



ANKARA UNIVERSITY
FACULTY of PHARMACY



1ST CLASS / 1ST SEMESTER*

MAJOR EDUCATION PROGRAM *COMPULSORY* COURSES

Sequence Number	COURSE CODE	COURSE NAME (COURSE NAME in TURKISH)	Does the course have prerequisite?***	Does the course have an equivalent in previous education program?***	Activity Period (hr)			Credit	ECTS
					Theoretical	Practice and Laboratory	Total Hours		
1	HIS101	ATATURK'S PRINCIPLES AND THE HISTORY OF HIS REFORMS (ATATÜRK İLKELERİ VE İNKILAP TARİHİ)	-	-	2	-	2	2	1
2	ENG101	DEVELOPMENT OF READING AND WRITING SKILLS ENGLISH -I (İNGİLİZCE OKUMA VE YAZMA BECERİLERİNİN GELİŞTİRİLMESİ-I)			4	-	4	4	1
3	TUR101	TURKISH LANGUAGE I (TÜRK DİLİ I)	-	-	2	-	2	2	1
4	PHY121	PHYSICS (FİZİK)	-	-	2	-	2	2	4
5	MTH101	CALCULUS (MATEMATİK)	-	-	2	-	2	2	5
6	PHA155	PLANT BIOLOGY (BİTKİ BİYOLOJİSİ)	-	-	2	-	2	2	5
7	PHA157	GENERAL CHEMISTRY I (GENEL KİMYA I)	-	-	3	-	3	3	6
8	PHA159	GUIDANCE TO PHARMACY (ECZACILIĞA YÖNELME)	-	-	2	-	2	2	5
9	ICT101	DATA AND COMMUNICATION TECHNOLOGIES I (BİLGİ VE İLETİŞİM TEKNOLOJİLERİ I)	-	-	2	-	2	2	2
10	OUL 101	ORIENTATION TO UNIVERSITY LIFE (ÜNİVERSİTE YAŞAMINA UYUM PROGRAMI)	-	-	0	0	0	0	0
Total					21	-	21	21	30

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ANKARA UNIVERSITY

FACULTY of PHARMACY



1st CLASS / 2nd SEMESTER*

MAJOR EDUCATION PROGRAM *COMPULSORY* COURSES

Sequence Number	COURSE CODE	COURSE NAME (COURSE NAME in TURKISH)	Does the course have prerequisite? Does the course have an equivalent in previous education program?***		Activity Period (hr)			Credit	ECTS		
					Theoretical	Practice and Laboratory	Total Hours				
1	HIS102	ATATURK'S PRINCIPLES AND THE HISTORY OF HIS REFORMS (ATATÜRK İLKELERİ VE İNKILAP TARİHİ)	-	-	2	-	2	2	1		
2	ENG102	DEVELOPMENT OF READING AND WRITING SKILLS ENGLISH -II (İNGİLİZCE OKUMA VE YAZMA BECERİLERİNİN GELİŞTİRİLMESİ-II)			4	-	4	4	1		
3	TUR102	TURKISH LANGUAGE II (TÜRK DİLİ II)	-	-	2	-	2	2	1		
4	PHA150	MEDICAL BIOLOGY (TIBBİ BİYOLOJİ)	-	-	2	-	2	2	4		
5	PHA152	PHARMACEUTICAL BOTANY (FARMASÖTİK BOTANİK)	-	-	3	-	3	3	4		
6	PHA154	PRACTICE IN PHARMACEUTICAL BOTANY (FARMASÖTİK BOTANİK UYGULAMA)	-	-	-	4	4	2	4		
7	PHA156	GENERAL CHEMISTRY II (GENEL KİMYA II)	-	-	2	-	2	2	4		
8	PHA158	BIOSTATISTICS (BİYOSTATİSTİK)	-	-	2	-	2	2	3		
9	PHA160	ANATOMY (ANATOMİ)	-	-	2	-	2	2	4		
10	PHA162	PUBLIC HEALTH (HALK SAĞLIĞI)	-	-	1	-	1	1	2		
11		GENERAL SOCIAL ELECTIVE COURSE * SHOULD CHOOSE IN ONLY SPRING MIDTERM AS 2 HOURS	-	-		2	2	0	2		
Total							20	6	26	22	30

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ANKARA UNIVERSITY
FACULTY of PHARMACY



2nd CLASS / 1st SEMESTER*

MAJOR EDUCATION PROGRAM **COMPULSORY** Courses

Sequence Number	COURSE CODE	COURSE NAME (COURSE NAME in TURKISH)	Does the course have prerequisite?****	Does the course have an equivalent in previous education program?*****	Activity Period (hr)			Credit	ECTS
					Theoretical	Practice and Laboratory	Total Hours		
1	ENG 201	ADVANCED READING AND COMMUNICATION TECHNIQUES IN ENGLISH III (İNGİLİZCE İLERİ OKUMA VE İLETİŞİM TEKNİKLERİ III)			4	-	4	4	1
2	PHA281	ANALYTICAL CHEMISTRY I (ANALİTİK KİMYA I)	-	-	3	-	3	3	4
3	PHA283	ANALYTICAL CHEMISTRY I PRACTICE (ANALİTİK KİMYA UYGULAMA I)	-	-	-	4	4	2	4
4	PHA285	ORGANIC CHEMISTRY I (ORGANİK KİMYA I)	-	-	2	-	2	2	4
5	PHA287	PHARMACEUTICAL MICROBIOLOGY AND IMMUNOLOGY (FARMASÖTİK MİKROBİYOLOJİ VE İMMÜNOLOJİ)	-	-	3	-	3	3	4
6	PHA289	BIOCHEMISTRY I (BİYOKİMYA I)	-	-	2	-	2	2	3
7	PHA291	PHYSIOLOGY (FİZYOLOJİ)	-	-	3	-	3	3	4
8	PHA295	PHARMACY HISTORY AND DEONTOLOGY (ECZACILIK TARİHİ VE DEONTOLOJİ)	-	-	1	-	1	1	2
9	ICT201	DATA AND COMMUNICATION TECHNOLOGIES (II BİLGİ VE İLETİŞİM TEKNOLOJİLERİ II)	-	-	2	-	2	2	2
10	PHA205-213	**1ST GROUP ELECTIVE COURSES (I. GRUP SEÇMELİ DERS)	-	-	2		2	2	2
Total					22	4	26	24	30

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ANKARA UNIVERSITY
FACULTY of PHARMACY



2nd CLASS / 1st SEMESTER*

MAJOR EDUCATION PROGRAM *ELECTIVE* COURSES

NAME OF THE COURSE GROUP AS PROGRAM'S ELECTIVES**	Minimum value that must be completed for this group in this semester			
	Credit	Number of Courses	Course period (hr)**	ECTS***
ELECTIVE COURSES in SOCIAL SCIENCES	X	X	X	2
Put an "X" in related area for the feature that will be used in the control of this group of elective courses				

List of elective courses in this group

Sequence Number	COURSE CODE	COURSE NAME (COURSE NAME in TURKISH)	Activity Period (hr)			Credit	ECTS
			Theoretical	Practice and Laboratory	Total Hours		
1	PHA205	BEHAVIOURAL SCIENCES (DAVRANIŞ BİLİMLERİ)	2	-	2	2	2
2	PHA207	PRINCIPLES OF LAW (HUKUKUN TEMEL İLKELERİ)	2	-	2	2	2
3	PHA209	PUBLIC RELATIONS (HALKLA İLİŞKİLER)	2	-	2	2	2
4	PHA211	ART AND EDUCATION (SANAT VE EĞİTİM)	2	-	2	2	2
5	PHA213	ITALIAN (İTALYANCA)	2	-	2	2	2

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ANKARA UNIVERSITY
FACULTY of PHARMACY



2nd CLASS / 2nd SEMESTER*

MAJOR EDUCATION PROGRAM *COMPULSORY* Courses

Sequence Number	COURSE CODE	COURSE NAME (COURSE NAME in TURKISH)	Does the course have prerequisite?***	Does the course have an equivalent in previous education program?****	Activity Period (hr)			Credit	ECTS
					Theoretical	Practice and Laboratory	Total Hours		
1	ENG202	ADVANCED READING AND COMMUNICATION TECHNIQUES IN ENGLISH IV (İNGİLİZCE İLERİ OKUMA VE İLETİŞİM TEKNİKLERİ IV)			4	-	4	4	1
2	PHA280	ANALYTICAL CHEMISTRY II (ANALİTİK KİMYA II)	-	-	3	-	3	3	4
3	PHA282	ANALYTICAL CHEMISTRY II PRACTICE (ANALİTİK KİMYA UYGULAMA II)	-	-	-	4	4	2	3
4	PHA284	ORGANIC CHEMISTRY II (ORGANİK KİMYA II)	-	-	3	-	3	3	4
5	PHA286	PHARMACEUTICAL MICROBIOLOGY (FARMASÖTİK MİKROBİYOLOJİ)	-	-	2	-	2	2	3
6	PHA288	PHARMACEUTICAL MICROBIOLOGY PRACTICAL (FARMASÖTİK MİKROBİYOLOJİ UYGULAMA)	-	-	-	4	4	2	3
7	PHA290	BIOCHEMISTRY II (BİYOKİMYA II)	-	-	3	-	3	3	4
8	PHA292	BIOCHEMICAL PRACTICE (BİYOKİMYA UYGULAMA)	-	-	-	4	4	2	3
9	PHA206-214	** 1ST GROUP ELECTIVE COURSES (I. GRUP SEÇMELİ DERS)	-	-	2	-	2	2	2
10	PHA200	TRAINEESHIP I (STAJ I)	-	-	-	-	-	-	3
Total					17	12	29	23	30

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ANKARA UNIVERSITY
FACULTY of PHARMACY



2nd CLASS / 2nd SEMESTER*

MAJOR EDUCATION PROGRAM *ELECTIVE* COURSES

NAME OF THE COURSE GROUP AS PROGRAM'S ELECTIVES**	Minimum value that must be completed for this group in this semester			
	Credit	Number of Courses	Course period (hr)***	ECTS***
ELECTIVE COURSES in SOCIAL SCIENCES	X	X	X	2
Put an "X" in related area for the feature that will be used in the control of this group of elective courses				

List of elective courses in this group

Sequence Number	COURSE CODE	COURSE NAME (COURSE NAME in TURKISH)	Activity Period (hr)			Credit	ECTS
			Theoretical	Practice and Laboratory	Total Hours		
1	PHA206	ADULT PSYCHOLOGY (YETİŞKİN PSİKOLOJİSİ)	2	-	2	2	2
2	PHA208	INTRODUCTION TO SOCIOLOGY (SOSYOLOJİYE GİRİŞ)	2	-	2	2	2
3	PHA210	GENERAL ACCOUNTING (GENEL MUHASEBE)	2	-	2	2	2
4	PHA212	SPANISH (İSPANYOLCA)	2	-	2	2	2
5	ECZ214	LABORATORY SAFETY (LABORATUVAR GÜVENLİĞİ)	2	-	2	2	2
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ANKARA UNIVERSITY
FACULTY of PHARMACY



3th CLASS / 1st SEMESTER*

MAJOR EDUCATION PROGRAM **COMPULSORY** Courses

Sequence Number	COURSE CODE	COURSE NAME (COURSE NAME in TURKISH)	Does the course have prerequisite?***	Does the course have an equivalent in previous education program?***	Activity Period (hr)			Credit	ECTS
					Theoretical	Practice and Laboratory	Total Hours		
1	PHA381	PHARMACOGNOSY I (FARMAKOGNOZİ I)	-	-	2	-	2	2	3
2	PHA383	PHARMACOGNOSY I PRACTICE (FARMAKOGNOZİ UYGULAMA I)	-	-	-	4	4	2	2
3	PHA385	PHARMACEUTICAL CHEMISTRY I (FARMASÖTİK KİMYA I)	-	-	4	-	4	4	5
4	PHA387	PHARMACEUTICAL CHEMISTRY PRACTICE I (FARMASÖTİK KİMYA UYGULAMA I)	-	-	-	4	4	2	2
5	PHA389	PHARMACEUTICAL TECHNOLOGY I (FARMASÖTİK TEKNOLOJİ I)	-	-	3	-	3	3	4
6	PHA391	PHARMACEUTICAL TECHNOLOGY PRACTICE I (FARMASÖTİK TEKNOLOJİ UYGULAMA I)	-	-	-	4	4	2	3
7	PHA393	PHARMACOLOGY I (FARMAKOLOJİ I)	-	-	4	-	4	4	5
8	PHA395	CLINICAL BIOCHEMISTRY (KLİNİK BİYOKİMYA)	-	-	1	-	1	1	2
9	PHA705-723	*** 2ND GROUP ELECTİVE COURSES (II. GRUP SEÇMELİ DERS)	-	-	2	-	2	2	4
Total					16	12	28	22	30

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ANKARA UNIVERSITY

FACULTY of PHARMACY



3th CLASS / 1st SEMESTER

MAJOR EDUCATION PROGRAM *ELECTIVE* COURSES

NAME OF THE COURSE GROUP AS PROGRAM's ELECTIVES**	Minimum value that must be completed for this group in this semester			
	Credit	Number of Courses	Course period (hr)**	ECTS** *
ELECTIVE COURSES in PHARMACY	X	X	X	4
Put an "X" in related area for the feature that will be used in the control of this group of elective courses				

List of elective courses in this group

Sequence Number	COURSE CODE	COURSE NAME (COURSE NAME in TURKISH)	Activity Period (hr)			Credit	ECTS
			Theoretical	Practice and Laboratory	Total Hours		
1	PHA705	HERBAL TEAS (BİTKİSEL ÇAYLAR)	1	-	1	1	2
2	PHA717	CHEMICAL ANALYSIS AND EVALUATION ON BIOAVAILABILITY (BİYOYARARLANIMDA KİMYASAL ANALİZ VE DEĞERLENDİRME)	1	-	1	1	2
3	PHA737	POISONOUS PLANTS OF TURKEY (TÜRKİYE'NİN ZEHİRLİ BİTKİLERİ)	1	-	1	1	2
4	PHA721	STABILITY ANALYSIS AND EVALUATIONS IN DRUG FORMULATIONS (İLAÇ FORMÜLASYONLARINDA STABİLİTE İNCELEMELERİ VE DEĞERLENDİRMELERİ)	1	-	1	1	2
5	PHA723	PHARMACEUTICAL DOSAGE METHODS USED IN VETERINARY TREATMENT (VETERİNER TEDAVİDE KULLANILAN FARMASÖTİK DOZAJ ŞEKİLLERİ)	1	-	1	1	2

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ANKARA UNIVERSITY
FACULTY of PHARMACY



3th CLASS / 2nd SEMESTER*

MAJOR EDUCATION PROGRAM **COMPULSORY** Courses

Sequence Number	COURSE CODE	COURSE NAME (COURSE NAME in TURKISH)	Does the course have prerequisite?***	Does the course have an equivalent in previous education program?***	Activity Period (hr)			Credit	ECTS		
					Theoretical	Practice and Laboratory	Total Hours				
1	PHA382	PHARMACOGNOSY II (FARMAKOGNOZİ II)	-	-	2	-	2	2	2		
2	PHA384	PHARMACOGNOSY PRACTICE II (FARMAKOGNOZİ UYGULAMA II)	-	-	-	4	4	2	3		
3	PHA386	PHARMACEUTICAL CHEMISTRY II (FARMASÖTİK KİMYA II)	-	-	3	-	3	3	3		
4	PHA388	PHARMACEUTICAL CHEMISTRY PRACTICE II (FARMASÖTİK KİMYA UYGULAMA II)	-	-	-	4	4	2	3		
5	PHA390	PHARMACEUTICAL TECHNOLOGY II (FARMASÖTİK TEKNOLOJİ II)	-	-	3	-	3	3	3		
6	PHA392	PHARMACEUTICAL TECHNOLOGY PRACTICE II (FARMASÖTİK TEKNOLOJİ UYGULAMA II)	-	-	-	4	4	2	3		
7	PHA394	PHARMACOLOGY II (FARMAKOLOJİ II)	-	-	3	-	3	3	3		
8	PHA396	PHYSIOPATHOLOGY (FİZYOPATOLOJİ)	-	-	2	-	2	2	2		
9	PHA702-736	*** 2nd Group Elective Courses (II. Grup Seçmeli Ders)	-	-	2	-	2	2	4		
10	PHA300	TRAINEESHIP II (STAJ II)	-	-	-	-	-	0	4		
Total							15	12	27	21	30

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ANKARA UNIVERSITY

FACULTY of PHARMACY



3th CLASS / 2nd SEMESTER*

MAJOR EDUCATION PROGRAM *ELECTIVE* COURSES

NAME OF THE COURSE GROUP AS PROGRAM'S ELECTIVES**	Minimum value that must be completed for this group in this semester			
	Credit	Number of Courses	Course period (hr)**	ECTS***
ELECTIVE COURSES in PHARMACY	X	X	X	4
Put an "X" in related area for the feature that will be used in the control of this group of elective courses				

List of elective courses in this group

Sequence Number	COURSE CODE	COURSE NAME (COURSE NAME in TURKISH)	Activity Period (hr)			Credit	ECTS
			Theoretical	Practice and Laboratory	Total Hours		
1	PHA702	COMPUTER USAGE AND CALCULATION IN ANALYTICAL CHEMISTRY (ANALİTİK KİMYADA HESAPLAMALAR VE BİLGİSAYAR KULLANIMI)	1	-	1	1	2
2	PHA708	AROMATHERAPY (AROMATERAPİ)	1	-	1	1	2
3	PHA728	FORMULATION DESIGN AND QUALITY CONTROL PROCESS OF HERBAL MEDICINAL DRUGS (BİTKİSEL KÖKENLİ İLAÇ HAMMADDELERİNİN FORMÜLASYON TASARIMLARI VE KALİTE KONTROL İŞLEMLERİ)	1	-	1	1	2
4	PHA734	BASIC PHARMACEUTICAL PROCESSES IN DESIGN of DOSAGE FORMS AND THEIR IMPORTANCE (DOZAJ FORMLARININ TASARIMINDA TEMEL FARMASÖTİK İŞLEMLER VE ÖNEMİ)	2	-	2	2	4
5	PHA736	VITAMIN AND MINERALS AND RICHED NATURAL PRODUCTS (VİTAMİN VE MİNERAL YÖNÜNDEN ZENGİN DOĞAL ÜRÜNLER)	1	-	1	1	2

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ANKARA UNIVERSITY
FACULTY of PHARMACY



4th CLASS / 1st SEMESTER*

MAJOR EDUCATION PROGRAM *COMPULSORY* Courses

Sequence Number	COURSE CODE	COURSE NAME (COURSE NAME in TURKISH)	Does the course have prerequisite?***	Does the course have an equivalent in previous education program?***	Activity Period (hr)			Credit	ECTS
					Theoretical	Practice and Laboratory	Total Hours		
1	PHA481	PHARMACOGNOSY III (FARMAKOGNOZİ III)	-	-	2	-	2	2	3
2	PHA483	PHARMACOGNOSY III PRACTICE (FARMAKOGNOZİ UYGULAMA III)	-	-	-	4	4	2	3
3	PHA485	PHARMACEUTICAL CHEMISTRY III (FARMASÖTİK KİMYA III)	-	-	2	-	2	2	2
4	PHA487	PHARMACEUTICAL CHEMISTRY PRACTICE III (FARMASÖTİK KİMYA UYGULAMA III)	-	-	-	4	4	2	3
5	PHA489	PHARMACEUTICAL TECHNOLOGY III (FARMASÖTİK TEKNOLOJİ III)	-	-	3	-	3	3	3
6	PHA491	PHARMACEUTICAL TECHNOLOGY PRACTICE III (FARMASÖTİK TEKNOLOJİ UYGULAMA III)	-	-	-	4	4	2	2
7	PHA493	PHARMACEUTICAL TOXICOLOGY I (FARMASÖTİK TOKSİKOLOJİ I)	-	-	2	-	2	2	3
8	PHA495	PHARMACEUTICAL TOXICOLOGY PRACTICE I (FARMASÖTİK TOKSİKOLOJİ UYGULAMA I)	-	-	-	2	2	1	1
9	PHA497	PHARMACEUTICAL LEGISLATION AND MANAGEMENT (ECZACILIK MEVZUATI VE İŞLETME)	-	-	2	-	2	2	3
10	PHA499	PHARMACOLOGY III (FARMAKOLOJİ III)	-	-	2	-	2	2	3
11	PHA701-719	***2ND GROUP ELECTİVE COURSES (II. GRUP SEÇMELİ DERS)	-	-	2	-	2	2	4
Total					15	14	29	22	30

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ANKARA UNIVERSITY

FACULTY of PHARMACY



4th CLASS / 1st SEMESTER*

MAJOR EDUCATION PROGRAM *ELECTIVE* COURSES

NAME OF THE COURSE GROUP AS PROGRAM'S ELECTIVES**	Minimum value that must be completed for this group in this semester			
	Credit	Number of Courses	Course period (hr)**	ECTS***
ELECTIVE COURSES in PHARMACY	X	X	X	4
Put an "X" in related area for the feature that will be used in the control of this group of elective courses				

List of elective courses in this group

Sequence Number	COURSE CODE	COURSE NAME (COURSE NAME in TURKISH)	Activity Period (hr)			Credit	ECTS
			Theoretical	Practice and Laboratory	Total Hours		
1	PHA701	INSTRUMENTAL ANALYSIS (ALETLİ ANALİZ)	2	-	2	2	4
2	PHA703	PLANT NARCOTICS AND PSYCHOTROPS (BİTKİSEL NARKOTİKLER VE PSİKOTROPLAR)	1	-	1	1	2
3	PHA707	BIOLOGICAL EFFECTS OF NATURAL PRODUCTS (DOĞAL ÜRÜNLERİN BİYOLOJİK ETKİLERİ)	2	-	2	2	4
4	PHA711	PHYTocosMETICS (FİTOKOZMETİKLER)	1	-	1	1	2
5	PHA715	GENOMICS AND CHEMOINFORMATICS IN MEDICINAL CHEMISTRY (MEDİSİNAL KİMYADA GENOMİKS VE KEMOENFORMATİK)	1	-	1	1	2
6	PHA719	NEW DRUG CARRYING SYSTEMS AND TARGETING DRUGS (YENİ İLAÇ TAŞIYICI SİSTEMLER VE İLAÇLARIN HEDEFLENDİRİLMESİ)	2	-	2	2	4

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ANKARA UNIVERSITY

FACULTY of PHARMACY



4th CLASS / 2nd SEMESTER*

MAJOR EDUCATION PROGRAM *COMPULSORY* Courses

Sequence Number	COURSE CODE	COURSE NAME (COURSE NAME in TURKISH)	Does the course have prerequisite?***	Does the course have an equivalent in previous education program?***	Activity Period (hr)			Credit	ECTS
					Theoretical	Practice and Laboratory	Total Hours		
1	PHA482	PHARMACEUTICAL CHEMISTRY IV (FARMASÖTİK KİMYA IV)	--	--	2	-	2	2	2
2	PHA484	PHARMACEUTICAL CHEMISTRY PRACTICE IV (FARMASÖTİK KİMYA UYGULAMA IV)	-	-	-	4	4	2	3
3	PHA486	PHARMACEUTICAL TECHNOLOGY IV (FARMASÖTİK TEKNOLOJİ IV)	--	-	4	-	4	4	3
4	PHA488	PHARMACEUTICAL TECHNOLOGY PRACTICE IV (FARMASÖTİK TEKNOLOJİ UYGULAMA IV)	-	-	-	4	4	2	3
5	PHA490	PHARMACEUTICAL TOXICOLOGY II (FARMASÖTİK TOKSİKOLOJİ II)	-	-	2	-	2	2	3
6	PHA492	PHARMACEUTICAL TOXICOLOGY PRACTICE II (FARMASÖTİK TOKSİKOLOJİ UYGULAMA II)	-	-	-	4	4	2	3
7	PHA494	PHARMACOTHERAPEUTICS (FARMAKOTERAPİ)	-	-	2	-	2	2	2
8	PHA496	PHARMACEUTICAL CARE (FARMASÖTİK BAKIM)	-	-	2	-	2	2	2
9	PHA498	FAMILY PLANNING (AİLE PLANLAMASI)	-	-	1	-	1	1	1
10	PHA500	MEDICAL FIRST AID (TIBBİ İLK YARDIM)	-	-	1	-	1	1	1
11	PHA704-742	***2ND GROUP ELECTİVE COURSES (II. GRUP SEÇMELİ DERS)	-	-	2	-	2	2	4
12	PHA400	TRAINEESHIP III (Staj III)	-	-	-	-	-	0	3
Total					16	12	28	22	30

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ANKARA UNIVERSITY

FACULTY of PHARMACY



4th CLASS / 2nd SEMESTER*

MAJOR EDUCATION PROGRAM *ELECTIVE* COURSES

NAME OF THE COURSE GROUP AS PROGRAM'S ELECTIVES**	Minimum value that must be completed for this group in this semester			
	Credit	Number of Courses	Course period (hr)***	ECTS***
ELECTIVE COURSES in PHARMACY	X	X	X	4
Put an "X" in related area for the feature that will be used in the control of this group of elective courses				

List of elective courses in this group

Sequence Number	COURSE CODE	COURSE NAME (COURSE NAME in TURKISH)	Activity Period (hr)			Credit	ECTS
			Theoretical	Practice and Laboratory	TOTAL HOURS		
1	PHA704	HERBAL DRUG RAW MATERIALS (BİTKİSEL İLAÇ HAMMADDELERİ)	1	-	1	1	2
2	PHA706	NATURAL PRODUCTS FROM MARINE SOURCES (DENİZ KAYNAKLI DOĞAL ÜRÜNLER)	1	-	1	1	2
3	PHA712	MORPHOLOGICAL AND ANATOMICAL CHARACTERISTICS OF HERBAL DRUGS (DROGLARIN MORFOLOJİK VE ANATOMİK YAPISI)	1	-	1	1	2
4	PHA738	ANTISEPTIC, DESINFECTANT AND THE DRUGS USED FOR THE VARIABLE INFECTIONS (ANTİSEPTİKLER, DEZENFEKTANLAR ve FARKLI ENFEKSİYONLARDA KULLANILAN İLAÇLAR)	2	-	2	2	4
5	PHA746	DRUG DESIGN AND THE METHODS (İLAÇ ETKEN MADDESİ TASARIMI VE YÖNTEMLERİ)	1	-	1	1	2
6	PHA716	ISOMERS IN DRUG ACTIVITY (İLAÇ AKTİVİTESİNDE İZOMERİ)	1	-	1	1	2
7	PHA730	DRUG SAFETY AND RISK ASSESSMENT IN DRUG USE (İLAÇ GÜVENLİĞİ VE İLAÇ KULLANIMINDA RİSK DEĞERLENDİRİLMESİ)	2	-	2	2	4
8	ECZ744	GENETIC FACTORS IN EFFICIENT DRUG USE (ETKİN İLAÇ KULLANIMINDA GENETİK FAKTÖRLER)	1	-	1	1	2
9	PHA718	COSMETICS AND APPLICATION AREAS (KOZMETİKLER VE UYGULAMA ALANLARI)	2	-	2	2	4
10	PHA720	DESIGN AND DEVELOPMENT OF DRUG FORMULATIONS IN INDUSTRIAL PHARMACY (ENDÜSTRİYEL ECZACILIKTA İLAÇ FORMÜLASYONLARININ TASARIMI VE GELİŞİMİ)	2	-	2	2	4
11	PHA740	BIOPHARMACY AND PHARMAKOKINETIC (BİYOFARMASÖTİK VE FARMAKİNETİK)	2	-	2	2	4
12	PHA726	FORMULATION OF BIOTECHNOLOGICAL PHARMACEUTICS (BİYOTEKNOLOJİK KÖKENLİ FARMAKİNETİK ÜRÜNLER)	1	-	1	1	2
13	PHA742	PHARMACEUTICAL TECHNOLOGY PROCESS ENGINEERING AND PROCESS VALIDATION (FARMASÖTİK TEKNOLOJİDE İŞLEM MÜHENDİSLİĞİ VE İŞLEM(PROCESS) VALİDASYONLARI)	2	-	2	2	4



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5th CLASS / 1st SEMESTER*

MAJOR EDUCATION PROGRAM *COMPULSORY* Courses

Sequence Number	COURSE CODE	COURSE NAME (COURSE NAME in TURKISH)	Does the course have prerequisite?****	Does the course have an equivalent in previous education program?*****	Activity Hour				
					Theoretical	Practice and Laboratory	TOTAL HOURS	Credit	ECTS
1	PHA501	RESEARCH PROJECT I (ARAŞTIRMA PROJESİ I)	-	-	3	-	3	3	8
2	PHA503	RESEARCH PROJECT PRACTICE I (ARAŞTIRMA PROJESİ UYGULAMA I)	-	-	-	8	8	4	12
3	PHA901-999	3rd Group Elective Courses (III. Grup Seçmeli Ders) In the Areas of Industry/Hospital Pharmacy/ Community Pharmacy (Endüstri/Hastane/Eczane Eczacılığı Alanlarında)	-	-	10	-	10	10	10
Total					13	8	21	17	30

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MAJOR EDUCATION PROGRAM *ELECTIVE* COURSES

NAME OF THE COURSE GROUP AS PROGRAM'S ELECTIVES**	Minimum value that must be completed for this group in this semester			
	Credit	Number of Courses	Course period (hr)***	ECTS****
ELECTIVE COURSES in PHARMACY	X	X	X	10
Put an "X" in related area for the feature that will be used in the control of this group of elective courses				

List of elective courses in this group

Sequence Number	COURSE CODE	COURSE NAME (COURSE NAME in TURKISH)	Activity Hour			Credit	ECTS
			Theoretical Practice and Laboratory	TOTAL HOURS			
1	PHA901	GLP -GOOD LABORATORY PRACTICES (GLP-İYİ LABORATUVAR UYGULAMALARI)	2	-	2	2	2
2	PHA903	ANALYTICAL VALIDATION (ANALİTİK VALİDASYON)	2	-	2	2	2
3	PHA905	DRUG AND ACTIVE COMPONENT ANALYSIS IN BIOLOGICAL SYSTEMS (BİYOLOJİK SİSTEMLERDE İLAÇ VE ETKEN MADDE ANALİZLERİ)	2	-	2	2	2
4	PHA907	GENERAL ETHICS-PHARMACY ETHICS AND PHARMACIST-PATIENT COMMUNICATION (GENEL ETİK-ECZACILIK ETİĞİ VE ECZACI HASTA İLETİŞİMİ)	2	-	2	2	2
5	PHA909	RESEARCH METHODS IN HEALTH SCIENCES AND LITERATURE (SAĞLIK BİLİMLERİNDE ARAŞTIRMA YÖNTEMLERİ VE LİTERATÜR ARAŞTIRMASI)	1	-	1	1	1
6	PHA913	DRUG INTERACTIONS (İLAÇ ETKİLEŞMELERİ)	2	-	2	2	2
7	PHA915	OTS DRUGS (OTC İLAÇLAR)	2	-	2	2	2
8	PHA917	PHYTOMEDICINES I (FİTOTERAPÖTİKLER I)	2	-	2	2	2
9	PHA919	PHYTOMEDICINES II (FİTOTERAPÖTİKLER II)	2	-	2	2	2
10	PHA921	NATURAL PRODUCTS USED IN ONCOLOGY (ONKOLOJİDE KULLANILAN DOĞAL KAYNAKLI ETKEN MADDELER)	1	-	1	1	1
11	PHA923	NUTRACEUTICALS (NUTRASÖTİKLER)	1	-	1	1	1
12	PHA925	CHROMATOGRAPHIC ANALYSIS AND STANSARIZATION OF HERBAL PRODUCTS (BİTKİSEL ÜRÜNLERDE STANDARDİZASYON VE KROMATOGRFİK ANALİZ)	2	-	2	2	2
13	PHA927	ETHNOPHARMACY AND ALETRNATIVE THERAPY METHODS (ETNOFARMASİ VE ALTERNATİF TEDAVİ YÖNTEMLERİ)	2	-	2	2	2
14	PHA929	USAGE OF HERBAL PRODUCTS IN GERIATRY, PEDIATRY AND PREGNANCY (GERİATRİ, PEDIATRİ VE GEBELİKTE BİTKİSEL İLAÇ KULLANIMI)	1	-	1	1	1
15	PHA931	MEDICAL PLANTS AND PHARMACIST: CURRENT TOPICS (TİBBİ BİTKİLER VE ECZACI: GÜNCEL BAŞLIKLAR)	1	-	1	1	1
16	PHA933	EPIDEMIOLOGY OF HOSPITAL INFECTIONS (HASTANE ENFEKSİYONLARININ EPİDEMİYOLOJİSİ)	2	-	2	2	2
17	PHA935	INDUSTRIAL MICROBIOLOGY (ENDÜSTRİYEL MİKROBİYOLOJİ)	2	-	2	2	2
18	PHA937	VIRAL INFECTIONS AND PREVENTION (VİRAL ENFEKSİYONLAR VE KORUNMA)	2	-	2	2	2
19	PHA939	DRUGS USED IN HOSPITAL (HASTANE ŞARTLARINDA KULLANILAN İLAÇLAR)	1	-	1	1	1
20	PHA941	COMPUTATIONAL APPLICATIONS IN MEDICINAL CHEMISTRY (MEDİSİNAL KİMYADA BİLGİSAYAR UYGULAMALARI)	1	-	1	1	1
21	PHA943	METABOLISM IN DRUG DESIGN TIMETABLE OF THE CLASSES (METABOLİZMANIN İLAÇ TASARIMINDAKİ YERİ)	1	-	1	1	1
22	PHA945	BIOTECHNOLOGY IN MEDICINAL CHEMISTRY (MEDİSİNAL KİMYADA BİYOTEKNOLOJİ)	1	-	1	1	1
23	PHA947	DIVERSE DRUG CATEGORIES IN THERAPY (TEDAVİDE FARKLI İLAÇ GRUPLARI)	1	-	1	1	1
24	PHA949	AGRICULTURAL AND VETERINARY DRUGS (TARIM VE VETERİNER İLAÇLAR)	1	-	1	1	1
25	PHA951	SYNTHESIS OF DRUG RAW MATERIALS AND INGREDIENTS (AKTİF MADDE VE İLAÇ	1	-	1	1	1



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		HAMMADDE SENTEZLERİ)					
26	PHA953	DRUG PREPARATION ON HOSPITAL SCALE (HASTANE ÖLÇEĞİNDE İLAÇ HAZIRLANMASI)	2	-	2	2	2
27	PHA955	SYSTEMS FOR CONTROLLED DRUG DELIVERY AND DELIVERY MECHANISMS (KONTROLLÜ SALIM YAPAN SİSTEMLER VE SALIM MEKANİZMALARI)	2	-	2	2	2
28	PHA957	RADIOPHARMACEUTICALS USED IN DIAGNOSIS AND TREATMENT (TEŞHİS VE TEDAVİDE KULLANILAN RADYOFARMASÖTİK İLAÇ ŞEKİLLERİ)	1	-	1	1	1
29	PHA959	BIOTECHNOLOGY ORIGINATED PHARMACEUTICAL PRODUCTS AND FORMULATION DESIGNS (BİYOTEKNOLOJİ KÖKENLİ FARMASÖTİK ÜRÜNLER VE FORMÜLASYON TASARIMLARI)	2	-	2	2	2
30	PHA 961	PHARMACEUTICAL AND COSMETIC PRODUCTS AND LICENSİNG PROCEDURES OF MEDICAL DEVICES (İLAÇ VE KOZMETİK ÜRÜNLER İLE TIBBİ CİHAZLARDA RUHSATLANDIRMA İŞLEMLERİ)	1	-	1	1	1
31	PHA963	FORMULATION DESIGN AND QUALITY CONTROL PRACTICE ON COSMETIC PRODUCTS (KOZMETİK ÜRÜNLERDE FORMÜLASYON TASARIMI VE KALİTE KONTROL ÇALIŞMALARI)	2	-	2	2	2
32	PHA965	GOOD MANUFACTURING PRACTICE ON PHARMACEUTICAL PRODUCTS-GMP (FARMASÖTİK ÜRÜNLER İÇİN İYİ İMALAT UYGULAMALARI-GMP)	1	-	1	1	1
33	PHA967	IMPORTANCE OF DISSOLUTION TESTS IN DETERMINATION OF BIOAVAILABILITY AND BIOEQUIVALENCE AND IN DOSAGE FORM DESIGN (BİYOYARARLANIM, BİYOŞEĞİRLİK TAYİNLERİNDE VE DOZAJ FORMLARI TASARIMINDA ÇÖZÜNME HIZI TAYİNLERİ ÖNEMİ)	2	-	2	2	2
34	PHA969	COSMETIC TOXICOLOGY (KOZMETİK TOKSİKOLOJİ)	1	-	1	1	1
35	PHA971	TOXIC SUBSTANCES IN FOOD (GIDALARDAKİ TOKSİK MADDELER)	1	-	1	1	1
36	PHA973	THE TOXICOLOGICAL IMPORTANCE OF DRUG USE DURING PREGNANCY, CHILHOOD AND OLD AGE PERIODS (HAMİLELİK, ÇOCUKLUK VE YAŞLILIK DÖNEMİNDE İLAÇ KULLANIMININ TOKSİKOLOJİK ÖNEMİ)	1	-	1	1	1
37	PHA 975	NUTRITIONAL BIOCHEMISTRY (BESLENME BİYOKİMYASI)	2	-	2	2	2
38	PHA977	FREE RADICALS AND ANTIOXIDANTS (SERBEST RADİKALLER VE ANTİOKSİDANLAR)	1	-	1	1	1
40	PHA979	BIOCHEMICAL BASIS OF DISEASES (HASTALIKLARIN BİYOKİMYASAL TEMELLERİ)	2	-	2	2	2
40	PHA981	NON-DRUG PRODUCTS IN PHARMACY (ECZANEDE İLAÇ DIŞI ÜRÜNLER)	1	-	1	1	1
41	PHA983	ANALYSIS TECHNIQUES OF ACTIVE COMPONENT AND DRUG (ETKİN MADDE VE İLAÇ ANALİZ TEKNİKLERİ)	2	-	2	2	2
42	PHA985	ANALYSIS TECHNIQUES OF ACTIVE COMPONENT AND DRUG (ETKİN MADDE VE İLAÇ ANALİZ TEKNİKLERİ)	-	2	2	1	1
43	PHA987	PLANT BIOTECHNOLOGY AND ECONOMICALLY VALUABLE ACTIVE INGREDIENTS (BİTKİ BİYOTEKNOLOJİSİ VE EKONOMİK DEĞERİ OLAN ETKEN MADDELER)	1	-	1	1	1
44	PHA989	RATIONAL DRUG USE (AKILCI İLAÇ KULLANIMI)	2	-	2	2	2
45	PHA 991	PHARMACOEPIDEMIOLOGY AND PHARMACOECONOMY (FARMAKOEPİDEMİYOLOJİ VE FARMAKOEKONOMİ)	1	-	1	1	1
46	PHA993	MANAGEMENT IN PROFESSIONAL PRACTICE OF PHARMACY (ECZACILIK MESLEK UYGULAMASINDA YÖNETİM)	1	-	1	1	1
47	PHA 995	COMPUTER APPLICATIONS IN PHARMACY AND REIMBURSEMENT SYSTEM (ECZACILIKTA BİLGİSAYAR UYGULAMALARI VE GERİ ÖDEME SİSTEMİ)	1	-	1	1	1
48	PHA997	ACCOUNTİNG AND FINANCİAL MANAGEMENT FOR PHARMACY (ECZANE MUHASEBESİ)	1	-	1	1	1
49	PHA 999	HOSPITAL PHARMACY APPLICATIONS (Hastane Eczanesi Uygulamaları)	1	-	1	1	1

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5th CLASS / 2nd SEMESTER*

MAJOR EDUCATION PROGRAM *COMPULSORY* Courses

Sequence Number	COURSE CODE	COURSE NAME (COURSE NAME in TURKISH)	Does the course have prerequisite?****	Does the course have an equivalent in previous education program?*****	Activity Hour			Credit	ECTS
					Theoretical	Practice and Laboratory	TOTAL HOURS		
1	PHA502	RESEARCH PROJECT II (ARAŞTIRMA PROJESİ II)	-	-	3	-	3	3	5
2	PHA504	RESEARCH PROJECT PRACTICE II (ARAŞTIRMA PROJESİ UYGULAMA II)	-	-	-	8	8	4	10
3	PHA506	TRAINEESHIP IV (STAJ IV)	-	-	1	30	31	16	15
Total					4	38	42	23	30

MAJOR EDUCATION PROGRAM *COMPULSORY TRAINEESHIP* LIST

No.	Course Code*	Name*	Compulsory after which class?	Period (work day)	Explanation
1	PHARM200	TRAINEESHIP I (STAJ I)	AFTER 2 nd CLASS IN SUMMER	20 workdays (1 Month)	6 HOURS/DAY
2	PHARM300	TRAINEESHIP II (STAJ II)	AFTER 3 th CLASS IN SUMMER	40 workdays (2 Months)	6 HOURS /DAY
3	PHARM400	TRAINEESHIP III (STAJ III)	AFTER 4 th CLASS IN SUMMER	20 workdays (1 Month)	6 HOURS /DAY
4	PHARM506	TRAINEESHIP IV (STAJ IV)	IN 5 th CLASS/ 10 th SEMESTER	40 workdays (2 Months)	6 HOURS /DAY
Other					
TOTAL TRAINEESHIP PERIOD COMPULSORY FOR GRADUATION				6 MONTHS	TRAINEESHIP I (AFTER 2 ND CLASS IN SUMMER, 1 month) TRAINEESHIP II (AFTER 3 TH CLASS IN SUMMER, 2 months) TRAINEESHIP III (AFTER 4 TH CLASS IN SUMMER, 1 month) TRAINEESHIP IV (IN 5 TH CLASS, 10 TH SEMESTER, 2 months)