRAM IN INDUSTRIAL DESIGN

First Semester
- Industrial Design I
- Material and Production Techniques
- Design Theory I
- Research Methodology
- Human Behavior
- History of Thought I
- Theory of Art I
- Electives
- Design Management I
- Design History I
- Design Presentation Techniques I

Second Semester
- Industrial Design II
- Production Management and Planning
- Design Theory II
- Ergonomics
- Introduction to Computers
- History of Thought II
- Theory of Art II
- Electives
- Design Management II
- Design History II
- Design Presentation Techniques II

Second year is dedicated to the Final Design Project, research report and thesis. After the presentation of the project and thesis degree examination will take place.

Ph.D. PROGRAM IN INDUSTRIAL DESIGN

First Semester
- Industrial Design I
- Advertising I
- Principles of Marketing I
- XX. Century Design I
- Electives
- Design Management I
- History of Thought I
- Computer Related Design I
- Semiology I
- Introduction to EEC Relations I
- Introduction to Management I

Second Semester
- Industrial Design II
- Advertising II
- Principles of Marketing II
- XX. Century Design II
- Electives
- Design Management II
- History of Thought II
- Computer Related Design II
- Semiology II
- Introduction to EEC Relations II
- Introduction to Management II
needs of students, in order to contribute to their maturity and inventiveness in Art and Design, respectively in Graphic Art, Painting, Sculpture and Industrial Design Departments.

**Design History I-II (MA):** Design History is based on lectures having a different historical focus with social-economic and cultural background covering pre-industrial area, first and second industrial revolution, late XIX. Century and XX. Century studies. Aim of the lectures and seminars is to explore the nature of design shaped by social-economic and political forces. Changes in production, consumption, aesthetic and ethical criterias are within the research program.

**Design Presentation Techniques I-II (MA):** The students are encouraged to develop their freehand drawing, technical drawing and graphical presentation skills using different medias and techniques. Teaching is by demonstration and practical exercise. It is a compulsory course especially for those students coming from other disciplines than Industrial Design.

**Theory of Art I-II (MA):** This course is to provide the recognition of values and criterias in art; analyzing aspects like aesthetic (beauty) and goodness, righteousness, usefulness. Theory of reflection in art, Plato, Aristoteles a.o... Contemporary interpretations about the concept of beauty; in nature and in art. Properties and definitions of aesthetic values.

**Introduction to Computers (MA):** This course is based on recognition of operating systems, which simplify certain tasks, students will perform with computer. Creating files, entering data or commands, organizing and storing files, recalling and displaying file contents a.o., are the basic headlines which this course is focused on.

**Research Methodology (MA):** The methods, approaches and techniques of social research; the universal method of social sciences: observation, hypothesis, testing and generalizations. Research design and individual steps of social research in planning sampling data collection and processing evaluation, research report.

**Human Behavior (MA):** This course generally analyses the human perception systems to provide a relation between behavior and requirements, which supports the students in creating new design models.

**History of Thought I-II (Ph.D.):** History of Thought course destined to PhD in Arts students examine some characteristic intellectual periods of mankind, such as the Greek Antiquity, Renaissance, the Modern Times and the Contemporary World. The program is executed in form of seminars, where selected texts are interpreted and discussed. The aim of class discussions being the fructification of thinking and creating activities in Departments of Graphic Art, Painting, Sculpture and Industrial Design.

**Advertising I-II (Ph.D.):** This course covers an overview of marketing communication, advertising, product, price, promotion, consumer propositions, and other im-
MASTER'S PROGRAM IN INTERIOR DESIGN

First Semester
- Interior Design and Design Principles I
- Interior Design Principles and Env. Relations
- Architecture-Social Space and Design I
- Theory of Art I
- Design Theory I
- Research Methodology
- Electives
  - Building Construction I
  - Furniture Design and Principles I
  - Restoration

Second Semester
- Interior Design and Design Principles II
- Space Color Material
- Architecture-Social Space and Design II
- Theory of Art II
- Design Theory II
- Electives
  - Building Construction II
  - Furniture Design and Principles II
  - Theories on Restoration and Preservation

After having accomplished the tutorial courses the students are expected to do their final Design Project, research and thesis.

Ph.D. PROGRAM IN INTERIOR DESIGN

First Semester
- Interior Design and Design Principles I
- History of Interior and Architectural Design I
- History of Thought I
- Analysis of Interior and Exterior Space I
- Furniture Design and Principles I
- Space and Light

Second Semester
- Interior Design and Design Principles II
- History of Interior and Architectural Design II
- History of Thought II
- Analysis of Interior and Exterior Space II
- Furniture Design and Principles II

After having accomplished the taught courses each student is expected to propose a subject to his/her personal supervisor, who is a full time lecturer in the Department of Interior Design and carry out a project and a written dissertation in the following four semesters.

COURSE DESCRIPTIONS

Interior Design and Design Principles I-II (MA, Ph.D.): The aim of this course is to develop the creative ability, technical knowledge and competence in the field of Interior Design, with reference to the subject areas of interior space and built form. It entails the broadening of knowledge in the fields of appropriate fields of environmental services and the technology of construction as well as the organisation, management and economics of work processes.

Interior Design Principles and Environmental Relations (MA): Principles in Interior Design responsive to the fulfillment of human needs and aspirations, structured
PAINTING

Head of Program: Prof. Dr. Nevzat YÜZBAŞIOĞLU

The aim of the graduate and post-graduate program in the Painting Department is to encourage the students to extend their talents, ideas and creativities. The students are expected to develop their skills, confidence and sufficiency for their future as leading artists. The course program is based on the theory and practise of painting.

MASTER'S PROGRAM IN PAINTING

First Semester                                    Second Semester
The Art of Painting I                             The Art of Painting II
Theory of Art I                                   Theory of Art II
History of Thought I                             History of Thought II

Taking all these aspects of first year into account, students prepare their final project, an exhibition with comprehensive theoretical document in the following two semesters.

Ph.D. PROGRAM IN PAINTING

First Semester                                    Second Semester
The Art of Painting I                             The Art of Painting II
Painting in Architecture I                        Painting in Architecture II
History of Thought I                              History of Thought II
Philosophy of Art I                               Philosophy of Art II
Sociology of Art I                                Sociology of Art II

After having accomplished the tutorial courses each student is expected to prepare an exhibition as a final project, which should be supported by comprehensive theoretical document in the following four semesters.

COURSE DESCRIPTIONS

The Art of Painting I-II (MA, Ph.D.): The main principle in the art of painting is to provide assistance for the student to style contemporary projects and to create unique works in line with his creative personality. The necessary information as to the painting rules is conveyed.

Painting in Architecture I-II (Ph.D.): With the due consideration of architectural and space relation, experimental works and projects are undertaken with the inten-
of an individual tutor. The dissertation project is supported by a research thesis.

COURSE DESCRIPTIONS

History of Photography I-II (MA): The student is proved with the knowledge on the history of photography, its chronicle development, origin and place in the concept of art.

Techniques of Photography I-II (MA): This course includes; optic, chemistry, black-white darkroom techniques, color darkroom, knowledge of advanced photography -Sensitometry, zone system.

Theory and Philosophy of Photography I-II (MA): Art philosophy is transformed into a work of art through photographic applications.

Documentary of Photography I-II (MA): This course gives the knowledge on the documentary of photography which nature, history, culture, social life and photo journalism.

Experimental of Photography I-II (MA): The aim of the course is to teach photography on a more advanced level to express lingual concepts visually by means of photography.

Still Life I-II (MA): This course gives the knowledge on studio designing and equipment, artificial lights in studio and advertising photography.

History of Thought I-II (MA): The course of MA degree students in a series of lectures studying some representative intellectual currents.

Photogram I-II (MA): The student is acquainted with photographic materials, taught photographing techniques using opaque, semi opaque and transparent materials without a camera. They also learn to apply simple principles of composition.

Theory of Art I-II (MA): This course is to provide the recognition of values and criterias in art analyzing aspects like aesthetic (beauty) and goodness, righteousness, usefulness. Theory of reflection in art, Plato, Aristoteles a.o. Contemporary interpretations about the concept of beauty; in nature and in art. Properties and definitions of aesthetic values.
The individual internal supervisor, chosen according to the students individual work practice in mind will define a work program. The students have to develop their technical contribution to sculpture, both imaginatively and technically outoming project, supported by a written dissertation, culminates in the Final Examination Degree Show.

COURSE DESCRIPTIONS

Sculpture I-II (MA, Ph.D.): This course is based on the experience in the subject of sculpture and its basic techniques, forming new compositions and interpretations of balance, rhythm, light, surface and structure.

History of Sculpture I-II (MA, Ph.D.): This course aims to teach history of sculpture and the criterias in sculpturing throughout the ages enabling the students to look objectively at sculpture formally and analytically.

Research Methodology (MA): The methods, approaches and techniques of social research: the universal method of social sciences: observation, hypothesis, testing and generalizations. Research design and individual steps of social research in planning sampling data collection and processing evaluation, research report.

Theory of Art I-II (MA): This course is designed to provide the recognition of values and criterias in art, analyzing aspects like aesthetic (beauty) and goodness, righteousness, usefulness. Theory of reflection in art, Plato, Aristoteles a.o.. Contemporary interpretations about the concept of beauty; in nature and in art. Properties and definitions of aesthetic values.

Design Theory I-II (MA): Design Theory course introduces a theoretical and critical approach to design problems. The main framework covers sources of design, general aspects of design and their functions, design process and semantic structure and visual communication, design process and creative methods. This course is prerequisite for Industrial Design Department students and elective for other art and design related departments.

History of Thought I-II (MA, Ph.D.): The History of Thought course for MA degree students consists in a series of lectures studying some representative intellectual currents as well as philosophers, scientists and artists. The method of lectures is mainly based on mutual relationship between Ideas and Arts, according to the scholarly needs of students, in order to contribute to their maturity and inventiveness in Art and Design, respectively in Graphic Art, Painting, Sculpture and Industrial Design Department.

Workshop Practice I-II (MA, Ph.D.): The students are obliged to choose one or more of the existing workshops. In wood and wood carving workshop students learn to use wood-working techniques and practise to transform form, ratio, modules and other formations into form of art in creating a wooden sculpture. Also in stone workshop, because stone is still important in the sculpture making, the students have to improve their skills in working with different types of stone and special tools.
Second year is dedicated to the Final Design Project, research report and thesis. After the presentation of the project and thesis degree examination will take place.

**Ph.D. PROGRAM IN TEXTILE**

**First Semester**

- Weaving Design I
- Printing Design I
- Fashion Design I
- History of Thought I

**Electives**

- Design Criticis I
- Photography in Textile I
- The Importance of Natural Dyes in Textile I
- Design in Ikat Technique
- Construction of Textile Objects I
- Artistic Values in T.Printing and Dying Tech. I
- Presentation Techniques I

**Second Semester**

- Weaving Design II
- Printing Design II
- Fashion Design II
- History of Thought II

**Electives**

- Design Critics II
- Photography in Textile II
- The Importance of Natural Dyes in Textile II
- Esthetique of Hand Printing (Yazma)
- Construction of Textile Objects II
- Artistic Values in T.Printing and Dying Tech. II
- Presentation Techniques II

After having accomplished the tutorial courses each student is expected to propose a subject to his or her personal supervisor, who is a full time lecturer in the Department of Textile, and carry out a project and a written dissertation in the following four semesters.

**COURSE DESCRIPTIONS**

**Textile Design (Weaving, Printing, Fashion) I-II (MA):** Design courses are theoretical and applied, and present workshop facilities to the students. These courses can be chosen depending on the subdepartment in which the student wants to do his MA. They can also be joined with the other master courses if needed.

**The Analysis Techniques in Woven Textiles I-II (MA):** Both the design analysis and the fabric analysis are taught in this course. The student can learn how to analyse a fabric to find out its structure and to solve the problems of the design to be woven.

**Textile Production Techniques I-II (MA):** This course aims at giving technical information about the textile geometry which implicates the sections, twists, movements and tightness of the yarns of the woven and knitted fabrics.

**The History of Textile Art (MA):** General information about the looms and fabric samples of different cultures is given in this course as well as detailed knowledge about the Ottoman and Turkish fabrics.
Design in Ikat Technique (Ph.D.): "IKAT" Technique plays an important role in traditional designing techniques. It is aimed to prepare various combinations of patterns by using different possibilities of "ikat" technique.

Weaving-Printing-Clothing Design I-II (Ph.D.): The original design works of students are supervised first concerning about aesthetic values then supporting them with theoretical knowledge.

Construction of Textile Objects I-II (Ph.D.): It aims to prepare project work concerning estimating constructional properties (material production) methods, presentation and packaging in order to produce artistic textile objects apart from industrial textiles.

Artistic Values in Textile Printing and Dying Techniques I-II (Ph.D.): It aims to produce unique artistic works by researching new techniques and materials for textile dying and printing.

Presentation Techniques I-II (Ph.D.): It aims to teach Fashion Design students various skills which help them in presenting their works professionally in many ways such as posters, catalogues, invitations and similar.

TRADITIONAL TURKISH ARTS AND CRAFTS

Head of Program: Assoc. Dr. Feryal İREZ

The Department of Turkish Traditional Arts and Crafts offers two separate MA programs, one in Miniature Painting and the other one in Traditional Turkish Textile Arts. The Department also offers courses to students from other disciplines textile conservation, book restoration and renovation in traditional Turkish Architecture. The program gives the students the opportunity to recognize and combine traditional values with theoretical synthesis so that the student can develop their skills to produce contemporary art work as a continuity of the traditional arts.
hand-written books, bindings, Ottoman tughra and marbled-papers and the course will give an information about the famous masters.

**Miniature Paintings I-II (MA, Ph.D.):** This course will give the students the opportunity of varieties of analysis and synthesis of distinguished miniature paintings.

**Ottoman Manuscripts I-II (MA, Ph.D.):** The aim of this course is to teach the students how to describe ancient Ottoman Manuscripts.

**Conservation and Restoration of Books I-II (MA, Ph.D.):** This course is a practical course. The aim of this course is to teach the conservation and restoration of manuscripts and ancient books.

**Renovation in Turkish Architecture I-II (MA):** In this course the importance of structure and construction as well as aesthetic priorities in shaping of the monumental buildings, analysis of the building as structure during the renovation process, in addition to monumental buildings problems involved in building and renovating wooden constructed public buildings and houses are all considered. In addition, in accordance with the general training level of the student, examples of wooden and ornament on plaster type of renovation techniques are shown and from time to time applications are accomplished with some students.

**COURSE OF TRADITIONAL TURKISH TEXTILE ARTS and CRAFTS**

Course Leader: Assist. Prof. Dr. Sibel ARIK

**MASTER’S PROGRAM IN TURKISH TEXTILE ARTS and CRAFTS**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td>History of Style I</td>
<td>History of Style II</td>
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<tr>
<td>Europe and the Ottoman I</td>
<td>Europe and the Ottoman II</td>
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<tr>
<td>Design and Style of the Turkish Cloths I</td>
<td>Design and Style of the Turkish Cloths II</td>
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<tr>
<td>Constructive Designs of Turkish Carpets I</td>
<td>Constructive Designs of Turkish Carpets II</td>
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<tr>
<td>The Care and Preservation of Textiles I</td>
<td>The Care and Preservation of Textiles II</td>
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<tr>
<td>The Art of the Anatolian Carpets I</td>
<td>The Art of the Anatolian Carpets II</td>
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<tr>
<td>The Relations of Design and Function I</td>
<td>The Relations of Design and Function II</td>
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<tr>
<td>Theory of Art I</td>
<td>Theory of Art II</td>
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Second year is dedicated to the Final Design Project, research report and thesis. After the presentation of the project and thesis, degree examination will take place.
XVI. Century Ottoman Brocades in the Topkapi Palace and other museums with the contemporary samples of neighbor cultures.

The Care and Preservation of Textiles I-II (MA, Ph.D.): This course will give the students the opportunity of getting exposure to the nitty-gritty of textile conservation. This course provides an approach to the limits of textile conservation.

The Art of the Anatolian Carpets I-II (MA, Ph.D.): The historical development of Anatolian carpets. The analysis of Turkish carpets according to their types and region.

The Relations of Design and Function I-II (MA, Ph.D.): The historical development of design before and after the revolution of Arts and Crafts. The aim of this course is to give the students some theoretical methods about design and their function in the industrial area.

Textile Design II (Ph.D.): A survey of main problems in Textile Design and developing an advanced problem solving skill and professional practise within the program of self initiated and professionally linked projects.

Theory of Art I-II (MA): This course is to provide the recognition of values and criterias in art; analysing aspects like aesthetic (beauty) and goodness, righteousness, usefulness. Theory of reflection in art, Plato, Aristoteles a.o.. Contemporary interpretations about the concept of beauty; in nature and in art. Properties and definitions of aesthetic values.

The Philosophical Actions (Effects) in the Traditional Turkish Arts and Crafts I-II (MA): This course will bring to light the philosophical background and actions in the Traditional Turkish Arts and Crafts. The aim of this course is to give the students, the relationship between Philosophy and Traditional Turkish Arts (like rugs, kilims, tiles etc.) throughout the centuries.
GRADUATE PROGRAM IN VIRAL HEPATITIS

Head of Program: Prof. Dr. Nurdan TÖZÜN

Language of Instruction: Turkish

The program of Viral Hepatitis emerged from the idea of giving special education and advanced courses to medical doctors or biologists on the subject of viral hepatitis, which is one of the major health problems in our country and in the world.

The aim of the postgraduate program is to involve highly qualified and expert scientists in epidemiology, molecular biology, microbiology, serology and diagnostic research on hepatitis. All of this will be extrapolated into clinical medicine. The program is open to medical doctors, biologists, microbiologists and molecular biologists.

The MS program lasts 2 years, the first being dedicated to course work and the second to thesis. MS students along with fellows and assistants, participate in all research activities of the department during the training period.

Each student has to attend at least 8 theoretical and 10 practical courses within a year. Epidemiology, molecular biology and clinical approach topics are dealt within 2 semesters whilst courses on microbiology and treatment are given in one semester. At the end of each semester final examinations take place. The following year the students are required to prepare their theses under the guidance of the supervisor professors. During this period the students also attend and prepare departmental seminars and lectures and take part in the research activities.

MASTER'S PROGRAM IN VIRAL HEPATITIS

<table>
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<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td>Clinical Approach to Viral Hepatitis I</td>
<td>Clinical Approach to Viral Hepatitis II</td>
</tr>
<tr>
<td>Epidemiology of Viral Hepatitis I</td>
<td>Epidemiology of Viral Hepatitis II</td>
</tr>
<tr>
<td>Microbiology of Viral Hepatitis I</td>
<td>Microbiology of Viral Hepatitis II</td>
</tr>
<tr>
<td>Molecular Biology of Viral Hepatitis I</td>
<td>Molecular Biology of Viral Hepatitis II</td>
</tr>
<tr>
<td>Treatment of Viral Hepatitis I</td>
<td>Treatment of Viral Hepatitis II</td>
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</tbody>
</table>

COURSE DESCRIPTIONS

Clinical Approach to Viral Hepatitis I and II: Introduction and classification of hepatitis viruses.
6. INSTITUTE OF HEALTH SCIENCES

Director : Prof. Dr. Beyazıt ÇIRAKOĞLU
Assistant Directors : Prof. Dr. Sevim ROLLAS
                     Assoc. Prof. Şefik GÖRKEY

Language of Instruction: Turkish and English

The Institute of Health Sciences was established in 1982 with the aim of organizing, coordinating and supervising post-graduate studies and also conducting related scientific research.

Post-graduate studies and related scientific research are carried out in Turkish at the corresponding departments of Medicine, Dentistry, Pharmacy and the Atatürk Faculty of Education of Marmara University. At the departments of Orthodontics and Prosthodontics parallel English studies are also available.

Two types of postgraduate degree courses are offered by the Institute of Health Sciences:

- 1 - MASTER OF SCIENCE DEGREE (MS): At the end of a 4-term course, successful students are awarded with a Master's Diploma. The course follows on from undergraduate courses and comprises 2 terms of lectures, seminars and 2 terms of thesis work. The course can be extended one term, if necessary.
DENTISTRY

CONSERVATIVE DENTISTRY, ENDODONTICS AND ORAL DIAGNOSIS

Head of Program: Prof. Dr. Bülent BAŞARAN

The Department of Conservative Dentistry, Endodontology and Oral Diagnosis offers a postgraduate Ph.D. program.

In order to achieve this objective the post graduate curriculum leading to the Ph.D. degree is designed to provide basic knowledge in these fields and clinical experience in complicated cases, conservative and endodontic treatment.

Language of Instruction: Turkish

Ph.D. PROGRAM IN CONSERVATIVE DENTISTRY, ENDODONTICS AND ORAL DIAGNOSIS

First Semester
Conservative Treatment I
Endodontic Treatment I
Pulp and Periapical Pathology I
Infections of Oral Mucosa I

Second Semester
Conservative Treatment II
Endodontic Treatment II
Pulp and Periapical Pathology II
Infections of Oral Mucosa II

COURSE DESCRIPTIONS

Conservative Treatment I-II: Enamel tissue, initial caries lesion, classification of caries, fluoride, preventive treatments, preparations for conservative applications, filling materials, filling techniques.

Endodontic Treatment I-II: Instruments used in endodontics, accessss opening and tooth morphology, cleaning, shaping and obturation of the root canal system.

Pulp and Periapical Pathology I-II: Diagnosis and treatment of pulp infection and periapical lesions.

Infections of Oral Mucosa I-II: Infections of oral mucosa caused by bacteria, viruses and fungus as well as other specific infections.
ORTHODONTICS

Head of Program: Prof. Dr. Nejat ERVERDİ

The department offers a two year Master's program and a three-year Ph.D. program. For both programs, students are required to have graduated from a foreign or Turkish dental faculty and to pass the exam of the Institute of Health Sciences.

Language of Instruction: English

THE MASTER'S PROGRAM CONTAINS THE FOLLOWING TOPICS

Cephalometric Diagnosis and treatment planning I-II
Functional Jaw Orthopедics I-II
Extraoral Appliances
Edgewise Technique I-II
Begg Technique I-II
Orthodontic Treatment of the Orthognathic patients

Ph.D. PROGRAM IN ORTHODONTICS

Growth and Development I-II
Anatomy of the Head and Neck
Physiology of the Head and Neck
Light Microscopy Techniques
Electron Microscopy Techniques
Cephalometric Diagnosis and treatment planning I-II
Typodont Training
Functional Jaw Orthopedics I-II
Extraoral Appliances
Edgewise Technique I-II
Begg Technique I-II
Straight Wire Techniques
Burstone Techniques
Orthodontic Treatment of the Orthognathic patients
Advances in Pedodontics: Current changes in the field of pedodontics and new technology and materials are introduced to the post-graduate students and practical implications of this information are applied.

Prevention of Oral Diseases: Dental caries process, its prevention and treatment are fully covered. Training is given in reviewing the literature and adopting this to practice.

Growth and Development: These courses are on norms and normal values in the growth and the development pattern of the human being and developmental changes of the body, head and neck and dental tissues.

Special-care (Children): Students are introduced to treatment of children who need special psychological and dental care such as mentally or physically handicapped children.

Sedation and General Anesthesia: Techniques for pediatric patients are introduced to the post-graduate students.
# PROSTHODONTICS

Head of Program: Prof. Dr. Hasan N. ALKUMRU

The Department of Prosthetic Dentistry has a 4-semester prostgraduate program. During this program students take the lectures which have been suggested by the students supervisor. These lectures will be related to students' project which will become their thesis. Every lecture has theoretical and practical sessions.

Department of Prosthodontics hopes that the course will educate postgraduates capable of advancing knowledge within prosthodontics and able to initiate and respond to the development throughout their lives.

**Language of Instruction:** English

## MASTER'S PROGRAM IN PROSTHODONTICS

### First Year

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td>Complete Dentures I</td>
<td>Complete Dentures II</td>
</tr>
<tr>
<td>Partial Dentures I</td>
<td>Partial Dentures II</td>
</tr>
<tr>
<td>Fixed Prosthesis I</td>
<td>Fixed Prosthesis II</td>
</tr>
<tr>
<td>Gnathology I</td>
<td>Gnathology II</td>
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### Second Year

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td>Implantology I</td>
<td>Implantology II</td>
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## Ph.D. PROGRAM IN PROSTHODONTICS

### First Semester

<table>
<thead>
<tr>
<th>Gerodontology I</th>
<th>Gerodontology II</th>
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</thead>
<tbody>
<tr>
<td>Advanced Prosthodontics I</td>
<td>Advanced Prosthodontics II</td>
</tr>
<tr>
<td>Dental Materials I</td>
<td>Dental Materials II</td>
</tr>
<tr>
<td>Advanced Implantology I</td>
<td>Advanced Implantology II</td>
</tr>
</tbody>
</table>
MEDICAL ANATOMY

Head of Program: Assoc. Prof. Dr. Erdal ARISAN

Anatomy is the macroscopic (gross) study of the structures of the body and the relationship of its constituent parts to each other.

Language of Instruction: Turkish

Ph.D PROGRAM IN ANATOMY

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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</thead>
<tbody>
<tr>
<td>Advanced Anatomy of Head and Neck</td>
<td>Advanced Anatomy of Head and Neck</td>
</tr>
<tr>
<td>Advanced Anatomy of Locomotor System</td>
<td>Advanced Anatomy of Locomotor System</td>
</tr>
<tr>
<td>Advanced Anatomy of Cardiovascular and Urogenital Systems</td>
<td>Advanced Anatomy of Cardiovascular and Urogenital Systems</td>
</tr>
<tr>
<td>Advanced Anatomy of Gastrointestinal System</td>
<td>Advanced Anatomy of Gastrointestinal System</td>
</tr>
<tr>
<td>Advanced Neuroanatomy</td>
<td>Advanced Neuroanatomy</td>
</tr>
</tbody>
</table>

COURSE DESCRIPTIONS

Advanced Anatomy of Locomotor System: The functional and clinical aspects of the muscles and the joints of the body are considered.

Advanced Anatomy of Head and Neck: The bony features of the skull, the muscles of mastication and mimics, the temporomandibular joint, the triangles of the neck, cranial nerves, brainstem, the gross anatomy of the brain are included in this course.

Advanced Anatomy of Gastrointestinal System: The functional and clinical aspects of the gastrointestinal system are considered.

Advanced Anatomy of Cardiovascular System: The cardiovascular and urogenital organs and their clinical aspects are the subject of the course.

Advanced Anatomy of The Nervous System: The clinical aspects and functional anatomy of the nervous system are considered.
MASTER'S PROGRAM IN AUDIOLOGY

First Semester

Hearing and Hearing Measurement
Diagnostic Audiology I
Seminar in Aural Rehabilitation
Experimental Audiology
Voice Disorders
Advanced Audiology
Basic Otolaryngology I
Physics of Sound, Acoustic Phonetics
and Auditory Training
Industrial Audiology
Pediatric Audiology
Development of Language and
Speech in Deaf
Stuttering
Electrophysiological Measurement
Techniques
Neurophysiology of Hearing and
Speech Mechanisms
Central Auditory Nervous System
Disorders
Vestibular System and Its Disorders I
Aphasia

Second Semester

Anatomy and Physiology of Speech
and Hearing Mechanisms
Diagnostic Audiology II
Speech Pathology for Audiologists
Special Studies in Audiology
Instrumentation and Amplification
System
Basic Otolaryngology II
Audiology Seminar and Clinical
Practice
Cleft Palate Speech
Delayed Speech
Vestibular System and Its Disorders II

COURSE DESCRIPTIONS

Hearing and Hearing Measurement: Introductory psycho-acoustics; introduction to audiometric instrumentation, test construction, reference levels, and calibration techniques; basic pure tone and speech audiometry; interpretation of tests results in terms of medical, developmental, educational, occupational, and (re)habilitative implications. Clinical observation and practice in the Audiology Clinic.

Diagnostic Audiology I-II: Principles and practice of audiologic procedures relative to differential diagnosis of site of lesion and pseudohypacusis.

Seminar in Aural Rehabilitation: Readings, discussion, and case demonstrations in the principles and practices of lipreading and auditory training.

Experimental Audiology: Review of psycho-acoustical literature; individual research projects relative to clinical audiology such as absolute threshold, differential thresholds, loudness, pitch and binaural hearing.

Voice Disorders: Discussion of voice disorders in children and adults, with special attention to the principles and practices in postlaryngectomy speech training.
of patients seen in the Ear-Nose-Throat Clinic, and may include selected lectures given in the Anatomy Department.

Speech Pathology For Audiologists: Study of normal language and speech development; disorders of language and speech as in mental retardation, aphasia, multiple sclerosis, articulation defects, cleft palate, stuttering and others. Emphasis will be on the recognition of these speech disorders and their differential diagnosis in audiology.

Special Studies in Audiology: Review of research in clinical audiology and discussion of future trends.

Instrumentation and Amplification Systems: Basic principles of electronics and amplification; principles and practice in the function, care, and performance measurements of audiometric equipment and amplification systems, especially hearing aids.

Audiology Seminar and Clinical Practice: Discussion and readings in selected clinical problems; case demonstrations and supervised testing in the audiology and the Ear-Nose-Throat Clinic. This course provides laboratory and clinical experiences to complement concurrent theoretical studies and may be repeated for different content areas.

Vestibular System and Its Disorders I: Introduction to otoneurology, anatomy and physiology of the vestibular system, peripheral and central vestibular pathologies.

Vestibular System and Its Disorders II: Evaluation methods of the vestibular system, principles and application of the equipment, assessment of the test findings.

Cleft Palate Speech: Embryological development of cleft palate, and cleft lip, and classification, its effect on voice and speech. Plastic and physiological reconstruction methods. Voice and speech therapy methods after surgical operation.

BIOCHEMISTRY (MEDICAL)

Head of Program: Prof. Dr. KAYA EMERK

PROGRAM (M.S. and Ph.D.)

Research at the department deals with the pathogenesis and mechanisms of atherosclerosis. Main research topics include endothelial cells, lipid metabolism, lipoproteins, free radicals, antioxidants and lipid peroxidation, and membrane transport and their interactions.

Language of Instruction: Turkish

COURSE DEScriptions

General Biochemistry: Introduction to biochemical molecules and basic pathways in biochemistry.

Research Techniques: The principles and application fields of basic techniques which are used in biochemistry.

Protein Biochemistry: The structures of proteins, basic methods of analysis of their structure, functions of proteins, protein separation and purification.

Immunology: An introduction to general immunology and basic concepts.

Hormones: Classification and mechanism of action of hormones, basic hormones in human beings.

Metabolism in Biochemistry: Basic metabolic pathways in human body.

Enzymology: Classification, mechanism of action of enzymes, enzyme kinetics, control of enzyme activity, and clinical enzymology.

Protein Biosynthesis: Mechanism of protein biosynthesis in prokaryotic and eukaryotic organisms.
## Ph.D. PROGRAM IN BIOPHYSICS

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td>Clinical Biophysics I</td>
<td>Clinical Biophysics II</td>
</tr>
<tr>
<td>Advanced Topics in Biophysics I</td>
<td>Advanced Topics in Biophysics II</td>
</tr>
<tr>
<td>Membrane Biophysics</td>
<td>Bioenergetics</td>
</tr>
<tr>
<td>Physical Chemistry of Biological Systems</td>
<td>Biophysics of Muscle and Nerve</td>
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<tr>
<td>Medical Biophysics</td>
<td>Radiation Biophysics</td>
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</table>

## COURSE DESCRIPTIONS

**Clinical Biophysics I-II:** Introduces the biophysical phenomena underlying the instruments used in medicine.

**Advanced Topics in Biophysics I-II:** Selected topics in biophysics and biophysical chemistry.

**Membrane Biophysics:** Basic course on structure and function of membranes.

**Bioenergetics:** A detailed approach to bioenergetic phenomena in the cell including evolution and information theory. Credit: 3 T

**Radiation Biophysics:** Radiation physics, protection and instrumentation.

**Medical Biophysics:** The cardiovascular system respiratory system, nervous system and radiation biophysics. Cr

**Physical Chemistry of Biological Systems:** Molecular interactions, enzyme kinetics, thermodynamics and bioenergetics, structure of biopolymers, acid base properties, equilibrium and transport in macromolecular systems.

**Biophysics of Muscle and Nerve:** A biomechanistic approach to muscle contraction and motility and the bioelectric phenomena of nerve, muscle and sensory systems.
GASTROENTEROLOGY

Head of Program: Prof. Nurdan TÖZÜN, M.D.

The major aim of the Gastroenterology Institute is to offer students, fellows or academicians involved in gastroenterology a highly developed media for research and clinical application. The postgraduate programs of the Institute have the major role of orienting the students to the most outstanding subjects of gastroenterology such as molecular biology, motility, genetics, immunology, oncology and transplantation; the main areas of research at the moment are focused on molecular biology of hepatitis viruses, nutrition in gastrointestinal and liver diseases, GI motility and portal hypertension. Two master programs are concerned with viral hepatitis (epidemiology and molecular biology) and Gastrointestinal Motility. There is also a Ph.D. program under preparation about Gastrointestinal Molecular Biology.

MASTER'S PROGRAM IN VIRAL HEPATITIS

First Semester

Epidemiology of Viral Hepatitis
Molecular Biology of Viral Hepatitis
Clinical Approach to Viral Hepatitis I
Microbiology of Viral Hepatitis

Second Semester

Epidemiology of Viral Hepatitis
Molecular Biology of Viral Hepatitis
Clinical Approach to Viral Hepatitis I
Microbiology of Viral Hepatitis

COURSE DESCRIPTIONS

Epidemiology of Viral Hepatitis: Prevalence of hepatitis infection in Turkey and other countries; vertical and horizontal transmission, prevention and prophylaxis.

Molecular Biology of Viral Hepatitis: Detection of HBV DNA by dot blot hybridisation, application of pCR in RNA detection, DNA and RNA sequencing, genomic variations of hepatitis viruses.

HISTOLOGY AND EMBRYOLOGY

Head of Program: Assoc. Prof. İmer OKAR, M.D.

Histology, is the microscopic morphological study of cells, tissues, organs and systems of the body, including the different examination techniques and methods.

Embryology, is the developmental study of a new human being from the beginning of life until birth.

The Department offers a Ph.D program.

Language of Instruction: Turkish

Ph.D. PROGRAM IN HISTOLOGY and EMBRYOLOGY

First Year

First Semester
General Histology
General Embryology
Light Microscopy

Second Semester
Advanced Histology
Advanced Embryology
Electron Microscopy

Second Year

First Semester
Investigation Techniques in Histology and Embryology I
Histochemistry
Photography and Image analysis
In Vitro Fertilization (IVF)

Second Semester
Investigation Techniques in Histology and Embryology II
Immunohistochemistry
Specialized Diagnostic Techniques

COURSE DESCRIPTIONS

General Histology: The morphology and structures of the cell and tissues.

General Embryology: Gametogenesis, fertilization, implantation and development of the embryo.
IMMUNOLOGY

Head of Program: Prof. Tevfik AKOĞLU, M.D.

The immunology Ph.D. program provides theoretical and practical education in basic immunology. Well developed laboratory facilities are provided for students to teach basic scientific research methods in Immunology.

Candidates are required to have at least an M.S. Degree in Immunology or should have a BSc. in Medicine or in Veterinary Science.

Language of Instruction:

Ph.D. PROGRAM IN IMMUNOLOGY

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td>Clinical Immunology I</td>
<td>Clinical Immunology II</td>
</tr>
<tr>
<td>Humoral Immune System I</td>
<td>Humoral Immune System II</td>
</tr>
<tr>
<td>Immunoassay Methods I</td>
<td>Immunoassay Methods II</td>
</tr>
<tr>
<td>Basic Immunology I</td>
<td>Basic Immunology II</td>
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</table>

Students are also required to follow other courses (Molecular Genetics, Molecular Biology, Statistics, etc.) from other departments.

COURSE DESCRIPTIONS

Clinical Immunology I-II: Basic clinical immunology, relation of immunological reactions to clinical disorders are discussed.

Humoral Immune System I-II: This is mainly a practical course aiming to use different laboratory techniques to purify immunoglobulins from normal human sera, as well as Fab, Fc and F(\(\text{ab}\))\(_2\) fragments.

Immunoassay Methods I-II: Theoretical and practical application of different immunoassay methods.

Basic Immunology I-II: The principles and theory of basic immunology are described. Cell interactions in the humoral system, cellular products and cytokinesis are reviewed.
MEDICAL BIOLOGY AND GENETICS

Head of Program: Prof. Dr. Beyazıt ÇIRAKOĞLU

Molecular biology will make increasingly important contributions to Medicine, as the tools of molecular biology are now widely used in the detection of genetic disorders.

The graduate program of the Department of Medical Biology and Genetics is based on providing experience and proficiency in laboratory techniques especially related to the frequent genetic diseases in Turkey.

Students are expected to take courses concerning the recombinant DNA technology, advanced molecular biology techniques, genetic engineering, medical genetics, hybridoma technology, gene transfer and attend seminars and gain laboratory experience. Graduate students working in the department are mostly involved in research projects.

Current research projects in the Department of Medical Biology and Genetics include;

1 – Determination of serum HCV RNA in patients with chronic hepatitis C virus infection
2 – Detection and typing of PHV in cervico vaginal cells.
3 – Quantitation of HBV DNA in serum using the Dot-blot hybridization technique in patients with chronic liver disease in Turkey.
4 – Detection of aminoacyl-tRNA synthetase activity in colorectal cancer patient.

Language of Instruction: Turkish

COURSE DESCRIPTIONS

Molecular Biology: Molecular biology of the cell nucleic acids and proteins, genes, gene expression and its regulation, recombinant DNA technology, restriction enzymes, nucleic acid hybridization, DNA cloning, transgenic plants and animals, gene therapy.

Medical Genetics: Importance of genetics in medicine, classification of genetic diseases, cell cycle, structure and function of chromosomes, cytogenetics, and me-
MICROBIOLOGY

Head of Program: Prof. Dr. Candan JOHANSSON

The program of graduate studies aims to prepare students with a B.Sc. in Biology, Pharmacy, Veterinary Medicine and Dentistry for a research and teaching career in universities and for leading positions in drug industry etc. Graduates of Medical Faculties may be accepted directly into Ph.D. programs. Students in M.S. and Ph.D. programs are accepted to take courses in Microbiology, Immunology, Virology, Mycology, Bacterial Genetics, Food Microbiology or Industrial and Environmental Microbiology for 2 and 3 semesters for M.S. and Ph.D. degrees respectively, attend departmental seminars and case reports. Each student consults his/her advisor to plan the course schedule according to his/her background. After fulfilling the course requirements the students are qualified to start their dissertation research under the guidance of their supervisors. The period of dissertation research is 2 semesters for M.S. degree and minimum 3 semesters for Ph.D. degree.

Language of Instruction: Turkish

MASTER'S PROGRAM IN MICROBIOLOGY

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<tr>
<th>First Semester</th>
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<tr>
<td>Advanced Microbiology I</td>
<td>Advanced Microbiology II</td>
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<tr>
<td>Clinical Microbiology I</td>
<td>Clinical Microbiology II</td>
</tr>
<tr>
<td>Fundamental Immunology</td>
<td>Environmental and Industrial Microbiology</td>
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Ph.D. PROGRAM IN MICROBIOLOGY

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<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td>Pathogenesis of Infectious Diseases</td>
<td>Microbial Genetics</td>
</tr>
<tr>
<td>Advanced Microbiology I, II</td>
<td>Special Topics in Medical Virology</td>
</tr>
<tr>
<td>Fundamental Immunology</td>
<td>Medical Mycology</td>
</tr>
<tr>
<td>Planning of Microbiological Research</td>
<td>Planning of Microbiological Research</td>
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<tr>
<td>Works I</td>
<td>Works I</td>
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Third Semester:
Planning of Microbiological Research Works III
PATHOLOGY
CYTOTECHNOLOGY

Head of Program: Prof. Sevgi KÜLLÜ, M.D.

The cytotechnology MSc training programs provide theoretical and practical education in gynecologic and non-gynecologic diagnostic cytology as well as processing biological specimens for cytologic analysis. Laboratory facilities are provided for students to teach routine pathology technical work and research methods in pathology.

Candidates are required to have a previous training in biological science or should have completed a previous technology course in pathological laboratory techniques.

Language of Instruction: Turkish

MASTER’S PROGRAM IN CYTOTECHNOLOGY

General Histology
Systemic Histology
General Cytotechnology
Systemic Cytotechnology

Students are also required to follow other courses (basic concepts in pathology, molecular biology, statistics, etc.) from other departments.

COURSE DESCRIPTIONS

General and Systemic Histology: Microscopic study of the human body, including normal structure and function.

General Cytotechnology: Basic cytomorphology, cytomorphologic features of gynecologic and nongynecologic cytology, fine needle aspiration, cytopreparation techniques and microscopic study are discussed.

Systemic Cytotechnology: Study of diagnostic cytopathology of different systems, management and professional issues are required components of cytotechnology curricula. Application of cytodiagnostics criteria to develop practical expertise in microscopic analysis. In addition students should be exposed to emerging diagnostic technologies.
PHARMACOLOGY

Head of Program: Prof. Dr. Gül Ayanoğlu DÜLGER
Prof. Kemal BERKMAN, M.D.

The department of Pharmacology offers both an M.S. program and a Ph.D. program. School of Pharmacy graduates are accepted to the M.S. program which aims at a rigorous instruction of medicine to form the basis for a good education in pharmacology later. For this purpose, the students are obliged to take the 2nd and the 3rd years of the School of Medicine. Besides, they have to take the basic graduate courses in Pharmacology and prepare a thesis.

During the training of a Ph.D. degree, students are offered a well-balanced education in all fields of pharmacology both in theory and practice. They are also introduced to pharmacokinetics. Each topic is taught during a single academic year and examined at the end of it. Physiology, pathophysiology and pharmacology of the corresponding systems are reviewed with the active participation of the student. Along with other research assistants and postdoctoral research fellows the graduates also play an important role in the research activities of the Department. The student may take part in research projects carried out at the Department.

The graduates must prepare a thesis under the supervision of a member of the academic staff for the completion of the program. Courses designed for students of other allied sciences are also offered by the Department.

Language of Instruction: Turkish

COURSE DESCRIPTIONS

Basic Principles of Drug Action: Covers drug absorption, distribution and elimination, an introduction to pharmacokinetics, factors influencing drug effects, mechanisms of drug action and drug interactions.

Research Techniques in Pharmacology: Almost all of the methods (both in-vivo and in-vitro) used in pharmacological research are given. This is mainly a laboratory course.
MASTER'S PROGRAM IN CLINICAL PHARMACY

First Semester

Biology of Diseases
Advanced Biopharmaceutics and Clinical Pharmacokinetics
Clinical Biochemistry in Diagnosis and Treatment
Drug Information

Second Semester

Clinical Pharmacy and Therapeutics
Drug Monitoring (TDM)
Clerkships

COURSE DESCRIPTIONS

Biology of Diseases: This course deals with the pathogenesis of following topics:

a - Cardio Vascular System
b - Gastrointestinal System
c - Respiratory System
d - Nervous System
e - Others

Advanced Biopharmaceutics and Clinical Pharmacokinetics: In this course the student becomes familiar with the concept of biopharmaceutics which is the study of the relationship between physical and chemical properties of drugs and its dosage forms and the biological effects observed following the administration of the kinetics of absorption, distribution, metabolism and excretion of drugs, poisons and some endogenous substances.

Clinical Biochemistry in Diagnosis and Treatment: This course will explain all the relevant biochemical facts and theories necessary to the intelligent interpretation of analysis usually performed in the department of clinical chemistry.

Drug Information: This lecture deals with clinical use of drugs, side effects, contraindications for use, monitoring and patient education. Also this lecture deals with differences and the first choice of drug in the same group of drugs.

Clinical Pharmacy and Therapeutics: This course includes lectures on the role of the clinical pharmacist in therapeutics. It also explains how the pharmacist acts as an expert on drug products. And how he can serve both physician and patient as a knowledgeable advisor.

Drug Monitoring (TDM): This course will explain how an effective therapeutic drug monitoring service is founded on good analytical practice and the efficient organisation of laboratory resources. At the same time the clinical pharmacist must have a good knowledge of the pharmacological and toxic properties of the drug measured, of their metabiotics and distribution and how these are influenced by factors such as
PHYSIOLOGY

Head of Program: Assoc. Prof. Berrak YEĞEN, M.D.

In programs leading to a Master's Degree, Physiology aims to give the student a full appreciation and understanding of the human body.

In programs leading to a Ph. Degree, Physiology aims to give detailed, up-to-date information on special subjects, and to motivate the students for research.

Language of Instruction: Turkish

COURSE DESCRIPTIONS

General Physiology: A course reviewing the general mechanisms and concepts with selected topics related to the field of study of the student.

Research Techniques in Physiology: A practical course for teaching some useful techniques that can be used in basic physiology research.

Gastrointestinal Motility: This course is concerned with new research about gut motility. Basic methods to measure the motor activity are shown during the course.

Introduction to Free Radicals: The aim of the course is to discuss the basic knowledge related with free radicals in health and disease and the major methods for their measurement.

Gastrointestinal Inflammation: The factors that cause acute or chronic inflammation in various organs of the gastrointestinal system and the agents that are involved in the pathophysiology of these inflammatory processes are discussed during the course.

Regulation of Blood Pressure and Blood Flow: The arterial and peripheral control mechanisms that are responsible of cardiovascular regulation and the pathophysiological mechanisms of hypertension, circulatory disturbances are discussed. The methods that are used in cardiovascular research are also involved in the objectives of the course.
PUBLIC HEALTH

Head of Program: Prof. Şanda ÇALI, M.D.

The Department of Public Health is one of the major departments of Faculty of Medicine. This department is responsible for the curriculum of Phase III of medical students and also the Public Health training program of the Phase VI (internship year) students. The academic staff of the department are well experienced in Primary Health Care Services, Public Health Administration, Maternal and Child Health Care, Family Planning, Occupational Medicine, Health Education, Biostatistics, Epidemiology and Introduction to Anthropology. Department of Public Health offers a Ph.D. degree.

Language of Instruction: Turkish

COURSE DESCRIPTIONS

Epidemiology: Includes subjects such as field survey and research methods, descriptive and analytical studies, methods of collecting and summarizing data, and investigation of epidemics.

Public Health Administration: Includes subjects such as health care planning, organization and evaluation, structure and functions of different health care systems, health economics, health manpower planning, international health, organization of preventive and curative services, health policy and politics of health.

Maternal and Child Health Care: Some subjects are indices for the evaluation of maternal and child health care level, immunization, family planning programs and practices, organization of child health care services, research methods in maternal health, and research methods in child health.

Occupational Medicine: Significance of metals to health, diseases associated with exposure to chemical substances, pesticides, pulmonary responses to gas and particles, illness due to thermal extremes, ionizing and nonionizing radiation, ergonomics, industrial hygiene, occupational cancers, surveillance, monitoring and screening in occupational health.
NURSING

CHILD HEALTH AND DISEASES NURSING

Head of Program: Assist Prof. Hatice PEK

The aim of this program is to provide a post-graduate education in Child Health and Diseases Nursing. The MS degree is given after the completion of a 4-semester program.

Language of Instruction: Turkish

MASTER'S PROGRAM IN CHILD HEALTH AND DISEASES NURSING

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td>Child Health and Diseases Nursing I</td>
<td>Child Health and Diseases Nursing II</td>
</tr>
<tr>
<td>The Concepts Related to the Child Health I</td>
<td>The Concepts Related to the Child Health II</td>
</tr>
</tbody>
</table>

Students are also required to follow other courses (Biostatistics, Ethics, Anthropology, Health Education, Nursing Education, Physiology, Health Promotion) from other departments.

COURSE DESCRIPTIONS

Child Health and Diseases Nursing I-II: Child health and diseases nursing, growth and development in childhood and adolescence, the condition of the child health in the world and Turkey, primary health care and the role of the nurse, nosocomial infections acute illnesses in children and nursing care, chronic illnesses in children and nursing care, health education for the child and family, the process of pediatric nursing.

The Concepts Related to the Child Health I-II: Human being, health and disease, environment, self and body image, communication, empathy, anxiety, stress, crises and adaptation, pain, hope and hopelessness, social isolation, sensory deprivation, aloneess, death perception and reactions, loss and grief.
FUNDAMENTALS OF NURSING

Head of Program: Assist Prof. Şule Ecevit ALPAR

The aim of this program is to provide a post-graduate education in Fundamentals of Nursing. The M.S. degree is given after the completion of a four-semester program.

Language of Instruction: Turkish

MASTER'S PROGRAM IN FUNDAMENTALS OF NURSING

First Semester Second Semester

Fundamentals of Nursing I Fundamentals of Nursing II

Students are also required to follow other courses (Biostatistics, Physiology, Education of Health, Anthropology in Health, Antibiotics and Antimicrobials, Nursing Education etc...) from other departments.

COURSE DESCRIPTION

Fundamentals of Nursing I-II: What is Nursing, Concepts of health; Concepts of Health-illness - human - environment; Concepts and theories; Homeostatis; Nursing Process; Fluid-Electrolyte Balance; Sterilisation, Disinfection, Antisepsis and Isolation; Advanced Care of Body Systems; Nursing Implementations and interventions of diagnostic tests; Medical Developments; Nursing interventions in special units, terminal care.
NURSING ADMINISTRATION AND MANAGEMENT

Head of Program: Assist Prof. Nefise BAHÇECİK

The aim of this program is to provide a post-graduate education in Management in Nursing Services. The MS degree is given after the completion of a 4-semester program.

Language of Instruction: Turkish

MASTER'S PROGRAM IN NURSING ADMINISTRATION AND MANAGEMENT

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td>Nursing Administration and Management I</td>
<td>Nursing Administration and Management II</td>
</tr>
</tbody>
</table>

Students are also required to follow other courses (Biostatistics, Health Education, Management of Organization, Management of Education, Concept and Theory etc.) from other departments.

COURSE DESCRIPTION

Nursing Administration and Management I-II: Essentials of concepts and theories in management, philosophy and goals of nursing management, definition, essentials of concepts and theories in organization, essentials of effective managements, nursing care delivery systems, health care systems, health team and role building, organization of nursing services, staff development, assertive, health law, participative management, coaching, meeting management, total quality management, budgeting, time management, management of support services.
COURSE DESCRIPTIONS

Obstetrics Nursing: Period of antenatal, pregnancy, delivery and postnatal nursing care, Risk factors, fetus and neonatal and maternal.


Concepts and Theories in Nursing I-II: Famous theorists in Nursing, importance of concepts and theories in nursing care.

Health Assessment: Detailed health history, complete physical assessment, review of common laboratory studies, common normal findings, important abnormal finding.
SURGICAL NURSING

Head of Program: Assoc. Prof. Deniz ŞELİMEN

The aim of this program is to provide a post-graduate education in surgical nursing. The M.S. degree is given after the completion of a 4-semester program. The students are expected to acquire the knowledge of concepts and skills for practice through the theoretical and practical education.

Candidates are required to have a BS degree in Nursing.

Language of Instruction: Turkish

MASTER'S PROGRAM IN SURGICAL NURSING

First Semester                      Second Semester
Surgical Nursing I                 Surgical Nursing II

Students are also required to follow other courses (Biostatistics, Physiology, Health Education, Nursing Education etc..) from other departments.

COURSE DESCRIPTION

Surgical Nursing I-II: Concepts of health, Homeostasis, Nursing process in surgical nursing, Infection control in surgical unit, Sterilisation-disinfection and antisepsis, Fluid-electrolyte and acid-base imbalances and total parenteral nutrition, Emergency care, Nursing in the intensive care unit, trauma care, preoperative-peroperative-postoperative care; General symptoms in surgery, Anesthesia, Wound healing, Burns, New technology in surgery, Diagnostic procedures in surgery, surgical oncology, transplantation nursing
COURSE DESCRIPTIONS

Spectroscopic Analysis I: Electromagnetic radiation, Lambert-Beer Law and its applications, the sources of errors.

Application of Molecular UV/Vis. Abs. Spectroscopy Quantitative Analysis.

Enstrumantation. Methods for quantification (spectrophotometric titrations, determination of equilibrium constants etc) Analysis of mixtures.


Spectroscopic Analysis II: Molecular Fluorescence and Phosphorescence. Enstrumantation and applications IR absorption spectroscopy Enstrumantation and applications. Qualitative and quantitative analysis by IR.
Nuclear magnetic Resonans Spectroscopy Enstrumantation and application of proton NMR.
Mass spectroscopy. Enstrumantation and applications.
Atomic Abs. Spectroscopy. Enstrumantation and applications.
Some other spectrophotometric methods: Colorimetry, turbidimetry, nephelometry.

Chromatographic Analysis I: A General description and Basic principles of Chromatography.
Important relationships for Chromatography
Classification of Chromatography: Column chromatography, Thin layer chrom., paper chrom. and their applications.


High Pressure Liquid Chromatography: Principles and Instruments. HPLC columns and stationary phases and deduction. Applications: Normal phase, reverse phase ion exchange, ion paring, size exclusion chromatographies. Qualitative and quantitative analysis.

Basic Programming for Chemical Calculations: A general description of computers. Instructions for BASIC. Programming technics. Algorithm. Unit changing programs based on SI system. Some statistical programs and regression, the last square etc. Some programs for chemical calculations. (Related to titration, chemical kinetics, redox reactions, structure of atom.)
Chemistry of Boron and Silicon: The chemical properties of boron. Inorganic boron compounds. Organoboron compounds, boronhydrides. Boron in analytical chemistry, the chemical properties of silicon. Inorganic silicon compounds. Silicates, organosilicon compounds. Silicon in analytical chemistry.

Analytical Separations: Methods of extraction. Distillation, steam distillation. Filtration techniques.

Dyes and Their Analysis: Natural and synthetic dyes. Dying methods and mechanisms. Removing the dyes from fibers. Identification of dyes using TLC, HPLC and spectrophometric methods.
Hormone Action: Hormone action mechanisms; adenylate cyclase cascade; formation of cAMP and its degradation, evaluation of cAMP, G-protein; seven-helix motif of the adrenergic receptor; phorsphoinositide cascade; eicosanoid hormones; tyrosine kinase activity; steroid and thyroid hormones.

Proteins and Enzymes I-II: Structure and functions of proteins; structure determination and purification of enzymes; enzyme kinetics; mode of enzyme action; enzymes of organised systems; isoenzymes; enzyme turnover; clinical enzymology; enzyme biotechnology.

Introduction to Immunology: Immune system cells; HLA complex; antibody formation; structure of immunoglobulins; inflammation mechanism; complement systems; cellular and humoral immunity.

Natural Bioactive Proteins: Isolation of proteins with antitumoral, antiviral, antibacterial, profibrinolytic, antiagregant and anticoagulant effects from microorganisms, plants and animal tissues; determination of their activities.

Biological Membranes and Transport Systems: Structure and function of cellular and intracellular membranes; membrane fluidity; transport systems; receptors; binding proteins; characterization of the transport systems.

Genetic and Metabolic Control: Cell physiology; endocrinological chemistry; interrelations between metabolic pathways; genetic and enzymatic regulation-operon theory, feedback control, hormonal control, allosteric control, covalent modification.

Biochemical Research Techniques I-II: Isolation of cellular organelles; purification of biological macromolecules-differential centrifugation, precipitation with salts, column chromatography, affinity chromatography; analysis of proteins and drugs with HPLC; electrophoresis-cellulose acetate, Davis-PAGE, SDS-PAGE, isoelectrofocusing, immunoelectrophoresis, proteoglican electrophoresis, lipid electrophoresis; flow cytometric techniques; agargel precipitation tests; ELISA, RIA; immunofluorescence techniques; molecular biology techniques-plasmid isolation, DNA isolation, PCR, probe preperations, designing of primers, polyclonal antibody preparations.

Coagulation Biochemistry I-II: Hemostatic system; structure and specificatics of coagulation proteins; plasma proteins and their relation to fibrinolytic system; natural inhibitors in hemostatic system.

Clinical Biochemistry in Diagnosis and Therapy: Biochemical parameters in diagnosis and in therapy; effects of drugs on these parameters; drug monitoring.

Hemostasis and Trombosis: Coagulation mechanism; platelet functions; fibrinolysis; natural inhibitors; endothelial cell; effect of some drugs to these mechanisms under normal and pathological conditions; molecular and genetic defects of diseases.


Active Substances of Plant Drugs: Isolation of active substances: organic acids, musilage, cardio-active glycosides, antraquinones, saponins, coumarins, tannins, volatile oils, alkaloids terpenes, fixed oils, iridoids.

Plant Anatomy (I-II): Cell and tissues. The anatomy of the root, stem, leaf, flower and fruit.

Useful Plants: Plants used as sources of food, spice, medicine, fiber, dye, gum, resin, oil etc. Aromatic plants. Herbal teas. Plants used in perfumery and cosmetics.


Selected Topics in Pharmaceutical Chemistry I-II: The quantitative analysis of some drug groups. The synthesis, analysis and chemical and pharmacologic aspects of drugs as new therapeutic agents.


Organic Reactions: The most widely used reactions in synthetic studies.

Professional English: Translation, academic writing, learning to use the patterns commonly used in academic life, especially in health sciences.

Advanced Organic Chemistry I-II: Chemical bonds, nucleophilic and electrophilic substitution, elimination, addition, oxidation and reduction reactions.

Medicinal Chemistry I-II: The relationships between biological systems and drug molecules. The relationships between biological response and structure-physicochemical characteristics. The mechanisms of drug activity.

Antibiotics: Their synthesis, classification chemical profiles and pharmacological use.

Steroid Hormones: General structures, biosynthesis, chemical synthesis of steroid hormones i.e, estrogens and androgens.

Techniques in Drug Metabolism I: The aim and objectives of drug metabolism reactions and their effects in the organism, the strategy used in drug metabolism studies, the preparation techniques for biological systems is microsomal preparations, in vitro and in vivo techniques, metabolism kinetics, enzymology and interpretation of results.

Techniques in Drug Metabolism II: Extraction, separation, preparation of biological systems, reactions with biological systems, analysis and identification of metabolites using sensitive techniques i.e. spectroscopy, spectrometry and chromatography.

Selected Topics in Pharmaceutical Chemistry III-IV: Five and six membered heterocyclic structures and related drugs.

Drug Metabolism: A major interest of this program is to establish the chemical mechanism and enzymology involved in the metabolic biotransformations of nitrogen, sulphur and oxygen containing compounds. Biotransformation of drugs and other xenobiotics with particular emphasis on the following a) metabolic N-oxygenation of organic nitrogen compounds, characterisation of enzyme systems mediating specific N-oxidations b) metabolism of heterocyclic drugs and xenobiotics c) design of pro-drugs d) in vivo metabolism of aromatic amides and esters.
PHARMACEUTICAL MICROBIOLOGY

Head of Program: Prof. Dr. Adile ÇEVİKBAŞ

The Pharmaceutical Microbiology Master’s program provides theoretical and practical education in basic Pharmaceutical Microbiology. The students are prepared for a research and teaching career in Universities and for leading positions in drug industry. Candidates are required to have a B.Sc in Pharmacy, Biology, also Veterinary Science.

Language of Instruction: Turkish

**MASTER’S PROGRAM IN PHARMACEUTICAL MICROBIOLOGY**

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td>Antimicrobial Agents</td>
<td>Sanitation, Disinfection, Asepsis in Pharmaceutical Industry.</td>
</tr>
<tr>
<td>Sterilization Disinfection and Asepsis</td>
<td>Advanced Pharmaceutical Microbiology II</td>
</tr>
<tr>
<td>Advanced Pharmaceutical Microbiology I</td>
<td></td>
</tr>
<tr>
<td>Pathogenesis of Infectious Diseases and their Treatment</td>
<td></td>
</tr>
</tbody>
</table>

Students are also required to follow other courses (Advanced Microbiology I and II, Statistics.. etc) from other departments.

**COURSE DESCRIPTIONS**

**Antimicrobial agents:** Classification of antibiotics, Mechanism of action of antibiotics, Clinical uses of antimicrobial drugs, bacterial resistances to antibiotics, production of antibiotics, The effect of antimicrobial drugs on immune system are discussed.

**Sterilization, Disinfection and Asepsis:** Germ-free technology, Chemical disinfection of medical and surgical materials, sterilization disinfection and asepsis in dentistry and hospital, disinfection of drinking water and treated sewage effluents are discussed.

**Advanced Pharmaceutical Microbiology I:** Biology of microorganisms, ecology of microorganisms as it affects the pharmaceutical industry. Microbial spoilage and
PHARMACEUTICAL TECHNOLOGY

Head of Program: Prof. Dr. Betül DORTUNÇ

The purpose of this department is to provide a basic background on the design and evaluation of pharmaceutical dosage forms.

Language of Instruction: Turkish

MASTER'S PROGRAM IN PHARMACEUTICAL TECHNOLOGY

First Semester
- Physical Pharmacy I
- Analytical Methods in Pharmaceutical Technology
- Tablet Technology
- Biopharmaceutics I
- Controlled Release Systems I
- Stability
- Selected Topics in Physical Pharmacy
- Experimental Design in Pharm. Technology

Second Semester
- Biopharmaceutics II
- Physical Pharmacy II
- Pharmaceutical Biotechnology
- Hospital Pharmacy
- Controlled Release Systems II

COURSE DESCRIPTIONS

Analytical Methods in Pharmaceutical Technology: Pharmaceutical analysis including methods such as spectrophotometric, chromatographic, enzyme-immunoassay, liquid scintillation counting.

Tablet Technology: Tablet excipients, the types of tablets, methods of preparation, and physics of tablet compression.

Biopharmaceutics I: The effects of excipients and physiological conditions on bioavailability of drugs, physiological transport mechanisms, biotransformation elimination, distribution, bioavailability, drug interactions.

Biopharmaceutics II: Basic pharmacokinetics.

Physical Pharmacy II: Solubility, diffusion, distribution, dissolution kinetics, electrolyte solutions, non-electrolyte solutions, colloidal dispersions, powders.
Preformulation II: Microscopy, crystal morphology, particle size analysis, powder flow properties, compression properties, excipients and compatibility.

Drug Delivery to the GI System I: No-invasive methods for measuring GI transit, role of oesophageal transit in relation to drug delivery, GI structure and function on postcibal transit of drug particles, small intestine transit, colonic transit, enteric coatings and delayed release.

Drug Delivery to the GI System II: Osmotic pumps, neutron activation methods for evaluation of pharmaceutical dosage forms, drug delivery to oral mucosa, drug absorption from the human colon; relationship between pharmacokinetics and GI transit.

Targeted Drug Delivery I: Principles of targeting, opportunities and challenges for targeting, transport and passage of molecules across capillary endothelium, endocytosis, blood-brain barrier and brain targeting of drugs, targeting strategies, models of targeting (active an passive targeting), active targeting moieties, monoclonal antibody production.

Targeted Drug Delivery II: Colloidal carriers for controlled drug delivery and targeting, in vivo behaviour of carriers, liposomes for drug targeting, polymeric particles for drug targeting, fat emulsions for targeting.

Specialized Topics I: An overview of pharmaceutical dispersed systems, specialized pharmaceutical emulsions, microemulsions and liquid crystalline systems, fundamental properties of ointments, ophthalmic ointments and gels, literature survey.

Specialized Topics II: Buccal and transmucosal tablets, sublingual tablets, implants, lozenges, chewable tablets, soft gelatin capsules, specialized large volume parenteral solutions (Hyperalimentation solutions, peritoneal dialysis solutions, irrigating solutions), osmotic pressure measurements, literature survey.

Validation: Description, regulatory considerations regarding validation, organizing for validation, prospective and retrospective validation, process validation.

Mathematical Modelling: Statistical modelling, multiple regression, artificial neural network, constrained and nonconstrained optimization.
PHARMACEUTICAL TOXICOLOGY

Head of Program: Prof. Dr. F. Ömer ERSOY

The aim of pharmaceutical toxicology program is to provide educated and trained toxicologists, in the field of the investigation and evaluation of toxic effects of chemicals and pharmaceuticals.

Language of Instruction: Turkish

MASTER'S PROGRAM IN PHARMACEUTICAL TOXICOLOGY

First Semester

Toxicological Analysis I
Advanced Toxicology
Systemic Toxicology I

Second Semester

Toxicological Analysis II
Poisoning, First Aid and Antidotes
Systemic Toxicology II
Nutritional Toxicology

Ph.D. PROGRAM IN PHARMACEUTICAL TOXICOLOGY

First Semester

Clinical Toxicology
Toxicity Testing

Second Semester

Industrial Toxicology
Environmental Toxicology
Chemical Carcinogenesis
Mutagenesis and teratogenesis

Third Semester

Xenobiotic Metabolism
Forensic Toxicology

Toxicology of Natural Substances

COURSE DESCRIPTIONS

Advanced Toxicology: Lectures on toxicokinetics and toxicodynamics.

Toxicological Analyses I-II: Knowledge in analytical methods for isolation and determination of toxic substances are given.

Poisoning, First Aid and Antidotes: Cases of poisoning, epidemiology and statistics, first aid measures and knowledge about antidotes.
PHARMACOGNOSY

Head of Program: Assoc. Prof. Dr. Elçin GÜRKAN

Macroscopic, microscopic and chemical research of medicinal plants. The program offers MS and Ph.D. degrees in Pharmacognosy.

Language of Instruction: Turkish

MS and Ph.D. PROGRAMS IN PHARMACOGNOSY

<table>
<thead>
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<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td>Active Substances of Plant Drugs</td>
<td>Advanced Radiobiology</td>
</tr>
<tr>
<td>Radiobiology</td>
<td>Application of Modern</td>
</tr>
<tr>
<td>Plant Identification I</td>
<td>Methods in the Analysis of Plant Material</td>
</tr>
<tr>
<td>Plant Taxonomy and its Basic Principles</td>
<td>Flora and Vegetation of Turkey</td>
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<tr>
<td></td>
<td>Scientific and Academic</td>
</tr>
<tr>
<td></td>
<td>Basic Principles and Rules</td>
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</tbody>
</table>

COURSE DESCRIPTIONS

Active Substances of Plant Drugs: Isolation of active substances: Organic acids, musilage, cardio-active glycosides, anthraquinones, saponins, coumarins, tannins, volatile oils, alkaloids, terpenes, fixed oils, iridoids.

Radiobiology: The various biological effects of radiation on the cell.

Scientific and Academic Basic Principles and Rules: Science, University Scientific research and studies. Academic principles.


PHYSICAL EDUCATION

SPORTS MANAGEMENT

Head of Program: Prof. Bilge AYKURT, M.D.

Language of Instruction: Turkish

MASTER’S PROGRAM IN SPORTS MANAGEMENT

First Semester
Statistics in Sports Management
Recreation
Public Relations in Sports
Sports Management
Orientation Techniques in Sports
Sports Ethics
Social Group Analyses in Sports
Sports Organization I
Special Topics in Sports Law I
Special Topics in Sports Psychology I
Research Methods in Sports

Second Semester
Sports Marketing
Sports and Ecology
Sports and Art
Organization Theories in Sports
Sports Organization II
Special Topics in Sports Law II
Special Topics in Sports Psychology II
Special Topics in Sports Sociology II
Ergonomics in Sports
Research Methods in Sports

Ph.D. PROGRAM IN SPORTS MANAGEMENT

First Semester
Current Problems of Sports Management
Sports Financing
Trends in Recreation
Olympism and Organization of Olympic Games I
Social Development and Sport
Psychological Training in Sports
Preventive Psychological Health in Sports
Social Security in Sports

Second Semester
Current Problems in Sports Law
Qualifications of Sports Managers
Olympism and Organisation of Olympic Games II
Health Organization in Sports
Communication in Sports
Researches and Tests in Sports Psychology
Leadership Theories in Sports
Organization Theories in Sports: Discusses the methods and theories in the context of organization of sports activities.

Ergonomics in Sports: Looks at methods and theories in order to obtain the most healthy and productive outcome in sports activities.


Sports Financing: Discusses the management of resources and the ways of finding new funds for the organizations in addition to sponsorship in sports.

Trends in Recreation: Looks at the types of recreational activities and reasons behind their development in past and present societies.

Olympism and Organization of Olympic Games I-II: Discusses the history and philosophy of Olympic Games; the activities and preparations for the Organization of Olympic Games in Turkey, and the precautions that should be taken on management and infrastructural aspects.

Social Development and Sports: Discusses the developments in sports understanding and applications according to the cultural and economical changes.

Psychological Training in Sports: Discusses the techniques aiming to direct systematically the psychological performance which effects sports performance.

Preventive Psychological Health in Sports: Evaluates the positive effects of sports activities in prevention and development of psychological health.

Social Security in Sports: Discusses the acceptance of athletes to private or general health insurance as well as social insurance.


Qualifications of Sports Managers: Discusses the education and qualifications of sports managers and precautions in development of their specifications.

Health Organizations in Sports: Discusses the considerations on the role and responsibilities of managers, trainers and referees in health organizations; looks at health organizations during training and local, regional, national and international competitions.

Communication in Sports: Discusses the role of the media in popularity of sports and the importance of introduction of new sports to the society.
SPORTS AND SPORTS HEALTH SCIENCES

Head of Program: Prof. Bilge AYKURT, M.D.

The Department of Physical Education and Sports offers Masters and Ph.D. programs in the areas of Sports, Sports and Health and Sports Management.

MASTER'S PROGRAM IN SPORTS AND SPORTS HEALTH SCIENCES

First Semester

Sports Rehabilitation I
Development of Movement in Basic Education
Biochemistry I
Special Training Techniques in Sports
Kinesiology I
Research Techniques I
Kinantropometry I
Exercise Physiology I
Motor Learning I
Sports Medicine and Health Organizations for Sportsmen I
Use of Medicine and Doping in Sports I
Teaching Knowledge in Sports Anatomy

Second Semester

Sports Rehabilitation II
Nutrition in Sports
Biochemistry II
Sports Psychology
Kinesiology II
Research Techniques II
Kinantropometry II
Exercise Physiology II
Motor Learning II
Sports Medicine and Health Organizations for Sportsmen II
Use of Medicine and Doping in Sports II
Teaching Techniques in Sports
Kinanthropometry I-II: Evaluates body composition, proportional relationship of body parts and the relationship between sports branches and physical characteristics of the body.

Exercise Physiology I-II: Muscle types and contraction characteristics, energy metabolism, relationship between muscular, cardiovascular and endocrine systems during exercise and nerve-muscle control are subjects that are thought.

Motor Learning I-II: Motor learning theories, basic information, measurement of learning, short and long term motor memory, and theories on remembering and forgetting are discussed.

Sports Medicine and Health Organizations for Sportsmen I-II: Teaches effects of sports on the body according to age, sex, and environmental factors as well as the responsibility of managers and trainers in health organizations and teaching of use of protective gear in sports.

Use of Medications and Doping in Sports I-II: Considers different doping substances used by athletes, their effects and side-effects and the types of risk factors that they create for the athlete.

Teaching Knowledge in Sports: The questions of what, when, how much and to whom sports teaching should be done are questions that are considered.

Anatomy: Muscular, skeletal, cardiovascular, respiratory and nervous systems are considered.

Nutrition in Sports: Nutritional needs of an athlete before and after competition and the relationship between nutrition and muscular performance are detailed.

Sports Psychology: Psychological factors that are important in sports performance and the use of these factors by athletes are discussed.

Teaching Techniques in Sports: The basics of teaching techniques especially in teaching sports and alternative teaching methods are discussed.

COURSE DESCRIPTIONS

Sports Rehabilitation I-II: Defines rehabilitation and discusses the purpose and methods of rehabilitation as well as looking at causes of sports injuries, signs and symptoms of injury and prevention from injuries. It also covers treatment procedures until the injured athlete reaches a physician and techniques of rehabilitation following treatment in order to quickly return to competitive play.

Sports Medicine and Health Organizations For Sportsmen I-II: Teaches effects of sports on body according to age, sex and environmental factors as well as the response of managers and trainers in health organizations and teaching of use of protective gear in sports.
7. INSTITUTE OF MIDDLE EASTERN AND ISLAMIC COUNTRIES

Director: Prof. Dr. Ahmet TABAKOĞLU
Assistant Directors: Prof. Dr. Ömer DİNÇER
Assoc. Prof. Dr. Mustafa AYKAÇ

Language of Instruction: Turkish

The Institute of Middle Eastern and Islamic Countries, founded in 1992, aims organizing educational programs to improve the relations of Turkey with Middle East and Islamic countries in this changing world. For this purpose the Institute develops research projects and aims

- to organize educational programs in post-graduate level as Master and Ph.D;
- to collect; accumulate and communicate the information about Middle Eastern and Islamic countries;
- to provide feasible projects for public and private institutions making comparisons and analysis among the cited countries;
Ph.D. PROGRAM IN ECONOMICS OF MIDDLE EASTERN AND ISLAMIC COUNTRIES

First Semester
Economic Systems
Economic History of the Middle Eastern Countries
Economic Cooperation of Middle Eastern Countries.

Second Semester
Development Problems of the Islamic Countries
Financial Markets in Middle East and Islamic Countries.
Physical Sources of Middle East and Islamic Countries
Turkish Republics and Their Economic Relations with Turkey I

First Semester
Islamic Economics I
History of Islamic Economic Doctrines I

Second Semester
Islamic Economics II
History of Islamic Economic Doctrines II

MASTER'S PROGRAM IN GEOGRAPHY AND DEMOGRAPHY OF MIDDLE EASTERN AND ISLAMIC COUNTRIES

First Semester
Research Methods in Modern Geography
Middle Asian Countries
Demography
Statistics
Contemporary Islamic Countries I
Research Methods & Techniques in Social Sciences
Physical Geography of Africa

Second Semester
Historical Geography of Ottoman State
Physical Geography of Islamic Countries
Economic Geography of Islamic Countries
Human Geography of Islamic Countries
Contemporary Islamic Countries II
Human Resources of Islamic Countries
Geo-politics

MASTER'S PROGRAM IN LAW SYSTEMS IN MIDDLE EASTERN AND ISLAMIC COUNTRIES

First Semester
Scientific Research Methods
Introduction to Islamic Law I
Personal and Family Law in Islamic Countries I
Islamic Financial Law I
Comparative Law I
Codification Movements in Islamic Countries I
History and Geography of Islamic Countries I

Second Semester
Paleography and Diplomats
Introduction to Islamic Law II
Personal and Family Law in Islamic Countries II
Islamic Financial Law II
Comparative Law II
Codification Movements in Islamic Countries II
History and Geography of Islamic Countries II
Maritime Law Practices in Islamic Countries
Demographic Structures in Middle Eastern and Islamic Countries: The aim of this course is to determine the different and complicated demographic structures of the Middle Eastern countries.

Comparative History of Religions: Religions are very important in determining the basic characteristics of the society. Middle East is the cradle of the religions. The aim of the course is to study the history of these religions and to help to understand the sociology of these countries better.

Statistics: This is a very important requirement for sociologists and anthropologists and also for those studying geography.

Theories of Sociology: The course aims to apply the theories of sociology to Middle Eastern and Islamic countries.

Turkish-Islamic Culture and Civilization: The basic characteristics of this culture and civilization will be scrutinized.

Basics of Sociology: The basics of sociology and further information are given.

Social Structure and Transformation: Social structures of the Middle Eastern and Islamic Countries and social transformation which is quite prevalent will be studied.

Politics & Society in Islamic Thought: It is aimed at exploring the sociologic and political viewpoint of Islam.

Introduction to Islamic Economics: The interrelation of economics and sociology and determination of the economic realities of Islam.

Problems of Turkish Sociology: The sociologic problems of Turkey are studied.

Seminar on Sociologic Studies: The aim is to prepare the students to make sociologic studies.

Modernization in Islamic Society: Modernization in Islamic societies and the problems in transformation are studied.

Sociology of Religion: Examining the religious life through objective, methodical and typological ways. Studying the religion from sociological point of view.

Research Methods in Modern Geography: To teach the students the methods which will guide them in their researchs is planned.

Historical Geography of Ottoman State: Ottoman State represents a very important era for the region. The aim at the course is to determine geographic characteristics of the era.
8. INSTITUTE OF NEUROLOGICAL SCIENCES

Director : Prof. M. Necmettin PAMİR, M.D.
Assistant Directors : Prof. Aydın SAV, M.D.
                     Assoc. Prof. M. Memet ÖZEK, M.D.

Language of Instruction: Turkish

The Institute of Neurological Sciences of Marmara University was founded in 1992. The Institute is in the Başköy-Maltepe district of Istanbul.

The management of the Institute is organized by an executive committee of seven members. The main task of the Institute is to diagnose and treat neurological disorders and carry out experimental and post graduate studies on neurological sciences.

The Institute of Neurological Sciences has laboratories of biochemistry, neuropathology, electromyography, evoked potentials, electroencephalography and trans-cranial doppler. The Units of Neurology, Neurosurgery, Physical Therapy provide medical services in outpatient and inpatient departments with a capacity of 50 beds.

Medical staff consists of 3 neurosurgeons, 2 neurologists, 1 pathologist, 1 radiologist, 1 anesthetist and 1 psychiatrist. Some specific services are also provided on epilepsy surgery, spinal cord surgery, stereotaxic surgery, pathology of peripheral nerves and muscles.
9. INSTITUTE OF SOCIAL SCIENCES

Director : Prof. Dr. Orhan SEZGİN
Assistant Director : Assist. Prof. Esin Can MUTLU

The Institute of Social Sciences is the largest institute offering postgraduate programs at Marmara University. The Institute gives MA and Ph.D. Degrees in a multitude of disciplines that can be broadly defined as fields in the Social Sciences.

The Institute was first established in 1982. Presently, it functions with close co-operation with departments in five faculties: the Atatürk Faculty of Education, the Faculty of Communication, the Faculty of Divinity, Faculty of Economic and Administrative Sciences, and the Faculty of Law.

Languages of Instruction: The main language of instruction for the majority of programs is Turkish. However, there are five graduate programs in English, one program in French, and one in German.
COMMUNICATION

Director: Prof. Dr. Ateş VURAN

JOURNALISM

Head of Program: Prof. Dr. Ateş VURAN

The MA and Ph.D. Programs in Journalism are programs implemented by the Department of Journalism, in The Faculty of Communications. The Department of Journalism is designed to organize MA and Ph.D. programs on Journalism and related subjects. This department aims to graduate high skilled communicators who are able to analyze and explain the complex events of our times, and who are able to combine this ability with journalistic skills. Although the main emphasis of the Journalism courses is on written press and journalism, they are designed to give an overall view of communication problems/sector/business in general, from the point of view of their economic, social, legal and political aspects.

The MA degree necessitates the completion of a teaching program of two semesters comprised of 22 hours (11 courses of two hours, in two semesters) followed by a written dissertation in maximum 4 semesters; and approved by the assigned advisor and defended successfully in front of an assigned jury.

Language of Instruction: Turkish

MASTER'S PROGRAM IN JOURNALISM

First Semester

Some Concepts and Institutions of the American Press
The Sociological Foundations of Democracy
Journalism and Social Psychology
The New Communication Environment in the Globalization Era
Some Concepts and Institutions of Political Science

Second Semester

Contemporary Communication Technology in Theory and Practice
Media and Democracy
Methodological Approach to the Behavioral Sciences
Media Evaluation and Critics about Contemporary Political Developments
Some Concepts Concerning the Problems of the Mass Communication Law in Turkey
Local Journalism and Its Problems
Some Concepts Concerning the Problems of the Mass Communication Law in Turkey: Legal regulations and deficiencies concerning the mass media (especially the press, radio and television) in Turkey.

Local Journalism and Its Problems: The problems of local journalism in Turkey, in comparison with the European countries and the USA.

COURSE DESCRIPTIONS

Extreme Movements and Problems in the Democratization Process in Turkey: The fundamentals of the Turkish democratic life and institutions, and the underground illegal opposition groups from the left and right wings, working against the regime.

The Turkish Press in the Turkish War of Independence: The contribution of the Turkish press for the War of Independence.

Media Crimes and Law: Examination of various case studies concerning the problems posed by the application of the media laws in Turkey; and different kinds of media crimes including computer crimes.

Media-Culture and Society Relations: The relations between media, culture and society, in the 20th Century societies.

Sales Policies in the Turkish Press: Sales, promotion and management policies and problems in the Turkish press.

International Media Organizations: Recent approaches of the international media to the world issues; and international media organizations, press institutions and news agencies.

Responsibility and Self-Regulation in the Mass Media: Auto-control mechanisms and ethical rules in the mass media.

Media Cartels in the Globalization Era: International media concentration in the era of globalization and its social effects in Turkey.

Contemporary Socio-Economic Problems from the Point of View of the Media Communicator: Economic history of Turkey, and the evaluation of the economic policies executed between 1923 and 1995; also the approach of the mass media towards these policies.

Product Modification in Media: It involves changing product quality, features or style of newspapers, radio-television programs etc. to attract new audiences and media consumers.
INFORMATION SCIENCES (INFORMATICS)

In the MA and Ph.D. Programs in Information Sciences (Informatics); topics such as computer software and hardware, data base systems, informatics law, research methodology, media technology, desktop publishing etc. are taught, in order to train and educate the students about computer-aided technology and its utilization in mass communications. Although the program is situated in the Journalism Department, it is designed as an interdisciplinary and intersectional program to cover and include all of the subjects contained in all the three departments of the Faculty of Communications.

The MA degree necessitates the completion of a teaching program of two semesters comprised of 22 hours (11 courses of two hours, in two semesters) followed by a written dissertation in maximum 4 semesters; and approved by the assigned advisor and defended successfully in front of an assigned jury.

Language of Instruction: Turkish

MASTER’S PROGRAM IN INFORMATION SCIENCES
(INFORMATICS)

First Semester
Research Methods
Computer Hardware
Law of Informatics
Desktop Publishing
Communication Tools and Techniques

Second Semester
Information Theory
Desktop Video
Systems Analysis and Design
Software Systems
Computer Networks and Electronic Communication.
The Ph.D. degree necessitates the completion of a teaching program of two semesters comprised of 20 hours (10 courses of two hours, in two semesters) followed by a written dissertation in maximum 10 semesters; and approved by the assigned advisor and defended successfully in front of an assigned jury.

**Network Management and Communication Standards:** This course is concerned about the issues regarding the management of local and worldwide computer networks, the communication standards in using the networks, and the things that every network manager must know.

**Social Impacts of Informatics:** This course is about the effects of information technologies on the society, human and human relations.

**Decision Support Systems:** This course deals with the issues concerning the decision making process, its techniques and its implementation, using computer systems in any organization.

**Database Design and Management:** This course is about how to build functional databases. Steps in designing databases, what to consider in design, and management of databases for every need are examined.

**Video, Audio and Data Communication Techniques:** This course is about the most recent technology in video, sound and data transfer in computer networks, the standards and implementations are examined.

**Management of Informatics Projects:** This course is about managing the projects relating the information needs of an organization. The common and different aspects of informatics projects and other types of projects are examined.

**Informatics in Education:** The effects of information technologies in education, including how students and teachers can utilize computers in education.

**Interactive Information Systems:** Information systems technologies are now a part of daily life. This course examines the man-information-systems interaction in this respect.

**Hypermedia and Multimedia Systems:** Hypermedia and multimedia systems are new ways of communication, which combine sound, video and data to prepare documents, films, and the like. This course gives the necessary skills to use hypermedia and multimedia systems.

**Object Oriented Information Systems:** In this course, the fundamentals of object oriented technology and its use in information systems are examined.
Ph.D. PROGRAM IN MEDIA ECONOMY AND ADMINISTRATION

First Semester
Cost and Budgeting in Media Organizations
Sales Planning in Media Organizations
Management of Media Organizations
Financial Aspects of the Media Sector in the Turkish Economy
Data-Base Systems and Technology

Second Semester
Marketing of Printed Material
Financial Problems in the Media Sector
Management of Advertising in the Media sector
Information Systems and Automation in Media Organizations
Organizational Change from the Point of View of Behavioralism
International Media Sector and Turkey

COURSE DESCRIPTIONS


Media Management: Modern management methods in media business, with case studies.

Data Banks and Technology: Data banks from the technological point of view; and data bank utilisation, with examples from the domestic international data banks.

Circulation - Return Relations and Sales Estimation Methods: Methods of circulation planning and management in the press.

The Situation of the Media Sector in the Turkish Economy: The impact of the national economic conjuncture on media sector, and the impact of the mass media on the national economic conjuncture; and the influence of the media sector in the Turkish economy.

Media Holdings: Media sector and concentration in Turkey, in comparison with the global trends.

Cost and Budgeting in Media Organizations: General budgeting techniques in theoretical and practical terms; and its application in the media sector and organizations.

Management and Organization in Media Business: Management and organization methods and problems in media business; with case studies.

Contemporary Communication Technology in Theory and Practice: Contemporary radio and television technology, and the legal regulations in the world connected with the advancement of technology.
PUBLIC RELATIONS and ADVERTISING

Head of Program: Prof. Dr. Fuat ÇELEBİOĞLU

ADVERTISING AND PUBLICITY

Advertising, which constitutes a means for public relations, is the main subject matter of the MA Program in Advertising and Publicity whose primary goal is to graduate specialists competent at the analysis and implementation of advertising at the organizational as well as international levels.

The MA degree necessitates the completion of a teaching program of two semesters comprised of 20 hours (10 courses of two hours, in two semesters) followed by a written dissertation in maximum 4 semesters; and approved by the assigned advisor and defended successfully in front of an assigned jury.

Language of Instruction: Turkish

MASTER'S PROGRAM IN ADVERTISING AND PUBLICITY

First Semester

Mass Media and Technology
Behavioral Approach to Mass Communications
Marketing and Promotion
Written and Oral Techniques in Advertising
Communication Law and Ethics

Second Semester

Creative Approach in Press and Television Advertising
Methods of Public Relations and Publicity
Opinion Research Techniques in Advertising
Estimation Methods in Advertising Research
Basic Concepts of Advertising and Media Planning

COURSE DESCRIPTIONS

Mass Media and Technology: A technological approach to mass media and recent developments in media technology.

Behavioral Approach to Mass Communications: Behavioural theories and their validity in mass communications.

Marketing and Promotion: Marketing and promotion theories and methods; and their application in the media sector.
PUBLIC RELATIONS AND PUBLICITY

MA and Ph.D. Programs in public Relations aim to graduate PR consultants whose main occupation area constitutes the establishing of successful communication between private and public enterprises and figures with their target publics, as well as managing and/or analyzing the communication process in a wide range of areas including media relations, international public relations, illumination of the publics about contemporary problems, and the internal communication of the organizations.

The MA degree necessitates the completion of a teaching program of two semesters comprised of 22 hrs. (11 courses of two hrs., in two semesters) followed by a written dissertation in maximum 4 semesters; and approved by the assigned advisor and defended successfully in front of an assigned jury.

Language of Instruction: Turkish

MASTER'S PROGRAM IN PUBLIC RELATIONS

First Semester

Research Methods
The Press Industry
Public Relations and Sociology
Basic Concepts and Principles of Public Relations
Mass Culture
Turkish Press History

Second Semester

Environmental Problems and Social Consciousness
Public Relations in Transnational Corporations
Public Relations Projects
Cultural Interaction in the International Setting
Legal Aspects of the International Communication
International Public Relations
Cultural Interaction in the International Setting: The cultural aspects of the international relations, with an emphasis on publicity.

Legal Aspects of the International Communication: Some aspects of the international law problems concerning mass communications.

International Public Relations: International aspects of the public relations abroad, with examples from different countries and Turkey.

The Ph.D. degree necessitates the completion of a teaching program of two semesters comprised of 22 hrs. (11 courses of two hrs., in two semesters) followed by a written dissertation in maximum 10 semesters; and approved by the assigned advisor and defended successfully in front of an assigned jury.

COURSE DESCRIPTIONS

Media Management: Modern management methods and techniques used in the media business, with case studies.

Research Scheduling and Sampling: Planning, scheduling and sampling of research projects and polls.

Contemporary Political Developments: Discussion of contemporary political issues, with case studies.

Structure and Working of Public Relations Firms: Administrative and managerial structures and working systems of public relations firms.

Public Opinion Polls: Polling techniques using statistical methods, with case studies and applications.

Data Banks: The description, working system, purpose of the data banks, and the means and methods for utilizing them.

Sociological Approach to Public Relations: Sociological theories concerning public relations and the related subject areas.

Legal Regulations in Mass Communications: Developments in mass communication law in the world, and the recent regulations in Turkey.

Organizational Change: Organizational change, from the point of view of communication and public relations.

Publicity Methods and Its International Application: Publicity methods in general, its applications in the international market, and proposals for a Turkish model.

Terrorism and Media: The approach of the mass media to the issues of terrorism.
COURSE DESCRIPTIONS

The Development of Radio and TV Technology from the Beginning up to Date: Radio and TV broadcasting and technology, satellite communications, cable television and MMDS broadcasting in their historical phases of development.

Recent Techniques of News Research and Writing: Basic principles of news gathering, writing, and analysis.

The Cultural Environment of Communication in Contemporary Societies: Problems of communication such as technological developments, the expansion of participatory democracy, economic advancements, the demands for a more equitable allocation of resources, globalization of the world, the variations in the cultural and educational environments, are discussed.

Script Research and Broadcasting Techniques: Study of basic techniques of scriptwriting and different script forms; giving special emphasis on how to read and criticize scripts, focusing on character development, story structure, plot and dialogue.

The Legal Structure of Radio and Television Broadcasting in Turkey and in the World: The legal structure of radio and TV broadcasting in their historical development, in the world and in Turkey.

Türksat and Satellite Broadcasting: The social, economic, technological legal aspects of Türksat Satellite; and its future promises for Turkey.

The Development of Theater from the Antique Ages to the Age of Cinema and Television: Theories and forms of the theater from the antique ages up to date, with its popular versions in cinema and television.

Recent Theories of Communication: A critical approach towards the "bullet theory" of pre-1950's, which claims the communication process to be an independent variable in the control of the communicator; giving emphasis on the recent theories which attribute more weight on the reception phase of communication.

Program Analysis in Radio and Television: Formal and contextual analysis of radio-television programs in Turkey; in comparison with the Western experience.

Production in Radio: Production techniques and methods of radio; in theory as well as in practice.

History of Cinema: The historical development of cinema in Europe, America and in Turkey.

Camera Techniques in Cinema and Television: Utilization of camera, camera angels and lenses in cinema and TV; with practical works.
COURSE DESCRIPTIONS

Eveyday Images and Semiology: A cultural studies approach to the images and semiology in everyday life in modern societies.

Comparative Television Broadcasting: A comparison between the American, European and Turkish broadcasting systems. The course is concerned with relations between the state and broadcasting; regulative and administrative structures and the impact of new technologies, and privatization in various systems.

Socio - Cultural Environment in the Modern Age: The impact and role of communication in the socio-cultural environment of the modern ages, starting from 19th century.

Recent Developments in Radio and Television Technology: Video-image processing techniques, terrestrial television and radio broadcasting, and satellite and cable-TV applications.

Founder Directors of the Turkish Cinema: A brief history of cinema in Turkey, through exploration of major directors and their works; including Muhsin Ertuğrul, Ö. Lütfi Akad, Metin Erksan, Halit Refiğ, Atif Yılmaz, Ömer Kavur, Tunç Başaran.


The Historical Development of Radio - Television Broadcasting in Turkey: Radio and TV history in Turkey with reference to administrative and legal structuring of TRT in various periods of Turkey’s recent history. Political and social impacts of radio and TV, and the latest boom in private broadcasting are also examined.

The Process of Popularization in Cinema: The process of popularization in world cinema through its historical context.

Drama and Novel as a Communication Form: Starting from Shakespeare, Cervantes, Erasmus and Chaucer, the emergence of the novel and drama as new artistic forms; and the semantic transformations in the understanding of individualism, life, love and happiness; and their impact on modern societies; with special emphasis on Leo Lowenthal’s theories.

Italian Cinema: Major trends and forms in Italian cinema, by analyzing the works of some prominent directors such as De Sica, Rossellini, and Visconti.

The students enrolled in the Ph.D. program are expected to examine, probe and study the history and literature of communications in general and of radio, television and cinema in particular. The emphasis in this program is on theoretical and critical analysis of the field, whereas recent developments in the rapidly changing world of radio and television are also dealt with.
DIVINITY

Director: Prof. Dr. İbrahim Kafi DÖNMEZ

BASIC ISLAMIC SCIENCES

Director: Prof. Dr. Mehmet ERKAL

KORANIC COMMENTARY

Head of Program: Assoc. Prof. Dr. Sadreddin GÜMÜŞ

As a discipline of the Department of Principal Islamic Sciences in the Faculty of Divinity, Tefsir deals with Koranic commentary or interpretation of the Koran in a methodology. It also aims to help other Islamic disciplines like jurisprudence, Kalam solve the contemporary theological problems. In this discipline it is very important to know Arabic language in advanced level.

Language of Instruction: Arabic and Turkish

MASTER’S PROGRAM IN KORANIC COMMENTARY (TEFSİR)

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<thead>
<tr>
<th>First Semester</th>
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<tr>
<td>The Orientalists and their Koranic Researches I</td>
<td>The Orientalists and their Koranic Researches II</td>
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<td>The Sources of Methodology of Koranic Commentary I</td>
<td>The Sources of Methodology of Koranic Commentary II</td>
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<td>Arabic Language and its Rhetoric I</td>
<td>Arabic Language and its Rhetoric II</td>
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<td>The Methods of Koranic Commentary I</td>
<td>The Methods of Koranic Commentary II</td>
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<td>The Literature of Hadith I</td>
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<td>Qiraat (The ways and forms of reading the Koran) I</td>
<td>Qiraat (The ways and forms of reading the Koran) II</td>
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<td>Advanced Level of Arabic Language I</td>
<td>Advanced Level of Arabic Language II</td>
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<td>Mystical Koranic Commentary I</td>
<td>Mystical Koranic Commentary II</td>
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Inimitability of the Koran I-II: It deals with the aspects of inimitability (i'câz) of the Koran and discusses by which aspect it has been a miracle; by its phonetic complex or by its meaning or by both of them.

Subjectical Koranic Commentary I-II: In this course this new commentarial method which has emerged about a century ago is discussed and students are given a subject from the Koran and asked to discuss it in all aspects. This subject is a practical subject.

The Classical and Contemporary Koranic Commentary Texts I-II: The aim of this course is to answer the contemporary problems connected with the point of view of Koran on women, economy, policy, society, law etc. and to discuss the peculiarities of contemporary Koranic commentary.

The Methodology of Jurisprudence I-II: It aims to study the common points between jurisprudence and Koranic commentary. It also aims to discuss the point of view of the modernist and the other schools on how it has been source for Islamic law.

Advanced Level of Arabic Language I-II: In this course some texts written in more advanced level than the ones studied in master's program are studied.
COURSE DESCRIPTIONS

Contemporary Issues of Belief I-II: The problems of faith of modern people are examined carefully in this course. Firstly, it aims to identify problems related to this subject especially in modern age. Secondly, tries to establish the characteristics of these problems which cause difficulties. Finally, solutions to these problems are discussed.

Early Classical Kalam Texts I-II: During this course one of main books of Kalam is commented on at length and translated from Arabic to Turkish every semester.

Sources of Kalam: The aim of the course is to make the principal books of Kalam known.

Psychology of Religion: The history of the Psychology of Religion, Psychological concepts connected with religious behavior and other subjects are taught.

Classical Books of Islamic Mysticism (Tasavvuf): Early books about Islamic Mysticism are examined in this course.

Methodology of Research: It aims to provide students with all the information they need for research on their special subjects.

Philosophy of Religion: It deals with the religious phenomenon and thought. Philosophical ideas are critically discussed.

Contemporary Religious Movements: Innovative ideas about religious, modern sects and trends are discussed in this course.

Methodology of Islamic Law: Fundamental principles of Islamic Law, rules of legislation and sources based on Quran and Hadith are studied in this course.

Introduction to Philosophy: Greek Philosophy, Medieval Philosophy and Modern Times Philosophy are summarized and the metaphysical theories are clarified.

Contemporary Issues of Belief I-II: The problems of faith of modern people are examined carefully in this course. Firstly, it aims to identify problems related to this subject especially in modern age. Secondly, tries to establish the characteristics of these problems which cause difficulties. Finally, solutions to these problems are discussed.

Comparative Subjects of Kalam I-II: In this course one of main books of Kalam is commented on at length and translated from Arabic to Turkish every semester. In addition the subjects which are defended by the principal schools are discussed.
ISLAMIC MYSTICISM
(TASAWWUF)

Head of Program: Prof. Dr. Mustafa TAHRALI

As a discipline of the Department of Basic Islamic Sciences Tasawwuf, deals with mystical interpretation of Koran and Sunna, the essential sources of Islam. It aims to define some important books written by this method. It also aims to give information about mystical concepts, famous muslim mystics/sufies, mystical conditions, positions, schools, tarikats, foundations and the role of all in the psycho-social life of Muslims.

MASTER'S PROGRAM IN ISLAMIC MYSTICISM

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<td>The Concepts of Tasawwuf</td>
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<td>The Tasawwuf Classics</td>
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Ph.D. PROGRAM IN ISLAMIC MYSTICISM

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<td>Mystical Commentary of Dogmas</td>
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<td>The Conditions and the Positions at Tasawwuf (Ahwal and Makamat)</td>
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<td>Persian Tasawwuf Texts</td>
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<td>The Comparative Kalam Texts</td>
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<td>The Philosophy of Character (Akhlak) Texts</td>
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sages from Manazil al-Sairin, Madarij al-Salikin, Minhaj al-Foqarâ' and al-Qasd wa'l-Rujû'îlâlah.

The Explanation of al-Masnawy: Elective passages from the explanations written on al-Masnawy of Mawlana Jalâla'd-din by some distinguished scholars like Avni Konuk, Abidin Pasha, Ismail Anqarawy, and Ismail Haqqi are studied.

Tasawwuf Throughout The Ottoman Periods: In this subject general information about the mystics/sufies who are emerged and distinguished in the Ottoman process, the foundations of Tasawwuf, tariqats, dervish lodges and ahi unions that developed at the same period. It also deals with definition to the sources related to these; with studying the example texts about this like Safina-i Awniyâ of Husain Wassaf Bey and Tîbyân of Haririzâde, especially with to study Ottoman tasawwuf texts from some manuscripts.

The Comparative Kalam Texts: In this subject some elected matters from the classical kalam texts are studied and discussed in comparison with kitab al-Tawhid of Matûridy, Huccatullah al-Bliğa of Dihlewy, al-Fûtuhat al-Makkiyya of Ibn 'Araby, al-mustasfâ of al-Chazzâly, al-Kulliyyât of Hasan Hanafy and some texts from Shi'i'a.
COURSE DESCRIPTIONS

Texts of Hadith's Methodology: The subject focuses on early period manuels in the field and their contents to give an idea about early development of Hadith's Methodology, and help the students to gain a methodological approach to the material of Traditions.

Texts of Hadith: Passages chosen from various classical works are the matter of the subject, and some passages from related modern works are studied as well. The aim of the present course is to enable the student to view the vast material of Traditions within.

Architects of Hadith: The subject treats the earliest distinguished authorities, and great experts in traditions who devoted themselves to the study of traditions, and provided this science to come into being. In addition, the traditionists who have great contributions to the development of Hadith are dealt with as well.

Literature of Hadith: The products of scholarship in the all branches of The Science of Hadith which the researchers require in their scientific studies are introduced in order to provide them with necessary qualification.

Complex Problems of Hadith: The subject examines difficult problems of Hadith, and explains them on a scientific basis, making it easier for students to comprehend.

Islamic Jurisprudence: The commands of sharī'a, classification of the commands, sources of commands, the methods of deriving rules of law from legal texts by their textual implications, and the person who derives these rules are elaborated as subject-matter of Islamic Jurisprudence. The aim of the subject is to get the student acquaintance with the method of utilising the sources among which the precedents of the Prophet (Traditions) exists.

Texts of Hadith: Texts' chosen from various early works of Hadith are studied in further detail. The passages are more scholarly and complex than the content of MA program.

Problems of Hadith: The subject focuses the attention on the opinions on the different aspects of the Hadith and Sunnah. These opinions, whatever they are, are discussed on a scientific basis, putting aside all partiality.

History of Hadith: The subject studies the process through which the science of hadith passed during the history under social, political, and cultural circumstances.

Ratiocination of Hadith (Fiqh al-Hadith): It aims to enable the students to grasp the spirit of prophetic precedents by helping them to have an exact and methodical thinking on Traditions.
COURSE DESCRIPTIONS

Introduction to Law: Aims to give basic concepts of law, along with systematics, main subjects, sources and historical development of Turkish natural law. Also makes a comparative examination of the systematics of positive law with the systematics of Islamic law.

Comparative Islamic Law: Makes a comparative examination of schools of Islamic law, as well as of Islamic law with positive law (western law).

Fiqh al-sira: Discusses the judicial judgements derived directly or indirectly from the implementation of the Prophet during Mocca and Medina era. Examines the concept of sunna and its judicial value.

Research Techniques: Covers research techniques and rules of academic writing which will be followed during studies on Islamic law. Gives ways and means of reaching and using the sources. Introducing bibliographical works and editionel critics.

Literature of Islamic Law: Introducing the literature in accordance with the areas and schools of law from the second hijri century until twentieth century.

Methodology of Islamic Law: Covers the general principles and basic problems of methodology of Islamic law, as well as issues related to Quran, sunna, consensus and analogy.

General Principles of Law: makes a comparative examination of established principles in Turkish civil law (including law of family and obligations) and criminal law with general principles in Islamic law. Also examines first hundred articles of Macalla and their implementation.

Public Law: Covers sub-branches and basic concepts of public law, Historical development of Turkish public law, Gives basic information concerning state, constitution, essential rights and freedom and constitutional institutions.

Public Law of Islam: Handles the emergence of Islamic constitutional law, its historical development, its main subjects and problems. Introducing the literature.

Contemporary Fiqh Problems: Establishing judicial problems of contemporary Muslims and their solutions in the light of classical sources. Looking at the contemporary approaches on these issues. Discussing methodology on solving judicial problems.

Sociology of Law: Focuses on the socio cultural factors on the emergence and development of Islamic law. Discussing the understanding of cuf and social environment in Islamic law along with the implementation of sociology of law on Islamic law. Basic issues of sociology of Islamic law.
ARABIC LANGUAGE

MASTER’S PROGRAM IN ARABIC LANGUAGE

First Semester
Classical Sources I
Translation Arabic-Turkish
Rhetorical Sciences I
Modern Texts I

Second Semester
Classical Sources II
Translation Arabic-Turkish
Rhetorical Sciences II
Modern Texts II

Ph.D. PROGRAM IN ARABIC LANGUAGE

First Semester
Arabic Language Phonology
Rhetoric
Translation Arabic-Turkish
Translation Turkish-Arabic

Second Semester
Schools of Arabic Language
Rhetoric
Translation Arabic-Turkish
Translation Turkish-Arabic

COURSE DESCRIPTIONS

Arabic Language Phonology: In this subject, description and contents of phonetic and phonology, structre and formation of voice, pronunciation of this voice, especially phonetic transformation emerged in Arabic language, the causes and results of this transformation... etc. are taught and discussed with the students and giving them possibility of comparing between dialect and near languages.

Materials:
- Phonology and phonetic matters (from Encyclopedia)
- İsmail Durmuş. Ğayn and Ǧim matters of İslam Encyclopedia (DiÂ) and phonetic transformation.
- Ebu’t-Tayyîb el-Lugavi, Kitaba’i-ibdal
- Zeccaci, Kitabu’i-libdal
- ibnu’s-Sikkit, Kitabû’i-Kalb ve’i-libdal
- Ibn Cînî, Sirru Sina’atî-i-l’rab
- J. Cantineau, Essquisse d’ue Phonologie de l’arabe
- Rudolf Rucicka, La Question de L’existence du Ğ (gayn) daus les hangues semitiques
- Rudolf Rucicka, L’Alterance du Ayn- Ğayn en Arabe
- Sabatini Moscati, An introduction to the comparative grammar the semitic languages, phonology and morphology.
Bibliography:
- Ismail Durmuş: Selected from safed'i's Gavamızu's-Sıhah
- Selected from el-Buhusu'l-Edebiyye
- M. Mahir Hammade, Selected from Masadiru'l arabiyye
- Y.E. Dagir, Selected from Masadiru'd-dirasati'l-edebiyye
- İzzeddin Ismail, Selected from el-Mesadiru'l-edebiyye
- A. Abdülgafur, Mukaddimetü's-sıhah
- M.S. Kannucci. el-Bülga fi usuli'l-luga
- Suyuti, el-müzhir fi ulumi'l-luga
- Emil B. Yakub, el-Ma'acimu'l-lugaviyye

Translation From Arabic To Turkish:
1 – Translation methods from Arabic to Turkish
2 – The characteristics of both languages from way of telling.

Bibliography:
- Taha Huseyn, el-Va'du'l-Hak

Rhetorical Sciences: The subject contains the rhetorical sciences (Beyan, Maani and Badi'). The aim of these three parts of the science is to bring in the students the techniques of talking arabic in different positions.

Bibliography:
- el Hatip el-Khazvini, et-telhis
- Hammad b. Muzaffer el-Hilahi, Mițfahu telhis ü'l-Miftah
- Bahauddin es-Subki, Arusü'l-eğrah fi şerk ti telhis ü'l-miftah.
- Sa'duddin et-Taftazani, eş-Şerhu'l-Kabir li't-telhis
- İbn Yakub el-Mağribi, Mevahibu'l-Miftah fi Şerhi telhis ü'l-Miftah.

Modern Texts: The aim of this subject is to teach the modern arabic that emerged since 1789 which Napaleon B.S. attacked Egypt, the masters of this literature, New words, analytic styles, modern literary schools and other matters are studied in Arabic conversations completely.
History of Philosophy II: (Post-Socratic Philosophy) This course is devoted to the analysis of Post-Socratic period. Humanistic Philosophy, Sophists, and dealing with sense perceptions in the field of Theory of Knowledge. Socrates' moral philosophy, Socratic schools, Plato and Idea Theory, Neoplatonists, Aristotle and his philosophy.

Texts of History of Philosophy in Arabic: Readings of same texts chosen from the classical books about History of Philosophy. The aim is to show the students how the ancient philosophy understood by the historians of philosophy in the Islamic world. The period of translations is the first four centuries of Islamic history.

Modern Philosophy: This course covers a brief introduction to the Modern Philosophy, fundamental problems of Modern Philosophy, the place and effect of physical sciences in the philosophy, Kant and his philosophy, important currents philosophers and problems of 19th and 20th century philosophy.

Islamic Thought: This course investigates the basic principles of Islamic Philosophy, its place and importance in the world thought.

Classical Logic: The subjects studied in this course are: Definitions of classical Logic, its nature, its beginnings, its place between the sciences, basic principles, beginning of modern logic and similarities and differences between these two logics (classical and modern).

Introduction to the Philosophy: This course offers general introduction to the metaphysics, epistemology and moral philosophy, and institutes relations between them.

Classical Languages I: Hebrew/Latin I (Optional): This course covers Introduction to the Hebrew/Latin Languages and simple readings in the texts written in these languages.
COURSE DESCRIPTIONS

Classical Languages: Hebrew/Latin I (Optional): This course covers Introduction to the Hebrew/Latin languages and simple readings in the texts written in these languages.

Discussions of Methodology in the Islamic Thought: This course is devoted to the comparative analysis of between the philosophical methods and problems developed in the Muslim World and the contemporary philosophy.

Texts in Islamic Philosophy I: This course is devoted to the study of muslim philosophers' philosophical systems in the light of their philosophical works.

Philosophical Texts in English: Readings of some philosophical texts in order to introduce philosophy students terminology and literature of Philosophy in English.

Classical Islamic Logic: This course is devoted to the definition and nature of Classical Islamic Logic, its development in the Muslim World, its main subject.

Construction of the Philosophical Thought in Islam: This course is devoted to the study of formation of philosophical thought in the Muslim World, reasons and results of these activities in the aim of preparation to the more complicated Islamic Philosophy courses.

Relations of Religion and Philosophy: This course covers brief definitions of religion and comparison of great of religions and philosophy in relation to their methods and aims.

Ethical Philosophy with Texts I: Readings of selected texts written by the distinguished thinkers of the ethical philosophy. The aim of the course is to provide the student true understanding and translating ability of the Arabic texts in order to make out reliable conclusions from them.

Classical Religius Texts : This course is devoted to the reading of texts related to islamic philosophy texts. The general purpose of this course is to developability of true understanding and true translation of Arabic texts in addition to providing to the student to gain the ability of scientifically analysis of those texts.

Classical Languages II (Hebrew/Latin II): This course is devoted to the more complicated readings in the texts and introduction to the reading of Middle Age's philosophical texts.

Effects in Muslim Thought: This course is devoted to the study of problems which is Islam inherited from the Antic Philosophy by studying the translations from Greek to Arabic. Second part of the course is devoted to the study of effects done by Isla-
PHILOSOPHY OF RELIGION

Head of Program: Prof. Dr. Necip TAYLAN

Department of Philosophy of religion opened in 1982, offers undergraduate and Graduate (M.A., Ph.D.) programs in Philosophy of Religion in Turkish Language. Over 10 full-time faculty members teaches about 20 different courses and seminars on various subjects ranging from the Methodology in Muslim and Western Thoughts to deeper analysis in Islamic and Christian religious philosophies, reading of philosophical Texts in Foreign languages and Relations of Philosophy and Religion in Muslim Thought.

Language of Instruction: Turkish

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LOGIC

Head of Program: Prof. Dr. Ali DURUSOY

Department of Logic opened in 1982, offers undergraduate and graduate (M.A.) programs in Logic. Over 7 full time faculty members teach about 10 different courses and seminars on various subjects ranging classical Islamic Logic to Modern Logic.

MASTER'S PROGRAM IN LOGIC

First Semester
- Discussions about Methodology in Islamic Thought
- Theory of Logic
- Philosophical Texts in Foreign Languages
- Discussion about Philosophy of Religion
- Classical Islamic Logic
- Logic in Ibn Sina
- Relationship between Law and Ethics

Second Semester
- Discussions about Methodology in Islamic Thought
- Theory of Logic
- Philosophical Texts in Foreign Languages
- Discussion about Philosophy of Religion
- Classical Islamic Logic
- Logic in Ibn Sina
- Relationship between Law and Ethics

RELIGIOUS EDUCATION

Head of the Program: Prof. Dr. Bayraktar BAYRAKLI

MASTER'S PROGRAM IN RELIGIOUS EDUCATION

First Semester
- Islamic Thought
- Introduction to the Methods of Teaching in the Religious Educations
- Classical Religious Texts I
- History of Turkish Education
- Introduction to the Philosophy of Education
- Foundations of Religious Education
- Introduction to the Problems of Religious Education
- Psychology of Development

Second Semester
- Islamic Thought
- Introduction to the Methods of Teaching in the Religious Educations
- Classical Religious Texts I
- History of Turkish Education
- Introduction to the Philosophy of Education
- Foundations of Religious Education
- Introduction to the Problems of Religious Education
- Psychology of Development
Basic Problems of Religious Education: Psychological characteristics of human being are changing. So this course is devoted to how to develop them and how to overcome the psychological problems.

Principles of Religious Education: This course is devoted to finding out the fundamental subjects of religious education from the Quran using a modern approach.

Philosophy of Education: Studying educational thoughts of Western philosophers by comparison with Islam.

Methods of Religious Education: This course covers the teaching of popular education methods like teaching of Quranic Recitement in the summer courses, preaching techniques etc. in addition to studying of Ibn Khaldun, Shaban Shiafai and Kinalizade Ali Efendi’s educational thoughts.

History of Turkish Education: This course covers the developments of Turkish education in the periods of Tanzimat (the political reforms made in the Ottoman State in 1839), I. Meşrutiyet and II. Meşrutiyet periods.

Classical Religious Texts: This course is devoted to the reading of texts related to the History of Religions and especially Islamic religious texts. The general purpose of this course is to develop ability of true understanding and true translation of Arabic texts in addition to that providing to the student to gain the ability of scientifically analysis of those texts.

PSYCHOLOGY OF RELIGION

Head of Program: Assoc. Prof. Dr. A. Murat DARYAL

MASTER'S PROGRAM IN PSYCHOLOGY OF RELIGION

First Semester
Classical Religious Texts
Psychology of Religion in the West and Muslim World
Research methods in the Psychology of Religion
Psychology of Religion
Psychology of Belief in Quran
Psychology of Religion in Sufizm
Philosophical Texts in Foreign Languages

Second Semester
Classical Religious Texts
Psychology of Religion in the West and Muslim World
Research methods in the Psychology of Religion
Psychology of Religion
Psychology of Belief in Quran
Psychology of Religion in Sufizm
Philosophical Texts in Foreign Languages
MASTER'S PROGRAM IN HISTORY OF RELIGIONS

First Semester
Introduction to the History of Religions
Biblical Criticism I
Orthodox Church: The History and Doctrine
Classical Languages I
Classical Religious Texts

Second Semester
Introduction to the History of Religions
Biblical Criticism I
Orthodox Church: The History and Doctrine
Classical Languages I
Classical Religious Texts

Ph.D. PROGRAM IN HISTORY OF RELIGIONS

First Semester
Biblical Criticism II
Polemics between Islam and Judaism
Eastern Christianity
Classical Languages II

Second Semester
Biblical Criticism II
Polemics between Islam and Judaism
Eastern Christianity
Classical Languages II

COURSE DESCRIPTIONS

Introduction to the History of Religions: This course is devoted to the meaning, methods used and general information about "the History of religions". It also deals with researches technics and theories on the origin of religions.

Biblical Criticism I: This course covers the studies of Biblical criticism in the Western world. The method of biblical criticism, The school of J. Wellhausen, The outlines of the technics of criticism used for Old Testament.

Orthodox Church: The History and Doctrine: This course is devoted to the general history of the East Churches, The history of the Orthodox Church and the doctrines of the Orthodox Church.

Classical Languages I: Hebrew/Latin (optional): This course covers Introduction to the Hebrew/Latin languages and simple readings in the texts written in these languages.

Classical Religious Texts I: This course is devoted to the reading of texts related to the History of Religions and especially Islamic religious texts. The general purpose of this course is to develop ability of true understanding and true translation of Arabic texts in addition to providing the student to gain the ability of scientifical analyses of those texts.

Ph.D.
**Ph.D. PROGRAM IN SOCIOLOGY OF RELIGION**

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**COURSE DESCRIPTIONS**

**Classical and Modern Readings in Sociology:** This course is devoted to the text readings of classical and modern founders of sociology such as Ibn Khaldun, Comte, Durkheim, Marx, Weber, Parsons etc.

**Studies in Sociology of Religion in East and West:** This course covers knowledge of literature and works in the field of sociology of religion both in eastern and western countries.

**Introduction to History of Religion:** This course is devoted to the historical and descriptive analysis of World Religions such as Judaism, Buddhism, Christianity etc.

**Psychology of Religion:** This course covers history, problem and literature of psychology of religion. It also deals with social psychology of religious behavior of individual in society.

**Research Methods in Sociological Study of Religion:** This course is devoted to the research techniques and methods of social sciences in general and religio-social sciences in particular. Observation, Description, Comparition, Formation of Typhologies, Explanation are main methodological processes dealt with in this course.

**Ph.D. Sociological Theories:** This course covers systematic and problematic thinking of sociologists and their thought's taxonomies according to the different theoretical models.

**Problems of Sociology of Religion:** This course is devoted to the classic and modern problems in sociology of religion like secularization, types of religious organizations, religious groups, religious institutions, economy and religion, state and religion etc.
ISLAMIC HISTORY AND ISLAMIC ARTS

Director: Prof. Dr. Mustafa FAYDA

The Department consists of the following four sections: i) Islamic History, ii) Turkish Islamic Literature, iii) Turkish Religious Music, iv) History of Turkish-Islamic Arts.

All of these programs offer both graduate and post-graduate studies in the following fields: Islamic History, Islamic civilization, Turkish arts including fine arts, literature and religious music. Studies on Islamic History begins with the pre-Islamic era and with the time of Holy Prophet (s.a.s.), and covers the political and religious as well as the military histories of several Muslim nations together with their institutions.

As for the Islamic Arts, the Turkish contributions to the field are emphasized. Apart from the courses stated there are courses like the Texts of Orientalism, the Texts of Islamic civilisation (in Arabic), and the method of Research, all of which are compulsory for the graduate students.

ISLAMIC HISTORY

The graduate and post-graduate programs give more importance to the era of the Holy Prophet (s.a.s.), and to the periods of Hulefau'r-Rashidin and Umayyed Dynasty including the countries of Ottoman State; Early Islamic and Ottoman Institutions; Sources of the histories of Islam and Ottoman.
MASTER'S PROGRAM IN TURKISH-ISLAMIC LITERATURE

First Semester
The Method of Research
The Method of Orientalism (English, French, German)
Turkish-Islamic Literature from the Era of Tanzimat until the Republic
Information about Literary Arts
History of Turkish-Islamic Literature until the Tanzimat Era
Varieties of Turkish-Islamic Literature
Basis of the Research of Turkish-Islamic Literature
History of Turkish Language

Second Semester
The Method of Research
The Method of Orientalism (English, French, German)
Turkish-Islamic Literature from the Era of Tanzimat until the Republic
Information about Literary Arts
History of Turkish-Islamic Literature until the Tanzimat Era
Varieties of Turkish-Islamic Literature
Basis of the Research of Turkish-Islamic Literature
History of Turkish Language

Ph.D PROGRAM IN TURKISH-ISLAMIC LITERATURE

First Semester
The Method of Research
History of Turkish-Islamic Literature
The Sources of the History of Literature
History of Turkish texts According to Periods
The Texts of Mysticism
Religious Texts
Persian

Second Semester
The Method of Research
History of Turkish-Islamic Literature
The Sources of the History of Literature
History of Turkish texts According to Periods
The Texts of Mysticism
Religious Texts
Persian

TURKISH RELIGIOUS MUSIC

History of music; form of Turkish religious music; Texts of Ottoman mysticism; Arabic and Persian songs; Music of Mosque; subject-matter of the thesis of MA and Ph.D. are usually chosen from among the theories of Turkish and Islamic musics.
## Ph.D. PROGRAM IN HISTORY OF TURKISH-ISLAMIC ARTS

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being observed at first hand. Within the advancing realm of the course the main thoughts of scientific philosophers such as K. Popper, T. Kuhn, J. Lacatus and the basic thoughts of different schools of Economics are being discussed within the frame work of the related terms.


Monetary Theory: Monetary theory is analysed by taking historical perspectives into consideration. It is explained what the meanings of real and nominal economy are. On the other hand, the students are expected to make some researches on topics determined by the lecturer. Then, it is discussed how the monetary policy tools are and must be practiced with examples.

Schools of Economic Thought: Criteria's to distinguish the schools of thought in economics. Orthodox economics, Post-Keynesian economics and marxian economics with special reference to their methodologies and conceptual framework. An introduction to subdivisions of these schools of thought.

Macroeconomic Analysis: Aggregate supply and aggregate demand analysis. Intermediate level course on mainstream macroeconomics. Introduction to critical analysis of current academic macroeconomics.

Economic Analysis: Economic theories, policies in advanced level.

Research Techniques and Methodology: Research techniques for candidates for economic historians; methodology of science in general.

Paleography and Diplomatics: Ottoman alphabet which is used continuously by Ottoman Empire as the key to Ottoman economic history researchs.

History of Economic Thought: Economic thought since the emergence of Economics as a science; economic thought's effects to economic behavior and then economic life. The thought background of today's economics.

Economic History of Turkish Republican Era: Great transformation of Turkish economy; its development process up to date.

Economic History of Primitive and Middle Ages: Characteristics of this long part of the history; effects and contributions of that time to following times.

Ottoman Economic History: Basic characteristics of Ottoman Empire; theories and critics.

Economic Systems: Liberalism; capitalism; socialism; mixed economic system; their essence and contemporary improvements, changes.

Methodology of Economic History: Theories of the methodology of economics; their essence and critics.

Economic History of Turkish Republican Era: Basic realities of Turkish economy; contemporary situation and problems.

History of Economics of Environment: Environmental pollution as a result of economic activities; ideal interrelation between economics and environment.

Economic History of New and Near Ages: Economic characteristics of these ages; basic principles of the great transformations lived during this period, its effects and results.

Documents of European Economic History: Documents of economic history of Europe; their contents and importance.

Documents of Turkish Economic History: Documents of Turkish economic history; their contents, approaches and contributions to science.
Ph.D. PROGRAM IN ECONOMIC POLICY

First Semester

- Stabilization Policies I
- Monetary Policy
- Accounting and Analysing of Investment Expenditures
- Crises Theories
- Global Political Economy I
- External Debt Policy

Second Semester

- Stabilization Policies II
- Global Political Economy II
- The Turkish Economy
- Econometrics
- Welfare Economy

COURSE DESCRIPTIONS

Political Economy: Analysis and assessment of labor-value theories since precapitalist period up to date and their evaluation and consistency in the light of today’s capitalist system.

Theories of Interest The Turkish Application: The Classical, Lonable Funds, Keynesian, Portfoioli and Monetarist interest theories and Hicks-Hansen Synthesis are taken into account for the evaluation and development of interest theory. 1923-1995 period is chosen for the analysis and assessment of the interest rate policy for Turkey.

Sectoral Analyses of The Turkish Economy on The Eve of The Customs Union: Comparison of the Common Agricultural Policy (CAP) of European Union (EU) with the Turkish Agricultural Policy. And the sectors other than agricultural are analysed in the context of GATT WTO.

Method in Economics: The fundamental concepts, such as terms; science, hypothesis, paradigms, assumptions concerning the philosophy of science are being observed at first hand. Within the advancing realm of the course the main thoughts of scientific philosophers such as K. Popper, T. Kuhn, J. Lakatus and the basic thoughts of different schools of Economics are being discussed within the frame work of the related terms.

Exchange Rate Policies: The exchange rate systems are examined in this class. In addition, the efficiency of monetary policy in flexible and inflexible exchange systems are studied. The suggestions for exchange rate policy contemporary Turkish economists are discussed.

Monetary Economics: The quantity of money plays an important role affecting national output, employment, and inflation. The description and explanation of this role occupy the class. It is appropriate to begin the class by analyzing the functions of money and by presenting a practical definition of money that is in common use. On the other hand, the students are expected to make some researches on topics determined by the lecturer.
The Turkish Economy: Main Economic Indicators
- GNP
- Sectoral and Regional Distribution of Investment Incentive
- Foreign Direct Investment
- Developments in Domestic Labor Market
- Production in Manufacturing Industry
- Foreign Trade
- Price Indices and Monetary Indicators
- Credit and Money Supply
- Public Debts
Economic Analysis I-II: This course mainly focuses on the theoretical framework of the basic schools of economic thought. It covers those schools of economics, such as Classical Economists, Marx, Neo-Classics, Keynesians, Post-Keynesians.

Economic Indicators: The course provides a) correct descriptions of main economic indicators developed by Turkish Government agencies and private and international organizations, and b) briefly describes how these economic indicators are used to analyse the economy and provides some background material on using economic indicators. 1. Conjunctural movements, 2. GNP and Growth Rate, 3. Technology and Productivity, 4. Population, Employment, and the wages, 4. Monetary Aggregates, 5. Central Bank’s Balance Sheet, 6. Public Sector Borrowing Rate, 7. Inflation and Related Indicators, 8. Foreign Trade, Balance of Payments, and Exchange Rates, 9. Interterdependence between main economic indicators, and elasticities.

Delivery and Payment Methods in Foreign Trade: Following subjects about delivery and payment methods in foreign trade (International Rules, International Applications) The responsibilities of The Concerned Parties Within the Framework of international laws; The Legal Aspects and importance of Foreign Trade Contracts; Study and analysis of Risks Born In Case of Violation of Delivery or Payment.

Exchange and Banking Operations: International Chamber of Commerce (Brochure (U.C.P.) No. 500 Explain and Analysis); Letter of Guarantee Brochure No. 325; Collections I.C.C No. 322 Internationalonol at Commerce; Payment Terms (Cash Against Goods, Cash Against Documents, Letter of Credits (Confirm, Unconfirm, Deferred Payment L/C, Red Clause L/C, Green Clause L/C; Sight L/C; Transferable L/C; Back to Back L/C; Acceptance L/C; Letter of Credits. Check List; Letter of Credits. Analysis; Incotermes; Export and Import Systems in Turkey.

Money Management: An investment is a commitment of money that is expected to generate additional money. Every investment entails some degree of risk; it requires a present certain sacrifice for a future uncertain benefit. This course describes various ways to select the investments that will provide the maximum future return at an acceptable level of risk. It examines such marketable financial instruments as common stocks, bonds, options, futures contracts and other investments, as well as the risks associated with each. It analyzes these assets, the markets in which they are traded, the valuation of the assets, the construction of a diversified portfolio, and other important investment management techniques: Contents: Expected return and risk; Money market securities; Capital market securities; Diversification and portfolio analysis; Equity valuation; Bond valuation; Puts and Calls; Futures Contracts.

International Banking: Introduction, activities and operations in international banking, EURO markets, country risk, syndication credits, ECU bond markets; Free zones and off-shore banking, off-shore banking in Turkey, Franchising, Venture Capital.
DEVELOPMENT ECONOMICS
AND ECONOMIC GROWTH

Head of Program: Prof. Dr. Tamer İŞGÜDEN

This program is administrated by Economic Development and International Economics section, in Department of Economics. MA Program consists of two years. First year has been planned as a teaching year and consists of two semesters. Each semester has four must and four elective courses. Those who complete the courses second year starts to study on their master thesis subject. Ph.D. program’s first year has been planned as a teaching year and consists of two semesters. At the end of the first year those who have completed the courses, should take a comprehensive exam to be able to begin their Ph.D. thesis. MA and Ph.D programs have the same courses. Ph.D courses are more complex and extended versions of the MA program.

Language of Instruction: Turkish

MASTER’S and Ph.D. PROGRAMS IN ECONOMICS AND ECONOMIC GROWTH

First Semester
Sociology of Development
Development Economics
Growth Theories
Development Policies in Turkey

Second Semester
Economic Analysis
Methodology
Economic Case Analysis
Price Theory
Econometrics
Statistics

COURSE DESCRIPTIONS

Development Economics: Development Economics courses are mainly concerned with the problematic development in historical perspective. With this perspective, the course puts the main emphasize on the paradigms of economic development and its linkages which other social science disciplines, such as sociology and anthropology. With this general framework the course provides training in, i) Historical origin of development and underdevelopment, ii) National and international aspects of de-

**Sociology of Development**: Modern science; economics of primitive societies; economics of nomadic societies; peasant economics; economics of town; economics of metropolis.
THEORY OF PUBLIC FINANCE

The main goal of the graduate program leading to the MA degree in Theory of Public Finance is to equip the students with more advanced and specialized knowledge in public finance. The MA program consists of a two-semester study on theory, research methodology and courses in the areas of specialization plus a master's thesis. The program is implemented by the Department of Public Finance.

The same courses are offered for the Ph.D. Program to the instructors and researchers in order to promote the discipline through original research.

MASTER'S PROGRAM IN THEORY OF PUBLIC FINANCE

First Semester

Public Sector Economics I
Defense Services I
Finance of Education and Health Services I
Finance of Local Governments in the World and in Turkey I

Second Semester

Public Sector Economics II
Defense Services II
Finance of Education and Health Services II
Finance of Local Governments in the World and in Turkey II
Research Methodology

COURSE DESCRIPTIONS

Public Sector Economics I-II: Need for public sector; nature and scope of public sector; budget functions (allocation, distribution, stabilization); public goods theory; public choice theory; presence of external effects in consumption and production; Pareto optimality and public goods; cost-benefit analysis.

Defense Services I-II: Major issues; cost effectiveness in weapons design; modernizing strategic forces; industrial impact; effects of productivity growth; growth of defense expenditures.

Finance of Education and Health Services I-II: Policy issues; public versus private education; cost-benefit analysis of education (estimating benefits, costs and rates of return). Health insurance; public versus private provision of health services; employer and employee contributions; effects of health services on human capital formation.

Finance of Local Governments in the World and in Turkey I-II: Intergovernmental fiscal relations; local public goods; revenue sharing between central and local governments; local government finance in Turkey; Special Provincial Administrations; Municipalities; Villages and their sources of revenue.

Research Methodology: Key epistemological concepts; logical positivism; the critics of logical positivist epistemology such as Kuhn and Feyerabend.
COURSE DESCRIPTIONS

Scientific Working and Writing Methods: The preparation to scientific work; the ordering of outline; the concepts of introduction, progression and finish divisions in a scientific work; the preparation to reference and index in a written work; discussion of scientific research methods; the examination of literature research.

Ending Operations and Financial Statements: The causes of the operations in the and of period; the concepts of settlement, final balance sheet and annul opening balance in accounting; the examination of ending inventory and evaluation in assets and liabilities; the ordering of balance sheet and income statement according to the uniform accounting plan.

Cost Systems and Organization: The fundamental concepts of accounting methods to the cost of manufactured goods; the other concepts of ordering cost method, phase cost method, actual cost, standart cost and full cost methods; the comparison of the costing methods; the discussion of cost plus pricing method in the cost accounting; the examination of organization cost and organizational structure.

Financial Statements Consolidation: The ordering and consolidating of fundamental and auxiliary statements; the concepts of balance sheet, income statement, fund flow and cash flow statements and cost of goods sold statement; the comparison of these statements to each other; the evaluation of financial condition and performance of a firm; the examination of liquidity, debt and profitability conditions of a firm.

Financial Management: The examination of financial position according to the financial statements of a firm; the concepts of financial books, financial budget and financial expenses; the evaluation of financial condition and performance as a financial manager in a firm; the comparison of the current ratio, acid - test ratio, receivable turn over ratio, inventory turnover ratio; the examination of management's plans for financing.

Money and Capital Markets: The concepts of currency control, reserve requirements, open-market operations rediscount-rate policy, selective credit controls, tight money policy securities and stock exchange; the evaluation of the central bank's role; fieldwork research in short and long run interest rate; buying or selling bond holdings by the central bank in the deflation or inflation conditions; the development of stock exchange and equity markets.

Accounting Standards: The development of harmonization of accounting with European Countries and Turkey; the concepts of uniform accounting records and statements; the examination of 33 articles of accounting standards and regulations in European Community.

Accounting Systems and Organization: The concepts of accounting books; accounting equation; accounting period and accounting valuation; the examination of
these methods; the evaluation of cost plus pricing method in the cost accounting; the examination of organization cost and organizational structure in detail.

**Accounting Organization in the Tourism Administrations:** The development of accounting organization in tourism administrations; the examination of accounting department in a tourism firm; the evaluation of income and expense in tourism; fieldwork research in accounting organization; the concepts of incentive payments and pricing in tourism, general journal, general ledger, general overhead in a tourism firm; the comparison of organization costs and accounting organizations of a tourism firm among the other administration.

**Financial Statements Consolidation:** The ordering and consolidating of fundamental and auxiliary statements; the concepts of balance sheet, income statement, fund flow and cash flow statements and cost of goods sold statements; the comparison of these statements to each other; the evaluation of financial condition and performance of a firm; the examination of liquidity, debt and profitability conditions in detail of a firm.

**International Financial Corporations:** The development of financial feasibilities; the concept of short and long run foreign lending, financial investment and world Bank; the examination of mobilizing funds by attracting financing for individual projects and by developing local capital markets; fieldwork research in international finance and differences between World Bank and International Financial Corporations; the evaluation of financing of private sector projects in developing countries.

**International Finance II:** The concepts of exchange rate policies, arbitrage, speculation, interestrate; the examination of capital flows in the world in detail; fieldwork research in international finance; the development of capital movements and convertibility of capital accounts in the world in detail; the discussion of new international finance techniques in the most detail.

**Capital Market Analysis and Portfolio Management:** The fundamental concepts of capital movements, securities and composition of portfolio; the development of stock exchange in the developing countries; fieldwork research in capital market and portfolio management; the examination to returns and risks of all assets; the evaluation of risk distribution.

**Bank Administration and Accounting:** The fundamental concepts of bank deposit, bank credit, bank discount; the development of banking system; the examination of bank statements and bank accounts; the evaluation of business administration in banking; the discussion of cash, receivables, liquidity, inventories, equipment, buildings conditions in banking.

**Corporation's Auditing:** The concepts of auditing, examining statements; the development of auditing techniques; the examination of accounting records in limited
QUANTITATIVE METHODS

Head of Program: Prof. Dr. Erol YARIZ

The department of Management of Marmara University offers a graduate program leading to the M.A. and Ph.D. degrees in Quantitative Methods. Students in this program have the opportunity to tailor their academic programs of study to be consistent with their individual career objectives. Programs can be designed to prepare graduates for careers in teaching and research, for careers emphasizing the application of Quantitative Methods or for careers requiring the development of new quantitative methodology. Main objectives of the M.A. and Ph.D. programs encourage the graduates earning quantitative thinking abilities about economy, business and social sciences, improving the abilities about system planning, management and management system and building mathematical models of problems in social sciences. Moreover, motivation intellectual ability for graduate work, breadth of general knowledge, understanding of major field, ability to analyze ideas, using computers for general purposes are other objectives of these programs.

The masters degree program requires 18 hours of course work. There are no required oral and written examinations, after finishing all coursework studies but a thesis is required. For a student it normally takes 2 years to complete the master's degree program, one year for coursework, and one year for thesis.

Among the requirements for the Ph.D. are a minimum of 18 hours of gradatework, reading knowledge in one foreign language, passing an oral qualifying examination after taking all courses, writing a thesis and passing a final oral examination based on the thesis. Minimum of four years are required to complete the Ph.D. program and most students spend five years in this program; two years to complete the coursework studies and three years to complete the thesis.
lations, fuzzy relations and fuzzy reasoning, fuzzy relational equations, similarity relations and fuzzy order relations.


**Multivariate Statistical Analysis II:** Inferences from covariance matrices. The structure of multivariate observations: 1. Principle components, the structure of multivariate observations: 2. Factor analysis, canonical correlation analysis, discrimination and classification, clustering.
cussed by the preparation of seminars and the different ways of solutions to the related contemporary problems are investigated.

Problems of Technology and Employment: This course deals with the influence of new technologies on employment and it investigates to which of those influences the trade unions are most open. Result of the studies and researches conducted in this area are discussed.

Society and Work: The major focus of this seminar is to study the interrelations and interactions of social structure and structural aspects of working life. The main study area is Turkey. The students of this seminar have to prepare papers for discussion, during the course.

Trade Unions and Politics: The investigated areas are listed as follows: The principles of trade unions' establishment. The activities of trade unions. Free and forbidden activities of trade unions. The concept of politics. The institutions and the individuals who are forbidden to do politics. The relationships between trade unions and the politics. Professional activities. The concept of politics. The activities of trade unions can not be taken in the case of the forbidden politics.

Social Structure of Turkey and Social Planning: The aim of the course is to discuss the population structure of Turkey and the topics such as employment, placement, wage distribution, educational services and health.

Contemporary Issues of Collective Labor Law: Related to the contemporary problems of Turkish Industrial Relations, the following topics are discussed: Unions of the officials, prohibitions of strike, collective contract making and benefit taking and mediators. By the assignment of seminars to the students, the development of their ability for scientific research is encouraged.

Social Politics: This course evaluates the concept of social politics, development trends in industrial societies, its goals and political means. Those topics such as work factor analysis with social security network, wealth and income distribution, labor market structure, income theories, job evaluation are the other important subjects of the course. Relationship between government/economical systems and social politics are also investigated.

The Economics of Collective Bargaining: At first, some of the theoretical explanations and the developments about the process of trade unions are taken into consideration and then, demand and the supply of the trade unions' services plus the factors which influence them are analysed including the theory of economics. The effective collective bargaining and the activities of the strike are investigated by taking the models of collective bargaining and the strike into consideration. The applications of the collective bargaining and the strike of the trade unions are compared between developed and developing countries. The collective bargaining and the strate-
tions necessary for the establishment of a healthy and productive work environment are investigated.

**Basic Principles of Labor Law:** This course covers the following issues: The principle of employees, the concepts of employer-employee-workplace, labor law and its capacity, the service contract, its formation and abrogation and the results of the abrogation.

**Total Quality Management:** The main goals for this course are to focus on achieving customer satisfaction, to seek continuous and longterm improvement in all of the organizational process and output and to take steps to assure the full involvement as entire workforce in improving quality.

**Organizational Behavior:** This course emphasizes the meaning and the basic concepts of organizational behavior and investigates the topics of employees motivation, leadership, communication and the group dynamics. The ways of motivating the people to work in a more harmonious and satisfactory work conditions are also discussed.

**International Organizations and Human Resources:** The establishment of international organizations, the development after the second world war, the structure and the institutionalization of the international organizations as international private law (their authorities and the structures) are discussed. Universal oriented international organizations which belong to the United Nations and the other export institutions, the features of "International Labor Organization" (ILO) as an export institution with some of the international pacts prepared by this institution are investigated especially in the contents of the masters' program. After the continental and the regional organizations are generally described, the international and the above mentioned international organizations unique to Europe will be investigated.

**Society and Work:** The major focus of this seminar is to study the interrelations and interactions of social structure and structural aspects of working life. The main study area is Turkey. The students of this seminar have to prepare papers for discussion, during the course.

**Service and Idea Marketing:** This course aims to give an overall perspective of "marketing information" being based on scientific thinking, exercises. The course will try to clarify the "marketing knowledge" by providing basic principles and the models of marketing with specific concepts like "marketing mix", "segmentation" and "positioning". Marketing is taken as a philosophy and the way of life. Yet, the specific area in consideration will be service and idea marketing. The objective of the course is not to create marketers but to make use of the philosophy and the information of marketing providing the free application of it to various positions and projects.

**Human Resources Management:** The assessment of human resources management is made through the perspective of new management approaches and the ma-
PUBLIC ADMINISTRATION (French)

POLITICAL and SOCIAL SCIENCES

Head of Program:  Prof. Dr. Yaşar GÜRBÜZ

Department of Public Administration offers undergraduate and graduate (M.A and Ph.D.) programs in Political and Social Sciences. M.A. program is in French and Ph.D. program in Turkish. 17 full-time Turk and French faculty members and about 20 visiting French professors teach about 35 different courses and seminars on various subjects such as Introduction to Political Science Public Finance, International Law, International Economics, Economic Policy, History of Political Ideas, Economics, Sociology etc.

Department has a common program in first and second years. The third and fourth years are divided into two majors: Economics-Finance and Management of Human Resources.

Language of Instruction: French and Turkish

MASTER'S PROGRAM IN POLITICAL AND SOCIAL SCIENCES

First Semester

Political Parties
Comparative Politics
Europe and Balkans
Research Techniques
Caucasus

Second Semester

International Issues
Comparative Politics
Water Resources and Ecology
Renovation in Local Governments

Ph.D. PROGRAM IN POLITICAL AND SOCIAL SCIENCES

First Semester

Turkic World
New World Order
Nationalism
Political Theories

Second Semester

Turkish Geopolitics
European Union and Turkey
Religion and Democracy
Information and Society
ECONOMETRICS

Director : Prof. Dr. Münevver TURANLI

ECONOMETRICS

Head of Program : Prof. Dr. Selahattin GÜRIŞ

Department of Econometrics offers a graduate program in Econometrics: both Master's and Doctorate degrees are in Econometrics.

The main objective of the master's program is to give students high-level training in basic theoretical and applied branches of Econometrics to enable them to conduct independent research.

The Ph.D program is structured with the objective of preparing students for careers in university teaching and research in econometric methods.

Language of Instruction: Turkish

MASTER'S PROGRAM IN ECONOMETRICS

First Semester
Applied Econometrics I
Econometrics I
Mathematical Economics
Microeconomic Analysis I
Statistical Analysis
Decision Making Techniques I

Second Semester
Applied Econometrics II
Econometrics II
Input-Output Analysis
Macroeconomic Analysis II
Non-Linear Models
Decision Making Techniques II

PH.D PROGRAM IN ECONOMETRICS

First Semester
Econometric Models I
Applied Econometrics I
Macroeconomic Analysis
Time-series Analysis I
Theory of Money

Second Semester
Econometric Models II
Applied Econometrics II
International Economics
Time-Series Analysis II
Economic Analysis
Input-Output Analysis: Data base and analytical frameworks of the input-output analysis. Interindustry price system. Design and use of programming models in development policy studies. Applications with Turkish input-output data.


Econometric Models II: The course in second semester is conducted as a series of short papers, class discussion and presentations on the issues covered in econometrics. Various application areas are treated. Use of computers in support of econometric studies.

Applied Econometrics I: Various application areas are treated. Application of the current economic problems and policies are covered. Computers are used in courses.

Applied Econometrics II: Application of the current economic problems. Computers are used in courses.


Time-series Analysis II: Linear stochastic models: AR, MA, ARMA, ARIMA models. Stochastic model building methodology: Identification, model estimation, model diagnostic checking. Application of these models by using the computer.

Theory of Money: The classes are carried on two ways: theoretically and practically. First, the theory of monetary policy is studied. Then, the monetary policy is practised with examples.

Economic Analysis: This course mainly focuses on the theoretical framework of the basic schools of the economic thought. It covers those schools of economics, such as Classical Economists, Marx, Neo-Classics, Keynesians and Post-Keynesians.
STATISTICS

The objective of the program is to provide the students with a solid background in applied statistics. The theoretical and applied tools, they will master, should prove useful in their future positions within the industry, government or academia. We aim at developing skills that will be put to use in handling and analyzing large data sets, experimental or otherwise. Taking a system modeling approach, the student should be able to analyze and learn from data relating to all social science areas in order to derive inferences about the behavior of the real world.

Language of Instruction: Turkish

MASTER'S PROGRAM IN STATISTICS

First Semester
Statistical Analysis I
Econometrics I
Demography
Decision Techniques I
Mathematical Programming
Probability Theory
Research Methods

Second Semester
Statistical Analysis II
Econometrics II
Decision Techniques II
Sampling
Applied Statistics
Computer Applications In Statistics

Ph.D PROGRAM IN STATISTICS

First Semester
Applied Econometrics I
Multivariate Analysis
Nonparametric Tests
Nonlinear Models
Applied Statistics I

Second Semester
Applied Econometrics II
Statistical Quality Control
Time Series Analysis
Applied Statistics II
Operations Research
Sampling: Basic concepts. Methods of sampling. Estimation sample size. Clustering and its effects on estimation on equal or unequal sample sizes.

Applied Statistics: The aim of the course is to develop the understanding of the statistical tools and analyses by the means of term-projects and their presentation. These projects will be applied to different areas using different statistical tools and techniques.

Computer Applications in Statistics: Computer algorithms for programming; efficient uses of existing statistical computer programs.

Demography: Decline and growth of population and factors which influence these processes, optimum population, the process of migration, fertility rates, death rates, birth rates, rates of infant mortality and their socio-economic variables. Theories and policies of population control.


Nonlinear Models: Local and global optima. Newton-type, quasi-Newton, and conjugate gradient methods for unconstrained optimization. Algorithms for linearly constrained optimization, including steepest ascent and reduced gradient methods with applications to linear and quadratic programming, Nonlinearly constrained optimization including penalty and barrier function methods, Lagrangean Methods.


Applied Statistics II: Distributions and Distribution Methods, Multivariate Normal Distribution, Balanced and Unbalanced ANOVA and ANOCOV Computations.

Statistical Quality Control: A mathematical approach to the study of modern and relevant control techniques and their underlying concepts as applied to the various functional areas within the firm.
OPERATIONS RESEARCH

Head of Program: Prof. Dr. Münevver TURANLI

Operations research seeks the determination of the best (optimum) course of action of a decision problem under the restriction of limited resources. The term operations research quite often is associated almost exclusively with the use of mathematical techniques to model and analyze decision problems. Although mathematics and mathematical models represent a cornerstone to operation research, there is more to problem solving than the construction and solution of mathematical models.

Language of Instruction: Turkish

MASTER’S PROGRAM IN OPERATIONS RESEARCH

First Semester
Risk Management I
Applied Statistical Techniques
Network Flows I
Mathematical Statistics I
Operation Research I
Multivariable Analysis
Econometric Models I

Second Semester
Risk Management II
Econometric Models II
Operation Research II
Network Flows II
Mathematical Statistics II
Research Methods
System Simulation and Application
Decision Theory

Ph.D. PROGRAM IN OPERATIONS RESEARCH

First Semester
Applied Econometrics
Building of Mathematical Models
Input-Output Analysis
Optimization Techniques

Second Semester
Stochastic Processes
Nonlinear Programming
Decision Analysis
Statistical Estimation

COURSE DESCRIPTIONS

Risk Management I - II: Description of the risk, kinds and sources of the risk, risk management, theory of risk, policy of risk, measurement and adding value of risk, estimate price of the risk, control and financial of risk.

**Applied Econometrics:** Review of simultaneous equations models and methods. Understanding the structure of econometrics models and applications of them using computers. Diagnostic testing in simultaneous equations models, problems due to nonlinearity, autocorrelation, heterocedasticity will also be covered. Simulation and forecasting using econometrics models. Theory and application of Time Series Models: Unit Root, cointegration, ARMA and ARIMA Models.

**Building of Mathematical Models:** Simulation of management systems: Monte Carlo Method, Waiting Line Simulation Model, Inventory Simulation Model, New Product Planning, Advantages and Limitations of Simulation, Simulation Languages.


**Input-Output Analysis:** The subject of this study is input-output analysis. Input-output uses formal mathematical and statistical analysis and deal ith the interindustry structure and effects of the autonomous elements outside the model, on this structure in a consistent research framework. The value of the analysis stems from its applicability. The purpose of this study is to meet certain theoretical requirement for interindustry research and to be equipped for a thorough empirical analysis.

**Decision Analysis:** The models and techniques in decision making under uncertainty. Development of normative rationale for individual or group action in the face of uncertainty and complexity. Discussion of utility measures of risk preference and discounting measures of time preference. Analysis of problems using decision trees that include risk and time preference. Applications in business, engineering and service systems.


**Nonlinear Programming:** Local and global optima. Newton-type, quasi-Newton and conjugate gradient methods for unconstrained optimization. Khun-Tucker theory and lagrangean duality. Algorithms for lineary constrained optimization, including
ECONOMICS

Head of Program: Prof. Dr. Taner BERKSOY

The primary objective of the MA program is to prepare the students for the Ph.D. program in the department. The program consists of eight one-term courses and a written dissertation. M.A. dissertation must prove the student’s competence in the selected topic. The students who do not want to continue Ph.D. program may apply the theory and techniques of economics to the analysis of the practical problems in a variety of fields as the dissertation.

The student who has completed the course requirements, writes and defends a formal dissertation proposal which describes the research topic. Once the department has accepted the proposal, the student proceeds with the planned research under the supervision of an appointed faculty member. When the dissertation is complete the student defends it in an oral examination before the dissertation committee.

Admission to the Ph.D. program is limited to students whose master of art degree in economics record shows genuine capacity for advanced work in the field of economics. The primary objective of the program is to educate students as research economists.

During the first year, students must complete the works in two fields selected. Each field work consists of two one-term ‘Topic’ courses and two one term ‘Seminar’ courses. At the end of the each ‘Seminar’ course students submit and defend a short research paper of ‘publishable’ quality. The current list of available fields are.

Language of Instruction: English

MASTER’S PROGRAM IN ECONOMICS

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<thead>
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<tbody>
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<td>Theory of General Equilibrium</td>
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<tr>
<td>Macroeconomic Theory</td>
<td>Advanced Topics in Monetary Theory</td>
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<tr>
<td>Advanced Econometrics</td>
<td>Applied Econometrics</td>
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<td>Elective</td>
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<tr>
<td>Theories of Dynamic Economics</td>
<td>Theories of Economic Development</td>
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<tr>
<td>Advanced International Economics</td>
<td>Advanced Industrial Economics</td>
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Applied Econometrics: This course aims at putting into practice the theory given in the Advanced Econometrics course. We will examine, (i) specification of the model(s), (ii) estimation, and (iii) model evaluation-testing. It will be possible to use Mfit-386 econometrics programs.

Theories of Economic Development: The purpose of the course is to examine the economic problems and policy concerns of Third World countries. Topics are patterns of economic development, microeconomics issues in developing countries, short-run macroeconomics and stabilization, long-run theories of growth and income distribution, technology and industrial strategies, trade patterns and debt problem.

Topics in International Trade and Finance I: This is an advanced course in trade theory. Attempts will be made to shed light on several different views on trade theory. The course begins with a discussion of pure theory of international trade and then the critique of it which leads into a further debate on Protectionism. Other topics to be covered are comparative advantage of nations and strategic trade theory.

Topics in International Trade and Finance II: This course is a continuation of Topics in International Trade and Finance I where the discussion is widened to cover intra industry trade, Financial Liberalization and Globalization.

Seminar In International Economics I-II: In this course, the graduate student is required to write a paper on International Economics, guided by the discussions in Topics in International Trade and Finance I-II. The precise topic of the paper is left to the discretion of the student.

Topics In Economic Development I: This course is aimed to present a comparative analysis of different theories on economic development. In the first part of the course Orthodox and Unorthodox Stabilization Policies are discussed. The second part follows with case studies of selected countries including Mexico, Argentina and Israel.

Topics In Economic Development II: A natural extension of Topics in Economic Development I, this course focuses on the new growth theories such as the endogenous technology approach, which is followed by the criticism of the new growth theories. Privatization and the role of government in growth are other topics that will be mentioned.

Seminar In Economic Development I-II: The students are to do research on topics in Economic Development of their preference and submit papers at the end of their research.

Topics In Monetary Economics and Policy I-II: The aim of this course is to introduce the newer developments in the theory of monetary economics. Considering the recent developments in the world economy, the applicability and repercussions
BUSINESS ADMINISTRATION

Director: Prof. Dr. Suna TEVRUZ

BUSINESS ADMINISTRATION

Head of Program: Prof. Dr. Suna TEVRUZ

The Department of Business Administration offers a two-year degree program leading to MBA and a four-year Ph.D. program. Programs offer students a grasp of functions and inter-relationships of all parts of the organization, a knowledge of the social and economic constraints working on the organization and a working appreciation of the most up-to-date management techniques through 30 credit/hour 10 courses. Participants are expected to exchange insights and ideas on contemporary issues while developing and enhancing their personal, interpersonal and communication skills. Lectures provide a formal input supplemented by discussions on readings, relevant issues and cases.

Language of Instruction: English

MASTER'S PROGRAM IN BUSINESS ADMINISTRATION

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<td>International Marketing</td>
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<tr>
<td>Advanced Marketing Management</td>
<td>International Finance</td>
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<tr>
<td>Strategic Management I</td>
<td>Strategic Management II</td>
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<tr>
<td>Individual and Group Processes</td>
<td>Human Resources Development</td>
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<tr>
<td>Management Audit</td>
<td>Decision: Models</td>
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<tr>
<td>Financial Management</td>
<td>Contemporary Issues in Management</td>
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<tr>
<td>Quantitative Management Techniques I</td>
<td>Quantitative Mgmt. Techniques II</td>
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<tr>
<td>Total Quality Management</td>
<td>Management Philosophy</td>
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Functional areas like finance, marketing, production, management and others are integrated for the purpose of establishing a strategic direction for the enterprise. The course on the strategic and organizational challenges confronting multinational business enterprises in the late 1990s. Case analysis and project preparations deal with the Turkish and foreign industrial, trading and service enterprises.

**Foreign Expansion and Trade Techniques:** Domestic evolution; foreign expansion; reasons for engaging in foreign expansion; major foreign trade techniques; ins and outs; foreign trade financing.

**Business Enterprises/Bank Credit Relations:** Financing needs and means of the business enterprises; definition and types of bank credits; letters of credit and letters of guarantee; banks' corporate strategy; credit regulations and banks' lending policy; philosophy and basic principles of secured lending; business enterprises' major expectations from the banks; banks' target sector/client determination criteria; banks' credit customer evaluation criteria; banks' approach to problem loans.

**Management Information Systems:** Introduction to information technology concepts; system analysis and design; structured and unstructured problems; analysis of information requirements; management and executive information systems; decision support systems; expert systems; designing an effective information system; information management.

**Management Philosophy:** Early management thought; the scientific management thought; the social person era; people and organizations; human relations in concept and practice; the modern era; organizational behavior and theory; science and systems in management; management in a changing world.

**Human Resources Management:** Introduction to managing human resources and the human resources planning process; principles of selection and employment procedure; the employment/selection interview; performance appraisal; potential appraisal; vis a vis career planning and development.

**Individual and Group Processes in Organizational Behavior:** The goal of the course is to gain knowledge about some basic individual and group processes, to use this knowledge in analyzing problems arising in organizations, to be able to present this knowledge to the class in an efficient way, and to gain some insight in group work.

**International Marketing:** The students are expected to discuss selected topics in international marketing. For the discussions each student has to prepare a term paper and make a company visit. Tools and techniques in international marketing and marketing strategy in international marketing will be the framework for term papers.

**Quantitative Management Techniques I-II:** Conceptual approach to data structures; characteristics of data scaling; diagnostic analysis of data structure for busi-
ACCOUNTING AND FINANCE

Head of Program: Assoc. Prof. Dr. Abdülgaffar AĞAOĞLU

Accounting and Finance program offers a two-year degree course leading to MBA and a four-year course leading to Ph.D. Programs offer students a grasp of analytical techniques for the financial management of the firm, understanding the nature of cost and the problems of cost under uncertainty, investment and financing decisions, comprehension of the diversity of accounting and reporting practices. The program also examines the problems and controversies in the field of finance and accounting. Courses for this program are obligatory with no elective options. Students are expected to complete 30 credit/hour 10 courses. The final requirement for the award of degree is the completion of a dissertation in which the student is expected to give evidence of power of judgment and ability to synthesize relevant materials.

Language of Instruction: English

MASTER'S PROGRAM IN ACCOUNTING AND FINANCE

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<th>First Semester</th>
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<tbody>
<tr>
<td>Banking Operations</td>
<td>Uniform Cost Accounting</td>
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<td>Investments</td>
<td>Financial Institutions</td>
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<td>Corporate Accounting</td>
<td>Financial Research Methods</td>
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<td>Managerial Finance</td>
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<td>Uniform Financial Accounting</td>
<td>Feasibility Studies</td>
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<td>Managerial Accounting</td>
<td>Auditing</td>
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Ph.D. PROGRAM IN ACCOUNTING AND FINANCE

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<th>First Semester</th>
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<td>Accounting Information Systems II</td>
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<tr>
<td>International Accounting Standards</td>
<td>International Capital Markets</td>
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<tr>
<td>Strategic Financial Planning</td>
<td>Bank Asset and Liability Management</td>
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<tr>
<td>Export Accounting &amp; Turkish Applications</td>
<td>Contemporary Topics in Finance II</td>
</tr>
<tr>
<td>Contemporary Topics in Finance I</td>
<td>International Finance</td>
</tr>
<tr>
<td>Capital Markets</td>
<td>Contemporary Topics in Accounting</td>
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markets and yield relationships; dynamics of governmental policies; role of banking; bank funds management and regulation; thrift, contractual and other financial institutions; issues in the evolution and future tendencies of the financial institutions.

Banking Operations: Bank organization; banking risks and return; analysis of financial statements and the bank performance; asset and liability management strategies; place of capital in funds management; management of interest margins; the costs and pricing of bank services; aspects of Turkish banking system; case studies and term project.

Auditing: Evaluation of internal control structure (Purchases, cash disbursements and payroll; sales, cash collections and accounts receivables); obtaining an understanding of the internal control structure in a computer environment (the impact of computer in internal control and auditing procedures, computer control processes, the use of computer to gather evidence for substantive testing); sampling for substantive tests of account balances; review of auditing procedures (working capital cell, capital assets and long-term financial liabilities, revenue and expense accounts, contingencies and subsequent events); discussion of various cases which incorporate problems faced by auditors (high problem audits, high-risk accounts and internal control issues, ethical responsibilities, professional issues, classic litigation cases).

Strategical Financial Planning: Strategic planning; environment and decision making in finance; discussion of individual topics of financial management in terms of strategical planning; case studies and relevant articles; term project.

Bank Asset and Liability Management: Banking risks and return analysis of financial statements and the bank performance; development of the theories of asset and liability management and financial markets; possible strategies; management of interest margins and the costs and pricing of bank services; risk management and important issues in financial engineering; aspects of Turkish banking system; case studies and term project.
COURSE DESCRIPTIONS

Advanced Statistics: Data structure and scaling, statistical sampling techniques, introduction to multivariate statistics, multiple regression and correlation, analysis of principle components, analysis of variance, and nonparametric statistics will be reviewed.

Art of Managing People: This course aims to introduce students with information for understanding, diagnosing and communicating with different types of people, with the purpose of giving them an insight in believing that people perform effectively and productively when they are allowed to obtain optimum personality expression while at work. Topics to be covered are: Personal style differences (in learning, in behaving toward others, in decision making, in transacting), and interactive communication skills (such as questioning, listening, using nonverbal messages, giving feedback and building trust).

Basic Research Methods: The course intends to provide students with the philosophy of scientific consideration and the methods of conducting actual research. Topics to be covered are: Reconsideration of the ways we view the world, why study behavior scientifically, core concepts in measurements of behavior, methods of measuring behavior (quasi-experimental and experimental design), an application (developing a question into conducting a research), measuring attitudes with Fishbein technique is optional.

Behavior Modification and Reward Systems: Determination of human behavior by environmental stimuli and acquisition of behavioral habits is the main theme of this course. After reviewing reflexive and operant conditioning as two basic learning principles, behavior modification technique is studied in detail. Students are required to apply the technique to a behavior in daily life.

Decision Making and Leadership: This course is designed to provide students with an understanding of basic managerial styles in relation to decision making. Topics to be covered are: an overview of managerial skills, motivational theories (mainly; two-factor, expectancy, reinforcement and equity), models of leadership, and decision making.

Group Dynamics: In this course many aspects of small group behavior is studied. At the end of the course the students are expected to have gathered knowledge about the nature of groups, impact of group on individuals, group formation and development and the interaction processes that take place in small groups.

Human Resources Management: This course is characterized as a set of activities that are established to events within and outside the organization. The contents of the program is to reflect and improve and contribute to the qualities of personnel/human resource management in achieving the organization's success. The course deals to a great extent with the application of a single function of the human re-
Selected Topics in Contemporary OB Issues: This is course for 3rd semester PhD students. The purpose is to orient students to topics which recently have gained importance in the O.B. era. The students are expected to scrutinize such issues, select one of them and to prepare a literature survey on the related studies.

Statistical Application: Topics to be reviewed are: Statistical data and scales of measurement, concepts of validity and reliability, steps in statistical research, nature of questionnaire design, statistical presentation and interpretation of research findings, individual projects (subject matter selected in accordance with particular interest of the students).

Statistics in Social Sciences: Types of data and data scaling, frequency, distributions, measures of central tendency, measures of variation, probability distributions (Binomial, Normal, Student-t), hypotheses testing, simple regression and correlation, and chi-square tests will be reviewed.

Training and Development: The purpose of this course is to provide the students information and skills in training-needs assessment, developing and design of training programs, and evaluation of training programs in various organizations/industry. Students will also be informed about the functional relationship between needs assessment and training evaluation.

Writing Skills: This prerequisite course is designed to prepare students for the task of writing their theses or dissertations, including the critical evaluation of the literature necessary to such writing.
Foreign Policy Making: This course, theories of foreign policy making process and various case-studies of notable foreign policy decisions are analysed.

New International Law in Europe: This course analyses the major issues of international law significant to the developments in and concerning post-Cold War Europe/in a theoretical and legal framework.

Theory and Process of Strategy: This course covers the major theories of international politics and strategy with special reference to strategic decision-making and implementation processes.

Seminar on Regional Politics: In this seminar, main security issues of various regions will be studied.

Seminar on Human Rights: This seminar on theory and practice of human rights focuses both on the development of the concept of human rights and human rights abuses including the rights of women and children.

Research and Reading in Turkish Politics: This course is designed to analyse Turkish politics through an in-depth reading of the original sources of significance in historical development of Turkish politics.

From the Cold War to Cold Peace: This course focuses on the historical foundations and features of bipolarity during the Cold War, the collapse of the bipolar system and the emergence, significance and problems of the post-Cold War international system for regional and global peace.
participants will learn about the special problems of international oriented enterprises and the solutions offered from new research in Business Administration. Moreover, the program will help to increase fluency of the German language.

Since the program requires basic knowledge in Business Administration, especially in the area of accounting, completion of undergraduate studies in Business Administration or in similar areas is strictly recommended.

MASTER'S PROGRAM IN APPLIED COMPUTER SCIENCES

The Department of Computer Science & Business Administration opened in 1990, offers undergraduate and graduate (MBA) programs in German Language. The lecturing group consists of German nationals. A wide range of courses include topics like Computer Science, Software Engineering, Quantitative Methods, System Simulation, Decision Support Systems. Courses held in Business Administration complete the scheme. A modern computer lab for practical exercises and a rich library are available.

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<th>First Semester</th>
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<tr>
<td>Investments and Financial Instruments</td>
<td>Business Application Systems</td>
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<td>Information Technology</td>
<td>Practical Programming</td>
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<td>Data Modeling</td>
<td>Strategic Management</td>
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<td>Controlling</td>
<td>Knowledge Based Systems</td>
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<td>Problem Oriented Programming</td>
<td>Operations Research/System Simulation</td>
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<tr>
<td>Business Process Modeling</td>
<td>Information Management</td>
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COURSE DESCRIPTIONS

The Masters program of Business Administration (Applied Computer Science) was founded in 1995, it offers an (MBA) program to graduates in German Language. The lecturing group consists mostly of German nationals (1 Turkish national). A wide range of courses include topics like System Simulation, Business Application Systems, Strategic Management, Practical Programming and Information Management.
LOCAL AUTHORITIES AND DECENTRALIZATION

Head of Program: Prof. Dr. Ömer DİNÇER

The Program of Local Authorities and Decentralization, opened in 1995 to train academicians and to make scientific researches both in Master and Doctorate (Ph.D.) Programs, offers post graduate education in Local Authorities and Decentralization in Turkish language.

About 20 different courses and seminars on various subjects such as Democratization, Human Rights, Environment, Urbanization, Urban Management, Local Finances, Local Institutions etc are trained and researched.

The courses in both Doctorate (Ph.D.) and Master Programs are listed below.

Language of Instruction: Turkish

MASTER'S PROGRAM IN LOCAL AUTHORITIES

First Semester

Municipal and Urban Management
The History of Local Authorities
The Political Structure and its Problems in Turkey

Second Semester

Political Institutions and Local Authorities
Strategical Management and Organizational Policies
Metropolitan Management in Turkey and the World
The Methodology in Scientific Researches

Optional Courses

A. Group:
The Financial Structure of Local Authorities
Human Resources Management in The Municipalities
Urbanization and Urban Problems

B. Group:
The Management Structure of Turkey and Its Problems
Democracy and Local Authorities in Turkey

Optional Courses

A. Group:
Urbanization and Migration
The Budget and Accounting in Local Authorities
The Infrastructural Investment and Project Management in Municipalities

B. Group:
The Socio-Economic History of Istanbul
The Urban Life and Urbanization During Ottoman Time
EDUCATION

Director: Prof. Dr. Hikmet SAVCI

ENGLISH LANGUAGE

Head of Program: Prof. Dr. Nazan AKSOY

During the Master’s Degree program of the English Department, a general framework of communication process is provided with respect to dimensions of syntactics, semantics, pragmatics, and with special reference to such terms as sender/receiver, encoding/decoding, channel capacity, structure, redundancy, and noise. Historical development of language studies as they developed into modern linguistics is first surveyed, after which modern linguistic schools and contemporary trends are extensively treated. Similarly, the past and present of the methodology of foreign language teaching is examined within the framework of theory and practice. In order to fully exploit the significance of studied material, a relevant cultural background to the Western civilization is provided. A critical analysis of texts is made in terms of various literary theories and in accordance with different analytical techniques such as Structuralism, Deconstructionism, and Reception Aesthetics. In order to prepare students for scholarly work, various methods and techniques are also practiced for researching source material as well as for producing well-designed papers.

Language of Instruction: Turkish and English

MASTER’S PROGRAM IN ENGLISH LANGUAGE

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<th>First Semester</th>
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<tr>
<td>Communication</td>
<td>Textual Analysis</td>
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<tr>
<td>Literary Criticism</td>
<td>Stylistics</td>
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<tr>
<td>General Linguistics</td>
<td>Teaching Methodology</td>
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<tr>
<td>Cultural Background</td>
<td>Research Methods</td>
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thesis is to be completed is limited to three semesters and in post-graduate studies it is limited to six semesters.

**Language of Instruction:** French

**MASTER'S PROGRAM IN FRENCH LANGUAGE**

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<tr>
<th>First Semester</th>
<th>Second Semester</th>
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<tbody>
<tr>
<td>Methodology and Criticism I</td>
<td>Methodology and Criticism II</td>
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<tr>
<td>Authors and Texts I</td>
<td>Authors and Texts II</td>
</tr>
<tr>
<td>Literary Dissertation I</td>
<td>Literary Dissertation II</td>
</tr>
<tr>
<td>Linguistics and Translation I</td>
<td>Linguistics and Translation II</td>
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**Ph.D. PROGRAM IN FRENCH LANGUAGE**

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<tr>
<th>First Semester</th>
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<tbody>
<tr>
<td>Novels I</td>
<td>Novels II</td>
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<tr>
<td>Drama I</td>
<td>Drama II</td>
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<tr>
<td>Poetry I</td>
<td>Poetry II</td>
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**COURSE DESCRIPTIONS**

**Methodology and Criticism I-II:** Research methods, methods for textual analysis, currents of criticism and famous critics are studied.

**Authors and Texts I-II:** French writers and their works are revised by means of the methods of research and criticism.

**Literary Dissertation I-II:** Students are asked to study and prepare papers on various literary subjects.

**Linguistics and Translation I-II:** The historical development of French Language, linguistic theories of well-known linguists are studied. Translation theories and studies are done in a comparative way with Turkish language. Semiology and semantics are studied.

**Novels:** History of novel writing and ways of studying novels are studied and practised.

**Drama:** History of drama and the subjects which comprise drama are taught.

**Poetry:** History of poetry, art of poetry and methods of studying poetry are taught and practised.
ART EDUCATION

Head of Program: Prof. Dr. İsmail AVCI

Marmara University, Atatürk Faculty of Education Department of Art offers MA and Ph.D. programs in Painting Education and MA program in Graphic Education. The aim of these programs are to help the students progress their artistic ability and their personality. These programs have been offered since 1990-1991 academic year.

Language of Instruction: Turkish

MASTER'S PROGRAM IN PAINTING EDUCATION

First Semester

Art Education and Figurative Painting I
Art Education and Abstract Painting I
Silkscreen Printing I
Engraving I
Style Researching I
Painting Education I
Artistic Sociology I
Research Techniques

Second Semester

Art Education and Figurative Painting II
Art Education and Abstract Painting II
Silkscreen Printing II
Engraving II
Style Researching II
Iconographic and Mythological Symbol
Artistic Sociology II

Ph.D. PROGRAM IN PAINTING EDUCATION

First Semester

Art Education and Figurative Painting I
Art Education and Abstract Painting I
Silkscreen Printing I
Engraving I
Contemporary Artistic Research I
Artistic Critic I
Research Techniques

Second Semester

Art Education and Figurative Painting II
Art Education and Abstract Painting II
Silkscreen Printing II
Engraving II
Contemporary Artistic Research II
Artistic Critic II
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<th>First Semester</th>
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<tr>
<td>Graphic Design Education I</td>
<td>Graphic Design Education II</td>
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<tr>
<td>Lythography</td>
<td>Silkscreen Printing</td>
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<tr>
<td>High Printing</td>
<td>Engraving</td>
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<tr>
<td>Iconographic and Mythological Symbols</td>
<td>Painting Education</td>
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<tr>
<td>History of Graphical Arts I</td>
<td>History of Graphical Arts II</td>
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<tr>
<td>Artistic Sociology I</td>
<td>Artistic Sociology II</td>
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**COURSE DESCRIPTIONS**

**Graphic Design Education I-II:** Amblem, label, photography etc. are applied.

**Lythography:** Lythography techniques are taught.

**High Printing:** The techniques of wood, linol and metal printing are presented with the help of examples.

**Silkscreen Printing:** The methods and principles of serigraphy techniques are taught.

**Engraving:** The techniques of printing and application of gravur are taught.

**Iconographic and Mythological Symbols:** The Greek mythology, the symbols that are used in art and Christian iconography are presented with the help of examples.

**History of Graphical Arts:** Graphical art and artists are taught in chronological order.

**Artistic Sociology I-II:** Among the societies, culture and art relationships are valued and examined.

**Research Techniques:** The methods of scientific research are taught.
10. INSTITUTE FOR GRADUATE STUDIES IN SCIENCE AND TECHNOLOGY

Director: Prof. Dr. Eralp ÖZİL
Assistant Director: Prof. Dr. Ahmet Alp SAYAR

Language of Instruction: Turkish and English

Graduate Institute of Science and Technology was established in 1982 to conduct graduate programs in education, science, engineering and technical education. Graduate programs are offered in the following fields.

PROGRAMS IN EDUCATION

Biology Education
Chemistry Education
Mathematics Education
Music Education
Physics Education
EDUCATION

BIOLOGY EDUCATION

Head of Program: Prof. Dr. Ali Çirpici

The graduate program in Biology Education is offered at the master's and doctoral levels for students pursuing a degree in Biology Education or in various fields of Biology. The researches in this program are being progressed in both fields of Biology and Biology Education. The research areas are primarily focused on identification and use of biological resources of Turkey; interactions between environment and organisms; teaching and learning of biology. The specific areas of research are: Plant Taxonomy, Taxonomy of Lichens, Insect Physiology, Embryology and Cytology of Flowering Plants, Fungi as Food Contaminants, Water Pollution, Research on Biology Curriculum.

Language of Instruction: Turkish

MASTER'S PROGRAM IN BIOLOGY EDUCATION

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Ph.D. PROGRAM IN BIOLOGY EDUCATION

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Cell to Cell Signalling: Discussion on molecular mechanisms of various signalling processes including hormonal, growth factors, extracellular material, gapjunctional and neuronal signalling. New developments in cell signalling research.

Techniques for Micropreparation: Demonstrations and student experiments on the preparation of plant and animal specimens for the cytological, histological and anatomical observations.

Seed Biology: The contents of seed biology; importance and characteristics of seeds development of angiosperm seeds, anatomical mechanism of seed dispersal, seed germination and morphogenesis, experimental control of seed germination, seed dormancy.

Biology of Mold Fungi: A course on classification, morphology, reproduction and physiology of mold. This course also explains pathogenic mold, cultivation, isolation and identification techniques.

Biology Of Water Plants: Discussions and practical work on the species specific thallus structures, asexual (vegetative) and sexual reproductive mechanisms and morphological variations in algae.


Plant Identification: General rules for identification of plants; identification keys; practice for the identification of many important families and genera.

Taxonomy of Monocotyledons: General characteristics of monocotyledon plants. Terminology used for their taxonomy.

Cytological and Embryological Research Methods: The research methods demonstrated and discussed for the use of plant cytology and embryology.

Sexual Incompatibility In Flowering Plants: The causes and results of sexual incompatibility in flowering plants.

Hormonal Control In Animals: Hormonal control mechanisms providing homeostasis and adaptation to environmental conditions in different animal groups.

Plant Biochemistry: The application in recent decades of novel techniques for fractionating cellular constituents, for isolating enzymes, for electrophoretically separating nucleic acids and proteins and for chromatographically identify the intermediates and products of cellular metabolism has revolutionised our knowledge of the biochemical processes of life.
CHEMISTRY EDUCATION

Head of Program: Prof. Dr. Musa ŞAHİN

In the graduate program for Chemistry Education courses are offered in analytical chemistry, physical chemistry, organic chemistry, inorganic chemistry and biochemistry. Graduate research topics are mostly directly related to topics in the field of Chemistry. Graduate work may involve also topics which may serve to update educational methods in Chemistry Education.

Language of Instruction: Turkish

MASTER'S PROGRAM IN CHEMISTRY EDUCATION

Prerequisites: The applicants must have a B.S. Degree in Chemistry Education or equivalent.

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Ph.D. PROGRAM IN CHEMISTRY EDUCATION

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by d-metal complexes, infrared spectroscopy introduction to IR, vibrations by molecules, IR in Praxis.

Orgel Diagrams: Introduction to ligand field theory, absorption spectra of transition metal complex ions, high field and low field limits.

Advanced Coordination Chemistry: Atomic spectra of transition metals and their ions, formation of coordination compounds, structures of coordination complex compounds, molecular orbital theory, hydration free energies of transition metal ions in a dielectric continuum.

Boron Chemistry: Technology of Boron industry, pterogenous equilibria in aqueous systems of inorganic borates. Inorganic boron-oxygen chemistry, elemental boron.

Advanced Chemical Kinetics: Molecular kinetics; potential energy surfaces, kinetic theory of collisions, statistical mechanics of chemical equilibrium, the theory of absolute reaction rates, kinetic isotope effects, reactions in solution; reactions between ions, reactions involving dipoles, influence of pressure on rates in solution, fast reactions, substituent effects, the Taft equation.

Advanced Electrochemistry: Fundamental electrode phenomena, methods involving mass transfer by convection diffusion, methods involving mass transfer by diffusion, coulometry, potentiometry and chronocoulometry polarography and voltammetry, amperometry and cyclic voltammetry, cells for electrolysis, diaphragm materials, electrode materials and reference electrodes, solvent for electrolysis and electrolytes, reduction of organic compounds.

Electrochemical Methods of Analysis: Introduction; the structure of electrochemistry, interfacial (double layer) and electrokinetic phenomena, electrodes employed in electrochemical analysis, reversible electrode potentials, irreversible electrode processes, electrode kinetics. Electrochemical titration. Polarography; arrangement for polarography, techniques of polarography, the shape of the polarogram, techniques for investigation of polarograms, reversible process in polarography, irreversible process in polarography. Cyclic voltammetry; arrangements for polarography, techniques for cyclic voltammetry, the shapes of cyclic voltammograms, techniques for investigation cyclic voltammograms, reversible processes in cyclic voltammetry, irreversible processes in cyclic voltammetry. Controlled potential electrolysis and coulometry.

Surface Chemistry: The structure and properties of porous materials; clays, bleaching earths. Determination the structure of porous materials; XR, DTA, IR. Physical adsorption; physical adsorption isotherms, the Tangmuir adsorption isotherms. Adsorption of gases in multimolecular layers; BET, Harkins-Jura, de Boer-Lippens. Chemical reaction on porous materials; heterogeneous reactions, steps in the mechanism of surface reactions, the role of the surface in catalysis. Examples of catalytic processes; hydrogenation, oxidation, cracking on reforming.

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MATHEMATICS EDUCATION

Head of Program: Prof. Dr. Şermin ATACIK

There is only an M.S. program in Mathematics Education Department. In a few years, a Ph.D. program will be offered too. The research fields are Point Set Topology, Number Theory, Lie Algebra, Lie Groups, Approximation Theory, Stochastic Processes, Bayesian Interference, Computer Based Mathematics Education.

Language of Instruction: Turkish

MASTER'S PROGRAM IN MATHEMATICS EDUCATION

Prerequisites: The applicants must have a Bachelor's Degree in Mathematics and Education or its equivalent. For probable prerequisites please refer to the undergraduate program of the Department of Mathematics and Education.

First Semester
Real Analysis I
General Topology I
Complex Analysis I
Algebra I

Second Semester
Real Analysis II
General Topology II
Complex Analysis II
Algebra II

COURSE DESCRIPTIONS

Analysis I: Outer measure, measurable, sets and lebesque measure, measurable functions, Riemann integral, Lebesque integral, monotone convergence theorem, lebesque dominant convergence theorem, derivative functions of bounded variation, derivative of integral, absolute continuity, LP spaces, bounded linear functions, Reisz representation theorem.

General Topology I: Elementary concepts, continuity and homeo, morphisms, separation axioms, more about compactness, one-point compactification, product spaces, connected and locally connected spaces.
MUSIC EDUCATION

Head of Program: Prof. Dr. Yücel ELMAS

In the Department of Music Education under the guidance of the Graduate Institute of Sciences and Technology, M.A. and Ph.D. studies are conducted aiming at qualifying music researchers and music critics in the fields ranging from pre-school, to high school to adult education.

Language of Instruction: Turkish

MASTER'S PROGRAM IN MUSIC EDUCATION


First Semester

Major Field of Study and Its Education I
Composing Music for Educational Purposes
Structural Evolution of Music Instruments
Piano Accompaniment / Chamber Music

Second Semester

Major Field of Study and Its Education II
Techniques of Polyphonization
Contemporary Music Currents
Research in Turkish Music Education
Piano Accompaniment / Chamber Music
Research in Turkish Music Education: The subject comprises of a thorough examination of previously completed and published samples of research and the preparation of new projects.

Formation of Major Field of Study: An advanced form of the postgraduate course, "Major Field of Study and its Education" is presented.

Music Sociology: The subject examines the sources of music, its importance and its role in social life in addition to the interrelations of music with other disciplines. The course aims at enabling the students to evaluate the structures more efficiently.

Music Education and Statistics: The subject aims at scrutinizing the methods of research about the problems in teaching Turkish music, using statistical techniques. Students taking this course prepare research project in addition to going through the ones already published.

Theories of Art: The students who take this course learn about the basic concepts and the philosophy of art, and aesthetics in addition to scrutinizing the literature and writing articles.

Music Psychology: The subject comprises of the examining of basic concepts of music psychology, such as enjoying and teaching music, testing of musical abilities, communication, etc. and it enables the students to make researches in this field.

History of Turkish Music Education: The history and the programs of all the music institutions in Turkey such as conservatoriums, Music Education Departments, Fine Arts Academies, Music Highschools, musicology, ethnomusicology, orchestras, operas and ballets, music in primary, secondary schools, choirs, TRT and music, etc. are scrutinized.

Music Technology: The main theme of the subject is the use and the effect of today's technological developments in the field of music. The facilities, the speed and other innovations that technology brings to writing, printing, duplicating, performing, interpreting, archiving, and teaching music are examined.
COURSE DESCRIPTIONS

Research and Test Techniques in Science Education I: Introduction to SPSS Program, Scales, Validity, Reliability and Classification of Test Techniques using SPSS.

Research and Test Techniques in Science Education II: Statistical techniques and Measurement Tools in Science Education using SPSS, Graphical presentation of the examination scores with SPSS, A variety of research activities for science and physics education in primary and secondary schools as well as in Faculty of Education.

Computer Assisted Numerical Analysis I: Fundamental Applications related to the Numerical Analysis using PC.-Two and three dimensional graphical packages are used which are related to evaluation techniques for experimental data obtained from computer aided physics laboratory equipment.


Projects in Science and Physics Education I: Brief presentation or synopses for the National Science Education Development Project in laboratory schools. A variety of forms of practical work and developing follow up activities making and using simple forms of apparatus for use in schools.

Projects in Science and Physics Education II: A variety of forms of practising teaching skills: Planning, introducing a lesson, key questions, organising practicals and demonstrations in secondary schools, Teaching and Testing of the new experimental sets of the Projects. Discussing sessions in small student groups and reported back by poster, oral or written presentation.

Advanced Experimental Techniques and Demonstrations: Designed and Introduced Experimental Techniques which are effected in Science Education and Educational Technology.

Reading in Physics and Physics Education: Supervised reading and library work. Choice of material according to individual needs. Both written and oral presentations are required.

Graduate Seminar: Concentrated study of one selected advanced topic under the supervision of one or more faculty members. Both written and oral presentations are required.

Mathematical Methods in Physics (special chapters): Vector and tensor analysis, linear algebra, matrices and vector spaces, Fourier series and transforms; special harmonics; Bessel functions; linear second order partial differential equations and
ENGINEERING

COMPUTER ENGINEERING

Head of Program: Prof. Dr. Kılıçarslan AYTAÇ

The department of Computer Engineering offers a graduate program leading to the MSc Degree since 1993. The program aims to prepare professionals who will adapt to the advances in technology and also capable of leading developing that technology. The department’s computing facilities are organized around centralized network with multiple UNIX servers. Network access is provided to Internet, and thus connected to all major universities and research centers all over the world.

The program and research interests of the department lie in a variety of following areas and the graduate students participate in the department’s research efforts:

Advanced Computer Architectures and Technology: VLSI circuit design, Functional components and organization of modern computers, RISC architecture, multiprocessors systems, parallel processing and programming, dataflow computers and performance evaluation of computer systems are covered.

Systems with Emphasis on Distributed and Parallel Computing: Hardware and software design issues in distributed and parallel systems, resource management for distributed operating systems: interaction between operating system design and architectures including fault tolerance issues are emphasized.

Communications and Networking: High speed switching technologies such as frame relay and ATM with particular interest on flow and congestion control, TCP/IP Networking and the problems of interconnecting IP networks, also recent interest in the design of protocol suits for mobile systems and wireless networks are covered.

Multimedia Systems: The application, underlying communication system and related operating systems requirements of multimedia systems are emphasized.

Advanced Topics in Databases: Semantic models, object-oriented databases, knowledge bases, multimedia databases, distributed database and client-server base application development are issued.
plication, fault tolerance, real-time distributed systems, distributed shared memory concepts and case studies: Amoeba, Mach, Chorus etc.

Advanced Topics in Software Engineering: Object-Oriented design, concurrent system design, CASE workbenches, software quality assurance, software cost estimation, configuration and version management

Information Systems Development: Structured analysis development strategy, prototype development strategy, CASE tools, system design, design for data communication, managing system implementation, hardware and software selection.

Information Systems for Management: The decision making process, human as information processor, system concepts, concepts of planning and control, organizational structure and management concepts, structure of management information systems, long-range information system plan, support systems for planning, control and decision making, organization and management of information resources.

Software Project Management: Software project concept, formal planning, control of work, project methodology, project planning, adjusting for project size, change control, cost/benefit analysis, risk analysis, function analysis, estimating methods, scheduling: networks theory (for planning and control), peer reviews auditing, quality control.

Object Oriented Languages: Object-Oriented Problem solving, classes, data encapsulation, using classes, Inheritance and derived classes, polymorphism and virtual functions, templates, case-studies in object oriented programming, C++, Smalltalk, Eiffel.

High Speed Multimedia Communications: The requirements of multimedia applications from the underlying communication system is covered in detail. Existing communication systems and the required operating system support is discussed.

Open Systems Networking: Advanced topics in Computer Networks are covered. During the semester, students are asked to present a paper in one of these areas: TCP/IP networking, Mobile Systems, Congestion and Flow Control in High Speed Networks (ATM), Multimedia Communications, Routing, Internetworking, ATM Design Issues etc.

Artificial Intelligence and Expert Systems: Logic Programs, facts, queues, rules, recursive programming, search techniques nondeterministic programming, incomplete data structures, meta interpreters, case studies and applications.

Image Processing: Thresholding and segmentation, mathematical morphology, neighborhood operators, conditioning and labeling, image segmentation, texture, image restoration, operations using statistics, applications of image processing.
ENGINEERING MANAGEMENT

Head of Program: Prof. Dr. Nükhet YETİŞ

Management insight skills are essential for today's technical professionals. Engineering Management program has responded to this need with a graduate and doctoral course outline.

This program is suitable for technical persons who want to maintain their identity with their technical specialties while advancing into the management of technology.

Engineering Management Program develops technical management skills by combining qualitative approaches and quantitative techniques in a balanced curriculum which strengthens management credentials and increases technical competence.

EMP addresses the issues of technical management at five interrelated levels, simultaneously:

1. Management of engineers and scientists; motivation and leadership in engineering; technical obsolescence; communications transition from technical specialty to technical management.

2. Management of research and development and engineering projects; selection, evaluation, scheduling and control of technical project.

3. Management of technical organizations; design of technical organizations; authority/responsibility patterns in functional, project, matrix and venture organizations; the role of participative management in technical organization.

4. Management of technical resources; use of operation research, decision theory and computer simulations in research optimization; management of raw materials; technical manpower planning; financial management in engineering.

5. Management of technological systems; management innovation, entrepreneurship, productivity, technological planning and forecasting, technological risk management, law; R&D management. The curriculum suggested below presents a unified approach to the concepts, methods and decision processes at all these levels.

Language of Instruction: English
This course is case-study oriented. Structure of a MIS, survey of information technology, organizational structure and management concepts, information-based support systems for planning, control and decision making, developing a long-range information systems plan, strategies for determination of information requirements, database requirements, user interface requirements, developing and implementing application systems, quality assurance and evaluation of information systems.

**Project Management:** Case studies in project management.

**Total Quality Management:** Total quality control, concepts and tools, relations, systematic, matrix, arrow diagrams, matrix data analysis, KJ method, process decision.

**Computer Integrated Manufacturing:** Automated transfer line, assembly lines, assembly line balancing, flexible manufacturing systems, automated material handling, numerical control manufacturing systems, shop floor control, group technology.

**Advanced Manufacturing Planning Systems:** Total manufacturing system, manufacturing strategy design, BOM, routing, work centers, production and resource planning, master scheduling, MRP, capacity management.

**Computer Aided Engineering:** Solid modeling, sheet metal design, assembly modeling, optimization, kinematic system analysis, element analysis and modeling, linear static analysis, linear thermal analysis, potential flow analysis, dynamic analysis.

**Information Systems Analysis and Design:** The course is intended to provide information systems development techniques including requirement analysis, design and implementation issues, and computer-aided system tools. The course is case-study oriented and students are encouraged to carry out small-size real life projects.

**Information System Management:** Information systems construction, information systems organization and management.

**Data Communications:** The study of remote access and communications between computers. Network architectures and topology; communication protocols and interfaces.

**Database Management Systems:** Review of the relational data model and introduction to distributed databases. DBMS architectures. Data dependencies, decomposition algorithms. Data dictionaries. Physical database design.

**Foreign Expansion and Trade Techniques:** Being a natural requirement or extension of the domestic growth and development process, foreign expansion is to be defined while determining its dimensions and planned as a strategic activity also indicating the characteristics and contributions of the foreign trade techniques necessary for its implementation. Methodical thinking and analytical decision-making, consensus and group/team work, behavioral styles and profiles, social foundations of marketing, domestic evaluation and foreign expansion, foreign trade strategy, Ja-
cond part of the course covers single machine problems, flow-shops and job-shops and related proofs and solution techniques. Finally, constructive algorithms, optimization and combined solution approaches are discussed. The course comes to an end by covering the resource constrained project scheduling problem which is the most generalized model in scheduling. Time-cost and time-duration trade-offs, renewable and non-renewable resource constraints and the recent trends in project scheduling research are discussed.

**Individual Studies in EM:** Students work individually to develop research studies covering a wide range of topics including the selection, scheduling, control and termination of R&D and engineering projects, R & D/engineering/marketing interfaces, team building and information patterns in engineering and R&D organizations, concurrent engineering.

**Research Topics in EM:** Students work individually or in small teams to develop projects reflecting the background gained in the other EM courses. The projects are chosen from critical research and implementation issues in engineering management.
COURSE DESCRIPTIONS

Advanced Techniques of Environmental Engineering: General considerations in analysis, optical methods, ultra violet, visible, infrared, X ray absorption applications in environmental engineering analysis, emission and flame spectroscopy, selective ion electrodes, mass spectrometry, gas and liquid chromatography theory and applications, electrical separation methods.

Transport Phenomena in Environmental Engineering: Fundamental equations of fluid flow, heat transfer and mass transfer, mathematical solution methods, numerical methods, selected applications in environmental engineering.


Membrane Processes: Classification of separation techniques, osmosis and osmotic pressure, kinds of membranes, cellulose acetate and polyamide membranes, properties, pretreatment of sea water and brackish water before reverse osmosis, economics of reverse osmosis and comparison with other desalination techniques such as MSF, ultrafiltration and electrodialysis.


Physico Chemical Processes in Environmental Engineering: Physico-chemical processes encompassing quality transformations in natural waters, water supplies, and municipal and industrial wastewaters. Enhanced coagulation and flocculation, sedimentation, filtration, adsorption, ion exchange and disinfection.


Environmental Engineering Structures Design: Structural systems, structural materials loads on structures, idealized structures for analysis, influence lines, deflection of structures, ultimate strength design of various structures.

Computer Applications and Modelling in Environmental Engineering: Pipe Network Analysis using computers (Hardy Cross Method, Linear Method, and Dead and Method). Comparison of the results of these methods and application to a real case study.
Writing small programs (Water indices, Chezy, Manning Equations, minor and friction losses in pipes, hydraulic elements, gradually varied flow, Langmuir-Freundlich isotherms, BDST Method, Dispersion with bulk flow)
Lake hydraulics and Eutrophication modelling.
Package programs: SWAMI (Strategic Waste Minimization Initiative), WASP (Water Analysis Simulation Program) and programs prepared by the Association of Environmental Engineers Association (AEEP).

Special Topics in Environmental Engineering: Special topics related to environmental problems, literature survey and research, topics of recent interest of faculty and students.
### First Semester
- Optimization Techniques
- Advanced Production Methods
- Modelling Techniques
- Forecasting Techniques

### Second Semester
- Game Theory and Executive Decision Making
  - Advanced Decision Making
  - Elective
  - Elective

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**Ph.D. PROGRAM IN INDUSTRIAL ENGINEERING**

**Prerequisites:** Refer to M. Sc Program for possible prerequisite courses.

### First Semester
- Dynamic Programming
- Manufacturing Policy
- Convex Programming
- Data Base Design

### Second Semester
- Stochastic and Chance Constrained Programming
  - Elective
  - Elective
  - Elective

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**COURSE DESCRIPTIONS**

**Productivity Engineering:** Fundamental concepts of productivity; productivity indices; production and cost functions; efficiency and effectiveness; productivity analysis in production, financial productivity analysis, efficiency and effectiveness in marketing; productivity based management and engineering.


**Modelling Techniques:** Types and characteristics of model, systems concepts, basic quantitative techniques used in modelling, industrial dynamics, econometric and energy modelling, use of quantitative models in business and industry.

**Game Theory and Executive Decision Making:** Two-person, zero-sum and constant-sum games, strategies for 2-person games, graphical solutions, zero-sum games, application of linear programming, non-constant sum games, introduction to n-person games, cores of games, shapley value.

**Multiple Criteria Decision Making (MCDM):** MCDM-balancing a variety of needs and goals. Definition of MCDM. Definitions of objectives, goals, criteria; conflicting...
budgeting, production planning and control, order control, CAD/CAM integration, job sequencing and scheduling, aggregate production planning, numerical controlled production, lasers in production, flexible manufacturing, computer aided integrated production systems, course is supported with case studies.

**Scheduling Theory:** Introduction to scheduling theory includes the classification of scheduling problems, the performance criteria used in scheduling, disjunctive graph presentation of schedules and the definition of optimality and activeness. The second part of the course covers single machine problems, flow-shops and job-shops and related proofs and solution techniques. Finally, constructive algorithms, optimization and combined solution approaches are discussed. The course somes to an end by covering the resource constrained project scheduling problem which is the most generalized model in scheduling. Time-cost and time-duration trade-offs, renewable and non-renewable resource constraints and the recent trends in project scheduling research are discussed.

**Advanced Plant Layout and Design:** The plant layout problem, plant layout function, factors to consider in plant layout, production planning, material handling equipments, Operation planning, Layout planning, making the layout, plant location, industrial plant buildings.

**Advanced Material Handling Systems:** Transporting equipments, elevating equipments, conveying equipments, transferring equipments, self-loading equipments, bulk-handling equipments.

**CAD-CAM and Tool Design:** The digital computer as a design aid, interactive CAD systems, computer aided design systems, operations of the GCSADS draughting system, using the draughting system, application of CAD techniques to finite element data preparation, computer aided manufacture, the use of micro computers in CAD/CAM systems, a micro-computer based CAD/CAM systems. Implication of CAD/CAM for industry.

**Facilities and Equipment Planning:** Applications of facility planning, facility location, materials handling equipments planning, operations planning.

**Robotics and Flexible Manufacturing:** Industrial robots and their components, IE techniques for planning robot applications, implementation of robot applications, implementation of robot systems.

**Dynamic Programming:** Introduction to dynamic programming, puzzles and problems, network problem, inventory problem, Wagner-Whitin Algorithm, resource allocation, equipment replacement problem, formulating dynamic programming recursion, theory (separability, monotonicity of return), forward recursion, computational methods, probabilistic dynamic programming problems, probabilistic inventory models, maximizing the probability of event.

**Integer Programming:** Graphs and integer programs, enumeration methods, use of linear programming theory, cutting plane methods, knapsack problems, set covering
Regenerative Inventory Methods: Inventories in the economy, theory of firm, Erich Schneider’s inventory control analysis, multi-stage inventory model, determining production quantities under aggregate constraints, periodic scheduling of buffer stocks with fixed lots, planning Trigger inventories with fixed lot sizes, lot sizes and buffer inventories under the reorder point system, forecasting sales of individual products with exponentially weighted moving averages.

Advanced Quality Control and Design: Acceptance sampling by attributes; single sampling plans, double and sequential fraction-defective sampling plans, multiple fraction-defective sampling plans. ISO 9000 and military standard acceptance sampling by variance, comparison of various types of sampling plans, rectifying inspection for lot-by-lot sampling, sampling plans for continuous production, general theory of control charts and variable control charts.

Demand Analysis: Demand analysis for marketing decision, demographic demand analysis, models and measures of population in time and space, economic demand analysis, demand models, measures and modelling for planning, new trends in demand analysis, demand models, measures of demand, measures and modelling for planning, new trends in demand analysis, demand forecasting.

Markovian Decision Processes: Markov processes with rewards, value-iteration method for the solution of sequential decision processes, policy iteration method for the solution of sequential decision processes, Markovian decision processes with and without discounting, dynamic programming viewpoint of Markovian decision processes.

Planning For National Technology Policy: In this course some of the national economic sectors will be considered in planning and policy formulation, contribution to technology development. The course will be supplemented with cases from Turkey and Turkic countries.

Systems Engineering: Analysis of linear continuous systems, controllability, observability and stability, socio economic systems, optimal control.

Value Engineering: Basic concepts of value; introduction to value engineering; methodology of value engineering, theory of value, economic value, product valuation; production, consumption and equilibrium, optimal value systems; criteria for applying value engineering; management review and action; organization for value engineering, case studies.

Current Topics In Industrial Engineering: Recent advances and developments in industrial engineering will be brought to the class discussion.

Advanced Fluid Mechanics I: Continuum concept, conservation equations for viscous fluids, boundary layer, Navier-Stokes equations derivation and applications, approximate methods, laminar boundary layers, stability criteria, introduction to turbulent flow.

Advanced Heat & Mass Transfer: General heat equation, one-dimensional steady state conduction, heat transfer from extended surfaces, two-dimensional steady state conduction, transient conduction, fundamental concepts of radiation, exchange between surfaces, convection boundary layers, momentum and energy equations, exact solutions, approximate methods, flow in tubes, external flow, free convection, diffusion mass transfer.

Intelligent Instruments: Digital computer control loops, from continuous-time to discrete-time systems z-transforms, discrete-time response of dynamic systems, design of digital controllers.

Combustion: Review of chemical thermodynamics and reaction kinetics, fuel characteristics and explosion limits, conservation equation Schwab-Zeldovic formulation, diffusion flame, premixed flames ignition and pollution.

Advanced Fluid Mechanics II: Review of laminar flow conditions, transition to turbulence, conservation equations, turbulent boundary layer equations, integral solutions, statistical analysis, introduction to computational fluid mechanics.

Energy Conversion: Introduction to power generation, fuels, internal combustion engines, compressors, turbines, gas turbines, direct energy conversion, power plants, environmental issues.


Introduction to Renewable Energy Systems and Technologies: Energy and the environment, review of thermal pollution expects, introduction to solar, wind and other renewable technologies, active solar systems, wind turbines design considerations, geothermal energy and related technologies, special topics in renewable energy sources.

Advanced Heating, Ventilation and Air Conditioning: Review of psychrometrics, heat loss and gain calculations, computer modelling of building heat transfer, pipe flow, losses, flow in ducts, pressure drop calculations, new codes and regulations, VAV control, air distribution control, introduction to air handling unit design.
SCIENCE

BIOLOGY

Head of Program: Prof. Dr. Belma Semiz Derman

The department offers M.S. and Ph.D. degrees. Botany, Microbiology, Plant Diseases, General Biology, Molecular Biology, Zoology, Hydrobiology are the main research fields in the department.

Language of Instruction: Turkish

Prerequisites: The applicants must have a Bachelor’s Degree in Biology or its equivalent. For probable prerequisites refer to the undergraduate program of the Department of Biology.

MASTER’S PROGRAM IN BIOLOGY

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<th>First Semester</th>
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<td>Plant Physiology I</td>
<td>Cell Biology I</td>
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Ph.D. PROGRAM IN BIOLOGY

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COURSE DESCRIPTIONS

Plant Physiology I: Study of the processes which go on in plants including osmosis and the components of water potential; transpiration; transport across membranes; the translocation of solutes; enzymes, proteins and amino acids; photosynthesis; respiration.
Plant Physiology II: In this course practical work is performed.
Methods used in Molecular Biology: The aim of this course is to teach students the most prominent methods used today in molecular biology. These include the methods used in genetic engineering and experimental cell biology. The extraction of RNA and the cell free-translation system of protein synthesis with the analysis of these products in SDS or IEF gel electrophoresis are also described in detail.

Cell Biology I-II: The topic of this course is the molecular basis for cellular structure and function. These are described in three sections. The sections cover cellular energetics, regulation of cellular function, and cell specialization, respectively. There is also a section covering some of the tools and techniques used in experimental biology.

Genetics I-II: The purpose of this course is to provide detailed information about genetics, the study of heredity and to present some of the experiments and reasoning through which this information has been achieved. The course covers the following topics. Identification, transmission and distribution of genetic material. It also includes the arrangement, structure and function of genetic material.

Tissue and Cell Culture Technique I-II: The aim of this course is to introduce the students to the importance of experimental research with cell and tissue culture techniques. The course covers how to use the tools, to prepare solutions and to dissect the tissues from avian and animal species. Furthermore, the advantages and the disadvantages of these techniques are also discussed.

Molecular Biology I-II: The course of molecular biology introduces the students to the molecules of cells and their functions. The chemical reactions, coupled reactions and group transfers with their importance in development and differentiation are also discussed. Furthermore, bacterial cell, replication of RNA, transcription of RNA and regulation of protein synthesis and function are included. In addition the replications of viruses, the control of cell proliferation, embryology at the molecular level, the problem of antibody synthesis and the viral origin of cancer are discussed too.

Oceanography: TA branch of science which deals with the physical, chemical and geological characteristics of the oceans and seas on the earth, searching for the origins of the animal and plant societies in it.

Zoogeography: A branch of science which deals with the spreading of animals on the different parts of the earth.

Introduction to Marine Biology: This course examines the biologies of the organisms living in the sea and subjects in relation to the physical and chemical oceanography.

Fish Systematics I-II: The types and varieties of fish species and their relationships with each other are studied.

Ichthyology: Classification of fish species and exploration of their evolution, morphology and anatomy along with their physiology are studied.
### MASTER'S PROGRAM IN ANALYTICAL CHEMISTRY

**Prerequisites:** General Chemistry I-II, Analytical Chemistry I-II, Physical Chemistry I-II, Instrumental Analysis, Mathematical Applications in Chemistry.

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<th>First Semester</th>
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<tbody>
<tr>
<td>Advanced Instrumental Analysis I</td>
<td>Chromatography</td>
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<tr>
<td>Statistics in Chemistry I</td>
<td>Elective</td>
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<td>Chemical Equilibria</td>
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### Ph.D. PROGRAM IN ANALYTICAL CHEMISTRY

**Prerequisites:** General Chemistry I-II, Analytical Chemistry I-II, Physical Chemistry I-II, Organic Chemistry, Advanced Instrumental Analysis, Statistics in Chemistry.

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<th>First Semester</th>
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<tr>
<td>Advanced Coordination Chemistry I</td>
<td>Advanced Instrumental Analysis II</td>
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<td>Organic Analytical Chemistry</td>
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<td>Elective</td>
<td>Statistics in Chemistry II</td>
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### MASTER'S PROGRAM IN BIOCHEMISTRY

**Prerequisites:** General Chemistry I-II, Analytical Chemistry I-II, Biochemistry, Organic Chemistry I-II, Instrumental Analysis.

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<th>First Semester</th>
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<tr>
<td>Advanced Instrumental Analysis I</td>
<td>Advanced Biochemistry II</td>
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<tr>
<td>Statistics in Chemistry I</td>
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<td>Advanced Biochemistry I</td>
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<tr>
<td>Advanced Molecular Biology I</td>
<td>Graduate Seminar</td>
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**MASTER'S PROGRAM IN ORGANIC CHEMISTRY**

**Prerequisites:** General Chemistry I-II, Organic Chemistry I-II-III, Instrumental Analysis, Organic Reaction Mechanisms, Physical Chemistry I-II.

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<th>First Semester</th>
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<tr>
<td>Advanced Instrumental Analysis I</td>
<td>Organic Spectroscopy and Applications</td>
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<tr>
<td>Mechanisms in Organic Chemistry I</td>
<td>Elective</td>
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<td>Graduate Seminar</td>
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**Ph.D. PROGRAM IN ORGANIC CHEMISTRY**


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<th>First Semester</th>
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<tr>
<td>Mechanisms in Organic Chemistry II</td>
<td>Advanced Instrumental Analysis II</td>
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**MASTER'S PROGRAM IN PHYSICAL CHEMISTRY**

**Prerequisites:** General Chemistry I-II, Analytical Chemistry I-II, Physical Chemistry I-II, Instrumental Analysis, Mathematical Applications in Chemistry

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<th>First Semester</th>
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<tr>
<td>Advanced Instrumental Analysis I</td>
<td>Advanced Physical Chemistry II</td>
</tr>
<tr>
<td>Statistics in Chemistry I</td>
<td>Elective</td>
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<tr>
<td>Advanced Physical Chemistry I</td>
<td>Elective</td>
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Advanced Instrumental Analysis I: Prescribed course for all master students in Chemistry. Modern Analytical methods, spectroscopy, UV and visible spectroscopy, emission spectroscopy, chromatography in general.

Advanced Instrumental Analysis II: Prescribed course for all doctorate students in Chemistry. Chromatography in detail. Luminescence, fluorescence, phosphorescence, NMR and mass spectra interpretation, polarography.

Chemical Equilibria: Elective course for master students. Reaction rates and chemical equilibria. Applications. Complex formation, extraction, catalysis.

Special Topics in Analytical Chemistry I: Elective course for master students. Analytical applications of UV, Visible, IR spectroscopy in research and in industry.

Special Topics in Analytical Chemistry II: Elective course for doctorate students. New Topics in Analytical Chemistry. Recent applications.

Chromatography: Prescribed course for master students in Analytical Chemistry. Chromatographic applications.


Advanced Physical Chemistry I: Prescribed course for master students in Physical Chemistry. The phase rule, graphical representation of three component systems, systems with solid phases, systems of two salts and water, formation of a double salt.

Advanced Physical Chemistry II: Prescribed course for master students in Physical Chemistry. Rate laws, fundamentals of spectroscopy, vibration, rotation, translation, relational spectrum, the vibration-rotation spectrum, the Raman spectrum.

Chemistry of Transition Metals I: Elective course for master students. Chemistry of transition metals.

Chemistry of Transition Metals II: Elective course for doctorate students. Advanced topics in the chemistry of transition metals.

Mechanisms in Organic Chemistry I: Prescribed course for master students in Organic Chemistry. Mechanisms of nucleophilic reactions, elimination and rearrangement will be presented. Stereochemistry and configurational analysis will also be discussed.

Mechanism in Organic Chemistry II: Prescribed course for doctorate students in Organic Chemistry. Carbone, nitrène and anyne will be presented.

Organic Spectroscopy and Applications: Prescribed course for master students in Organic Chemistry. The recent developments in magnetic resonance spectroscopy...
Advanced Polymer Chemistry I-II: Elective course for master students. Introductory concepts and definitions functionality and polymer formation, mechanical and chemical behavior, characterization of polymers, methods of polymerization.


Special Topics in Physical Chemistry I: Elective course for master students.

Special Topics in Physical Chemistry II: Elective course for doctorate students.

Advanced Biochemistry I: Prescribed course for students in Biochemistry. Lectures, independent reading and discussions of topics related to the chemistry and metabolism of plant and animal products.

Advanced Biochemistry II: Prescribed course for students in Biochemistry. The study of cellular biochemistry of plants and animals and metabolism, tissue and organ function interrelationship. Organ systems and the response of whole organism to its environment.

Advanced Moleciliar Biology I: Prescribed course for students in Biochemistry. Lecture, independent reading and discussions of topics related to structural and molecular organization of prokaryotic and eukaryotic cells.

Advanced Molecular Biology II: Prescribed course for students in Biochemistry. The study of cellular biochemistry of plant and animal and metabolism, tissue and organ function interrelationship. Organ systems and the response of whole organism to its environment.

Advanced Molecular Biology I: Prescribed course for students in Biochemistry. Lecture, independent reading and discussions of topics related to structural and molecular organization of prokaryotic and eukaryotic cells.

Advanced Molecular Biology II: Prescribed course for students in Biochemistry. The study of function interrelationship of structural and molecular organization of prokaryotic and eukaryotic cells.

Special Topics in Biochemistry I: Elective course for master students. Discussion of recent research papers published in recognized scientific journals.

Special Topics in Biochemistry II: Elective course for doctorate students. Discussion of recent papers published in recognized scientific journals related to the modelling of the biologically active molecules.

Chromatographic Applications in Biochemistry: A study of the methods and technology associated with biochemical separation and identification of the biologically active molecules, using basic chromatography.
Nitro Compounds: Elective course for doctorate students. Synthesis and uses of nitro compounds.


Dyestuff Chemistry: Elective course for doctorate students. Chemistry and synthesis of food and textile dyes.

Antibiotics and Coronary Drugs: Elective course for doctorate students. Synthesis and uses.

Industrial Instrumentation Technology: Prescribed course for students in Physical Chemistry. Sensitivity and detection limits, Precision and accuracy, temperature measurements, pressure measurements, high vacuum, recorders.

Ion-Ion Interactions: Elective course for doctorate students. Debye-Hückel Theory of ion-ion, interactions, activity coefficients and ion-ion interactions, limitations of Debye-Hückel theory. Temporary ion association in an electrolyte solution.

Anionic Polymerization: Elective course for doctorate students. Monomers, solvents, initiators, initiation, propagation, living polymers, termination.

Cationic Polymerization: Elective course for doctorate students. Monomers, initiators, solvents, initiation, propagation, termination.

Ion-Solvent Interactions: Elective course for doctorate students. Non-structural treatment of Ion-solvent Interactions-Bern Model, Structural treatment at the ion-solvent interactions, ion-dipole model, ion-quadrupole model, solvation number, dielectric constant of water and ionic solutions, ion-solvent-non-electrolyte interaction.

Thermodynamics of Polymer Solutions: Elective course for doctorate students. Polymer solutions, theories, dilute solutions, phase equilibrium.

Statistical Thermodynamics: Elective course for doctorate students.

Introduction to Continuum Thermodynamics: Elective course for doctorate students. Critical review of the classical theory. Thermomechanics principles of thermodynamics of continua.

Heterogeneous Catalysis: Prescribed course for doctorate students. Theory and practice of heterogeneous catalysis.

Nucleic Acid Chemistry: Prescribed course for students in Biochemistry. Properties and behavior of nucleic acids in prokaryotic and eukaryotic cells, their function, and role in transmittance of heredity. Mutations leading to evolution, transformation and neoplasia. In vivo and in vitro sequencing of nucleic acids.
MATHEMATICS

Head of Program: Prof. Dr. Afet ÖZOK

The department offers M.S. and Ph.D. degrees both in Pure and in Applied Mathematics. Main research interests in Pure Mathematics are Complex Sets, Vector Fields, Manifold Theory, Univalent Functions, Starshaped Functions and Meromorphic Functions. Applied research on the other hand is mainly based on Euler-Poisson-Darboux equation, Schrödinger equation with Screened Coulomb Potentials, Multivariable Statistical Models and Factor Analysis, Linear Modelling and Matrix Solution of Variance Analysis and applications of Statistical Package Programs.

Language of Instruction: Turkish

MASTER’S PROGRAM IN PURE MATHEMATICS

Prerequisites: The applicants must have a B.S. degree in Mathematics or its equivalent. For probable prerequisites refer to the undergraduate program of the Department of Mathematics.

First Semester Second Semester
Abstract Spaces Advanced Topology
Elective Elective
Elective Elective
Elective

Ph.D. PROGRAM IN PURE MATHEMATICS

First Semester Second Semester
Differentiable Manifolds I Analytic Functions
Elective Elective
Elective Elective
Elective
Differentiable Manifolds II: Differential forms and tensor fields, the Lie differentiation of tensor fields and the exterior differentiation of differential forms, complex manifolds, almost complex structures, complex differential forms on a complex manifold, differential systems and integral manifolds, integration of differential forms and their applications.

General Measure Theory: Measure and Integration, Measure and Outer Measure, The Daniell Integral, Measure and Topology, Mappings of Measure Spaces.


Theory of Univalent Functions I: The definition and elementary properties of univalent functions. Some area theorems. Elementary bounds for the coefficients. Some theorems on power series. Some special classes.


Selected Topics From Partial Differential Equations: Two and three dimensional problems of mathematical physics; The Wave equation on two and three dimensional space, the diffusion equation and its physical applications. Helmholtz equation

Advanced Computer Programming II: Some Data Bases: Paradox and Clipper with their applications.
COURSE DESCRIPTIONS


Quantum Mechanics I: Uncertainty and complementarity, wave mechanics, Schrödinger's equation. The measurement process and the statistical interpretation of quantum mechanics, operator formalism, angular momentum algebra, matrix representation, central force problems. Time independent stationary state perturbation theory.

Quantum Mechanics II: Time dependent perturbation theory. Interaction with radiation field, isotopic spin, Identical particles, Scattering theory, Second quantization, Complex atoms and relativistic effects, Klein-Gordon equation, Dirac equation.


Semiconducting Devices I: Physical principles and operational characteristics of semiconducting devices. p-n junction diodes, junction transistors, field effect devices.


Cloud and Aerosol Physics: Aerosol nucleation, growth and coagulation, cloud droplet and ice crystal nucleation and growth, cloud thermodynamics and chemistry, precipitation and electrification processes.

Measurment In The Atmosphere: Measurements of atmospheric parameters both on the ground and via airborne platforms. Direct and remote sensing, data acquisition. Theoretical and practical aspects of instrument design.

Atmospheric Physics and Air Pollution: Meteorology of air pollution. Aerosol and gas phase measurements. Regulatory requirements and control technology.


Group Theory: Introduction to group theory, representations and characters, reducible and irreducible representations, product representations, discrete groups, continuous groups, generators. SU(N) and atomic and nuclear physics. Lorentz's group.

Nuclear Physics: Nuclear size and nuclear shapes. The two nucleon problem. The semiempirical mass formula. The nucleus as a Fermi gas. Experimental techniques on measurement of foil thickness, deduction methods.

Elementary Particle Physics: Phenomenology and theory of elementary particles. Transition amplitudes and probabilities. Strong, weak and electromagnetic interactions. Internal quantum numbers. SU (3), Regge poles and high energy behavior.


Physical Meteorology: Interaction of electromagnetic radiation with particles and molecules. Earth's radiation budget. Atmospheric pollution on a global scale, global warming, acid deposition, the ozone depletion.

Advanced Topics: Consists of lectures dealing with various aspects of one of the fields listed a) Fluid mechanics b) Atmospheric Physics c) Air pollution d) Atmospheric Aerosol Technology.

COURSE DESCRIPTIONS


Computer Aided Analysis of Energy Systems: Systems transformation, node voltage and mesh-current methods, node number reduction, power flow in energy systems. Park transformation in generators, symmetrical components method, computer programs and their application related to system analysis.

Optimal Performance Analysis of Electrical Network: Characteristics of power generation units, economic dispatch of thermal units and methods of solution, transmission losses, the load-flow problem and its solution, unit commitment, generation with limited energy supply; hydrothermal coordination energy production cost models for fuel budgeting and planning.

Electric Circuit Analysis: Basic concepts, circuit topology and circuit graphs, axioms of circuits theory, 2 - terminals circuit elements. 3 - terminals circuit elements. 4 - terminals circuit elements, equivalent circuits, network theorems, methods of circuit analysis.

Linear Electrical Machines (LEM): The concept of LEM and current sheet, basic differences between LEMs and rotating machines, the goodness factor, classification motors, linear levitation machines (dc and ac attraction type), high-speed, low-speed and standartill applications of LEMs, application of energy machines, analysis of end effects, transverse edge effects, mathematical model and numerical solution of a linear induction motor (LIM), the flat LIM, the tubular LIM, model of an idealized LIM with a secondary of finite and infinite thickness.

Unsymmetrical Loads in Electrical Machines: Unsymmetrical situations, physical meaning of symmetrical components, zero-positive and negative component properties components, zero-positive and negative component properties in star and delta connection, the power in three-phase loading, zero-positive and negative sequence impedance in three-phase current, the measurement of Zp, Zn and Zo, equivalent circuits of positive, negative and zero system, unsymmetrical short-circuit of a synchronous generator and system fault calculations, unsymmetrical operation in induction motors.

Transient Performance in A.C. Machines: The transformer under low frequency voltage, the modelling of transformer-cable-line under high frequency voltage, transient performance in rotating a.c. machines, the matrix transformations, the symmetrical components transformations, the Park transformations and two-reaction theory of synchronous machines, the time-domain, time-varying and time-invariant equations of a slip-ring induction machine, the inductance matrix of a slip-ring induction machine, the application of symmetrical components and Park transformations to induction machines.
First Semester
Microprocessors I
Microcontrollers
Elective

Second Semester
Microwave Systems
Advanced Microprocessors
Elective

Ph.D. PROGRAM IN ELECTRONICS AND COMPUTER TECHNOLOGY EDUCATION

First Semester
Computer Controlled Systems
Electronic Systems
Elective
Elective

Second Semester
Digital Communication
Digital Control Systems
Elective
Elective

COURSE DESCRIPTIONS

Programmable Logic Controllers: Programmable Logic Controllers (PLC) system configuration, PLC I/O specifications, ladder diagram programming, mnemonics programming, PC-PLC link interface, advanced computing instructions, external display and preset functions, ADC and DAC applications, monitoring operation.

Microcontrollers: Microcomputers and microcontrollers architecture, address decoding and memory organization, keyboard scanning, design of I/O interface, programmable peripherals, parallel I/O ports, serial communication, 8048 and 8051 family microcontrollers, assembly language programming, industrial applications.


Microprocessors I (Hardware): CPU, reset devices, clock devices, buffering, memory organization, address select and device select methods, digital interfacing, PIO, SIO, CTC, keyboard and displays.

Microprocessors II (Software): Assembly language, instruction descriptions, assembly language programming techniques, timing, interrupts and interrupt service procedures polling, a mc monitor program.
MECHANICAL TECHNOLOGY EDUCATION

Head of Program: Prof. Dr. Yüksel ÇAVUŞOĞLU

The Department of Mechanical Technology Education offers graduate programs to students who want to increase their understanding of Mechanical Technology. Students who complete this program with a M.S. or Ph.D. degree enter a variety of occupations: mechanical industry, quality control laboratories and university teaching as well as research institutes. There are four major disciplines in the department:

1) Chips Removal: Research on cutting theories in chip removal machinery.

2) Mechanical Drawing and Design: Solid modelling of various machine elements and simulation of their mechanical behavior. Also research using AutoCAD, ANSYS, various other package programs is made.


Language of Instruction: Turkish

MASTER'S PROGRAM IN MECHANICAL TECHNOLOGY EDUCATION

Prerequisites: The applicants must have a Bachelor's Degree in Mechanical Technology and Education or its equivalent. For probable prerequisites refer to the undergraduate program of the Mechanical Technology and Education.

First Semester

- Mathematical Modelling
- Advanced Thermodynamics
- The Finite Element Method I

Second Semester

- Experimental Stress Analysis
- Elective
- Elective
CAD I: System structure, selecting entities, indicating position, geometric modelling; construction parameters (const, cords) entity creation (arc autoseg, circle, conic fillet, line, point, polygon, polyline, spline) entity editing (breach, section, trim/exit) entity manipulation, X-From-move/copy/join-c-array, delta, hix-rot, mirror, old-new, proj rotate, scale) Detail drafting (Ar/wit, change, dimens, label, note, set, update, x-hatch) Display manipulation (axes, cunor, grd/snap levels, pan, redraw, view, vports, zoom) Entity management (attrib, BX move, delete group, recall) Geometric analysis (verify, moment, perim) entity verification (verify, attrib, coord, disk, posting) file management (coal files, macros, part files, pattern files, plot files) plot print.

CAD II: Introduction to CAD/CAM, the product cycle and CAD/CAM, automation and CAD/CAM, computer technology, minicomputers, microcomputers, and programmable controllers, fundamentals of CAD, (the design process, the application of computers for design, creating the manufacturing data base benefits of computer-aided design, some examples.) Hardware in computer-aided design (the design work station, the graphics terminal operator input devices, the central processing unit, secondary storage). Computer Graphics software and data base.

Plastic Deformation: Introduction to plastic deformation. Deformation by slip, mechanism of slip. Slip in different lattice structures, deformation by twinning, slip and twinning, fracture, slip twinning and fracture, polycrystalline materials, effect of cold working on properties.


Stresses In Machine Elements: Application of the principles of the strength of materials to the analysis and design of machine parts. Curved bars, multisupport shafts, torsion, cylinders under pressure, thermal stresses, creep and relaxation, rotating disksets.

Experimental Stress Analysis: General principles governing the approach to the solution of problems. Fundamental concepts of stress and strain in 2 D and 3 D. Mechanical and electrical strain gages, strain rosettes.


**MASTER'S PROGRAM IN METAL TECHNOLOGY EDUCATION**

**Prerequisites:** The applicants must have a Bachelor's Degree in Mechanical Technology and Education or its equivalent. For probable prerequisites refer to the undergraduate program of the Department of Metal Technology and Education.

<table>
<thead>
<tr>
<th>First Semester</th>
<th>Second Semester</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematical Methods in Engineering</td>
<td>Applied Numerical Methods</td>
</tr>
<tr>
<td>Theories of Heat Treatment and Applications</td>
<td>Elective</td>
</tr>
<tr>
<td>Education Technology</td>
<td>Elective</td>
</tr>
<tr>
<td>Elective</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Ph.D. PROGRAM IN METAL TECHNOLOGY EDUCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Semester</td>
</tr>
<tr>
<td>Elective</td>
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<td>Elective</td>
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<tr>
<td>Elective</td>
</tr>
<tr>
<td>Elective</td>
</tr>
</tbody>
</table>

**COURSE DESCRIPTIONS**


**Theories of Heat Treatment and Applications:** Phase diagrams of steels. TTT and CT curves. Phase transformation kinetics and mechanisms of metals. Heat treatment applications of steels, high alloyed steels, copper and aluminum alloys.


PRINTING TECHNOLOGY EDUCATION

Head of Program: Assist. Prof. Mehmet OKTAV

Printing Technology Education program offers both M.S. and Ph.D. degrees in printing technology.

Technology in the printing industry continues to evolve rapidly with the incorporation of innovative materials and concepts from other disciplines.

This graduate program is specifically arranged so that students are prepared to participate in the printing industry, as well as pursue an academic career.

The main goal of the graduate program is to give a thorough education both in theoretical and in practical aspects of printing technology. The program provides the graduates with the necessary education to approach solutions to printing problems by an orientation to processes and materials based on systematic analysis.

Language of Instruction: Turkish

Prerequisites: Applicants are required to sit a written exam about printing technologies. Applicants who hold a B.S. degree from an accredited institution are preferred. Applicants who do not have printing backgrounds are required to take certain undergraduate courses under the guidance of the department head. Ph.D. degree program encourages applicants with M.S. records at the seventy five percent level or more.

MASTER'S PROGRAM IN PRINTING TECHNOLOGY EDUCATION

First Semester
- Reproduction Physics
- Numerical Solutions
- Elective

Second Semester
- Basic Chemistry for Printers
- Elective
- Elective
and varnishes, printing inks, paper and paper making, organic compounds used in photography.

Image Processing Systems: This course will introduce the student to the concepts underlying in digital representation and manipulation of images.

Ergonomic Principles: The use of ergonomic principles to increase the productivity in technical and vocational education. The course consists of the following topics:

* historical back-ground of ergonomy,
* Human factor,
  - sensation
  - control of action
* human antropometry,
  - work place design,
  - biomechanical factors
  - human machine interaction
  - physical environment (noise vibration, humadits, illumination, climate, radiation)
  - lifting-lowering
  - pulling-pushing
  - seating
  - human anthropometry
  - pushioning of visumee displays
  - steps in work place design
* psycho-social approaches and human factor
* human resource management.

Optic Physics: Waves and light waves, interference of light, interference in thin films, diffraction and resolution, polarization of light waves.

Quality Control in Off-set Printing: The optimum values of the factors which effect quality in off-set printing. (Film, plate, blanket, ink, fountein solutions)

* eye check,
* check with eye and densitometer,
* control strips and densitometer.

Examination of dot gain in off-set printing.

Numerical Analysis: Solving algebraic equations by using graphical methods, Newton interpolation, Lagrange interpolation formulas, Raphson interpolation formula and the least squares method.


Applied Typographic Design: Examining of typographic elements, principles of typographic design, practicing of the typographic designs on computer softwares.
TECHNOLOGY EDUCATION

Head of Program: Assoc. Prof. Dr. Ülkü UZUNÇARŞILI

The Department of Technology Education offers a masters program in Technology Education. Main fields of interest are as follows:

1 – Technology of Education
2 – Curriculum Development
3 – Psycho - technique and Psychological and Vocational guidance.

Language of Instruction: Turkish

MASTER'S PROGRAM IN TECHNOLOGY EDUCATION

Prerequisites: The applicants must have a Bachelor's Degree in Technology Education or its equivalent. For probable prerequisites refer to the undergraduate program of Department of Technology Education.

First Semester

Principles of Ergonomy
Job Analysis Techniques
Research Techniques
Education of Technology

Second Semester

Psychotechniques
Micro-teaching
Industrial Psychology
Advanced Techniques of Measurement and Evaluation in Education

COURSE DESCRIPTIONS

Principles of Ergonomy: Definition of ergonomy - The fundamental of human factors - Environmental stressors and work place design (Noise - Illumination - Climate and vibration) Design for health and safety - The human factor and psycho-sociologic approach.

Psychotechniques: History and development of Psychotechnique - The individual differences to be measured by tests - Psychomotor abilities - Cognitive and behavioral - Personality tests - Intelligence tests and competency tests - Test types used in Psychotechnique.
TEXTILE
TECHNOLOGY EDUCATION

Head of Program: Prof. Dr. İnci TEZCAN

This program is intended for graduates interested in theoretical and re-
search aspects of textile technology. Candidates for entry into this program
must possess a B.Sc. Degree in textile science or an equivalent qualification.

Language of Instruction: Turkish

MASTER'S PROGRAM IN TEXTILE TECHNOLOGY EDUCATION

Prerequisites: The applicants must have a Bachelor's Degree in Textile
or its equivalent. For probable prequisites refer to the undergraduate pro-
gram of the Textile Education.

First Semester

    Industrial Organization and Planning I
    Physical Chemistry in Textiles
    Elective

Second Semester

    Industrial Organization and Planning II
    Elective
    Elective

Ph.D. PROGRAM IN TEXTILE TECHNOLOGY EDUCATION

First Semester

    Modern Textile Materials
    Elective
    Elective
    Elective

Second Semester

    Theories in Textile Coloration
    Elective
    Elective
    Elective

COURSE DESCRIPTIONS

Industrial Organization and Planning I-II: Organization, Marketing, Production
Planning, Finance, Management of Human Sources, Office Management, Planning
and Control.

Physical Chemistry in Textiles: Surface Tension, Adsorption processes, Electrolyte
Solution, Cell potential, Osmotic pressure, Thermodynamics, Thermochemistry and
Electrodes.
11. INSTITUTE OF TURKISH and TURKIC STUDIES

Director: Prof. Dr. İnci ENGİNÜN
Assistant Director: Prof. Dr. Nadir DEVLET

Language of Instruction: Turkish

The Institute of Turkish and Turkic Studies was founded on January 24, 1991 as an academic institution concerned with the Turks living all over the world. The main objective of the Institute is to offer various graduate programs leading to the Master's and Ph.D. degrees, to train specialists in the field. These programs aim at preparing the candidates for the M.A. and Ph.D. degrees in a Turkish language teaching medium. Candidates are required to take courses for a duration of two semesters in each program and prepare an M.A. thesis in their second year, a Ph.D. dissertation in their second and third years. The Institute offers graduate studies in Atatürk Principles and the History of the Turkish Renovation (M.A., Ph.D.), Modern Turkish Literature (M.A., Ph.D.), General Turkish History (M.A.), History of the Turkish Republic (M.A., Ph.D.), Late Ottoman History (M.A., Ph.D.), Medieval History
Non-Muslims under the Ottoman Administration I-II: Analysis of the status of non-Muslims in the Ottoman Empire.

History of Education in the Turkish Republic I-II: The development of Turkish Educational System and its influence on Turkish revolution.

Reform Movements in Turkey I-II: A detailed study on the historical background of Turkish reforms and constitutional movement and its reflections on the administrative, fiscal and military spheres.

Ottoman Diplomats I-II: The development of Ottoman diplomacy and its characteristics according to the written materials as primary sources.

Turkish Foreign Policy I-II: The principles of Turkish foreign policy and its problems up to 1923.

Turkish Sources of the History of Ottoman Empire I-II: A course which aims at increasing the abilities of the students to use the Ottoman sources by learning the chronicles and historiography in the Ottoman Empire.
**History of Turkish Thought in 20th cc. I-II:** Important Turkish thinkers, writers, poets etc. and their works which affected the Turkish World are studied.

**Ancient Turkish History I-II:** The statehood of ancient Turkish tribes and their historical role in Central Asia are discussed.

**Russian I-II:** The main goal is to teach how to use Russian historical works.

**The Sources of the History of the Turkic World I-II:** Works and research materials in different languages are taught.

**The Sources of Ancient Turkish History I-II:** Chinese, Persian, Arabic, Russian etc. materials on ancient Turkish history are taught.

**The Problems of the Central Asian Turkish History I-II:** The problems of rewriting national histories of the Central Asian republics are discussed.

**Introduction to Tatar and Tatar Sources I-II:** Introduction to Tatar and examination of texts in Tatar.

**Turkish-Russian Relations I-II:** The development of Turkish and Russian relations in historical perspective.

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**MASTER'S PROGRAM IN THE HISTORY OF THE TURKISH REPUBLIC**

**First Semester**
- Intellectual Movements in Turkish Political History I
- Turkish Foreign Policy I
- Sources and Problems of the History of the Turkish Renovation I
- Method in Historical Researches I
- Ottoman Diplomatics I
- History of Education in the Turkish Republic

**Second Semester**
- Intellectual Movements in Turkish Political History II
- Turkish Foreign Policy II
- Sources and Problems of the History of the Turkish Renovation II
- Method in Historical Researches II
- Ottoman Diplomatics II
- Contemporary History of Ottoman Geographics
MASTER'S PROGRAM IN LATE OTTOMAN HISTORY

First Semester
Turkish Sources of the History of Ottoman Empire I
Problems of Late Ottoman History I
History of Ayans I
Method in Historical Research I

Second Semester
Turkish Sources of the History of Ottoman Empire II
Problems of Late Ottoman History II
History of Ayans II
Method in Historical Research II

Ph.D. PROGRAM IN LATE OTTOMAN HISTORY

First Semester
Celali Revolts I
Reform Movements in Turkey I
Peripheral Institutions in Ottoman Empire I
Non-Muslims under the Ottoman Administration I

Second Semester
Celali Revolts II
Reform Movements in Turkey II
Peripheral Institutions in Ottoman Empire II
Non-Muslims under the Ottoman Administration II

COURSE DESCRIPTIONS

Turkish Sources of the History of Ottoman Empire I-II: A course which aims at increasing the abilities of the students to use the Ottoman sources by learning the chronicles and historiography in the Ottoman Empire.

Problems of Late Ottoman History I-II: Analysis of some political questions in 19th century. Such as; the Armenian Question, Egypt in the Anglo-Turkish relations and the European pressure on the Ottoman state after the treaty of Berlin.

History of Ayans (Notables) I-II: The role of Ayans in Anatolia and Balkans and their struggle with the central and local governments.

Non-Muslims under the Ottoman Administration I-II: Analysis of the status of non-Muslims in the Ottoman Empire.

Reform Movements in Turkey I-II: A detailed study on the historical background of Turkish reforms and constitutional movement and its reflections on the administrative, fiscal and military spheres.

Celali Revolts I-II: Analysis of some rebellions in the XVIth and XVIIth centuries in Anatolia with special emphasis on Celalis. The growth of population and its pressure on Anatolia.
Scientific Life in the Middle Ages: Scholarly life in the Turco-Islamic world and the contributions of the Turks in the middle ages.

Analysis of Seljukid Sources, Epigraphy and Numismatics: Evolution of Seljukid coins, inscriptions and sources.

Travel Books and Their Analysis: Books of travel giving information on Turkic and Mongolian tribes and their analysis.

Economic Life in Medieval Turkey: Development of commercial and economic life in Turkey in Middle Ages.

MASTER'S PROGRAM IN OTTOMAN HISTORY

First Semester

Ottoman Institutions and Their Documents I
Settlement Policy of the Ottoman Empire I
Method in Text Publication I
Method in Historical Researches I

Second Semester

Ottoman Institutions and Their Documents II
Settlement Policy of the Ottoman Empire II
Method in Text Publication II
Method in Historical Researches II

Ph.D. PROGRAM IN OTTOMAN HISTORY

First Semester

Ottoman Law System I
Celali Revolts I
Settlement of Nomads in the Ottoman Empire I

Second Semester

Ottoman Law System II
Celali Revolts II
Settlement of Nomads in the Ottoman Empire II

COURSE DESCRIPTIONS

Ottoman Institutions and Their Documents I-II: A detailed analysis of the Ottoman institutions such as timar and eyalet by studying the original documents like tapu tahrir and kanunnames.

Settlement Policy of the Ottoman Empire I-II: The role of social and religious institutions in urbanization. The settlement of nomads and their social structure during early and classical periods.

Ottoman Law System I-II: Analysis of Islamic law (şeriʿ) and traditional law (örfi) in the Ottoman state.
TURKISH ART

Head of Program: Prof. Dr. Selçuk MÜLAYİM

MASTER’S PROGRAM IN TURKISH ART

First Semester

Research Methods
Seminar in Ottoman Art I
Iconography I
Beginnings and Development of Research in Turkish Art I
Style Analysis I
Seminar in Medieval Architecture I

Second Semester

Esthetics
Seminar in Ottoman Art II
Iconography II
Beginnings and Development of Research in Turkish Art II
Style Analysis II
Seminar in Medieval Architecture II
Seminar for Thesis

COURSE DESCRIPTIONS

Beginnings and Development of Research in Turkish Art I: The researchers, their views and important publications from the birth of the concept of “art history” until 19th century.

Beginnings and Development of Research in Turkish Art II: The researchers, their opinions, important publications from 19th century until present.

Seminar in Ottoman Art I-II: The formation of Classical and Late Ottoman architecture, architectural types, styles and masters.

Research Methods: Choosing a subject and a field of study; planning and classification; types of sources; interpretation and evaluation.

Seminar in Medieval Architecture I: The origins, its elements, regional schools.

Seminar in Medieval Architecture II: Development of architectural types, masters and styles.

Iconography I: Primitive mythology; Egypt and the Near East; Aegean-Mediterranean culture; Byzantine and European art.
TURKISH LANGUAGE AND LITERATURE

Head of Program: Prof. Dr. İnci ENGİNÜN

MASTER'S PROGRAM IN MODERN TURKISH LITERATURE

First Semester
- Concepts
- Sociology of Literature I
- Novel Methodology I
- History in 19th-20th cc. Literature I
- Advanced Ottoman
- Stylistics I

Second Semester
- Sources of Modern Turkish Literature (Folk L.)
- Sociology of Literature II
- Novel Methodology II
- History in 19th-20th cc. Literature II
- Stylistics II

Ph.D. PROGRAM IN MODERN TURKISH LITERATURE

First Semester
- Comparative Literature
- Sources of Modern Turkish Literature (Divan L.)
- Young Ottomans I
- History of Literature with Texts I
- Relationship Between Biography and Work I
- Turkish Short Stories I

Second Semester
- Young Ottomans II
- History of Literature with Texts II
- Relationship Between Biography and Work II
- Turkish Short Stories II
- Cultural History in 19th-20th cc.

COURSE DESCRIPTIONS

Concepts: Explanation of literary terms with examples, their historical development.

Sociology of Literature I-II: The relationship between literature and society.

Ph.D. PROGRAM IN OTTOMAN LITERATURE

First Semester

Comparative Study of Classical Turkish Literature and Persian Literature I
Text Explanation and Restoration I
Verse in Classical Literature I
Prose in Classical Literature I
Texts in Chaghatai Language I
Eastern Turkish Texts I
Semantics I

Second Semester

Comparative Study of Classical Turkish Literature and Persian Literature II
Text Explanation and Restoration I
Verse in Classical Literature II
Prose in Classical Literature II
Texts in Chaghatai Language II
Eastern Turkish Texts I
Semantics II

COURSE DESCRIPTIONS

Basic Information and Methods in Research I-II: Methods and principles of critical edition and text printing will be learned in this lesson.

Examples from Persian Literature I-II: Some modern and classical Persian proses and poems will be read and explained.

Turkish Mesnevi Literature I-II: Place of origin of Mesnevi. Historical development of Mesnevi. Features of Turkish Mesnevis. Classification of Mesnevis. Analysis of one Mesnevi.

Text Explanation and Restoration I-II: Principles about text explanation and restoration. Texts that belong to some centuries and poets in Ottoman Literature will be explained and restored by some personal and literary principles.

Paleography I-II: Some principles of paleography and Islamic caleography will be taught.

The Forms and Varieties of Verse I-II: In this course, the forms and varieties of verse of our classical literature are compared with examples.

The Methods of Text Analyzing I-II: The methods that are followed to understand the texts of our classical literature are studied with examples. The methods are applied to texts as transcribing, changing from verse into prose and systematical ways of explanation.

Comparative Study of Classical Turkish Literature and Persian Literature I-II: Some samples of classical Persian and Turkish literature will be compared with each other.
Kirgiz Language: Texts and grammar.

Russian I: Introduction to Russian.

Texts in Chaghatai: Texts and philologic analysis.

Bibliography for Old Turkish: Texts and philologic analysis.

Phonetics of Loan Words in Turkish: A survey of loan words in Turkic dialects.

Religious Texts in Old Turkish: Buddhist or Manichean texts.

Texts in Middle Turkish: Khwarezmian texts.

Anatolian Texts of the XVth century: Texts and philologic analysis.
# ACADEMIC CALENDAR FOR GRADUATE COURSE PROGRAMS

<table>
<thead>
<tr>
<th>Institute of Graduate Study</th>
<th>Master's and Ph.D. Qualifiers</th>
<th>Registration</th>
<th>Fall Term</th>
<th>Spring Term</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. European Community Institute</td>
<td></td>
<td></td>
<td>1.10.97 - 9.1.98</td>
<td>2.3.98 - 8.6.98</td>
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<tr>
<td>2. Institute for Graduate Studies in Science and Technology</td>
<td>10.9.97</td>
<td>22.26.9</td>
<td>1.10.97 - 8.1.98</td>
<td>23.2.98 - 4.6.98</td>
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<tr>
<td>3. Institute of Banking and Insurance</td>
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<td>1.19.97 - 2.1.98</td>
<td>2.3.98 - 5.6.98</td>
</tr>
<tr>
<td>4. Institute of Educational Sciences</td>
<td></td>
<td></td>
<td>1.10.97 -</td>
<td></td>
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<tr>
<td>5. Institute of Fine Paintings</td>
<td></td>
<td></td>
<td>1.10.97 -</td>
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<tr>
<td>6. Institute of Health Sciences</td>
<td>9.10.9.97</td>
<td>22-30.9</td>
<td>1.10.97 - 1.1.98</td>
<td>2.3.98 - 29.5.98</td>
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<tr>
<td>7. Institute of Middle Eastern and Islamic Countries</td>
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<td>1.10.97 -</td>
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<tr>
<td>8. Institute of Social Sciences</td>
<td>9-12.9.97</td>
<td>25.9-3.10</td>
<td>1.10.97 - 9.1.98</td>
<td>18.2.98 - 28.5.98</td>
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<tr>
<td>9. Institute of Turkish and Turkic Studies</td>
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<td></td>
<td>1.10.97 - 9.1.98</td>
<td>18.2.98 - 28.5.98</td>
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### III. FACULTY MEMBERS of GRADUATE STUDY PROGRAMS*

#### ATATÜRK FACULTY OF EDUCATION

<table>
<thead>
<tr>
<th>Name</th>
<th>Year of Ph.D.</th>
<th>Institution</th>
<th>Field</th>
</tr>
</thead>
<tbody>
<tr>
<td>ÖZCAN, Ali Osman</td>
<td>1979</td>
<td>I.U. F of Lit.</td>
<td>Pedagogy</td>
</tr>
<tr>
<td>ALPTEKİN, Coşkun</td>
<td>1972</td>
<td>London Univ.</td>
<td>History</td>
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<tr>
<td>ATACIK, Şermin</td>
<td>1977</td>
<td>ABD Temple Univ.</td>
<td>Mathematics</td>
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<tr>
<td>AYTAŞ, Selami İşık</td>
<td>1971</td>
<td>Surrey Univ.</td>
<td>Solid State Physics</td>
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<tr>
<td>AĞLAR, Adil</td>
<td>1982</td>
<td>I.U. F of Lit.</td>
<td>Literature</td>
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<tr>
<td>ELMAS, Yücel</td>
<td>1987</td>
<td>M.U. Ins. Sc.</td>
<td>Music</td>
</tr>
<tr>
<td>EMIL, Birol</td>
<td>1967</td>
<td>I.U. F of Lit.</td>
<td>Literature</td>
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<tr>
<td>ERGEZEN, Sema Sevinç</td>
<td>1976</td>
<td>Washington Univ.</td>
<td>Zoology</td>
</tr>
<tr>
<td>ERKMAN, Fatma</td>
<td>1977</td>
<td>I.U. F of Lit.</td>
<td>German Language</td>
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<tr>
<td>GÜMÜŞ, Hüseyin</td>
<td>1973</td>
<td>Ankara ve Atatürk Univ. F of Lit &amp; G.</td>
<td>French Language</td>
</tr>
<tr>
<td>GÜNAY, Edip</td>
<td>1978</td>
<td>H.U.</td>
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<tr>
<td>GÜRÜNLU, Mustafa</td>
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<td>Music</td>
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<tr>
<td>HALACOĞLU, Yusuf</td>
<td>1978</td>
<td>I.U. F of Lit.</td>
<td>History</td>
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<tr>
<td>HAMZAOGLU, Esat</td>
<td>1975</td>
<td>Manchester Univ.</td>
<td>Philosophy</td>
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<tr>
<td>HESAPÇIOĞLU, Muhsin</td>
<td>1976</td>
<td>Münster Univ.</td>
<td>Educational Sciences</td>
</tr>
<tr>
<td>ILGAZ, Asuman</td>
<td>1973</td>
<td>Graz Univ.</td>
<td>Mathematics</td>
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<tr>
<td>ILGAZ, Turan</td>
<td>1969</td>
<td>ITU Arch.</td>
<td>–</td>
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<tr>
<td>KENDİRLİ, Barış</td>
<td>1976</td>
<td>ABD Yale Univ.</td>
<td>Mathematics</td>
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<tr>
<td>MERT, Özcan</td>
<td>1979</td>
<td>H.U. F of Ed.</td>
<td>Modern age History</td>
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<tr>
<td>OKTAY, Ayla</td>
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<td>I.U. F of Lit.</td>
<td>Education</td>
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<tr>
<td>ŞAHİN, Musa</td>
<td>1975</td>
<td>I.U. F of Chem.</td>
<td>Botanics</td>
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</tbody>
</table>

* See key to the abbreviations on page 464
<table>
<thead>
<tr>
<th>Name</th>
<th>Year</th>
<th>Degree</th>
<th>Field</th>
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<tbody>
<tr>
<td>AKDOĞAN, Feruzan</td>
<td>1982</td>
<td>Bochum Ruhr Univ.</td>
<td>German Language</td>
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<tr>
<td>ARSLAN, Hüsnü</td>
<td>1979</td>
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**Specialists:**

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| AKYAZI, Erhan                                  |                  |                    |
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**Institutions:**

- Business Administration
- Economics
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- Marine Trade Law
- Statistics
- Economics
- Administration and Organisation
- Social Psychology
- Sociology
- Statistical Quality Control in Continuous Production
- Applied Mathematics
- Accounting
- International Economics Law
- Accounting-Finance
- Marketing
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<td>SÖKMEN, Nihal</td>
<td>1993</td>
<td>Marmara Univ. Ins. H. Rel. Prof.</td>
<td>Inorganic Chemistry</td>
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<td>1994</td>
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<td>ZEYTUN, Gazi</td>
<td>1990</td>
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<td>Prosthetic Dental Care</td>
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## SCHOOL of PHYSICAL EDUCATION and SPORTS

### Professors:

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<thead>
<tr>
<th>Name</th>
<th>Year of Ph.D.</th>
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<th>Field</th>
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<tbody>
<tr>
<td>AYKURT, Bilge</td>
<td>1975</td>
<td>Atatürk Univ. Medicine</td>
<td>Physical Ther. &amp; Rehabilitation</td>
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<td>EREN, Zerrin</td>
<td>1972</td>
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<td>Internal Medicine</td>
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### Associate Professors:

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<tr>
<td>PEKER, Ismail</td>
<td>1982</td>
<td>I.U. F of Chem.</td>
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<td>ÜNERI, Alev</td>
<td>1984</td>
<td>H.U. Medicine Health</td>
<td>E.N.T.</td>
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<td>1990</td>
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### Assistant Professors:

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<td>AGİRBAŞ, İlhan</td>
<td>1995</td>
<td>Vienna Univ.</td>
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### Lecturers:

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<td>COŞAN, Fehim</td>
<td>1996</td>
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# SCHOOL of TECHNICAL STUDIES

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<td>YARABAŞI, Şebnem</td>
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