



# **EASTERN MEDITERRANEAN UNIVERSITY**

## **FACULTY OF PHARMACY**

### **Student Handbook**

### **2024-2025 Academic Year**



## Dean's Message

Eastern Mediterranean University Faculty of Pharmacy, established in 2011, has been continuing to serve to pharmacy students to have them gain the skills to become a pharmacist. The faculty building has been constructed to provide all pharmaceutical disciplines to the hosted students employing diverse laboratories and subsidiaries. Drug synthesis, drug analysis, preparation of herbal preparations, drug formulation studies with additional pharmacological and toxicological perspectives of drug action have been introduced both experimentally and theoretically in courses followed.



There are two programs present at undergraduate level within the curriculum. Although both of them are bachelor degree programs, they require either a 5 year (M.Pharm., Master of Pharmacy) or 6 year (Pharm.D., Doctorate of Pharmacy) education. The M.Pharm. program, accredited and approved by YÖK (Council of Higher Education of Türkiye) and YÖDAK (Higher Education Planning, Evaluation, Accreditation and Coordination Council of Turkish Republic of Northern Cyprus) particularly welcomes students both from Turkish countries (including Türkiye) and many places of the world where pharmacy education is approved for a five year of program. On the other hand, 6 year program, Pharm.D., generally accepts students from those countries where 6 year of education is warranted for pharmacy. Proudly stating that there have been more than a thousand of students graduated from both programs so far.

One of the important aspects of having bachelor degree in Eastern Mediterranean University Faculty of Pharmacy is the possession of the chance to meet with many students from diverse countries. Indeed, our past and current students are all from at least 36 countries of the world. The multicultural organization is also another advantageous point for the students to improve themselves and this gives more courage to them to find diverse job options in the current global world. It is a privilege for Faculty of Pharmacy graduates of EMU that many of them can have careers in developed countries. Indeed, there are many graduates who conduct their major in USA, and many other European countries.

Of course, considering all the historical and natural beauties of our lovely city, our students also get the joy of living in Famagusta during their stay. As the island is in the middle of the Mediterranean Sea, many beaches, recreation and sport centers, and many other activity places have been organized by the university for the benefit of Eastern Mediterranean University students.

You can get in touch with any of the provided contact addresses of the university for your questions. Please visit the university and faculty websites for more information. The college with its modern infrastructures and the faculty members from diverse pharmaceutical disciplines are ready to welcome you for a great future career.

Prof. Dr. H. Ozan Gülcan

Dean

# TABLE OF CONTENTS

Dean's Message.....	i
Table of Content.....	ii
1. Introduction .....	1
2. About the Faculty .....	1
a) Mission .....	1
b) Vision.....	1
c) Facilities.....	1
d) Career Opportunities.....	2
e) Faculty and Staff.....	2
3. Academic Calendar .....	3
4. Outcomes of M. Pharm and Pharm D. Programs .....	4
5. Curriculum and Course Descriptions .....	
a) Master of Pharmacy (M. Pharm.) Curriculum (before 2024-25 Academic Year) .....	7
b) Master of Pharmacy (M. Pharm.) Brief Course Description .....	9
c) Doctorate of Pharmacy (Pharm. D.) Curriculum (before 2024-25 Academic Year) .....	13
d) Doctorate of Pharmacy (Pharm. D.) Brief Course Description .....	15
e) Master of Pharmacy (M. Pharm.) New Curriculum (after 2024-25 Academic Year) .....	19
f) Master of Pharmacy (M. Pharm.) Brief Course Description .....	22
g) Doctorate of Pharmacy (D. Pharm.) New Curriculum (after 2024-25 Academic Year) .....	28
h) Doctorate of Pharmacy (Pharm. D.) Brief Course Description .....	30
6. Accreditations and Memberships .....	36
7. Important Policies .....	
I. Policies for Course Registration .....	
a) Course Selection .....	37
b) Adding New Course / Dropping During Course Registration Period.....	37
c) Withdrawing from Courses After Registration .....	38
d) Repeating Courses .....	38
e) Course Registration for Students on Probation or Academic Warnings .....	38
f) Late Registration.....	38
g) Part time Registration .....	38
II. Policies for Scholastic Students .....	38
III. Policies for Academic Evaluation .....	
a) Examinations .....	39
b) Course Grades / Points.....	39
c) Resit Examinations .....	39
d) Make-up Examinations .....	39
IV. Policies for Course / Laboratory Attendance .....	40
V. Policies for Summer School.....	40
VI. Policies for Internships.....	40
VII. Policies for Thesis Project .....	40
VIII. Policies for Tuition Fees .....	40
IX. Student Scholarships provided by the university .....	41
8. Grievance Policy .....	41
9. Student Code of Conduct .....	42
10. Code of Conduct of Pharmacist.....	42
11. Graduation .....	42

## 12. Facilities Provided by University

a) Özay Oral Library.....	42
b) Health Center .....	42
c) Psychological Counseling, Guidance and Research Center (PDRAM).....	43
d) Transportation and Bus Service Facilities .....	43
e) Social and Cultural Activities .....	43
f) Lala Mustafa Pasa (LMP) Sports Complex .....	44
g) Rauf Raif Denktas Culture and Congress Center.....	44
h) Eastern Mediterranean University Beach Club.....	45

## **1. Introduction**

This handbook is intended to provide guidance and information about Eastern Mediterranean University Faculty of Pharmacy. The information provided in this document is subject to change. The document will be updated on the Faculty website in case needed.

## **2. About the Faculty**

Faculty of Pharmacy was established in 2011-2012 academic year. The Faculty offers M.Pharm. Program and Pharm.D. Program that is composed of 10 and 12 semesters, respectively. The medium of instruction is English for both of the programs.

Faculty of Pharmacy is proud of being the first academic member of International Pharmacy Federation (FIP) from Cyprus and the second one among the faculties of pharmacy throughout Turkey. Our faculty is also represented through EMUPSS (Eastern Mediterranean University Pharmacy Students Society) as a member association of "The International Pharmaceutical Students' Federation" (IPSF) offering Student Exchange Program. This allows our students the opportunity to conduct clinical and community pharmacy practice in different countries. At the same time, with the same organization, our faculty has hosted pharmacy students from around the world.

The Faculty has student laboratories equipped with the latest technological and educational infrastructure necessary for pharmaceutical sciences including HPLC, GC-MS, FT-IR, UV spectrophotometer, laminar flow, microwave reactor, tablet machine, dissolution device, granulator, homogenizer, viscosimeter, climate cabinet, incubators, particle sizer, powder mixer, grinder, water baths, microscopes, etc. All of the laboratories are furnished with smart board. The medicinal and aromatic plant garden is arranged in front of the Faculty building for the studies in Pharmaceutical Botany and Pharmacognosy.

Our laboratory facilities are also competent for higher level of research and, despite of its newly establishment, Faculty of Pharmacy has published approximately 500 scientific papers in the reputed journals recognized by Science Citation Index (SCI).

Since we have students more than 30 countries, Faculty of Pharmacy takes pride in having a multinational student profile and offers an international atmosphere to students in order to be socialized easily. Each year, we regularly celebrate May 14th - "Pharmacists Day" as the "Career Days" focusing on a special topic to bring our students together with exclusive guests from pharmaceutical and cosmetics industries and provide them with a fruitful discussion for their future career opportunities

### **a) Mission**

The missions of the Faculty are:

To raise qualified pharmacists and scientists, who have conceived principles and ethical concept of pharmacy profession, have owned top-level international fit out that can serve as first-step health advisor in community health, and have earned property of pursuing the latest scientific and technological progresses in this profession.

To contribute to the scientific research at universal and regional levels

To use the obtained knowledge for benefit of the community through pharmacy professional service

To become the best and most respected faculty of pharmacy in our region under the roof of a faculty which is able to pass on knowledge necessary for obtaining employment in international drug industry and the other branches of this profession.

### **b) Vision**

Our vision is to grow excellent individuals, who are appropriate with universal criteria of pharmacy profession, respectful to his/her job, conscientious, helpful to society, owning analytical thinking, inclined to teamwork, and who have earned internationally top-level education and instruction in the scope of pharmaceutical sciences, as well as to serve to exact science and community health.

### **c) Facilities**

Having been designed in accordance with the program requirements and objectives, laboratories housed by EMU Pharmacy Faculty contain the latest technical and physical features and provide educational and research-related services. The program also offers an independent microscopy lab for students' individual use. Each lab contains a smart board creating a productive educational environment for students.

**Lecture Rooms:**

PHARA116-PHARA118 - Ground Floor

PHAR 212-213-218-219-A220-A222-A224-226-227-228 – First Floor

**Research Laboratories:**

Phar L108 – Pharmaceutical Technology Research Laboratory

Phar L117 – Pharmacognosy / Pharmaceutical Botany / Pharmaceutical Microbiology /

Pharmaceutical Toxicology Research Laboratory

Phar L214 – Pharmaceutical Chemistry Research Laboratory

Phar L249-250 – Cell Culture Laboratory

**Study - Computer Room:**

Phar 115 – Ground Floor

**Student Laboratories:**

Phar L215 - Pharmaceutical Technology Laboratory – First floor

Phar L301 – Pharmaceutical Botany and Pharmacognosy Laboratory – Third floor

Phar L302 – Organic Chemistry and Pharmaceutical Chemistry Laboratory – Third floor

Phar L303 – Basic Pharmaceutical Sciences Laboratory – Third floor

Phar L401 – Microscopy Laboratory – Fourth floor

**d) Career Opportunities**

Graduates of the program may work in pharmacies, hospitals, drug industry, research and development laboratories, drug and medical equipment companies and any other equivalent establishments. They may also work in the cosmetics industry, thanks to the in-depth information they received from courses on cosmetology.

**e) Faculty and Staff****Dean Office Staff**

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### 3. Academic Calendar (2024-2025)

#### FALL TERM

September	02 - 04	2024	2023 - 2024 Summer Term Final Examinations Period
September	06	2024	Last Day For The Submission of 2023 - 2024 Summer Term Grades to The Registrar
September	07 - 09	2024	Online Application for Summer Term Graduation Make-Up Examinations Period
September	09	2024	Last Day For Submission of The Summer Term Graduation Decisions to The Registrar
September	09 - 17	2024	Orientation Days for New Students
September	10 - 11	2024	Summer Term Graduation Make-Up Examinations Period
September	11	2024	Graduation of Students Graduating at the End of The Summer Term
September	12	2024	Last Day for The Submission of 2023 - 2024 Spring and Summer Term 'Incomplete' Grades and Graduation Make-Up Grades to The Registrar
September	11	2024	English Proficiency Test 1st Stage *
September	12	2024	English Proficiency Test 2nd Stage

September	13	2024	Last Day for The Submission of Graduation Decisions of Students Who Will Graduate as a Result of 2023 - 2024 Spring or Summer Term Incomplete Grades or Graduation Make-Up Examination to The Registrar
September	13	2024	English Proficiency Test 2nd Stage, Speaking Session
September	15	2024	Religious Day (Mawlid Sep. 14 Night)
September	17	2024	Last Day for Graduation of Students Graduating at the End of 2023 - 2024 Summer Term and Graduation of Students Who Complete Their Graduation Procedures Late
September	17	2024	Last Day for Online Course Registration
September	18	2024	Announcement of English Proficiency Test 2nd Stage Results
September	18 - 20	2024	Course Registration Period (Course Registrations Accompanied by Advisor and Approval of Registration)
September	23	2024	2024 - 2025 Fall Term Classes Commence First Day of Late Registration
September	30	2024	Last Day for Late Registration
October	01	2024	Academic Year Opening Ceremony **
October	03	2024	Last Day For The Submission of 2023 - 2024 Spring and Summer Term Letter Grade Changes to The Registrar
October	07	2024	Last Day for Add/Drop
October	29	2024	Turkish Republic Republic Day (National Holiday)
November	10	2024	Commemoration of Atatürk
November	15	2024	Turkish Republic of Northern Cyprus Republic Day (National Holiday)
November	08 - 23	2024	Mid-Term Examinations Period
November	25	2024	System Will Be Accessible for Entering Courses to be Offered In Spring Term 2024-2025
December	09	2024	Last Day for submission of University Elective Courses to be Offered in The Spring Term of 2024 - 2025 by The Elective Courses Commission to The Rectorate
December	13	2024	Last Day for Course Withdrawal
December	13	2024	Last Day for Entering Courses to be Offered In Spring Term 2024 - 2025 to The System
December	20	2024	Last Day for Applying to Get Leave of Absence
December	25	2024	Christmas Day ***
December	30	2024	Last Day of Classes
January	01	2025	New Year's Day
January	03 - 18	2025	Final Examinations
January	23	2025	Last Day for The Submission of Grades to The Registrar
January	24	2025	Last Day for Submission of The Graduation Decisions to The Registrar
January	24 - 26	2025	Online Application Period for Resit Examinations
January	27	2025	Online Course Registration for Spring Term 2024 - 2025 Commences
January	30	2025	Fall Term Graduate Graduation Ceremony
January	31	2025	Fall Term Associate / Undergraduate Graduation Ceremony

\* Those who are successful in the 1st Stage Exam, must take the 2nd Stage Exam.

\*\* The date may change depending on the program of the invited speaker.

\*\*\* Attendance will not be taken in classes and no quizzes or any other exams will be administered



**SPRING TERM**

February	03 - 08	2025	Fall Term Resit Examinations
February	07 - 15	2025	Orientation Days for New Students
February	10	2025	Last Day for The Submission of Fall Term 'Incomplete' Grades to The Registrar
February	10	2023	Last Day for The Submission of Fall Term Resit Examinations Grades to The Registrar
March	11	2025	Last Day For Submission Of Graduation Decisions of The Students Who Will Graduate as a Result of Resit Examination to The Registrar
February	11	2025	English Proficiency Test 1st Stage *
February	11 - 12	2025	Start of Online Application for Fall Semester Graduation Make-Up Examinations
February	12	2025	English Proficiency Test 2nd Stage
February	13	2025	English Proficiency Test 2nd Stage, Speaking Session
February	13 - 14	2025	Fall Semester Graduation Make-Up Examination Period
February	16	2025	Last Day for Online Course Registration
February	17	2025	Last Day for The Submission of Fall Term Letter Grade Changes and Graduation Make-Up Grades to The Registrar
February	17 - 19	2025	Course Registration Period (Course Registrations Accompanied by Advisor and Approval of Registration)
February	18	2025	Announcement of English Proficiency Test 2nd Stage Results
February	19	2025	Last Day for Submission of Graduation Decisions of the Students Who Will Graduate as a Result of Fall Term Graduation Make-Up, Resit Examinations or Incomplete Grades to The Registrar
February	20	2025	2024 - 2025 Spring Term Classes Commence First Day of Late Registration
February	21	2025	Last Day for Graduation for Fall Term Resit Examinations Graduates or Graduation of Students Who Complete Their Graduation Procedures Late
February	27	2025	Last Day for Late Registration
March	03	2025	Last Day for Add/Drop
March	29	2025	Ramadan Bairam Eve
March/April	30 - 01	2025	Ramadan Bairam
April	11 - 26	2025	Mid-Term Examinations Period
April	23	2025	National Sovereignty & Children's Day
May	01	2025	Workers' and Spring Day
May	05	2025	System Will be Accessible for Entering Courses to be Offered In Summer Term 2024 - 2025
May	12	2025	Last Day for submission of University Elective Courses to be Offered in The Summer Term of 2024 - 2025 by The Elective Courses Commission to The Rectorate
May	14 - 17	2025	Spring Festival
May	19	2025	Atatürk Commemoration, Youth and Sports Day
May	23	2025	Last Day for Course Withdrawal
May	30	2025	Last Day for Applying to Get Leave Of Absence

May	30	2025	Last Day for Entering Courses to be Offered In Summer Term 2023 - 2024 to The System
June	04	2025	Last Day of Classes
June	05	2025	Kurban Bairam Eve
June	06 - 09	2025	Kurban Bairam
June	10	2025	System Will be Accessible for Entering Courses to be Offered In Fall Term 2025 - 2026
June	11 - 26	2025	Final Examinations
June	23	2025	Last Day for Submission of University Elective Courses to be Offered in The Fall Term of 2025 - 2026 by The Elective Courses Commission to The Rectorate
June / July	27 / 20	2025	Online Course Registration Period for Summer Term 2024 - 2025
July	01	2025	Last Day for The Submission of Grades to The Registrar
July	02	2025	Last Day for Submission of The Graduation Decisions to The Registrar
July	02 - 04	2025	Online Application Period for Resit Examinations
July	08	2025	Spring Term Graduate Graduation Ceremony
July	09	2025	Spring Term Associate / Undergraduate Graduation Ceremony

\* Those who are successful in the 1st Stage Exam, must take the 2nd Stage Exam.

#### **SUMMER TERM**

July	10 - 16	2025	2024 - 2025 Spring Term Resit Examinations Period
July	18	2025	Last Day for The Submission of 2024-2025 Spring Term Resit Examinations Grades to The Registrar
July	18	2025	Last Day for Entering Courses to Be Offered In 2025 - 2026 Fall Term to The System
July	20	2025	Peace and Freedom Day
July	20	2025	Last Day for Summer Term Online Course Registration
July	21	2025	Last Day for Submission of Graduation Decisions of The Students Who Will Graduate as a Result of 2024-2025 Spring Term Resit Examinations to The Registrar
July	21 - 22	2025	Course Registration Period (Course Registrations Accompanied by Advisor and Approval of Registration)
July	23	2025	Summer Term Classes Commence First Day of Late Registration
July	30	2025	Last Day for Late Registration
August	01	2025	National Holiday
August	04	2025	Online Course Registration for Fall Term 2025 - 2026 Commences
August	06	2025	Last Day for Add/Drop
August	29	2025	Last Day for Course Withdrawal
August	29	2025	Last Day of Classes
August	30	2025	Victory Day
September	01 - 03	2025	Summer Term Final Examinations
September	05	2025	Last Day for The Submission of Summer Term Grades to The Registrar
September	06 - 08	2025	Online Application Period for Summer Term Graduation Make-Up Examinations
September	08	2025	Last Day for Submission of The Summer Term Graduation Decisions to The Registrar

September	09 - 10	2025	Summer Term Graduation Make-Up Examinations Period
September	11	2025	Last Day for The Submission of 2024 - 2025 Spring and Summer Term 'Incomplete' Grades and Graduation Make-Up Grades to The Registrar
September	12	2025	Last Day For The Submission of 2024 - 2025 Summer Term Graduation Decisions and Graduation Decisions of Students Who Will Graduate as a Result of 2024 - 2025 Spring or Summer Term Incomplete Grades or Graduation Make-Up Examinations Result to The Registrar
September	15	2025	Last Day for Graduation of Students Graduating at The End of 2024 - 2025 Summer Term and Graduation of The Students Who Complete Incomplete (I) Grades of 2024 - 2025 Spring Term

\*\*\*\* Follow the link <https://www.emu.edu.tr/en/academics/calendar/academic-calendar-2024-2025/1771> for updated academic calendar

#### 4. Outcomes of M. Pharm and Pharm. D. Programs

Upon completion of the M.Pharm program, students will be able to:

1. Collaborate with people from related disciplines during the data collection, interpretation, application, and announcement stages, acting in accordance with social, scientific, cultural, and ethical norms;
2. Have a sufficient knowledge about drugs and expands this knowledge;
3. Identify problems about pharmaceutical field;
4. Express their knowledge from a scientific point of view;
5. Adopt the culture of project-based working;
6. Acquire professional and ethical responsibilities;
7. Interpret information about current health and treatment problems;
8. Use pharmacy-related computer programs, technologies and educational tools;
9. Comply with quality management procedures, and take part in quality management processes;
10. Comply with relevant laws, regulations, legislations and professional ethical rules related with individual duties, rights and responsibilities;
11. Serve as a role model for colleagues and a reference model for the society with their physical appearance, attitudes, behaviors and professional identity;
12. Distinguish physiological functions and behaviors of healthy and unhealthy individuals and describe the relationship between individuals' health and their physical and social environments;
13. Apply institutional, local, national and international training program after graduation;
14. Have experience working with other health disciplines;
15. Communicate effectively in oral and written form;
16. Critically evaluate advanced knowledge and skills acquired in the field of pharmacy;
17. Work independently using advanced pharmaceutical knowledge; and take responsibility as a team member in cooperation with other professional groups working in this field;
18. Search and evaluate relevant scientific literature; Have a complete and current knowledge in the field of pharmacy.
19. Provide appropriate and effective treatment of health problems, integrate data from patient and medical records to treatment, to develop a plan for treatment using evidence based medicine

#### 5. Curriculum and Brief Description

##### a) Master of Pharmacy (M. Pharm.) Old Curriculum (before 2024-25 Academic Year)

First Semester								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Credit	ECTS
1	J1711	CHEM105	General Chemistry	4	1	1	5	6

1	J1712	MATH155	Mathematics	3	1	-	3	4
1	J1713	PHYS111	Principles of Physics	2	1	1	3	6
1	J1714	ITEC105	Computer - 1	2	2	-	3	5
1	J1715	ENGL191	Communication in English – I or	3	1	-	3	5
		ENGL181	Academic English - I	5	1	-	3	5
1	J1716	TUSL181	Turkish as a Second Language or	2	-	-	2	4
		HIST280	Atatürk İlkeleri ve İnkılap Tarihi	2	-	-	2	4
Second Semester								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Credit	ECTS
2	J1721	BIOL124	Introduction to Molecular Biology and Genetics	2	3	-	3	6
2	J1722	MATH212	Biostatistics	2	-	3	3	5
2	J1723	PSYC108	Introduction to Psychological Sciences	3	-	-	3	3
2	J1724	MDCN140	First Aid and Medical Devices	1	-	1	1	3
2	J1725	MDCN142	Anatomy and Histology	2	-	2	3	3
2	J1726	NUTD223	Nutrition and Dietary Treatment	3	-	-	3	2
2	J1727	PHAR206	Medical Terminology	2	-	-	2	3
2	J1728	ENGL182	Academic English – II	5	1	-	3	5
2		ENGL192	or Communication in English - II	3	-	1	3	5
Third Semester								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Credit	ECTS
3	J1731	CHEM243	Organic Chemistry - I	4	1	-	4	6
3	J1732	CHEM247	Analytical Chemistry - I	3	2	-	4	6
3	J1733	MDCN241	Medical Microbiology	3	-	1	3	5
3	J1734	MDCN243	Public Health	2	-	-	2	2
3	J1735	MDCN245	Physiology - I	4	-	-	4	5
3	J1736	MDCN247	Virology and Parasitology	3	-	2	4	6
Fourth Semester								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Credit	ECTS
4	J1741	CHEM246	Organic Chemistry - II	3	-	2	4	4
4	J1742	CHEM254	Biochemistry	2	2	-	3	6
4	J1743	BIOL412	Immunology	3	3	-	4	5
4	J1744	MDCN144	Pathology	2	-	-	2	2
4	J1745	MDCN244	Physiology - II	3	-	2	4	6
4	J1746	PHAR204	Pharmaceutical Botany	2	-	2	3	5
4	J1747	CHEM248	Analytical Chemistry - II	3	1	-	3	4
Fifth Semester								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Credit	ECTS
5	J1751	PHAR301	Pharmacology - I	3	-	-	3	6
5	J1752	PHAR303	Pharmaceutical Chemistry - I	2	-	2	3	5
5	J1753	PHAR305	Pharmacognosy - I	2	-	2	3	5
5	J1754	PHAR307	Pharmaceutical Technology - I	3	-	2	4	6
5	J1755	PHAR309	Pharmaceutical Biotechnology and Cell Culture	4	-	-	4	5
5	J1756	PHAR311	History and Ethics of Pharmacy	1	-	-	1	2

Sixth Semester								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Credit	ECTS
6	J1761	PHAR302	Pharmacology - II	3	-	-	3	4
6	J1762	PHAR304	Pharmaceutical Chemistry - II	2	-	3	3	6
6	J1763	PHAR306	Pharmacognosy - II	2	-	3	3	5
6	J1764	PHAR308	Pharmaceutical Technology - II	3	-	3	4	6
6	J1765	PHAR310	Pharmacoeconomics	3	-	-	3	4
6	J1766	UE01	University Elective - I	3	-	-	3	4
Seventh Semester								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Credit	ECTS
7	J1771	PHAR401	Pharmacology - III	2	-	1	2	4
7	J1772	PHAR403	Pharmacognosy - III	2	-	3	3	5
7	J1773	PHAR405	Pharmaceutical Chemistry - III	2	-	3	3	6
7	J1774	PHAR407	Pharmaceutical Technology - III	2	-	3	3	6
7	J1775	PHAR409	Pharmaceutical Toxicology	3	-	2	4	6
7	J1776	PHAR411	Pharmacotherapy - I	3	-	-	3	4
Eighth Semester								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Credit	ECTS
8	J1781	PHAR402	Cosmetics Science	2	-	-	2	4
8	J1782	PHAR404	Phytotherapy	2	-	-	2	4
8	J1783	PHAR406	Pharmaceutical Chemistry - IV	2	-	3	3	3
8	J1784	PHAR408	Pharmaceutical Technology - IV	2	-	3	3	5
8	J1785	PHAR410	Clinical Biochemistry	2	-	-	2	5
8	J1786	PHAR412	Pharmacotherapy - II	3	-	-	3	5
8	J1787	UE02	University Elective - II	3	-	-	3	3
Ninth Semester								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Credit	ECTS
9	J1791	PHAR451	Thesis Project - I	-	-	4	2	6
9	J1792	AE01	Area Elective - I	3	-	-	3	5
9	J1793	AE02	Area Elective – II	3	-	-	3	5
9	J1794	AE03	Area Elective – III	3	-	-	3	5
9	J1795	AE04	Area Elective - IV	3	-	-	3	5
9	J1796	UE03	University Elective - III	3	-	-	3	4
Tenth Semester								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Credit	ECTS
10	J17A1	PHAR450	Training	-	-	10	-	24
10	J17A2	PHAR452	Thesis Project - II	-	-	6	3	6

### b) Master of Pharmacy (M. Pharm) Brief Course Description

#### **CHEM105 General Chemistry**

Offers an adequate background in fundamental of general chemistry.

#### **MATH155 Mathematics**

Refreshes the college mathematics background of the students with the aid of selected applications.

#### **PHYS111 Introduction to Physics**

Introduces the fundamental concepts of classical mechanics, electricity and magnetism.

#### **ITEC105 Computer-I**

Presents the basic description of information technology concepts, basic computer hardware and software components and common terminology in information technology.

**ENGL191 Communication in English - I**

Introduces the students to the knowledge and awareness of academic discourse, language structures and lexis. The main focus will be on the development of productive (writing and speaking) and receptive (reading) skills in academic settings.

**ENGL181 Academic English – I**

Introduces the students to the knowledge and awareness of academic discourse, language structures and lexis. The main focus will be on the development of productive (writing and speaking) and receptive (reading) skills in academic settings.

**HIST280 Atatürk İlkeleri ve İnkılap Tarihi**

Bu derste Osmanlı İmparatorluğu'nun çöküşü, Tanzimat ve Islahat Fermanları, I. ve II. Meşrutiyet dönemleri, I. Dünya Savaşı ve Osmanlı Devleti'nin Savaşa girişi, Mondros Ateşkesi, Atatürk'ün kişiliği ve Samsuna çıkışı, kongreler dönemi ve Kurtuluş Savaşı, Saltanatın kaldırılması, Lozan Barış Antlaşması, Atatürk ilke ve inkılapları, modern Türkiye konuları yer almaktadır

**TUSL181 Turkish as a Second Language**

Introduces the Turkish language to students with no or a little knowledge of Turkish. The course incorporates four language skills (reading, writing, listening, speaking) and covers basic grammar, vocabulary and pronunciation.

**BIOL124 Introduction to Molecular Biology and Genetics**

Provides an understanding of molecular basis of genetics and how this relates to human genetic diseases.

**MATH212 Biostatistics**

Introduces basic statistics concepts applied in biologic and pharmaceutical data.

**PSYC108 Introduction to Psychological Sciences**

Provides students ability to understand and analyze the general concepts and approaches of different psychology fields.

**MDCN140 First Aid and Medical Devices**

Enables individuals to perform initial assessments of patients with emergency health problems.

**MDCN142 Anatomy and Histology**

Studies of the anatomical structure of the human body and introduces the cell structure and the cell membrane, the cytoplasmic organelles, histology of epithelial tissue, connective and supportive tissues, cartilage, bone, muscle tissue, blood, nervous tissue.

**NUTD223 Nutrition and Dietary Treatment**

Identifies the nutrients such as carbohydrates, proteins, fats, vitamins and minerals, their food sources, amounts needed and use by the body.

**PHAR206 Medical Terminology**

Introduces the vocabulary, abbreviations, and symbols used in the language of pharmacy and medicine.

**ENGL192 Communication in English - II**

Introduces the students to the knowledge and awareness of academic discourse, language structures and lexis. The main focus will be on the development of productive (writing and speaking) and receptive (reading) skills in academic settings.

**ENGL182 Academic English – II**

Introduces the students to the knowledge and awareness of academic discourse, language structures and lexis. The main focus will be on the development of productive (writing and speaking) and receptive (reading) skills in academic settings.

**CHEM243 Organic Chemistry - I**

Aims to teach the basic and fundamental principles of organic chemistry.

**CHEM247 Analytical Chemistry - I**

Introduces students with a rigorous background knowledge in the fundamentals of classical chemical analyses with a wide range of classical analytical techniques.

**MDCN241 Medical Microbiology**

Introduction of pathogenic species of bacteria and fungi, and prevention and treatment of bacterial and fungal diseases.

**MDCN243 Public Health**

Public health information, family planning, birth control, epidemiology, communicable diseases, immunization, environmental sanitation, non-communicable diseases, population screening, promotion techniques for healthy lifestyle and improvement of well-being.



**MDCN245 Physiology– I**

Aims to teach the student in cellular and molecular aspects of human health and physiology.

**MDCN247 Virology and Parasitology**

Introduction of pathogenic species viruses and parasites, and prevention and treatment of related diseases.

**CHEM246 Organic Chemistry – II**

Provides students with the most important knowledge related to the chemistry of alcohols, ethers, organometallic compounds, conjugated unsaturated systems, aromatic compounds, carbonyl compounds and heterocycles.

**CHEM254 Biochemistry**

Provides an adequate background in fundamentals of descriptive, applied and theoretical introduction to biochemistry.

**BIOL412 Immunology**

Aims to teach basic concepts of immunology and the use of immunology knowledge in the field of molecular biology and genetics and in pharmaceutical industry.

**MDCN144 Pathology**

Aims to teach major pathological conditions, basic pathophysiological processes in various organ system diseases and treatment strategies to overcome such conditions.

**MDCN244 Physiology – II**

Explains the basic concepts that govern each organ and organ system and their integration to maintain homeostasis, as well as some clinical aspects of failure of these systems.

**PHAR204 Pharmaceutical Botany**

Understanding of the morphology and the classification (taxonomy) of medicinal plants.

**CHEM248 Analytical Chemistry - II**

Introduces students with a rigorous background knowledge in the fundamentals of electrochemical and instrumental analytical chemistry with a wide range of classical analytical techniques.

**PHAR301 Pharmacology - I**

Provides students an understanding of basic principles of pharmacokinetics (absorption, distribution, biotransformation, and excretion of drugs), routes of drug administration, dose-concentration relationships, drug-receptor interactions and dose-response relationships.

**PHAR303 Pharmaceutical Chemistry - I**

Aims to teach general concepts in pharmaceutical chemistry, drug likely properties, drug targets and basic laboratory skills for drug synthesis.

**PHAR305 Pharmacognosy - I**

Aims to teach general definitions and concepts of pharmacognosy and biosynthesis of natural products, qualitative and quantitative analysis methods of plant chemicals.

**PHAR307 Pharmaceutical Technology - I**

Aims to teach basic knowledge of pharmaceutical dosage types, pharmaceutical unit operations (mixing, filtration etc.) and manufacturing, original vs generic drugs, liquid dosage forms, formulation aids used in liquid dosage forms (colorants, flavorings), quality control of liquid dosage forms, solubility phenomena and solubility enhancement techniques, basic pharmaceutical calculations (concentration and dose calculations etc.), packaging and labelling.

**PHAR309 Pharmaceutical Biotechnology and Cell Culture**

Aims to teach students pharmaceutical biotechnology, principles, preparation, selection and the maintenance of cell culture.

**PHAR311 History and Ethics of Pharmacy**

Aims to teach ethical issues and ethical responsibilities, and to give information of ethical examples.

**PHAR302 Pharmacology - II**

Implements a rational and effective approach to explain drug-based treatments used in autonomic nervous system and endocrine system.

**PHAR304 Pharmaceutical Chemistry - II**

Offers the opportunity to the student to learn synthesis, structure activity relationships, metabolism, and side effect profiles of the drugs under the following pharmacological groups: Autonomic nervous system, introduction to central nervous system drugs, cholinergic system drugs, adrenergic system drugs, dopaminergic system drugs, serotonergic system drugs, amino acid as neurotransmitters, sedative-hypnotics, anxiety and schizophrenia drugs.

**PHAR306 Pharmacognosy - II**

Aims to teach the understanding the essential oils, fixed oils and alkaloids, the usage of the quality and quantity of the analyses methods for essential oils, fixed oils and alkaloids.

**PHAR308 Pharmaceutical Technology - II**

Aims to teach basic knowledge for pre-formulation and formulation of drugs, pharmaceutical unit operations and manufacturing, packaging and quality control for particularly for: Pharmaceutical colloidal systems and pharmaceutical semisolids drug delivery dosage form.

**PHAR310 Pharmacoeconomics**

Aims to teach students the business, economical, and management perspectives of pharmaceutical areas including but not limited to community pharmacy, warehouses, hospitals and RD units.

**PHAR401 Pharmacology - III**

Aims to teach students drugs used in the treatment of cardiovascular disease treatments and drugs used in the treatment of central nervous system.

**PHAR403 Pharmacognosy - III**

Aims to teach the understanding of the drug discovery from medicinal plants, the knowledge on natural products for pharmaceutical use as active and additives, and knowledge on the use of herbal drugs in veterinary and agricultural applications.

**PHAR405 Pharmaceutical Chemistry - III**

Aims to teach the synthesis, structure activity relationships, metabolism, and side effect profiles of the drugs under the following pharmacological groups: Antineoplastic, antimicrobials, anti-bacterials, antivirals, antifungals, drugs topic of abuse, narcotic analgesics, non-steroidal anti-inflammatory drugs, drugs used to treat depression.

**PHAR407 Pharmaceutical Technology - III**

Aims to teach basic knowledge for pre-formulation and formulation of parenteral drugs, and manufacturing, packaging and quality control for particularly for sterile pharmaceutical dosage forms.

**PHAR409 Pharmaceutical Toxicology**

Aims to teach students how to use toxicology information in the daily life, and in the industry, pharmacy and hospital settings.

**PHAR411 Pharmacotherapy - I**

Aims to teach treatment strategies in allergic asthma, allergic rhinitis management, management of coughing, pharmacological treatment for peptic ulcer, laxatives and anti-diarrheal agents, and management of emesis pharmacotherapy of pain.

**PHAR402 Cosmetic Science**

Supports students to gain updated information on cosmetic science; properties of the skin, hair and nails and the cosmetic products and ingredients that may actively affect these properties and critically review, analyze, and evaluate scientific data and basic research in cosmetic science.

**PHAR404 Phytotherapy**

Aims to teach the understanding the phytotherapy and importance, the understanding the advantage and disadvantage of the phytotherapy, the understanding the regulations for medicinal plants and phytotherapy, and the understanding the medicinal plants used for different diseases according to different systems in the body.

**PHAR406 Pharmaceutical Chemistry - IV**

Aims to teach the basic concepts of steroids, the knowledge and understanding of the basic experimental principles of steroid chemistry, the knowledge about the mechanism pathways of different class of medicinal compounds, and the relevant chemical reactions/synthetic pathways for selected drugs/diseases.

**PHAR408 Pharmaceutical Technology - IV**

Aims to teach basic knowledge for pre-formulation and formulation of drugs, pharmaceutical unit operations and manufacturing, packaging and quality control for particularly for pharmaceutical solid products, e.g. powders, granules, tablet and capsules and other solid dosage forms.

**PHAR410 Clinical Biochemistry**

Aims to teach the biochemical measurements that is important in diagnosing diabetes, monitoring its control and treating its metabolic complications and the nature of enzyme, including physical composition, structure, and classification, factors affecting the rate of reaction and why the measurement of serum enzyme level is clinically useful.

**PHAR412 Pharmacotherapy - II**

Aims to teach main principles in antibiotic use, safe and appropriate use of antibiotics, management of common infectious diseases, and the management of complications during the chemotherapeutics use.

**PHAR451 Thesis Project - I**

Student is expected to collect scientific literature and cover information on a subject which will be established under supervision of an academic staff posted by a department of the student's interest and make an oral presentation of one the articles.

**PHAR452 Thesis Project - II**

By evaluating the scientific literature collected by the student on the subject established in Thesis Project I, student is expected to prepare a thesis report and present both orally and in written form.

**PHAR450 Training**

This lecture includes training in community and hospital pharmacy settings and he/she will be qualified for the exam which will be done by training commission.

**c) Doctorate of Pharmacy (D. Pharm.) Old Curriculum (before 2024-25 Academic Year)**

<b>First Semester</b>								
<b>Sem.</b>	<b>Ref. Code</b>	<b>Course Code</b>	<b>Full Course Title</b>	<b>Lec.</b>	<b>Lab</b>	<b>Tut.</b>	<b>Cred it</b>	<b>ECTS</b>
1	J2711	CHEM105	General Chemistry	4	1	1	5	6
1	J2712	MATH155	Mathematics	3	1	-	3	4
1	J2713	PHYS111	Principles of Physics	2	1	1	3	6
1	J2714	ITEC105	Computer - 1	2	2	-	3	5
1	J2715	ENGL191	Communication in English – I	3	1	-	3	5
1	J2715	ENGL181	or Academic English – I	5	1	-	3	5
1	J2716	TUSL181	Turkish as a Second Language	2	-	-	2	4
1	J2716	HIST280	or Atatürk İlkeleri ve İnkılap Tarihi	2	-	-	2	4
<b>Second Semester</b>								
<b>Sem.</b>	<b>Ref. Code</b>	<b>Course Code</b>	<b>Full Course Title</b>	<b>Lec.</b>	<b>Lab</b>	<b>Tut.</b>	<b>Cred it</b>	<b>ECTS</b>
2	J2721	BIOL124	Introduction to Molecular Biology and Genetics	2	3	-	3	6
2	J2722	MATH212	Biostatistics	2	-	3	3	5
2	J2723	PSYC108	Introduction to Psychological Sciences	3	-	-	3	3
2	J2724	MDCN140	First Aid and Medical Devices	1	-	1	1	3
2	J2725	MDCN142	Anatomy and Histology	2	-	2	3	3
2	J2726	NUTD223	Nutrition and Dietary Treatment	3	-	-	3	2
2	J2727	PHAR206	Medical Terminology	2	-	-	2	3
2	J2728	ENGL182	Academic English – II	5	1	-	3	5
2	J2728	ENGL192	or Communication in English - II	3	-	1	3	5
<b>Third Semester</b>								
<b>Sem.</b>	<b>Ref. Code</b>	<b>Course Code</b>	<b>Full Course Title</b>	<b>Lec.</b>	<b>Lab</b>	<b>Tut.</b>	<b>Cred it</b>	<b>ECTS</b>
3	J2731	CHEM243	Organic Chemistry – I	4	1	-	4	6
3	J2732	CHEM247	Analytical Chemistry – I	3	2	-	4	6
3	J2733	MDCN241	Medical Microbiology	3	-	1	3	5
3	J2734	MDCN243	Public Health	2	-	-	2	2
3	J2735	MDCN245	Physiology - I	4	-	-	4	5
3	J2736	MDCN247	Virology and Parasitology	3	-	2	4	6
<b>Fourth Semester</b>								

Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Cred it	ECTS
4	J2741	CHEM246	Organic Chemistry - II	3	-	2	4	4
4	J2742	CHEM254	Biochemistry	2	2	-	3	6
4	J2743	BIOL412	Immunology	3	3	-	4	5
4	J2744	MDCN144	Pathology	2	-	-	2	2
4	J2745	MDCN244	Physiology - II	3	-	2	4	6
4	J2746	PHAR204	Pharmaceutical Botany	2	-	2	3	5
4	J2747	CHEM248	Analytical Chemistry - II	3	1	-	3	4
<b>Fifth Semester</b>								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Cred it	ECTS
5	J2751	PHAR301	Pharmacology – I	3	-	-	3	6
5	J2752	PHAR303	Pharmaceutical Chemistry - I	2	-	2	3	5
5	J2753	PHAR305	Pharmacognosy – I	2	-	2	3	5
5	J2754	PHAR307	Pharmaceutical Technology - I	3	-	2	4	6
5	J2755	PHAR309	Pharmaceutical Biotechnology and Cell Culture	4	-	-	4	5
5	J2756	PHAR311	History and Ethics of Pharmacy	1	-	-	1	2
<b>Sixth Semester</b>								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Cred it	ECTS
6	J2761	PHAR302	Pharmacology – II	3	-	-	3	4
6	J2762	PHAR304	Pharmaceutical Chemistry - II	2	-	3	3	6
6	J2763	PHAR306	Pharmacognosy – II	2	-	3	3	5
6	J2764	PHAR308	Pharmaceutical Technology - II	3	-	3	4	6
6	J2765	PHAR310	Pharmacoeconomics	3	-	-	3	4
6	J2766	PHAR312	Physical Pharmacy – I	3	-	-	3	4
<b>Seventh Semester</b>								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Cred it	ECTS
7	J2771	PHAR401	Pharmacology – III	2	-	1	2	4
7	J2772	PHAR403	Pharmacognosy – III	2	-	3	3	5
7	J2773	PHAR405	Pharmaceutical Chemistry - III	2	-	3	3	6
7	J2774	PHAR407	Pharmaceutical Technology - III	2	-	3	3	6
7	J2775	PHAR409	Pharmaceutical Toxicology	3	-	2	4	6
7	J2776	PHAR411	Pharmacotherapy – I	3	-	-	3	4
<b>Eighth Semester</b>								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Cred it	ECTS
8	J2781	PHAR402	Cosmetics Science	2	-	-	2	4
8	J2782	PHAR404	Phytotherapy	2	-	-	2	4
8	J2783	PHAR406	Pharmaceutical Chemistry - IV	2	-	3	3	3
8	J2784	PHAR408	Pharmaceutical Technology - IV	2	-	3	3	5
8	J2785	PHAR410	Clinical Biochemistry	2	-	-	2	5
8	J2786	PHAR412	Pharmacotherapy – II	3	-	-	3	5
8	J2787	PHAR414	Physical Pharmacy - II	3	-	-	3	3
<b>Ninth Semester</b>								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Cred it	ECTS
9	J2791	PHAR451	Thesis Project – I	-	-	4	2	6

9	J2792	PHAR455	Biopharmacy and Pharmacokinetics	3	-	-	3	5
9	J2793	PHAR457	Microbial Control of Pharmaceuticals	3	-	-	3	5
9	J2794	PHAR459	Physicochemical Control of Pharmaceuticals	3	-	-	3	5
9	J2795	AE01	Area Elective – I	3	-	-	3	5
9	J2796	UE01	University Elective – I	3	-	-	3	4
<b>Tenth Semester</b>								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Cred it	ECTS
10	J27A1	PHAR452	Thesis Project – II	-	-	6	3	6
10	J27A2	PHAR454	Intoxication Control	2	-	-	2	4
10	J27A3	PHAR456	Biological Products	2	-	-	2	4
10	J27A4	PHAR458	Instrumental Analytical Methods	3	-	1	3	6
10	J27A5	AE02	Area Elective – II	3	-	-	3	5
10	J27A6	UE02	University Elective – II	3	-	-	3	5
<b>Eleventh Semester</b>								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Cred it	ECTS
11	J27B1	PHAR453	Thesis Project – III	4	-	-	4	6
11	J27B2	PHAR461	Hospital Pharmacy Practice	2	-	-	2	8
11	J27B3	PHAR462	Pharmacy Practice	2	-	-	2	8
11	J27B4	PHAR463	Industrial Pharmacy Practice	2	-	-	2	8
<b>Twelfth Semester</b>								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Cred it	ECTS
12	J27C1	PHAR464	Pharmacy Practice Clerkship	6	-	-	6	15
12	J27C2	PHAR466	Industrial Pharmacy Clerkship	6	-	-	6	15
12	J27C3	PHAR465	Hospital Pharmacy Clerkship	2	-	-	2	15

#### **d) Doctorate of Pharmacy (D. Pharm.) Brief Course Descriptions**

##### **CHEM105 General Chemistry**

Offers an adequate background in fundamental of general chemistry.

##### **MATH155 Mathematics**

Refreshes the college mathematics background of the students with the aid of selected applications.

##### **PHYS111 Introduction to Physics**

Introduces the fundamental concepts of classical mechanics, electricity and magnetism.

##### **ITEC105 Computer-I**

Presents the basic description of information technology concepts, basic computer hardware and software components and common terminology in information technology.

##### **ENGL191 Communication in English - I**

Introduces the students to the knowledge and awareness of academic discourse, language structures and lexis. The main focus will be on the development of productive (writing and speaking) and receptive (reading) skills in academic settings.

##### **ENGL181 Academic English – I**

Introduces the students to the knowledge and awareness of academic discourse, language structures and lexis. The main focus will be on the development of productive (writing and speaking) and receptive (reading) skills in academic settings.

##### **TUSL181 Turkish as a Second Language**

Introduces the Turkish language to students with no or a little knowledge of Turkish. The course incorporates four language skills (reading, writing, listening, speaking) and covers basic grammar, vocabulary and pronunciation.

**BIOL124 Introduction to Molecular Biology and Genetics**

Provides an understanding of molecular basis of genetics and how this relates to human genetic diseases.

**MATH212 Biostatistics**

Introduces basic statistics concepts applied in biologic and pharmaceutical data.

**PSYC108 Introduction to Psychological Sciences**

Provides students ability to understand and analyze the general concepts and approaches of different psychology fields.

**MDCN140 First Aid and Medical Devices**

Enables individuals to perform initial assessments of patients with emergency health problems.

**MDCN142 Anatomy and Histology**

Studies of the anatomical structure of the human body and introduces the cell structure and the cell membrane, the cytoplasmic organelles, histology of epithelial tissue, connective and supportive tissues, cartilage, bone, muscle tissue, blood, nervous tissue.

**NUTD223 Nutrition and Dietary Treatment**

Identifies the nutrients such as carbohydrates, proteins, fats, vitamins and minerals, their food sources, amounts needed and use by the body.

**PHAR206 Medical Terminology**

Introduces the vocabulary, abbreviations, and symbols used in the language of pharmacy and medicine.

**ENGL192 Communication in English - II**

Introduces the students to the knowledge and awareness of academic discourse, language structures and lexis. The main focus will be on the development of productive (writing and speaking) and receptive (reading) skills in academic settings.

**ENGL182 Academic English – II**

Introduces the students to the knowledge and awareness of academic discourse, language structures and lexis. The main focus will be on the development of productive (writing and speaking) and receptive (reading) skills in academic settings.

**CHEM243 Organic Chemistry - I**

Aims to teach the basic and fundamental principles of organic chemistry.

**CHEM247 Analytical Chemistry - I**

Introduces students with a rigorous background knowledge in the fundamentals of classical chemical analyses with a wide range of classical analytical techniques.

**MDCN241 Medical Microbiology**

Introduction of pathogenic species of bacteria and fungi, and prevention and treatment of bacterial and fungal diseases.

**MDCN243 Public Health**

Public health information, family planning, birth control, epidemiology, communicable diseases, immunization, environmental sanitation, non-communicable diseases, population screening, promotion techniques for healthy lifestyle and improvement of well-being.

**MDCN245 Physiology– I**

Aims to teach the student in cellular and molecular aspects of human health and physiology.

**MDCN247 Virology and Parasitology**

Introduction of pathogenic species viruses and parasites, and prevention and treatment of related diseases.

**CHEM246 Organic Chemistry – II**

Provides students with the most important knowledge related to the chemistry of alcohols, ethers, organometallic compounds, conjugated unsaturated systems, aromatic compounds, carbonyl compounds and heterocycles.

**CHEM254 Biochemistry**

Provides an adequate background in fundamentals of descriptive, applied and theoretical introduction to biochemistry.

**BIOL412 Immunology**

Aims to teach basic concepts of immunology and the use of immunology knowledge in the field of molecular biology and genetics and in pharmaceutical industry.

**MDCN144 Pathology**

Aims to teach major pathological conditions, basic pathophysiological processes in various organ system diseases and treatment strategies to overcome such conditions.



**MDCN244 Physiology – II**

Explains the basic concepts that govern each organ and organ system and their integration to maintain homeostasis, as well as some clinical aspects of failure of these systems.

**PHAR204 Pharmaceutical Botany**

Understanding of the morphology and the classification (taxonomy) of medicinal plants.

**CHEM248 Analytical Chemistry - II**

Introduces students with a rigorous background knowledge in the fundamentals of electrochemical and instrumental analytical chemistry with a wide range of classical analytical techniques.

**PHAR301 Pharmacology - I**

Provides students an understanding of basic principles of pharmacokinetics (absorption, distribution, biotransformation, and excretion of drugs), routes of drug administration, dose-concentration relationships, drug-receptor interactions and dose-response relationships.

**PHAR303 Pharmaceutical Chemistry - I**

Aims to teach general concepts in pharmaceutical chemistry, drug likely properties, drug targets and basic laboratory skills for drug synthesis.

**PHAR305 Pharmacognosy - I**

Aims to teach general definitions and concepts of pharmacognosy and biosynthesis of natural products, qualitative and quantitative analysis methods of plant chemicals.

**PHAR307 Pharmaceutical Technology - I**

Aims to teach basic knowledge of pharmaceutical dosage types, pharmaceutical unit operations (mixing, filtration etc.) and manufacturing, original vs generic drugs, liquid dosage forms, formulation aids used in liquid dosage forms (colorants, flavorings), quality control of liquid dosage forms, solubility phenomena and solubility enhancement techniques, basic pharmaceutical calculations (concentration and dose calculations etc.), packaging and labelling.

**PHAR309 Pharmaceutical Biotechnology and Cell Culture**

Aims to teach students pharmaceutical biotechnology, principles, preparation, selection and the maintenance of cell culture.

**PHAR311 History and Ethics of Pharmacy**

Aims to teach ethical issues and ethical responsibilities, and to give information of ethical examples.

**PHAR302 Pharmacology - II**

Implements a rational and effective approach to explain drug-based treatments used in autonomic nervous system and endocrine system.

**PHAR304 Pharmaceutical Chemistry - II**

Offers the opportunity to the student to learn synthesis, structure activity relationships, metabolism, and side effect profiles of the drugs under the following pharmacological groups: Autonomic nervous system, introduction to central nervous system drugs, cholinergic system drugs, adrenergic system drugs, dopaminergic system drugs, serotonergic system drugs, amino acid as neurotransmitters, sedative-hypnotics, anxiety and schizophrenia drugs.

**PHAR306 Pharmacognosy - II**

Aims to teach the understanding the essential oils, fixed oils and alkaloids, the usage of the quality and quantity of the analyses methods for essential oils, fixed oils and alkaloids.

**PHAR308 Pharmaceutical Technology - II**

Aims to teach basic knowledge for pre-formulation and formulation of drugs, pharmaceutical unit operations and manufacturing, packaging and quality control for particularly for: Pharmaceutical colloidal systems and pharmaceutical semisolids drug delivery dosage form.

**PHAR310 Pharmacoeconomics**

Aims to teach students the business, economical, and management perspectives of pharmaceutical areas including but not limited to community pharmacy, warehouses, hospitals and RD units.

**PHAR312 Physical Pharmacy – I**

Provides the basis for understanding the chemical and physical phenomena that govern the in vivo and in vitro actions of pharmaceutical products.

**PHAR401 Pharmacology - III**

Aims to teach students drugs used in the treatment of cardiovascular disease treatments and drugs used in the treatment of central nervous system.

**PHAR403 Pharmacognosy - III**

Aims to teach the understanding of the drug discovery from medicinal plants, the knowledge on natural products for pharmaceutical use as active and additives, and knowledge on the use of herbal drugs in veterinary and agricultural applications.

**PHAR405 Pharmaceutical Chemistry - III**

Aims to teach the synthesis, structure activity relationships, metabolism, and side effect profiles of the drugs under the following pharmacological groups: Antineoplastic, antimicrobials, antibacterials, antivirals, antifungals, drugs topic of abuse, narcotic analgesics, non-steroidal antiinflammatory drugs, drugs used to treat depression.

**PHAR407 Pharmaceutical Technology - III**

Aims to teach basic knowledge for preformulation and formulation of parenteral drugs, and manufacturing, packaging and quality control for particularly for sterile pharmaceutical dosage forms.

**PHAR409 Pharmaceutical Toxicology**

Aims to teach students how to use toxicology information in the daily life, and in the industry, pharmacy and hospital settings.

**PHAR411 Pharmacotherapy - I**

Aims to teach treatment strategies in allergic asthma, allergic rhinitis management, management of coughing, pharmacological treatment for peptic ulcer, laxatives and anti-diarrheal agents, and management of emesis pharmacotherapy of pain.

**PHAR402 Cosmetic Science**

Supports students to gain updated information on cosmetic science; properties of the skin, hair and nails and the cosmetic products and ingredients that may actively affect these properties and critically review, analyze, and evaluate scientific data and basic research in cosmetic science.

**PHAR404 Phytotherapy**

Aims to teach the understanding the phytotherapy and importance, the understanding the advantage and disadvantage of the phytotherapy, the understanding the regulations for medicinal plants and phytotherapy, and the understanding the medicinal plants used for different diseases according to different systems in the body.

**PHAR406 Pharmaceutical Chemistry - IV**

Aims to teach the basic concepts of steroids, the knowledge and understanding of the basic experimental principles of steroid chemistry, the knowledge about the mechanism pathways of different class of medicinal compounds, and the relevant chemical reactions/synthetic pathways for selected drugs/diseases.

**PHAR408 Pharmaceutical Technology - IV**

Aims to teach basic knowledge for pre-formulation and formulation of drugs, pharmaceutical unit operations and manufacturing, packaging and quality control for particularly for pharmaceutical solid products, e.g, powders, granules, tablet and capsules and other solid dosage forms.

**PHAR410 Clinical Biochemistry**

Aims to teach the biochemical measurements that is important in diagnosing diabetes, monitoring its control and treating its metabolic complications and the nature of enzyme, including physical composition, structure, and classification, factors affecting the rate of reaction and why the measurement of serum enzyme level is clinically useful.

**PHAR412 Pharmacotherapy - II**

Aims to teach main principles in antibiotic use, safe and appropriate use of antibiotics, management of common infectious diseases, and the management of complications during the chemotherapeutic use.

**PHAR414 Physical Pharmacy – II**

Integrates knowledge of mathematics, physics and chemistry and applies them to the pharmaceutical dosage form development.

**PHAR451 Thesis Project - I**

Student is expected to collect scientific literature and cover information on a subject which will be established under supervision of an academic staff posted by a department of the student's interest and and make an oral presentation of one the articles.

**PHAR455 Biopharmacy and Pharmacokinetics**

Provides the student with a quantitative treatment of the dynamics of drug absorption, distribution, metabolism, and excretion, including the development of mathematical models for these processes.

**PHAR457 Microbial Control of Pharmaceuticals**

Aims to teach the importance of microbial contamination in pharmaceutical industry and methods for investigating the quality of sterile and non-sterile pharmaceuticals.

**PHAR459 Physicochemical Control of Pharmaceuticals**

Aims to teach the importance of physicochemical properties and controls in pharmaceutical industry, provide general information about pharmacopeial methods and reference standards and introduce the students to the methods for controlling the quality of pharmaceuticals according to Pharmacopoeias.

**PHAR 478 Clinical Pharmacy**

Provides students an understanding of basic principles of clinical pharmacy services, pharmaceutical care, patient education, patient counseling and patient adherence.

**PHAR452 Thesis Project - II**

Student is expected to continue collecting scientific literature and carry out the experiments (if applicable) information on the subject on the subject established in Thesis Project I.

**PHAR454 Intoxication Control**

Aims to teach the protection from poisons, management in poisonings, and systemic and local antidotes usage.

**PHAR456 Biological Products**

Aims to teach an adequate background in fundamentals of descriptive, theoretical introduction to biological pharmaceutical products and to provide essential knowledge about biopharmaceuticals and their usage as therapeutic agents.

**PHAR458 Instrumental Analytical Methods**

Aims to generate a general background about theory and give principles of instruments, to develop analytical thinking skills, and to teach the importance of instrumentals in pharmaceutical industry.

**PHAR453 Thesis Project – III**

Student is expected to prepare a thesis report and present both orally and in written form.

**PHAR461 Hospital Pharmacy Practice Experience**

This lecture includes training in hospital pharmacy setting and he/she will be qualified for the exam which will be done by training commission.

**PHAR462 Pharmacy Practice**

This lecture includes training in community pharmacy setting and he/she will be qualified for the exam which will be done by training commission.

**PHAR463 Industrial Practice Experience**

This lecture includes training in pharmaceutical company setting and he/she will be qualified for the exam which will be done by training commission.

**PHAR464 Pharmacy Practice Clerkship**

This lecture includes continued training in community pharmacy setting and he/she will be qualified for the exam which will be done by training commission.

**PHAR466 Industrial Pharmaceutical Clerkship**

This lecture includes continued training in pharmaceutical company setting and he/she will be qualified for the exam which will be done by training commission.

**PHAR465 Hospital Pharmacy Clerkship**

This lecture includes continued training in hospital pharmacy setting and he/she will be qualified for the exam which will be done by training commission.

**e) Master of Pharmacy (M. Pharm.) New Curriculum (after 2024-25 Academic Year)**

First Semester								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Credit	ECTS
1	J1111	PHAR 101	Introduction to Pharmaceutical Sciences	2	0	0	2	2
1	J1112	PHAR 103	Laboratory Safety in Pharmaceutical Practices	1	0	0	1	1
1	J1113	CHEM105	General Chemistry	4	1	1	5	6
1	J1114	MATH155	Mathematics	3	0	1	3	4
1	J1115	PHYS111	Principles of Physics	2	1	1	3	4
1	J1116	ITEC107	Computer - 1	2	2	0	3	4

1	J1117	ENGL191	Communication in English - I	3	1	0	3	5
		ENGL181	Academic English - I	5	1	0	3	5
1	J1118	TUSL181	Turkish as a Second Language	2	0	0	2	4
		HIST280	Atatürk İlkeleri ve İnkılap Tarihi	2	0	0	2	4
Second Semester								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Credit	ECTS
2	J1121	PHAR206	Medical Terminology	2	0	0	2	3
2	J1122	BIOL124	Introduction to Molecular Biology and Genetics	2	3	0	3	5
2	J1123	MATH212	Biostatistics	3	0	1	3	5
2	J1124	PSYC108	Introduction to Psychological Sciences	2	0	0	2	3
2	J1125	MDCN140	First Aid and Medical Devices	1	0	1	1	3
2	J1126	MDCN142	Anatomy and Histology	2	0	2	3	3
2	J1127	NUTD223	Nutrition and Dietary Treatment	3	0	0	3	3
2	J1128	ENGL182	Academic English - II	5	1	0	3	5
		ENGL192	Communication in English - II	3	0	1	3	5
Third Semester								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Credit	ECTS
3	J1131	PHAR 129	Training I (TR)	1	0	1	1	3
		PHAR 130	Training I (TRNC)	1	0	1	1	3
		PHAR 131	Training I (OTHER)	1	0	1	1	3
3	J1132	PHAR 241	Pharmaceutical Microbiology I	3	2	0	4	5
3	J1133	PHAR 247	Pharmacy Management	3	0	0	3	3
3	J1134	CHEM243	Organic Chemistry - I	4	1	0	4	6
3	J1135	CHEM247	Analytical Chemistry - I	3	2	0	4	6
3	J1136	MDCN243	Public Health	2	0	0	2	2
3	J1137	MDCN245	Physiology - I	4	0	0	4	5
Fourth Semester								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Credit	ECTS
4	J1141	PHAR204	Pharmaceutical Botany	2	2	0	3	3
4	J1142	PHAR 242	Pharmaceutical Microbiology II	3	2	0	4	5
4	J1143	CHEM246	Organic Chemistry - II	3	2	0	4	4
4	J1144	CHEM254	Biochemistry	2	2	0	3	4
4	J1145	BIOL412	Immunology	3	3	0	4	4
4	J1146	MDCN144	Pathology	2	0	0	2	2
4	J1147	MDCN244	Physiology - II	3	0	2	4	4
4	J1148	CHEM248	Analytical Chemistry - II	2	2	1	3	4
Fifth Semester								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Credit	ECTS
5	J1151	PHAR 229	Training II (TR)	1	0	1	1	3
		PHAR 230	Training II (TRNC)	1	0	1	1	3
		PHAR 231	Training II (OTHER)	1	0	1	1	3

5	J1152	PHAR301	Pharmacology - I	3	0	0	3	4
5	J1153	PHAR307	Pharmaceutical Technology - I	3	2	0	4	5
5	J1154	PHAR309	Pharmaceutical Biotechnology and Cell Culture	4	0	0	4	6
5	J1155	PHAR311	History and Ethics of Pharmacy	1	0	0	1	1
5	J1156	PHAR 313	Occupational Health and Safety in Pharmaceutical Practices	1	0	0	1	1
5	J1157	PHAR315	Pharmacognosy - I	3	2	0	4	5
5	J1158	PHAR333	Pharmaceutical Chemistry - I	3	2	0	4	5
<b>Sixth Semester</b>								
<b>Sem.</b>	<b>Ref. Code</b>	<b>Course Code</b>	<b>Full Course Title</b>	<b>Lec.</b>	<b>Lab</b>	<b>Tut.</b>	<b>Credit</b>	<b>ECTS</b>
6	J1161	PHAR302	Pharmacology - II	3	0	0	3	4
6	J1162	PHAR308	Pharmaceutical Technology - II	3	3	0	4	5
6	J1163	PHAR310	Pharmacoeconomics	3	0	0	3	3
6	J1164	PHAR 314	Financial Analysis in Pharmacy Practice	3	0	0	3	3
6	J1165	PHAR 316	Rational Drug Use	1	0	0	1	1
6	J1166	PHAR318	Pharmacognosy - II	3	2	0	4	5
6	J1167	PHAR334	Pharmaceutical Chemistry - II	3	2	0	4	5
6	J1168	UE01	University Elective - I	3	0	0	3	4
<b>Seventh Semester</b>								
<b>Sem.</b>	<b>Ref. Code</b>	<b>Course Code</b>	<b>Full Course Title</b>	<b>Lec.</b>	<b>Lab</b>	<b>Tut.</b>	<b>Credit</b>	<b>ECTS</b>
7	J1171	PHAR 329	Training III (TR)	1	0	1	1	4
		PHAR 330	Training III (TRNC)	1	0	1	1	4
		PHAR 331	Training III (OTHER)	1	0	1	1	4
7	J1172	PHAR409	Pharmaceutical Toxicology	3	2	0	4	4
7	J1173	PHAR433	Pharmacognosy - III	3	2	0	4	5
7	J1174	PHAR435	Pharmaceutical Chemistry - III	3	2	0	4	5
7	J1175	PHAR437	Pharmaceutical Technology - III	3	2	0	4	5
7	J1176	PHAR439	Pharmacology - III	3	0	0	3	4
7	J1177	PHAR441	Pharmacotherapy - I	4	0	0	4	3
<b>Eighth Semester</b>								
<b>Sem.</b>	<b>Ref. Code</b>	<b>Course Code</b>	<b>Full Course Title</b>	<b>Lec.</b>	<b>Lab</b>	<b>Tut.</b>	<b>Credit</b>	<b>ECTS</b>
8	J1181	PHAR412	Pharmacotherapy - II	3	0	0	3	5
8	J1182	PHAR432	Phytotherapy	3	0	0	3	3
8	J1183	PHAR440	Clinical Biochemistry	3	0	0	3	4
8	J1184	PHAR442	Cosmetics Science	3	0	0	3	3
8	J1185	PHAR446	Pharmaceutical Chemistry - IV	3	3	0	4	5
8	J1186	PHAR448	Pharmaceutical Technology - IV	3	2	0	4	5
8	J1187	PHAR468	Artificial Intelligence Applications in Pharmacy	1	0	0	1	1
8	J1188	UE02	University Elective - II	3	0	0	3	4
<b>Ninth Semester</b>								

Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Credit	ECTS
9	J1191	PHAR 434	Pharmaceutical Care	1	0	1	1	1
9	J1192	PHAR451	Thesis Project - I	0	0	4	2	3
9	J1193	PHAR 478	Clinical Pharmacy	3	0	0	3	3
9	J1194	PHAR 490	Pharmaceutical Validation	3	0	0	3	3
9	J1195	AE01	Area Elective - I	3	0	0	3	5
9	J1196	AE02	Area Elective – II	3	0	0	3	5
9	J1197	AE03	Area Elective – III	3	0	0	3	5
9	J1198	AE04	Area Elective - IV	3	0	0	3	5
<b>Tenth Semester</b>								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Credit	ECTS
10	J17A 1	PHAR 429	Training IV (TR)	0	0	24	12	20
		PHAR 430	Training IV (TRNC)	0	0	24	12	20
		PHAR 431	Training IV (OTHER)	0	0	24	12	20
10	J17A 2	PHAR452	Thesis Project - II	0	0	6	3	10

#### f) Master of Pharmacy (M. Pharm) Brief Course Description

##### **PHAR101 Introduction to Pharmaceutical Sciences**

Pharmacy profession, general introduction of drugs, faculty curriculum and laboratory studies, application areas of the profession and job opportunities after graduation.

##### **PHAR103 Laboratory Safety in Pharmaceutical Practices**

General introduction of laboratory studies, safety and risk analyses, laboratory organizations specific to pharmacy (including synthesis, analysis, pharmaceutical technology, activity determination and examination laboratories), chemical usage and stocking techniques.

##### **CHEM105 General Chemistry**

Offers an adequate background in fundamental of general chemistry.

##### **MATH155 Mathematics**

Refreshes the college mathematics background of the students with the aid of selected applications.

##### **PHYS111 Introduction to Physics**

Introduces the fundamental concepts of classical mechanics, electricity and magnetism.

##### **ITEC107 Computer-I**

Presents the basic description of information technology concepts, basic computer hardware and software components and common terminology in information technology.

##### **ENGL191 Communication in English - I**

Introduces the students to the knowledge and awareness of academic discourse, language structures and lexis. The main focus will be on the development of productive (writing and speaking) and receptive (reading) skills in academic settings.

##### **ENGL181 Academic English – I**

Introduces the students to the knowledge and awareness of academic discourse, language structures and lexis. The main focus will be on the development of productive (writing and speaking) and receptive (reading) skills in academic settings.

##### **HIST280 Atatürk İlkeleri ve İnkılap Tarihi**

Bu derste Osmanlı İmparatorluğu'nun çöküşü, Tanzimat ve Islahat Fermanları, I. ve II. Meşrutiyet dönemleri, I. Dünya Savaşı ve Osmanlı Devleti'nin Savaşa girişi, Mondros Ateşkesi, Atatürk'ün kişiliği ve Samsuna çıkışı, kongreler dönemi ve Kurtuluş Savaşı, Saltanatın kaldırılması, Lozan Barış Antlaşması, Atatürk ilke ve inkılapları, modern Türkiye konuları yer almaktadır



**TUSL181 Turkish as a Second Language**

Introduces the Turkish language to students with no or a little knowledge of Turkish. The course incorporates four language skills (reading, writing, listening, speaking) and covers basic grammar, vocabulary and pronunciation.

**BIOL124 Introduction to Molecular Biology and Genetics**

Provides an understanding of molecular basis of genetics and how this relates to human genetic diseases.

**MATH212 Biostatistics**

Introduces basic statistics concepts applied in biologic and pharmaceutical data.

**PSYC108 Introduction to Psychological Sciences**

Provides students ability to understand and analyze the general concepts and approaches of different psychology fields.

**MDCN140 First Aid and Medical Devices**

Enables individuals to perform initial assessments of patients with emergency health problems.

**MDCN142 Anatomy and Histology**

Studies of the anatomical structure of the human body and introduces the cell structure and the cell membrane, the cytoplasmic organelles, histology of epithelial tissue, connective and supportive tissues, cartilage, bone, muscle tissue, blood, nervous tissue.

**NUTD223 Nutrition and Dietary Treatment**

Identifies the nutrients such as carbohydrates, proteins, fats, vitamins and minerals, their food sources, amounts needed and use by the body.

**PHAR206 Medical Terminology**

Introduces the vocabulary, abbreviations, and symbols used in the language of pharmacy and medicine.

**ENGL192 Communication in English - II**

Introduces the students to the knowledge and awareness of academic discourse, language structures and lexis. The main focus will be on the development of productive (writing and speaking) and receptive (reading) skills in academic settings.

**ENGL182 Academic English – II**

Introduces the students to the knowledge and awareness of academic discourse, language structures and lexis. The main focus will be on the development of productive (writing and speaking) and receptive (reading) skills in academic settings.

**CHEM243 Organic Chemistry - I**

Aims to teach the basic and fundamental principles of organic chemistry.

**CHEM247 Analytical Chemistry - I**

Introduces students with a rigorous background knowledge in the fundamentals of classical chemical analyses with a wide range of classical analytical techniques.

**PHAR241 Pharmaceutical Microbiology I**

Bacterial cell structures, bacterial genetics, sterilization and disinfection techniques in pharmaceutical industry, sterility assurance in sterile pharmaceutical manufacturing, antibacterial chemotherapy at the cellular and molecular level, antibacterial resistance mechanisms, novel cellular targets of antibacterial drugs, endophytic microorganisms, natural products from endophytic microorganisms and their applications in pharmaceutical industry, production of biological products by the use of microorganisms, bacterial vaccines production in pharmaceutical industry, importance of microbiology in GMP, efficacy tests of disinfectants and antiseptics in pharmaceutical industry, preservatives and their effectiveness tests in pharmaceutical sciences, endotoxin detection methods, infectious diseases caused by Gram positive and Gram negative bacteria, fungal cell structures, pathogenic fungi, use of fungi in pharmaceutical industry, methods used for microbiological quality control of pharmaceutical products, anti-parasitic drug delivery systems, microbial factors leading drug spoilage, laboratory techniques used for detection of antibacterial/antifungal activities of novel compounds/natural products.

**MDCN243 Public Health**

Public health information, family planning, birth control, epidemiology, communicable diseases, immunization, environmental sanitation, non-communicable diseases, population screening, promotion techniques for healthy lifestyle and improvement of well-being.

**MDCN245 Physiology– I**

Aims to teach the student in cellular and molecular aspects of human health and physiology.

**PHAR 247      Pharmacy Management**

Matter and measurements, the course provides a comprehensive introduction to the fundamentals of pharmacy business management. It also provides theoretical and practical information, explaining the financial, legal, and marketing aspects for Pharmacy Business.

**PHAR 129      Training I (TR)**

Basic function of pharmacies, basic information about community pharmacy, legal legislation and relevant regulations in Türkiye, magistral prescription preparation in pharmacies, community pharmacy simulations and basic training.

**PHAR 130      Training I (TRNC)**

The main mission of community pharmacy in TRNC, legislation and regulations related to TRNC, on-call practices, financing of health services, pharmacy simulations in TRNC.

**PHAR 131      Training I (OTHER)**

Introduction to basics of community pharmacy practices, comparison of diverse regulations, socio-demographic factors, pharmacy laboratories, cosmetics and herbals, organizations of community pharmacies, simulations on community pharmacy applications.

**CHEM246      Organic Chemistry – II**

Provides students with the most important knowledge related to the chemistry of alcohols, ethers, organometallic compounds, conjugated unsaturated systems, aromatic compounds, carbonyl compounds and heterocycles.

**CHEM254      Biochemistry**

Provides an adequate background in fundamentals of descriptive, applied and theoretical introduction to biochemistry.

**BIOL412      Immunology**

Aims to teach basic concepts of immunology and the use of immunology knowledge in the field of molecular biology and genetics and in pharmaceutical industry.

**MDCN144      Pathology**

Aims to teach major pathological conditions, basic pathophysiological processes in various organ system diseases and treatment strategies to overcome such conditions.

**MDCN244      Physiology – II**

Explains the basic concepts that govern each organ and organ system and their integration to maintain homeostasis, as well as some clinical aspects of failure of these systems.

**PHAR204      Pharmaceutical Botany**

Understanding of the morphology and the classification (taxonomy) of medicinal plants.

**PHAR 242      Pharmaceutical Microbiology II**

Structures of viruses, classification of viruses, replication of viruses, viral infectious diseases, antiviral chemotherapy at the cellular and molecular level, antiviral resistance mechanisms, novel targets of antiviral drugs, natural compounds bearing antiviral activity in pharmaceutical industry, bacteriophages, use of bacteriophages to make new drugs in pharmaceutical sciences, recombinant DNA technology, research and development of antiviral vaccines in pharmaceutical industry, approval of antiviral vaccines, avoiding viral contamination in pharmaceutical products, cell structures of parasites, classification of parasites, protozoa, cestode, trematode and nematode infections, anti-parasitic chemotherapy at the cellular and molecular level, anti-parasitic drug resistance mechanisms, novel cellular targets of anti-parasitic drugs, drug discovery for parasitic diseases in pharmaceutical sciences, ectoparasitic and endoparasitic drug delivery approaches for therapy, nanohelminthic drugs, nanotechnology based novel strategies in the treatment of parasitic infections, anti-parasitic secondary metabolites of medicinal plants, laboratory techniques used for detection of antiviral/anti-parasitic activities of novel compounds/natural products.

**CHEM248      Analytical Chemistry - II**

Introduces students with a rigorous background knowledge in the fundamentals of electrochemical and instrumental analytical chemistry with a wide range of classical analytical techniques.

**PHAR 229      Training II (TR)**

Introduction to hospital pharmacy, hospital pharmacies and organizations in Türkiye, powers and responsibilities of the hospital pharmacist, basic practices, simulations suitable for hospital pharmacy.

**PHAR 230      Training II (TRNC)**

Hospital pharmacies in TRNC, TRNC hospital pharmacy legislation and regulations, communication with hospital pharmacists and other healthcare professionals, basic pharmaceutical care and simulations.

**PHAR 231      Training II (OTHER)**

Introduction to hospital pharmacy training, role of hospital pharmacists, hospital systems, medicine information, medication safety, communication, comparison of hospital pharmacies in different countries and simulations.

**PHAR301      Pharmacology - I**

Provides students an understanding of basic principles of pharmacokinetics (absorption, distribution, biotransformation, and excretion of drugs), routes of drug administration, dose-concentration relationships, drug-receptor interactions and dose-response relationships.

**PHAR333      Pharmaceutical Chemistry - I**

Aims to teach general concepts in pharmaceutical chemistry, drug likely properties, drug targets and basic laboratory skills for drug synthesis.

**PHAR315      Pharmacognosy - I**

Aims to teach general definitions and concepts of pharmacognosy and biosynthesis of natural products, qualitative and quantitative analysis methods of plant chemicals.

**PHAR307      Pharmaceutical Technology - I**

Aims to teach basic knowledge of pharmaceutical dosage types, pharmaceutical unit operations (mixing, filtration etc.) and manufacturing, original vs generic drugs, liquid dosage forms, formulation aids used in liquid dosage forms (colorants, flavorings), quality control of liquid dosage forms, solubility phenomena and solubility enhancement techniques, basic pharmaceutical calculations (concentration and dose calculations etc.), packaging and labelling.

**PHAR309      Pharmaceutical Biotechnology and Cell Culture**

Aims to teach students pharmaceutical biotechnology, principles, preparation, selection and the maintenance of cell culture.

**PHAR311      History and Ethics of Pharmacy**

Aims to teach ethical issues and ethical responsibilities, and to give information of ethical examples.

**PHAR 313      Occupational Health and Safety in Pharmaceutical Practices**

Biological hazards, hazardous chemicals, musculoskeletal disorders, psychological stresses, well-being of pharmacists, safety equipment, risk management strategies, pharmacy based occupational health and safety policies and regulations.

**PHAR302      Pharmacology - II**

Implements a rational and effective approach to explain drug-based treatments used in autonomic nervous system and endocrine system.

**PHAR334      Pharmaceutical Chemistry - II**

Offers the opportunity to the student to learn synthesis, structure activity relationships, metabolism, and side effect profiles of the drugs under the following pharmacological groups: Autonomic nervous system, introduction to central nervous system drugs, cholinergic system drugs, adrenergic system drugs, dopaminergic system drugs, serotonergic system drugs, amino acid as neurotransmitters, sedative-hypnotics, anxiety and schizophrenia drugs.

**PHAR318      Pharmacognosy - II**

Aims to teach the understanding the essential oils, fixed oils and alkaloids, the usage of the quality and quantity of the analyses methods for essential oils, fixed oils and alkaloids.

**PHAR308      Pharmaceutical Technology - II**

Aims to teach basic knowledge for pre-formulation and formulation of drugs, pharmaceutical unit operations and manufacturing, packaging and quality control for particularly for: Pharmaceutical colloidal systems and pharmaceutical semisolids drug delivery dosage form.

**PHAR310      Pharmacoeconomics**

Aims to teach students the business, economical, and management perspectives of pharmaceutical areas including but not limited to community pharmacy, warehouses, hospitals and RD units.

**PHAR 314      Financial Analysis in Pharmacy Practice**

Importance of financial analyses for pharmacists, financial analyses with respect to patient surveys, accounting in pharmacy business, accounting and financial analyses in drug industry, hospital pharmacy

based costs and financial analyses, financial statements, pricing of pharmaceutical based goods and services.

**PHAR 316 Rational Drug Use**

Introduction to rational drug usage, basic necessities, suitable duration and dosage consideration, social and economic perspectives, public health considerations, competencies of pharmaceutical fields, basic professional legislations, relation with other health disciplines.

**PHAR 329 Training III (TR)**

Basic information about pharmaceutical industry internship, pharmaceutical industry in Türkiye, generic drug manufacturing companies, cosmetics manufacturing companies, general organization of pharmaceutical companies in Türkiye, R&D, production, quality control, documentation studies and simulations.

**PHAR 330 Training III (TRNC)**

History and development of the pharmaceutical industry in TRNC, communication with European Union countries and relevant legal regulations, organizations of pharmaceutical industry systems and simulations.

**PHAR 331 Training III (OTHER)**

Original drug companies, generic drug companies, sub-divisions of drug companies, training in diverse units of drug industry and simulations.

**PHAR439 Pharmacology - III**

Aims to teach students drugs used in the treatment of cardiovascular disease treatments and drugs used in the treatment of central nervous system.

**PHAR433 Pharmacognosy - III**

Aims to teach the understanding of the drug discovery from medicinal plants, the knowledge on natural products for pharmaceutical use as active and additives, and knowledge on the use of herbal drugs in veterinary and agricultural applications.

**PHAR435 Pharmaceutical Chemistry - III**

Aims to teach the synthesis, structure activity relationships, metabolism, and side effect profiles of the drugs under the following pharmacological groups: Antineoplastic, antimicrobials, anti-bacterials, antivirals, antifungals, drugs topic of abuse, narcotic analgesics, non-steroidal anti-inflammatory drugs, drugs used to treat depression.

**PHAR437 Pharmaceutical Technology - III**

Aims to teach basic knowledge for pre-formulation and formulation of parenteral drugs, and manufacturing, packaging and quality control for particularly for sterile pharmaceutical dosage forms.

**PHAR409 Pharmaceutical Toxicology**

Aims to teach students how to use toxicology information in the daily life, and in the industry, pharmacy and hospital settings.

**PHAR441 Pharmacotherapy - I**

Aims to teach treatment strategies in allergic asthma, allergic rhinitis management, management of coughing, pharmacological treatment for peptic ulcer, laxatives and anti-diarrheal agents, and management of emesis pharmacotherapy of pain.

**PHAR442 Cosmetic Science**

Supports students to gain updated information on cosmetic science; properties of the skin, hair and nails and the cosmetic products and ingredients that may actively affect these properties and critically review, analyze, and evaluate scientific data and basic research in cosmetic science.

**PHAR432 Phytotherapy**

Aims to teach the understanding the phytotherapy and importance, the understanding the advantage and disadvantage of the phytotherapy, the understanding the regulations for medicinal plants and phytotherapy, and the understanding the medicinal plants used for different diseases according to different systems in the body.

**PHAR446 Pharmaceutical Chemistry - IV**

Aims to teach the basic concepts of steroids, the knowledge and understanding of the basic experimental principles of steroid chemistry, the knowledge about the mechanism pathways of different class of medicinal compounds, and the relevant chemical reactions/synthetic pathways for selected drugs/diseases.

**PHAR448 Pharmaceutical Technology - IV**

Aims to teach basic knowledge for pre-formulation and formulation of drugs, pharmaceutical unit operations and manufacturing, packaging and quality control for particularly for pharmaceutical solid products, e.g, powders, granules, tablet and capsules and other solid dosage forms.

**PHAR440 Clinical Biochemistry**

Aims to teach the biochemical measurements that is important in diagnosing diabetes, monitoring its control and treating its metabolic complications and the nature of enzyme, including physical composition, structure, and classification, factors affecting the rate of reaction and why the measurement of serum enzyme level is clinically useful.

**PHAR412 Pharmacotherapy - II**

Aims to teach main principles in antibiotic use, safe and appropriate use of antibiotics, management of common infectious diseases, and the management of complications during the chemotherapeutics use.

**PHAR 468 Artificial Intelligence Applications in Pharmacy**

Artificial intelligence in pharmacy practices, incorporation of AI technologies in diverse health care systems, AI in medication therapy management and adverse drug reaction monitoring, analyses of data and laboratory results according to AI.

**PHAR451 Thesis Project - I**

Student is expected to collect scientific literature and cover information on a subject which will be established under supervision of an academic staff posted by a department of the student's interest and make an oral presentation of one the articles.

**PHAR 434 Pharmaceutical Care**

The concept and practice of patient care, patient care and health outcomes, historical milestones in the development of patient care, drug related needs of patients, provision of safe and effective drug therapies, patient-centered health care systems, improvement of the quality of drug companies, basic potential problems related to drug therapies, basic functions of pharmacies in patient care, evolving missions of pharmacy practices in the development of patient care.

**PHAR 478 Clinical Pharmacy**

Introduction to Clinical Pharmacy, activities and responsibilities of a Clinical Pharmacist, Clinical Pharmacist practice areas, Patient care processes, Systematic approach to patient care and principles of Pharmaceutical Care, Patient Counselling and the importance of Patient Education in clinical pharmacy practices, Enhancing the communication skills of pharmacists necessary to effectively interact with patients and other healthcare professionals, Patient Adherence and Compliance, Interpretation of common laboratory test results. The diagnosis, pathophysiology, treatment, and prognosis of the chronic diseases such as Asthma, Diabetes, Hypertension and Coronary Artery Disease, with emphasis on drug treatment and the role of the Clinical Pharmacist in these chronic conditions. Clinical Case presentations.

**PHAR 490 Pharmaceutical Validation**

Types of validation, process design, process qualification, continued process verification, system validation, cleaning validation, quality controls, measurements, basic instruments and validation engineering.

**PHAR452 Thesis Project - II**

By evaluating the scientific literature collected by the student on the subject established in Thesis Project I, student is expected to prepare a thesis report and present both orally and in written form.

**PHAR 429 Training IV (TR)**

Training activities must be conducted in community and/or pharmacy department of hospitals in order to complete compulsory 132 working days of traineeship. Industrial training activities are also counted in addition to compulsory community and/or hospital pharmacy training activities.

**PHAR 430 Training IV (TRNC)**

Training activities must be conducted in community and/or pharmacy department of hospitals in order to complete compulsory 132 working days of traineeship. Industrial training activities are also counted in addition to compulsory community and/or hospital pharmacy training activities.

**PHAR 431 Training IV (OTHER)**

Training activities must be conducted in community and/or pharmacy department of hospitals in order to complete compulsory 132 working days of traineeship. Industrial training activities are also counted in addition to compulsory community and/or hospital pharmacy training activities.

**g) Doctorate of Pharmacy (D. Pharm.) New Curriculum (after 2024-25 Academic Year)**

First Semester								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Credit	ECTS
1	J2111	PHAR 101	Introduction to Pharmacy	2	0	0	2	2
1	J2112	PHAR 103	Laboratory Safety	1	0	0	1	1
1	J2113	CHEM105	General Chemistry	4	1	1	5	6
1	J2114	MATH155	Mathematics	3	0	1	3	4
1	J2115	PHYS111	Principles of Physics	2	1	1	3	4
1	J2116	ITEC107	Computer - 1	2	2	0	3	4
1	J2117	ENGL191	Communication in English - I	3	1	0	3	5
		ENGL181	Academic English - I	5	1	0	3	5
1	J2118	TUSL181	Turkish as a Second Language	2	0	0	2	4
		HIST280	Atatürk İlkeleri ve İnkılap Tarihi	2	0	0	2	4
Second Semester								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Credit	ECTS
2	J2121	PHAR206	Medical Terminology	2	0	0	2	3
2	J2122	BIOL124	Introduction to Molecular Biology and Genetics	2	3	-	3	5
2	J2123	MATH212	Biostatistics	3	0	1	3	5
2	J2124	PSYC108	Introduction to Psychological Sciences	2	0	0	2	3
2	J2125	MDCN140	First Aid and Medical Devices	1	0	1	1	3
2	J2126	MDCN142	Anatomy and Histology	2	0	2	3	3
2	J2127	NUTD223	Nutrition and Dietary Treatment	3	0	0	3	3
2	J2128	ENGL182	Academic English - II	5	1	0	3	5
		ENGL192	Communication in English - II	3	0	1	3	5
Third Semester								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Credit	ECTS
3	J2131	PHAR 241	Pharmaceutical Microbiology I	3	2	0	4	5
3	J2132	PHAR 247	Pharmacy Management	3	0	0	3	3
3	J2133	PHAR312	Physical Pharmacy - I	2	0	0	2	3
3	J2134	CHEM243	Organic Chemistry - I	4	1	0	4	6
3	J2135	CHEM247	Analytical Chemistry - I	3	2	0	4	6
3	J2136	MDCN243	Public Health	2	0	0	2	2
3	J2137	MDCN245	Physiology - I	4	0	0	4	5
Fourth Semester								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Credit	ECTS
4	J2141	PHAR204	Pharmaceutical Botany	2	2	0	3	3
4	J2142	PHAR 242	Pharmaceutical Microbiology II	3	2	0	4	5
4	J2143	CHEM246	Organic Chemistry - II	3	2	0	4	4
4	J2144	CHEM254	Biochemistry	2	2	0	3	4
4	J2145	BIOL412	Immunology	3	3	0	4	4
4	J2146	MDCN144	Pathology	2	0	0	2	2



4	J2147	MDCN244	Physiology - II	3	0	2	4	4
4	J2148	CHEM248	Analytical Chemistry - II	2	2	1	3	4
<b>Fifth Semester</b>								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Credit	ECTS
5	J2151	PHAR301	Pharmacology - I	3	0	0	3	4
5	J2152	PHAR307	Pharmaceutical Technology - I	3	2	0	4	5
5	J2153	PHAR309	Pharmaceutical Biotechnology and Cell Culture	4	0	0	4	6
5	J2154	PHAR311	History and Ethics of Pharmacy	1	0	0	1	1
5	J2155	PHAR 313	Occupational Health and Safety in Pharmaceutical Practices	1	0	0	1	1
5	J2156	PHAR315	Pharmacognosy - I	3	2	0	4	5
5	J2157	PHAR 317	Simulations in Pharmacy Practices	1	0	0	1	3
5	J2158	PHAR333	Pharmaceutical Chemistry - I	3	2	0	4	5
<b>Sixth Semester</b>								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Credit	ECTS
6	J2161	PHAR302	Pharmacology - II	3	0	0	3	4
6	J2162	PHAR308	Pharmaceutical Technology - II	3	3	0	4	5
6	J2163	PHAR310	Pharmacoeconomics	3	0	0	3	3
6	J2164	PHAR 314	Financial Analysis in Pharmacy Practice	3	0	0	3	3
6	J2165	PHAR 316	Rational Drug Use	1	0	0	1	1
6	J2166	PHAR 318	Pharmacognosy - II	3	2	0	4	5
6	J2167	PHAR 334	Pharmaceutical Chemistry - II	3	2	0	4	5
6	J2168	UE01	University Elective - I	3	0	0	3	4
<b>Seventh Semester</b>								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Credit	ECTS
7	J2171	PHAR409	Pharmaceutical Toxicology	3	2	0	4	4
7	J2172	PHAR 433	Pharmacognosy - III	3	2	0	4	5
7	J2173	PHAR 435	Pharmaceutical Chemistry - III	3	2	0	4	5
7	J2174	PHAR 437	Pharmaceutical Technology - III	3	2	0	4	5
7	J2175	PHAR 439	Pharmacology - III	3	0	0	3	4
7	J2176	PHAR441	Pharmacotherapy - I	4	0	0	4	3
7	J2177	PHAR 470	Hospital Pharmacy Applications	1	0	1	1	2
7	J2178	PHAR 400	Community Pharmacy Applications	1	0	1	1	2
<b>Eighth Semester</b>								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Credit	ECTS
8	J2181	PHAR412	Pharmacotherapy - II	3	0	0	3	5
8	J2182	PHAR414	Physical Pharmacy - II	2	0	0	2	4
8	J2183	PHAR 432	Phytotherapy	3	0	0	3	3
8	J2184	PHAR 440	Clinical Biochemistry	3	0	0	3	4
8	J2185	PHAR 442	Cosmetics Science	3	0	0	3	3
8	J2186	PHAR 446	Pharmaceutical Chemistry - IV	3	2	0	4	5
8	J2187	PHAR 448	Pharmaceutical Technology - IV	3	3	0	4	5

8	J2188	PHAR 468	Artificial Intelligence Applications in Pharmacy	1	0	0	1	1
<b>Ninth Semester</b>								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Credit	ECTS
9	J2191	PHAR451	Thesis Project - I	0	0	4	2	3
9	J2192	PHAR455	Biopharmacy and Pharmacokinetics	3	0	0	3	4
9	J2193	PHAR 460	Industry Pharmacy Applications	1	0	0	1	3
9	J2194	PHAR467	Microbial Control of Pharmaceuticals	3	0	0	3	4
9	J2195	PHAR469	Physicochemical Control of Pharmaceuticals	3	0	0	3	4
9	J2196	PHAR 478	Clinical Pharmacy	3	0	0	3	3
9	J2197	AE01	Area Elective – I*	3	0	0	3	5
9	J2198	UE02	University Elective - II	3	0	0	3	4
<b>Tenth Semester</b>								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Credit	ECTS
10	J21A1	PHAR 434	Pharmaceutical Care	1	0	1	1	1
10	J21A2	PHAR 438	Industrial Drug Synthesis	3	0	0	3	4
10	J21A3	PHAR452	Thesis Project - II	-	0	6	3	10
10	J21A4	PHAR454	Intoxication Control	2	0	0	2	3
10	J21A5	PHAR456	Biological Products	2	0	0	2	3
10	J21A6	PHAR458	Instrumental Analytical Methods	3	0	0	3	4
10	J21A7	AE02	Area Elective - II	3	0	0	3	5
<b>Eleventh Semester</b>								
Sem.	Ref. Code	Course Code	Full Course Title	Lec	Lab	Tut	Credit	ECTS
11	J21B1	PHAR453	Thesis Project - III	3	0	0	3	6
11	J21B2	PHAR461	Hospital Pharmacy Practice	0	0	4	2	8
11	J21B3	PHAR462	Pharmacy Practice	0	0	4	2	8
11	J21B4	PHAR463	Industrial Pharmacy Practice	0	0	4	2	8
<b>Twelfth Semester</b>								
Sem.	Ref. Code	Course Code	Full Course Title	Lec.	Lab	Tut.	Credit	ECTS
12	J21C1	PHAR464	Pharmacy Practice Clerkship	0	0	12	6	10
12	J21C2	PHAR466	Industrial Pharmacy Clerkship	0	0	0	0	10
12	J21C3	PHAR465	Hospital Pharmacy Clerkship	0	0	4	2	10

#### **h) Doctorate of Pharmacy (D. Pharm.) Brief Course Descriptions**

##### **PHAR101 Introduction to Pharmaceutical Sciences**

Pharmacy profession, general introduction of drugs, faculty curriculum and laboratory studies, application areas of the profession and job opportunities after graduation.

##### **PHAR103 Laboratory Safety in Pharmaceutical Practices**

General introduction of laboratory studies, safety and risk analyses, laboratory organizations specific to pharmacy (including synthesis, analysis, pharmaceutical technology, activity determination and examination laboratories), chemical usage and stocking techniques.

##### **CHEM105 General Chemistry**

Offers an adequate background in fundamental of general chemistry.

##### **MATH155 Mathematics**

Refreshes the college mathematics background of the students with the aid of selected applications.

##### **PHYS111 Introduction to Physics**

Introduces the fundamental concepts of classical mechanism, electricity and magnetism.

**ITEC107 Computer-I**

Presents the basic description of information technology concepts, basic computer hardware and software components and common terminology in information technology.

**ENGL191 Communication in English - I**

Introduces the students to the knowledge and awareness of academic discourse, language structures and lexis. The main focus will be on the development of productive (writing and speaking) and receptive (reading) skills in academic settings.

**ENGL181 Academic English – I**

Introduces the students to the knowledge and awareness of academic discourse, language structures and lexis. The main focus will be on the development of productive (writing and speaking) and receptive (reading) skills in academic settings.

**HIST280 Atatürk İlkeleri ve İnkılap Tarihi**

Bu derste Osmanlı İmparatorluğu'nun çöküşü, Tanzimat ve Islahat Fermanları, I. ve II. Meşrutiyet dönemleri, I. Dünya Savaşı ve Osmanlı Devleti'nin Savaşa girişi, Mondros Ateşkesi, Atatürk'ün kişiliği ve Samsuna çıkışı, kongreler dönemi ve Kurtuluş Savaşı, Saltanatın kaldırılması, Lozan Barış Antlaşması, Atatürk ilke ve inkılapları, modern Türkiye konuları yer almaktadır

**TUSL181 Turkish as a Second Language**

Introduces the Turkish language to students with no or a little knowledge of Turkish. The course incorporates four language skills (reading, writing, listening, speaking) and covers basic grammar, vocabulary and pronunciation.

**BIOL124 Introduction to Molecular Biology and Genetics**

Provides an understanding of molecular basis of genetics and how this relates to human genetic diseases.

**MATH212 Biostatistics**

Introduces basic statistics concepts applied in biologic and pharmaceutical data.

**PSYC108 Introduction to Psychological Sciences**

Provides students ability to understand and analyze the general concepts and approaches of different psychology fields.

**MDCN140 First Aid and Medical Devices**

Enables individuals to perform initial assessments of patients with emergency health problems.

**MDCN142 Anatomy and Histology**

Studies of the anatomical structure of the human body and introduces the cell structure and the cell membrane, the cytoplasmic organelles, histology of epithelial tissue, connective and supportive tissues, cartilage, bone, muscle tissue, blood, nervous tissue.

**NUTD223 Nutrition and Dietary Treatment**

Identifies the nutrients such as carbohydrates, proteins, fats, vitamins and minerals, their food sources, amounts needed and use by the body.

**PHAR206 Medical Terminology**

Introduces the vocabulary, abbreviations, and symbols used in the language of pharmacy and medicine.

**ENGL192 Communication in English - II**

Introduces the students to the knowledge and awareness of academic discourse, language structures and lexis. The main focus will be on the development of productive (writing and speaking) and receptive (reading) skills in academic settings.

**ENGL182 Academic English – II**

Introduces the students to the knowledge and awareness of academic discourse, language structures and lexis. The main focus will be on the development of productive (writing and speaking) and receptive (reading) skills in academic settings.

**CHEM243 Organic Chemistry - I**

Aims to teach the basic and fundamental principles of organic chemistry.

**CHEM247 Analytical Chemistry - I**

Introduces students with a rigorous background knowledge in the fundamentals of classical chemical analyses with a wide range of classical analytical techniques.

**PHAR241 Pharmaceutical Microbiology I**

Bacterial cell structures, bacterial genetics, sterilization and disinfection techniques in pharmaceutical industry, sterility assurance in sterile pharmaceutical manufacturing, antibacterial chemotherapy at the cellular and molecular level, antibacterial resistance mechanisms, novel cellular targets of antibacterial

drugs, endophytic microorganisms, natural products from endophytic microorganisms and their applications in pharmaceutical industry, production of biological products by the use of microorganisms, bacterial vaccines production in pharmaceutical industry, importance of microbiology in GMP, efficacy tests of disinfectants and antiseptics in pharmaceutical industry, preservatives and their effectiveness tests in pharmaceutical sciences, endotoxin detection methods, infectious diseases caused by Gram positive and Gram negative bacteria, fungal cell structures, pathogenic fungi, use of fungi in pharmaceutical industry, methods used for microbiological quality control of pharmaceutical products, anti-parasitic drug delivery systems, microbial factors leading drug spoilage, laboratory techniques used for detection of antibacterial/antifungal activities of novel compounds/natural products.

#### **MDCN243 Public Health**

Public health information, family planning, birth control, epidemiology, communicable diseases, immunization, environmental sanitation, non-communicable diseases, population screening, promotion techniques for healthy lifestyle and improvement of well-being.

#### **MDCN245 Physiology– I**

Aims to teach the student in cellular and molecular aspects of human health and physiology.

#### **PHAR 247 Pharmacy Management**

Matter and measurements, the course provides a comprehensive introduction to the fundamentals of pharmacy business management. It also provides theoretical and practical information, explaining the financial, legal, and marketing aspects for Pharmacy Business.

#### **PHAR312 Physical Pharmacy I**

Physico-chemical parameters between chemical structure and biological effects of drugs, pharmaceutical calculations.

#### **CHEM246 Organic Chemistry – II**

Provides students with the most important knowledge related to the chemistry of alcohols, ethers, organometallic compounds, conjugated unsaturated systems, aromatic compounds, carbonyl compounds and heterocycles.

#### **CHEM254 Biochemistry**

Provides an adequate background in fundamentals of descriptive, applied and theoretical introduction to biochemistry.

#### **BIOL412 Immunology**

Aims to teach basic concepts of immunology and the use of immunology knowledge in the field of molecular biology and genetics and in pharmaceutical industry.

#### **MDCN144 Pathology**

Aims to teach major pathological conditions, basic pathophysiological processes in various organ system diseases and treatment strategies to overcome such conditions.

#### **MDCN244 Physiology – II**

Explains the basic concepts that govern each organ and organ system and their integration to maintain homeostasis, as well as some clinical aspects of failure of these systems.

#### **PHAR204 Pharmaceutical Botany**

Understanding of the morphology and the classification (taxonomy) of medicinal plants.

#### **PHAR 242 Pharmaceutical Microbiology II**

Structures of viruses, classification of viruses, replication of viruses, viral infectious diseases, antiviral chemotherapy at the cellular and molecular level, antiviral resistance mechanisms, novel targets of antiviral drugs, natural compounds bearing antiviral activity in pharmaceutical industry, bacteriophages, use of bacteriophages to make new drugs in pharmaceutical sciences, recombinant DNA technology, research and development of antiviral vaccines in pharmaceutical industry, approval of antiviral vaccines, avoiding viral contamination in pharmaceutical products, cell structures of parasites, classification of parasites, protozoa, cestode, trematode and nematode infections, anti-parasitic chemotherapy at the cellular and molecular level, anti-parasitic drug resistance mechanisms, novel cellular targets of anti-parasitic drugs, drug discovery for parasitic diseases in pharmaceutical sciences, ectoparasitic and endoparasitic drug delivery approaches for therapy, nanohelminthic drugs, nanotechnology based novel strategies in the treatment of parasitic infections, anti-parasitic secondary metabolites of medicinal plants, laboratory techniques used for detection of antiviral/anti-parasitic activities of novel compounds/natural products.

**CHEM248 Analytical Chemistry - II**

Introduces students with a rigorous background knowledge in the fundamentals of electrochemical and instrumental analytical chemistry with a wide range of classical analytical techniques.

**PHAR301 Pharmacology - I**

Provides students an understanding of basic principles of pharmacokinetics (absorption, distribution, biotransformation, and excretion of drugs), routes of drug administration, dose-concentration relationships, drug-receptor interactions and dose-response relationships.

**PHAR333 Pharmaceutical Chemistry - I**

Aims to teach general concepts in pharmaceutical chemistry, drug likely properties, drug targets and basic laboratory skills for drug synthesis.

**PHAR315 Pharmacognosy - I**

Aims to teach general definitions and concepts of pharmacognosy and biosynthesis of natural products, qualitative and quantitative analysis methods of plant chemicals.

**PHAR307 Pharmaceutical Technology - I**

Aims to teach basic knowledge of pharmaceutical dosage types, pharmaceutical unit operations (mixing, filtration etc.) and manufacturing, original vs generic drugs, liquid dosage forms, formulation aids used in liquid dosage forms (colorants, flavorings), quality control of liquid dosage forms, solubility phenomena and solubility enhancement techniques, basic pharmaceutical calculations (concentration and dose calculations etc.), packaging and labelling.

**PHAR309 Pharmaceutical Biotechnology and Cell Culture**

Aims to teach students pharmaceutical biotechnology, principles, preparation, selection and the maintenance of cell culture.

**PHAR311 History and Ethics of Pharmacy**

Aims to teach ethical issues and ethical responsibilities, and to give information of ethical examples.

**PHAR 313 Occupational Health and Safety in Pharmaceutical Practices**

Biological hazards, hazardous chemicals, musculoskeletal disorders, psychological stresses, well-being of pharmacists, safety equipment, risk management strategies, pharmacy based occupational health and safety policies and regulations.

**PHAR317 Simulations in Pharmacy Practices**

This course aims to increase clinical skills, improve communication abilities, and confidence for handling real-world pharmacy practice challenges. Simulation-based learning is adapted medication management discussions, improving ethical understanding and professionalism as well as clinical decision-making.

**PHAR302 Pharmacology - II**

Implements a rational and effective approach to explain drug-based treatments used in autonomic nervous system and endocrine system.

**PHAR334 Pharmaceutical Chemistry - II**

Offers the opportunity to the student to learn synthesis, structure activity relationships, metabolism, and side effect profiles of the drugs under the following pharmacological groups: Autonomic nervous system, introduction to central nervous system drugs, cholinergic system drugs, adrenergic system drugs, dopaminergic system drugs, serotonergic system drugs, amino acid as neurotransmitters, sedative-hypnotics, anxiety and schizophrenia drugs.

**PHAR318 Pharmacognosy - II**

Aims to teach the understanding the essential oils, fixed oils and alkaloids, the usage of the quality and quantity of the analyses methods for essential oils, fixed oils and alkaloids.

**PHAR308 Pharmaceutical Technology - II**

Aims to teach basic knowledge for pre-formulation and formulation of drugs, pharmaceutical unit operations and manufacturing, packaging and quality control for particularly for: Pharmaceutical colloidal systems and pharmaceutical semisolid drug delivery dosage form.

**PHAR310 Pharmacoeconomics**

Aims to teach students the business, economical, and management perspectives of pharmaceutical areas including but not limited to community pharmacy, warehouses, hospitals and RD units.

**PHAR 314 Financial Analysis in Pharmacy Practice**

Importance of financial analyses for pharmacists, financial analyses with respect to patient surveys, accounting in pharmacy business, accounting and financial analyses in drug industry, hospital pharmacy

based costs and financial analyses, financial statements, pricing of pharmaceutical based goods and services.

**PHAR 316 Rational Drug Use**

Introduction to rational drug usage, basic necessities, suitable duration and dosage consideration, social and economic perspectives, public health considerations, competencies of pharmaceutical fields, basic professional legislations, relation with other health disciplines.

**PHAR439 Pharmacology - III**

Aims to teach students drugs used in the treatment of cardiovascular disease treatments and drugs used in the treatment of central nervous system.

**PHAR433 Pharmacognosy - III**

Aims to teach the understanding of the drug discovery from medicinal plants, the knowledge on natural products for pharmaceutical use as active and additives, and knowledge on the use of herbal drugs in veterinary and agricultural applications.

**PHAR435 Pharmaceutical Chemistry - III**

Aims to teach the synthesis, structure activity relationships, metabolism, and side effect profiles of the drugs under the following pharmacological groups: Antineoplastic, antimicrobials, anti-bacterials, antivirals, antifungals, drugs topic of abuse, narcotic analgesics, non-steroidal anti-inflammatory drugs, drugs used to treat depression.

**PHAR437 Pharmaceutical Technology - III**

Aims to teach basic knowledge for pre-formulation and formulation of parenteral drugs, and manufacturing, packaging and quality control for particularly for sterile pharmaceutical dosage forms.

**PHAR409 Pharmaceutical Toxicology**

Aims to teach students how to use toxicology information in the daily life, and in the industry, pharmacy and hospital settings.

**PHAR441 Pharmacotherapy - I**

Aims to teach treatment strategies in allergic asthma, allergic rhinitis management, management of coughing, pharmacological treatment for peptic ulcer, laxatives and anti-diarrheal agents, and management of emesis pharmacotherapy of pain.

**PHAR470 Hospital Pharmacy Applications**

Introduction to hospital pharmacy practices, organization of pharmacy units of hospitals, drug preparing, storing, compounding, dispensing of medicines and medical devices, advising patients, doctors, nurses, and other health professionals, basic information on training activities, applications via simulations.

**PHAR400 Community Pharmacy Applications**

Introduction to community pharmacy practices, advising patients and interaction with doctor and other health professionals.

**PHAR442 Cosmetic Science**

Supports students to gain updated information on cosmetic science; properties of the skin, hair and nails and the cosmetic products and ingredients that may actively affect these properties and critically review, analyze, and evaluate scientific data and basic research in cosmetic science.

**PHAR432 Phytotherapy**

Aims to teach the understanding the phytotherapy and importance, the understanding the advantage and disadvantage of the phytotherapy, the understanding the regulations for medicinal plants and phytotherapy, and the understanding the medicinal plants used for different diseases according to different systems in the body.

**PHAR446 Pharmaceutical Chemistry - IV**

Aims to teach the basic concepts of steroids, the knowledge and understanding of the basic experimental principles of steroid chemistry, the knowledge about the mechanism pathways of different class of medicinal compounds, and the relevant chemical reactions/synthetic pathways for selected drugs/diseases.

**PHAR448 Pharmaceutical Technology - IV**

Aims to teach basic knowledge for pre-formulation and formulation of drugs, pharmaceutical unit operations and manufacturing, packaging and quality control for particularly for pharmaceutical solid products, e.g, powders, granules, tablet and capsules and other solid dosage forms.

**PHAR440 Clinical Biochemistry**

Aims to teach the biochemical measurements that is important in diagnosing diabetes, monitoring its control and treating its metabolic complications and the nature of enzyme, including physical composition, structure, and classification, factors affecting the rate of reaction and why the measurement of serum enzyme level is clinically useful.

**PHAR412 Pharmacotherapy - II**

Aims to teach main principles in antibiotic use, safe and appropriate use of antibiotics, management of common infectious diseases, and the management of complications during the chemotherapeutics use.

**PHAR 468 Artificial Intelligence Applications in Pharmacy**

Artificial intelligence in pharmacy practices, incorporation of AI technologies in diverse health care systems, AI in medication therapy management and adverse drug reaction monitoring, analyses of data and laboratory results according to AI.

**PHAR414 Physical Pharmacy II**

Physico-chemical parameters between chemical structure and biological effects of drugs, pharmaceutical calculations.

**PHAR451 Thesis Project - I**

Student is expected to collect scientific literature and cover information on a subject which will be established under supervision of an academic staff posted by a department of the student's interest and make an oral presentation of one the articles.

**PHAR455 Biopharmacy and Pharmacokinetics**

Provides the student with a quantitative treatment of the dynamics of drug absorption, distribution, metabolism, and excretion, including the development of mathematical models for these processes.

**PHAR467 Microbial Control of Pharmaceuticals**

Aims to teach the importance of microbial contamination in pharmaceutical industry and methods for investigating the quality of sterile and non-sterile pharmaceuticals.

**PHAR469 Physicochemical Control of Pharmaceuticals**

Aims to teach the importance of physicochemical properties and controls in pharmaceutical industry, provide general information about pharmacopeial methods and reference standards and introduce the students to the methods for controlling the quality of pharmaceuticals according to Pharmacopoeias.

**PHAR 478 Clinical Pharmacy**

Provides students an understanding of basic principles of clinical pharmacy services, pharmaceutical care, patient education, patient counseling and patient adherence.

**PHAR460 Industry Pharmacy Applications**

Introduction to industrial pharmacy practices, R&D units of drug industry, production site information, quality control systems and organizations, documentation units, basic functions of pharmacists in industrial drug business, application via simulations.

**PHAR452 Thesis Project - II**

Student is expected to continue collecting scientific literature and carry out the experiments (if applicable) information on the subject on the subject established in Thesis Project I.

**PHAR454 Intoxication Control**

Aims to teach the protection from poisons, management in poisonings, and systemic and local antidotes usage.

**PHAR456 Biological Products**

Aims to teach an adequate background in fundamentals of descriptive, theoretical introduction to biological pharmaceutical products and to provide essential knowledge about biopharmaceuticals and their usage as therapeutic agents.

**PHAR458 Instrumental Analytical Methods**

Aims to generate a general background about theory and give principles of instruments, to develop analytical thinking skills, and to teach the importance of instrumentals in pharmaceutical industry.

**PHAR 434 Pharmaceutical Care**

The concept and practice of patient care, patient care and health outcomes, historical milestones in the development of patient care, drug related needs of patients, provision of safe and effective drug therapies, patient-centered health care systems, improvement of the quality of drug companies, basic potential problems related to drug therapies, basic functions of pharmacies in patient care, evolving missions of pharmacy practices in the development of patient care.

**PHAR 438 Industrial Drug Synthesis**

Drug synthesis, industrial perspectives on drug synthesis, patent on drug synthesis, organic solvents, impurities and residual solvents, pilot production, method transfer, polymorphic form of drug substances, process development, analytical measurements.

**PHAR453 Thesis Project – III**

Student is expected to prepare a thesis report and present both orally and in written form.

**PHAR436 Hospital Pharmacy Practice Experience**

This lecture includes training in hospital pharmacy setting and he/she will be qualified for the exam which will be done by training commission.

**PHAR462 Pharmacy Practice**

This lecture includes training in community pharmacy setting and he/she will be qualified for the exam which will be done by training commission.

**PHAR463 Industrial Practice Experience**

This lecture includes training in pharmaceutical company setting and he/she will be qualified for the exam which will be done by training commission.

**PHAR464 Pharmacy Practice Clerkship**

This lecture includes continued training in community pharmacy setting and he/she will be qualified for the exam which will be done by training commission.

**PHAR466 Industrial Pharmaceutical Clerkship**

This lecture includes continued training in pharmaceutical company setting and he/she will be qualified for the exam which will be done by training commission.

**PHAR465 Hospital Pharmacy Clerkship**

This lecture includes continued training in hospital pharmacy setting and he/she will be qualified for the exam which will be done by training commission.

**6. Accreditations and Memberships**

**YÖDAK:** Higher Education Planning, Evaluation Accreditation and Coordination Council



**YÖK:** Council of Higher Education  
<https://www.yok.gov.tr/en>



**PCN:** Pharmacists Council of Nigeria  
<https://www.pcn.gov.ng>



**FIP:** International Pharmaceutical Federation  
<https://www.fip.org/about?language=en>



**IPSF:** International Pharmaceutical Students Federation  
<https://www.ipsf.org/>



**EPSA:** European pharmaceutical students' associations  
<https://www.epsa-online.org/>

**7. Important Policies****I. Policies for Course Registration**

Students must adhere to the exact registration renewal dates and deadlines as specified in the academic calendar announced by the Rector's Office which can be found at <https://www.emu.edu.tr/academiccalendar>.

Each student in the Department is assigned an Academic Advisor who assists the student with matters related to scheduling, course selection, registration, and related matters. The academic advisor who is assigned to the student is immediately reflected to the student portal.

Although the advisor plays a key role in the student's progress through University studies, it is ultimately the student's responsibility to meet all University requirements. According to EMU by-laws, students must obtain their advisors' approval for the following transactions:

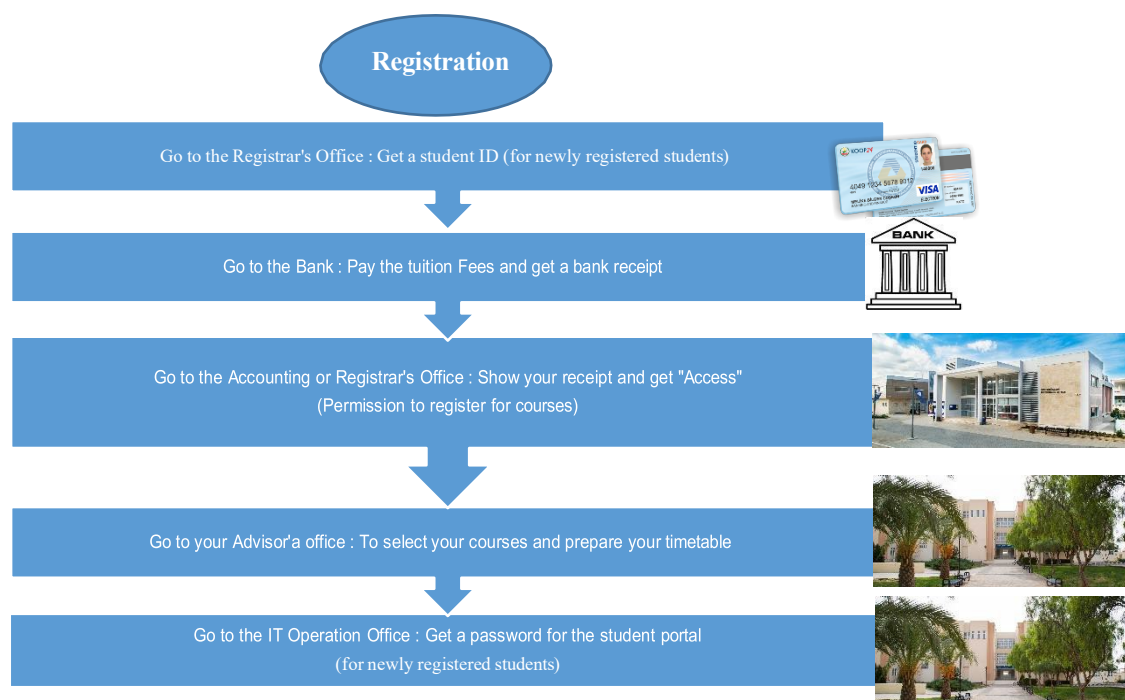
- Registration,
- Selection of core and elective courses,



- Adding courses to their schedules,
- Dropping courses from their schedules,
- Withdrawing from a course.

These operations are normally initiated by the student using the student portal account and the advisor is notified to confirm via an automatic email message.

Before the classes start each semester, certain days are designated for formal (course registrations accompanied by Advisor) registration, as indicated on the academic calendar. At this time, all newly registered students are advised and given class schedules.



### a) Course Selection

Priorities in course selection are as follows:

- (1) Courses with (F), (NG), (U) or (D-) grades.
- (2) Courses with (W) grades
- (3) Compulsory courses of previous semesters that have not been taken yet.
- (4) Compulsory courses of the current semester that have not been registered yet.
- (5) Courses from the following semesters

For every semester, the number of specified credit courses of a registered program makes up the semester course load. Non-credit courses are not taken into account in the computation of the course load. However, upon the recommendation of the student advisor and the approval of the Faculty:

- (1) a maximum of two courses can be reduced from the normal course load of a semester. In this case, the student must register for the untaken courses at the first semester the courses are being offered.
- (2) a student's semester course load can be increased by one course at most. In order to do this,

(A) the student must have a minimum 2.50 Cumulative Grade Point Average (CGPA), or

(B) the student must be a 'High Honour' or 'Honour' student as of the end of the previous academic semester. Students (excluding High Honour students) make additional payments based on the per-credit fees to be applied for the summer semester at the end of the respective academic year, in addition to the tuition fee the students are obligated to pay for each extra course they take during that semester.

### b) Adding or Dropping a Course During Course Registration Period

From the first day of the commencement of the classes until the deadline specified on the academic calendar, students are allowed to change their course schedule by adding a new course or dropping a registered course. These changes must be made upon the recommendation of the student's advisor and approval of the Faculty Dean.

### **c) Withdrawing From Courses After Registration**

In a semester, a student is allowed to withdraw from two registered courses at most, provided that the student does not get into part-time status. Course withdrawal should be done between the set dates specified on the academic calendar. Application for withdrawal is done via portal by the student and approved by the academic advisor and the Faculty Dean. A student who withdraws from a course will receive the grade 'W'. This grade is not taken into consideration during the calculation of the CGPA and the GPA, but appears on the transcript.

A student cannot withdraw from a course that was withdrawn before, a course that is repeated (a different course with the same reference code) or a course that has no credit.

### **d) Repeating Courses**

In some cases, a student may choose to or may be required to take courses that he or she has taken before. The following provisions are applied in repeating a course:

The following provisions are applied in repeating a course:

(1) A student who obtains a (D-), (F), (NG) or (U) grade from a course must register for the course at the next available opportunity.

(2) If the course to be repeated is an elective or has been excluded from the program, the student is required to take another appropriate course specified by the Department.

If a student wishes to improve his/her previously obtained grades, s/he can repeat a course in which s/he previously passed.

The grade obtained from the repeated course takes the place of the previous grade. However, the first grade still appears on the transcript.

### **e) Course Registration for Students on Probation or Academic Warnings**

#### **Registration of Students on Probation or Students with Unsatisfactory Academic Status**

Students who are on probation are obliged to repeat failed courses the first semester they become available before registering for the new ones. Students with such condition at Faculty of Pharmacy are allowed to register for three new courses at most and in all other programs they are allowed to register for three new courses at most, on the condition that they do not exceed normal course load. (Students who wish to register in summer school or who have the part-time status are allowed to register only for one new course). A student on academic probation is not allowed to register for a new course if the number of offered previously taken courses with (D-), (F) or (NG) grades fulfill his/her load. Previously registered courses with (W) grades are considered as new courses.

#### **Registration of Students with Unsatisfactory Academic Status**

In Faculty of Pharmacy, students with unsatisfactory academic status will not be allowed to register for a new course. During registration, these students must first register in the courses from which they received the grades: F, NG or D-. However, in the event of the courses from which (F), (NG) or (D-) grades were obtained not being offered, or the student's course load being under the specified limit, the student can repeat courses from which a (D), (D+) or (C-) grade was obtained until the normal course load is met. Courses with (W) grades are considered as new and cannot be registered.

### **f) Late Registration**

The first and the last day for registration is announced in the academic calendar. The students need to pay extra fee for late registration. Late registration fees are determined by the Rectors' office in accordance with the principles set concerning this issue. The allowance of the students to register after the late registration date is determined by both the approval of Deans<sup>2</sup> and Rectors' office.

### **g) Part time Registration**

Students who take less than 3/5 of the total credit hours per semester upon the recommendation of the student advisor and consent of the department head/school director are considered as part-time. Students in part-time status cannot withdraw from a course. In the 10<sup>th</sup> semester of M.Pharm program and 11<sup>th</sup> and 12<sup>th</sup> semester of PharmD. Program, the students cannot become part time due to the course loads in the relevant semesters.

## II. Policies for Scholastic Students

Performance of a student is based on a Grade Point Average (GPA) and Cumulative Grade Point Average (CGPA) calculation methods at the end of each semester. Credit received from a course is found by multiplying the credit hours by the coefficient corresponding to the grade received. The GPA is then found by dividing the sum of the credits received from all courses registered during the semester by the total credit hours of the same courses. CGPA is computed by dividing the total credits received from all courses the student has completed since joining the program by the sum of the credit hours of these courses. In cases when a course is repeated, the last grade is included in the GPA and CGPA computations.

A student is considered successful at the end of a semester, if the Grade Point Average (GPA) and Cumulative Grade Point Average (CGPA) are at least 2.00 out of 4.00.

Students registered to the normal course load of a program in a department and scores a GPA between 3.00 and 3.49 is designated an 'Honor', if the GPA is between 3.50 and 4.00 is designated a 'High Honor'.

Students enrolled in an undergraduate and/or 5-year program whose CGPA'S are specified below are considered as 'successful', 'on probation' or 'unsuccessful'.

End of Actual Term (EAT)	Successful Student	Students on Probation	Unsuccessful Student
1 <sup>st</sup> EAT			
2 <sup>nd</sup> EAT	CGPA $\geq$ 1.50	1.00 $\leq$ CGPA < 1.50	CGPA < 1.00
3 <sup>rd</sup> EAT	CGPA $\geq$ 1.50	1.00 $\leq$ CGPA < 1.50	CGPA < 1.00
4 <sup>th</sup> EAT	CGPA $\geq$ 1.50	1.00 $\leq$ CGPA < 1.50	***
5 <sup>th</sup> EAT	CGPA $\geq$ 1.80	1.50 $\leq$ CGPA < 1.80	CGPA < 1.50
6 <sup>th</sup> EAT	CGPA $\geq$ 1.80	1.50 $\leq$ CGPA < 1.80	CGPA < 1.50
7 <sup>th</sup> EAT	CGPA $\geq$ 1.80	1.50 $\leq$ CGPA < 1.80	CGPA < 1.50
8 <sup>th</sup> and more EAT	CGPA $\geq$ 2.00	1.80 $\leq$ CGPA < 2.00	CGPA < 1.80

\*End of Actual Term (EAT) refers to the Spring and Fall Semesters (except for the English Preparatory School semesters) a student takes courses within the department's published program of study.

## III. Policies for Academic Evaluation

### a) Examinations

For each course, a minimum of one midterm examination, a final examination, and any number of quizzes/tests are held. The detailed outlines of each course which include the types and the number of examinations, information on the grading system and the relative weights of the examinations are announced by the lecturer in the first session of the course and also posted at students' Moodle account (<https://lms23-24fall.emu.edu.tr/login/index.php>).

### b) Course Grades / Points

For each course, detailed outlines which also include information on the grading system and the relative weights of the examinations are posted at <https://lms23-24fall.emu.edu.tr/login/index.php>.

### c) Resit Examinations

Re-sit examinations are administered at the end of both the fall and spring semesters for students who have gained the right to take the final exam on dates specified on the Academic Calendar. Students who fall into the following categories may take the resit examinations:

- Students who have gained "D-" or "F" from courses taken during the relevant semester.
- Students who have received an academic warning or who are on unsatisfactory or probational status can re-sit for all courses taken during the relevant semester, except for the ones with an 'NG' grade;

#### **d) Make-up Examinations**

A student who fails to sit for an examination for a valid reason is given a make-up exam. Within three working days after the examination, students who wish to take a make-up must submit a written petition to the course instructor or the course coordinator explaining the reason(s) for his/her request.

Make-up exams for the mid-term exams may take place within the semester. Re-sit exams may also replace make-up exams.

#### **IV. Policies for Course/Laboratory Attendance**

Eastern Mediterranean University and the Faculty of Pharmacy believes that the benefits of academic studies come not only from independent study and the preparation of materials for formal grading, but also from participation in class and laboratory activities. Regular attendance of the Faculty students is therefore appreciated in all courses for which they are registered.

The minimum required rate of attendance to the courses/laboratories is announced to the students with the course outline in the first lecture that is also in the official Moodle account.

For flagrant violation of the spirit of class attendance, the student can be assigned an "NG" grade. A student who has been assigned an "NG" grade does not have the right to take the resit exam for the relevant course.

Students are obliged to fulfill the attendance criteria for both the theoretical and practical sessions of the courses that are announced to them via course outlines.

#### **V. Policies for Summer School**

Summer school is organized mainly to help students with low scholastic achievement. Nevertheless, courses offered during the summer sessions are open to all students and successful students who wish to graduate sooner can also take summer courses.

Maximum of 3 courses with the condition of not exceeding total of 12 credits can be taken during the Summer Semester.

Courses envisaged to be offered during the Summer Semester are announced by the Rector's Office at least four weeks prior to the commencement date of Summer Semester.

Reaching a minimum number of pre-registered students specified by the Rector's Office is required in order to open a course during the Summer Semester.

An extra amount of tuition fee is paid for Summer Semester courses apart from the Spring and Fall semesters tuition fees. The amount to be paid per course is announced by the Rector's Office at least four weeks prior to the commencement date of Summer Semester.

#### **VI. Policies for Internships**

M.Pharm students must complete 132 working day internship (either in community or hospital pharmacy) before graduation. The students can start their traineeship after they have passed Physiology-1 (MDCN245) course. The total period of traineeship can be practiced during the summer, winter breaks and entire 10th semester.

The total period of traineeship for Pharm. D students is 250 working days that should consist of minimum 132 days for community, and 10 each days for hospital and industrial internships. The traineeships can be practiced during the summer breaks, winter breaks and entire 11th - 12th semesters.

The regulations for traineeship can be accessed on the faculty website (<https://pharmacy.emu.edu.tr/en/current%20students/traineeship>). For detailed information, contact Senior Instructor Ertugrul Ozbil at office PHAR326 or via [ertugrul.ozbil@emu.edu.tr](mailto:ertugrul.ozbil@emu.edu.tr).

#### **VII. Policies for Thesis Projects**

The students should complete thesis projects under Thesis 1 (PHAR451) and Thesis 2 (PHAR452) courses for MPharm program; Thesis 1 (PHAR451), Thesis 2 (PHAR452) and Thesis 3 (PHAR453) courses for Pharm.D program. The detailed regulations for thesis projects can be accessed on the faculty website (<https://pharmacy.emu.edu.tr/en/current%20students/rules-and-regulations/graduation-thesis>)

#### **VIII. Policies for Tuition Fees**

Undergraduate and graduate studies in Eastern Mediterranean University are charged. Annual tuition fees are determined by the Board of Trustees before the announcement of the entrance exams and announced by the Rector's Office, accordingly.

Students of the associate degree/undergraduate programs are required to pay the semester fees obtained by dividing the annual tuition fees into two equal installments either in total at the beginning of the relevant academic semester or in installments specified in amount and payment date throughout the academic semester, if found suitable by the Board of Trustees.

For more information please visit <https://www.emu.edu.tr/fees>.

### **IX. Student Scholarships Provided by the University**

Eastern Mediterranean University provides All-inclusive Scholarships, Tuition Fee Waivers, High Honor Award, Sports Grant, Student Assistantship, Research Assistantship, Discounts, and TRNC Government Scholarship. Detailed information can be accessed on EMU Scholarship Regulations via <https://www.emu.edu.tr/en/prospective-students/undergraduate/undergraduate-scholarships/1167>.

## **8. Grievance Policy**

### **Informal Resolution Attempt:**

Students are encouraged to informally resolve academic-related grievances with their faculty advisor within the Faculty of Pharmacy.

### **Formal Grievance Filing:**

If an acceptable solution is not reached informally, the student must submit a written grievance to the Dean's office. The formal grievance should include details such as the issue's discovery, a description, evidence, and the desired resolution.

### **Dean's Office Evaluation:**

The Dean's office will assess documents and mediate the grievance. Additional information may be requested, and meetings may be arranged.

### **Appeal Process:**

If dissatisfied with the Dean's office decision, a formal written appeal can be filled to the Student Affairs Vice Rector's Office. A comprehensive record of the entire process will be kept on file until the student's graduation.

## **9. Student Code of Conduct**

It is the fundamental duty of every student to strictly adhere to the following:

Portray a high degree of self-discipline and good conduct at all times;

Respect others' opinions and cultures;

Attend classes punctually and explain and/or produce valid evidence for any absence/tardiness;

Behave responsibly in class and avoid disturbing tutors and fellow students;

Take responsibility for attending assessments at the required date, time and place;

Submit the exceptional/mitigating circumstances documents for consideration within the specified time period and as per the process;

Follow strictly assessments' rules and regulations;

### **Basic safety rules in Pharmacy Laboratories:**

Know where laboratory safety facilities, eyewash facilities, and firefighting equipment are;

Never take snacks inside a laboratory;

Do not taste or smell the chemicals;

Proper disposal of trash is essential;

Keep a clean working environment;

Hands should be washed frequently;

Put on a lab coat;

No smoking in the laboratory;

Long hair should never be left open and should be tied back;

Shoes should fully cover the foot. One should never wear sandals or open footwear during lab activities;

Always wear face shields or safety glasses when dealing with dangerous materials and chemicals;

Always wear protective gloves when working with any toxic agent;

When conducting laboratory experiments, always wear a lab coat;

Every chemical substance should be dealt with as though it were hazardous;

No solvent should come into touch with your skin;  
All chemical substances must be clearly labeled with the name of the material property;  
Never take chemicals or other items out of the lab;

#### **10. Code of Conduct of Pharmacist**

To serve humanity and to support the profession's ideals and commitments,  
To be guided in all dimensions of the life by the highest standards of human conduct,  
To apply the full measure of the knowledge and abilities to supporting the health and well-being of individuals,  
To always place the needs of all those serve above my personal interests and considerations,  
To treat all those serve equally, fairly and with respect, regardless of gender, race, ethnicity, religion, culture,  
To protect the confidentiality of personal and health information entrusted,  
To maintain the professional knowledge and competence throughout the career,  
To support the advancement of knowledge and standards of practice in pharmacy,  
To nurture the preparation of future members of the profession,  
To use all opportunities to develop collaborative practice with all healthcare professionals in the environment,  
Never to act in a manner that is contrary to these vows,

#### **11. Graduation**

A student is entitled to graduate if he/she:

- 1) Satisfactorily completes all required courses, laboratory studies, and training; and
- 2) Attains a sum of credit-hours amounting to at least the minimum required for graduation (.... Credit-hour for M.Pharm. and Pharm.D., respectively).
- 3) Has a cGPA of not less than 2.0

If at the time of his/her graduation a student has achieved a CGPA of 3.00 or greater, this will be indicated on his/her graduation Diploma and official transcript as follows: students with a CGPA in the range 3.00-3.49 "Honors"; students with a CGPA in the range 3.50-4.00 "High Honors."

#### **12. Facilities Provided by the University**

##### **a) Özay Oral Library**

Through its vast collection and the services it provides, the library aims to support teaching/instruction and research activities at our university, to meet students' and faculty members' needs for information in their academic programs and scientific research, and to contribute to improved access to information for the whole EMU community and the larger public.

Eastern Mediterranean University Özay Oral Library supports the education and research activities of the university with its materials and information services. The Library houses a collection of more than 160,000 print books, more than 30,000 owned e-books, also more than 280,000 e-books are accessible by database subscriptions, thousands of audio-visuals, more than 30,000 subscription based e-journals and around 50 print periodical subscriptions. The Library has membership in more than 50 Online Databases that allow access to; full-text Journals, Reports, Abstracts, E-Books, E-Theses Reviews, Indicators, Statistical Data, Working Papers, Standards as well as bibliographical information resources.

Check library working hours at <https://library.emu.edu.tr/en/about-us/library-hours>

##### **Contact Address:**

Özay Oral Library, Eastern Mediterranean University, Famagusta, 99628, North Cyprus, Mersin 10, Turkey. **Tel:** +90 392 630 1322 **Fax:** +90 392 365 1077

**E-mail:** [library@emu.edu.tr](mailto:library@emu.edu.tr) **Web:** <http://library.emu.edu.tr>

##### **b) Health Center**

To protect the physical and mental health of students, to contribute students in taking care of their mental and physical health as conscious individuals are among the aims of the Eastern Mediterranean University Health Center. Students can benefit from the Health Center by presenting a document proving their identity.



Ear-nose-throat, ophthalmology, gynecology, dermatology, dentistry, and internal medicine services are provided by the University health center (<https://www.emu.edu.tr/healthcenter>). The working hours of the Health Center are similar to that of the University.

Health reports can be given to students by Health Center doctors in case of necessity and those taken from anywhere else but Eastern Mediterranean University Health Center must be approved and registered by the Health Center for 3 days the latest inland and 10 days the latest overseas starting from the report completion date. When needed, Health Center responsible doctor refers the Eastern Mediterranean University students to the polyclinics under the Ministry of Health and Welfare for medical services that cannot be offered at Health Center. Students who pay insurance premiums can benefit from the consultation and examination (lab, x-rays) services in all polyclinics of hospitals under the Ministry of Health and Welfare free of charge. However, advanced imaging (MRI and CT), drugs and other apparatus required for treatment will be paid by students.

**Address:** Health Center, Eastern Mediterranean University, Famagusta, 99628, North Cyprus, Mersin 10, Turkey **Tel:** +90 392 630 2200 **Fax:** +90 392 630 2928

**E-mail:** [aysin.tancer@emu.edu.tr](mailto:aysin.tancer@emu.edu.tr) **Web:** <http://www.emu.edu.tr/saglikmerkezi/>

### **c) Psychological Counseling, Guidance & Research Center (PDRAM)**

EMU Psychological Counseling Guidance and Research Center (EMU-PDRAM) is the pioneer institution in North Cyprus that offers psychological services at the university level. The Center was founded in 1997 to provide psychological services to Eastern Mediterranean University (EMU) students, later extending its psychological services to EMU staff and their families.

The Center's mission is to provide services that improve performance, cognition and behavior for EMU students.

EMU-PDRAM is located on the ground floor of Health Center. Currently, the team working at EMU-PDRAM consists of six psychologists, a psychiatrist and a social worker. All EMU students can apply for counseling or related psychological services during the academic year.

Psychological services provided by EMU-PDRAM include individual counseling, group counseling, research activities, in-service training programs, and programs targeting to meet the needs of specific groups within the local community.

Psychological services provided by EMU-PDRAM are free of charge.

EMU-PDRAM psychologists adhere to fundamental ethical principles that guide the discipline of psychology. These ethical principles include respect for people's rights and dignity, confidentiality, self-referral, and responsibility. Please visit EMU-PDRAM's website <http://pdram.emu.edu.tr> for further information about services provided by the center and to reach EMU-PDRAM publications.

EMU-PDRAM psychologists are ready to listen, support, and help you with respect, without prejudice in the process of overcoming your problems.

**Contact Address:** Psychological Counseling, Guidance & Research Center (PDRAM), Eastern Mediterranean University, Famagusta, 99628, North Cyprus, Mersin 10, Turkey

**Tel:** +90 392 630 2251 **Fax:** +90 392 630 2254 / 2475

**E-mail:** [counsel.pdram@emu.edu.tr](mailto:counsel.pdram@emu.edu.tr) **Web:** <https://pdram.emu.edu.tr>

### **d) Transportation and Bus Service Facilities**

As a campus- city university, Eastern Mediterranean University is fully dedicated to providing efficient and dynamic transportation services to its students 60% of whom reside in different parts of the city. The university transportation services, both on and off the campus, are offered free of charge for our students. Our developed and highly dynamic fleet provides transportation services to various city zones through 7 distinct routes.

Students can benefit from non-stop on-campus ring services scheduled in line with the class hours. For bus service routes and timetable please visit <http://transportation.emu.edu.tr/en/bus-services>

**Contact Address:** Eastern Mediterranean University, Transportation Services Unit, LMP Sports Complex, Ground Floor, Famagusta, North Cyprus, Mersin 10, Turkey. **Tel:** +90 392 630 1336 / 1532 **Web:** <http://transportation.emu.edu.tr>

### e) Social and Cultural Activities

Social and Cultural Activities Unit organizes various social activities for the students at EMU. As well as providing opportunities for our students to spend their extra-curricular time effectively, the Social and Cultural Activities Unit has a mission of turning our students into active, creative, social and self-confident individuals. In this respect, concerts, conferences, trips, camps, various sports tournaments, exhibitions and festivals are organized for the students.

#### Some of the activities are:

Spring Festivals, Orientation Days, Sand Sculpture Festival, EMU with Folk Songs, Rock Festival Panel/Discussions with Artists, Cup of Nation Tournaments.

**Contact Address:** Social and Cultural Activities Directorate, Eastern Mediterranean University, Famagusta, 99628, North Cyprus, Mersin 10, Turkey **Tel:** +90 392 630 2719 / 3074

**Fax:** +90 392 630 1249 **E-mail:** [activity@emu.edu.tr](mailto:activity@emu.edu.tr) **Web:** <http://activity.emu.edu.tr>

### f) Lala Mustafa Paşa (LMP) Sports Complex

EMU Sports Affairs Directorate delivers sports-related services to students. Lala Mustafa Paşa (LMP) Sports Complex provides high quality sports services 6 days a week with the latest equipment located in the studios within the complex.

#### Outdoor Sports Areas

To benefit from our astroturf pitches, the students can make a reservation from the LMP Information Office. Outdoor basketball courts are free of charge, and tennis courts can be rented for a fee from LMP Information Center or Tennis Courts and are open day and night.

#### Indoor Sports Areas

With a capacity of 3500 seats, the LMP Sports Complex boasts 3 SQUASH halls, a JUI-JITSU studio, tartan track and a football pitch, all providing sports services at international standards.

With a mission of spreading the sports activities nationwide, the directorate takes part in national leagues in the fields of volleyball, basketball, athletics, tennis, handball, billiards, chess, wrestling, cycling, table tennis, triathlon and football tennis.

Students representing the university in the leagues are awarded scholarships by the university. The cricket, bowling, darts, swimming, futsal and football teams successfully represent the University in the inter-university tournaments and leagues.

Students wishing to receive further information on taking up sports professionally are always welcome to contact us at our directorate.

**Contact Address:** Sports Affairs Directorate, Eastern Mediterranean University, Famagusta, 99628, North Cyprus, Mersin 10, Turkey. **Tel:** +90 392 630 2302 **Fax:** +90 392 630 2319

**E-mail:** [spor@emu.edu.tr](mailto:spor@emu.edu.tr) **Web:** <https://spor.emu.edu.tr/tr>

### g) Rauf Raif Denktaş Culture and Congress Center

Rauf Raif Denktaş Culture and Congress Center is located in the north part of the university campus, 500 meters away from the beach and next to EMU Beach Club in Famagusta. The building houses convention and conference rooms, exhibition halls, museums and art workshops. With a closed area of 5,700 square meters and a capacity seating up to 846 people, the building is the biggest culture and congress center throughout the region. The building also houses 8 conference and meeting rooms.

Theatre and Show Halls, Meeting and Conference Halls, Exhibition Halls, The Foyer and Lobby Services: <https://www.emu.edu.tr/en/campus/facilities/rauf-raif-denktas-culture-and-congress-center/services/1349>

**Contact Address:** Rauf Raif Denktaş Culture and Congress Center, Eastern Mediterranean University, Famagusta, 99628, North Cyprus, Mersin 10, Turkey.

**Tel:** +90 392 630 3809 **E-mail:** [ibrahim.genc@emu.edu.tr](mailto:ibrahim.genc@emu.edu.tr)

**Web:** <https://www.emu.edu.tr/en/campus/facilities/rauf-raif-denktas-culture-and-congress-center/services/1349>



#### **h) Eastern Mediterranean University Beach Club**

Eastern Mediterranean University is fortunate indeed to have its own private Beach Club situated on the shores of one of the finest beaches in the Mediterranean. Situated within walking distance of the EMU campus, the Beach Club provides students with the opportunities to engage in all types of beach and water sports.



The Beach Club is used throughout the year for beach and pool parties and as a place of relaxation for both staff and students. A full restaurant service is available, and with a large swimming pool and family facilities, students are able to take full advantage of the Mediterranean climate in an exclusive high-class setting.

**Activities include:**

- Annual Sculpture Festival, Turtle Protection and Marine Environment Centre, Windsurfing, Sailing, Canoeing, Diving, Beach volleyball and football

**Location and Contact**

**Tel:** +90 392 630 1111

**E-mail:** [info@emu.edu.tr](mailto:info@emu.edu.tr)

**Web:** <https://www.emu.edu.tr/en/campus/facilities/beach-club/1256>