FACULTY OF PHARMACY

urse categor	NIVERSITY ries: UC = Universit	PHARMACY Program of C y Core; FC = Faculty Core; AC = Area Core; AE = Area Elective; FE = Faculty Elective		lective					
emester	Course Code	Course Title	Course		Hours		Total	Pre-	ECT
1	DUDM101		Category	Lecture	Tutorial 0		Credit	requisite	Cred
1	PHRM101 BIOL101	INTRODUCTION TO PHARMACY AND TERMINOLOGY MEDICAL BIOLOGY AND GENETICS	AC AC	2	0	0	2	-	3
1	PHYS111	PHYSICS	AC	2	0	0	2	-	4
1	CHEM111	GENERAL CHEMISTRY	AC	3	0	0	3	-	4
1	MATH135	BASIC MATHEMATICS	AC	3	0	0	3	-	3
1	ITEC100	INFORMATION TECHNOLOGIES	UC	2	0	2	3	-	5
1	ENGL121 TUOG101 /	ENGLISH-I	UC	3	0	0	3	-	4
1	TURK131	TURKISH LANGUAGE-I / TURKISH AS A FOREIGN LANGUAGE-I	UC	2	0	0	2	-	3
		Total 8 courses	TOTAL:	20	0	2	21		30
2	PHRM102	RESEARCH METHODS IN PHARMACY	AC	2	0	0	2	-	2
2	ANTY104	HUMAN ANATOMY	AC	3	0	0	3	-	4
2	CHEM112	ORGANIC CHEMISTRY	AC	3	0	0	3	CHEM111	4
2	CHEM116	ANALYTICAL CHEMISTRY-I	AC	3	0	0	3	CHEM111	4
2	CHEM118	ANALYTICAL CHEMISTRY LAB-I	AC	0	0	3	1	-	2
2	HESC107	FIRST AID	FC	2	0	0	2	-	3
2	ENGL122 TUOG102 /	ENGLISH-II	UC	3	0	0	3	ENGL121	4
2	TURK132	TURKISH LANGUAGE-II / TURKISH AS A FOREIGN LANGUAGE-II	UC	2	0	0	2	-/TURK131	3
2	UNIEXX1	UNIVERSITY ELECTIVE	UE	х	х	х	3	-	4
		Total 9 Courses	TOTAL:	18	0	3	22		3
3	PHRM201	INTRODUCTION TO PHARMACY APPLICATIONS-I	AC	0	0	2	1	-	3
3	PHRM203	PHARMACEUTICAL MICROBIOLOGY AND IMMUNOLOGY	AC	2	0	0	2	-	3
3	PHRM205	PHARMACEUTICAL MICROBIOLOGY AND IMMUNOLOGY LAB	AC	0	0	2	1	-	2
3	PHYL201	BASIC PHYSIOLOGY	AC	3	0	0	3	-	4
3	CHEM209	ANALYTICAL CHEMISTRY-II	AC	3	0	0	3	-	4
3	CHEM211	ANALYTICAL CHEMISTRY LAB-II	AC	0	0	3	1	-	3
3	BCHM213	BIOCHEMISTRY-I	AC	3	0	0	3	-	4
3	TARH101 / HIST111	ATATURK'S PRINCIPLES AND HISTORY OF TURKISH REFORMS-I	UC	2	0	0	2	-	З
3	UNIEXX2	UNIVERSITY ELECTIVE	UE	х	x	х	3	-	4
		Total 9 Courses	TOTAL	13	0	7	19		3
4	PHRM202	INTRODUCTION TO PHARMACY APPLICATIONS-II	AC	0	0	2	1	-	3
4	PHRM204	PHARMACEUTICAL CHEMISTRY-I	AC	3	0	0	3	-	3
4	PHRM206	PHARMACEUTICAL CHEMISTRY LAB-I	AC	0	0	3	1	-	2
4	PHRM208	PHARMACEUTICAL TECHNOLOGY-I	AC	3	0	0	3	-	3
4	PHRM210	PHARMACEUTICAL TECHNOLOGY LAB-I	AC	0	0	3	1	-	2
4	PHRM212	PHARMACOLOGY-I	AC	2	0	0	2	-	3
4	PHRM214	PHARMACEUTICAL BOTANY	AC AC	2	0	0	2	-	4
4	PHRM216 BCHM214	PHARMACEUTICAL BOTANY LAB BIOCHEMISTRY-II	AC	0	0	3	1	-	3
	TARH102 /								
4	HIST112	ATATURK'S PRINCIPLES AND HISTORY OF TURKISH REFORMS-II	UC	2	0	0	2	-	3
		Total 10 Courses	TOTAL:	15	0	11	19		3
5	PHRM300	SUMMER TRAINING-I	AC	0	0	0	0	-	2
5	PHRM303	PHARMACEUTICAL CHEMSITRY-II	AC	2	0	0	2	-	2
5	PHRM305	PHARMACEUTICAL CHEMSITRY LAB-II	AC	0	0	3	1	-	2
5	PHRM307	PHARMACEUTICAL TECHNOLOGY-II	AC	3	0	0	3	-	3
5	PHRM309	PHARMACEUTICAL TECHNOLOGY LAB-II	AC	0	0	3	1	-	1
5	PHRM311	PHARMACOGNOSY-I	AC	2	0	0	2	-	
5 5	PHRM313 PHRM315	PHARMACOGNOSY LAB-I PHARMACOLOGY-II	AC AC	0	0	3	1	-	
5	BCHM317	CLINICAL BIOCHEMISTRY	AC	2	0	0	2	BCHM213	
5	BCHM319	CLINICAL BIOCHEMISTRY LAB	AC	0	0	2	1	-	
5	PHARXX1	FACULTY ELECTIVE	FE	Х	х	Х	2	-	
5	UNIEXX3	UNIVERSITY ELECTIVE	UE	Х	Х	Х	3	-	4
		Total 12 Courses	TOTAL:	11	0	11	20		3
6	PHRM302	PHARMACEUTICAL TOXICOLOGY-I	AC	2	0	0	2	-	
6	PHRM304	PHARMACEUTICAL CHEMISTRY-III	AC	2	0	0	2	-	
6	PHRM306	PHARMACEUTICAL CHEMISTRY LAB-III	AC	0	0	3	1	-	
6	PHRM308	PHARMACEUTICAL TECHNOLOGY-III	AC	2	0	0	2	-	
6	PHRM310	PHARMACEUTICAL TECHNOLOGY LAB-III	AC	0	0	3	1	-	
6	PHRM312	PHARMACOGNOSY-II	AC	2	0	0	2	-	
6	PHRM314	PHARMACOGNOSY LAB-II	AC	0	0	3	1	-	
6	PHRM316	PHARMACOLOGY-III	AC	2	0	0	2	-	
6	PHRM318	DEONTOLOGY AND ETHICS OF PHARMACY	AC	2	0	0	2	-	
6	PHARXX2	FACULTY ELECTIVE	FE	X	x	X	2	-	
6	UNIEXX4	UNIVERSITY ELECTIVE	UE	X 12	X	X	3	-	
		Total 11 Courses	TOTAL:	12	0	9	20		3
				1	1		1	1	
7	PHRM400	SUMMER TRAINING-II	AC	0	0	0	0	-	
	PHRM400 PHRM403 PHRM405	SUMMER TRAINING-II CLINICAL PHARMACY-I CLINICAL PHARMACY PRACTICE-I	AC AC AC	0 2 0	0 0 0	0 0 2	0 2 1	- PHRM212	

			GRAND TOTAL:	114	0	55	190		30
		Total 5 Courses	TOTAL:	3	0	2	13		3
10	PHRMX12	AREA ELECTIVE	AE	X	X	X	3	-	
10	PHRMX11	AREA ELECTIVE	AE	Х	Х	Х	3	-	
10	PHRMX10	AREA ELECTVE	AE	Х	Х	Х	3	-	
10	SOWO100	COMMUNITY SERVICE PRACTICES	UC	1	0	2	2	-	
10	PHRM502	GRADUATION PROJECT-II	AC	2	0	0	2	-	
		Total 6 Courses	TOTAL:	2	0	0	14		
9	PHRMXX9	AREA ELECTIVE	AE	Х	Х	Х	3	-	
9	PHRMXX8	AREA ELECTIVE	AE	х	х	х	3	-	Γ
9	PHRMXX7	AREA ELECTIVE	AE	х	х	х	3	-	T
9	PHRMXX6	AREA ELECTIVE	AE	х	Х	X	3	-	T
9	PHRM501	GRADUATION PROJECT-I	AC	2	0	0	2	-	
9	PHRM500	SUMMER TRAINING-III	AC	0	0	0	0	-	Г
		Total 9 Courses	TOTAL:	10	0	3	20		
8	PHRMXX5	AREA ELECTIVE	AE	Х	Х	Х	3	-	
8	PHRMXX4	AREA ELECTIVE	AE	Х	х	Х	3	-	
8	PHRMXX3	AREA ELECTIVE	AE	Х	Х	Х	3	-	
8	PHRM412	COSMETOLOGY LAB	AC	0	0	3	1	-	
8	PHRM410	COSMETOLOGY	AC	2	0	0	2	-	
8	PHRM408	PHARMACY MANAGEMENT	AC	2	0	0	2	-	
8	PHRM406	PHYTOTHERAPY	AC	2	0	0	2	PHRM216	T
8	PHRM404	CLINICAL PHARMACY-II	AC	2	0	0	2	-	
8	PHRM402	PHARMACY LEGISLATION	AC	2	0	0	2	-	Г
		Total 12 Courses	TOTAL:	10	0	7	22		
7	UNIEXX5	UNIVERSITY ELECTIVE	UE	Х	Х	Х	3	-	
7	PHRMXX2	AREA ELECTIVE	AE	Х	Х	Х	3	-	
7	PHRMXX1	AREA ELECTIVE	AE	Х	Х	Х	3	-	
7	PHRM417	PHARMACOTHERAPY	AC	2	0	0	2	-	Γ
7	PHRM415	PHARMACEUTICAL BIOTECHNOLOGY	AC	2	0	0	2	-	
7	PHRM413	PHARMACEUTICAL TECHNOLOGY LAB-IV	AC	0	0	3	1	-	
7	PHRM411	PHARMACEUTICAL TECHNOLOGY-IV	AC	2	0	0	2	-	

		Area Elective and Faculty/School	Elective cou	irses					
			Course		Hours		Total	Pre-	ECTS
No	Course Code	Course Title	Category	Lecture	Tutorial	Lab/Prac.	Credit	requisite	Credit
1	PHRM419	VOCATIONAL LATIN	AE	3	0	0	3		4
2	PHRM421	HISTORY OF PHARMACY	AE	3	0	0	3		4
3	PHRM423	APPLICATIONS OF COMPUTER SOFTWARES IN PHARMACY	AE	3	0	0	3		4
4	PHRM425	CONCEPTS ABOUT NATURAL MEDICINES	AE	3	0	0	3		4
5	PHRM414	CLASSIFICATION OF PHARMACEUTICALS	AE	3	0	0	3		4
6	PHRM416	OUT OF PRESCRIPTION MEDICINES	AE	3	0	0	3		4
7	PHRM418	MEDICAL PLANTS USED WITHIN THE PUBLIC	AE	3	0	0	3		4
8	PHRM420	PATIENT SAFETY AND MEDICAL MISTAKES	AE	3	0	0	3		4
9	PHRM422	GOOD MANUFACTURING PRACTICE	AE	3	0	0	3		4
10	PHRM424	BIOCHEMICAL SOURCES OF DISEASES	AE	3	0	0	3		4
11	PHRM426	INDUSTRIAL PHARMACY	AE	3	0	0	3		4
12	PHRM428	PHARMACOVIGILANCES	AE	3	0	0	3		4
13	PHRM430	RECOMBINANT DNA TECHNOLOGY AND VACCINE PRODUCTION	AE	3	0	0	3		4
14	PHRM505	CASE REPORT IN CLINICAL BIOCHEMISTRY	AE	3	0	0	3		4
15	PHRM507	CELL CULTURE TECHNIQUES	AE	3	0	0	3		4
16	PHRM509	PATIENT EDUCATION AND FOLLOW UP	AE	3	0	0	3		4
17	PHRM511	RATIONAL MEDICINE APPLICATIONS	AE	3	0	0	3		4
18	PHRM513	OXIDATION AND ANTIOXIDATION	AE	3	0	0	3		4
19	PHRM515	MEDICINES KNOWLEDGE AND CLINICAL PHARMACY PRACTICES	AE	3	0	0	3		4
20	PHRM517	RESEARCH IN MEDICINES	AE	3	0	0	3		4
21	PHRM519	ECONOMY OF HEALTH AND MEDICINE	AE	3	0	0	3		4
22	PHRM521	GRAVIMETRIC METHODS USED IN THE ANALYSIS OF MEDICINES	AE	3	0	0	3		4
23	PHRM523	PHARMACEUTICAL AND PALLIATIVE CARE	AE	3	0	0	3		4
24	PHRM525	CANCER BIOCHEMISTRY	AE	3	0	0	3		4
25	PHRM527	SOCIAL PHARMACOANTHROPOLOGY	AE	3	0	0	3		4
26	PHRM529	BIOCHEMISTRY OF THE IMMUNE SYSTEM	AE	3	0	0	3		4
27	PHRM531	INSTRUMENTAL ANALYSIS	AE	3	0	0	3		4
28	PHRM504	NUTRACEOTICS AND FOOD SUPPLEMENTS	AE	3	0	0	3		4
29	PHRM506	BIOCHEMISTRY OF DRUG METABOLISM	AE	3	0	0	3		4
30	PHRM508	DRUG-DRUG INTERACTIONS	AE	3	0	0	3		4
31	PHRM510	TRADITIONAL AND ALTERNATIVE TREATMENT APPROACHES	AE	3	0	0	3		4
32	PHRM512	HOSPITAL PHARMACY / COMMUNITY PHARMACY TRAINING	AE	3	0	0	3		4
33	PHRM514	INDUSTRY TRAINING	AE	3	0	0	3		4
34	PHRM516	RELATIONSHIP BETWEEN METABOLIC DIEASES AND NUTRITION	AE	3	0	0	3		4
35	PSYC385	BEHAVIOURAL SCIENCE AND COMMUNICATION	FE	2	0	0	2		3
36	LAWF313	MEDICAL LAW	FE	2	0	0	2		3
37	HESC350	BASIC PUBLIC HEALTH	FE	2	0	0	2		3
38	PATH351	BASIC PATHOLOGY	FE	2	0	0	2		3
39	HESC355	INTRODUCTION OF NUTRITION	FE	2	0	0	2		3
40	HESC349	PREVENTATIVE HEALTH	FE	2	0	0	2		3

PROGRAM INFORMATION

General Goal of the Program	Pharmacy Undergraduate Program is planned for 5 years with compulsory and elective courses, laboratory applications and graduation project, to increase the analytical perspective of the student, to strengthen the ability to analyze, to gain the competencies of understanding and managing the components of drug-drug, patient-drug, food-drug. These skills will be gained by presenting advanced analytical devices to the student during the application of laboratory techniques, and by accelerating the logic of research and curiosity with a qualified faculty staff and an interactive education approach.
	Individuals who graduated from Final International University Pharmacy Undergraduate Program;
	1. Gains the ability to prepare solutions and analyze the unknown within the scope of pharmacy basic sciences,
	2. Recognizes pharmaceutical products of natural and synthetic origin used in the diagnosis, treatment and prevention of diseases,
	3. Knows drug dosing and prepares drug forms (tablet, capsule, injectable etc.),
	4. Learns drug formulations and can develop new formulations,
	5.Learns toxic components, drug toxicology and analysis,
	6. Learns biochemical mechanisms and the relationship between nutrition, disease and health,
Program Outputs	7. Interprets the causes and effects of metabolic diseases in clinical biochemistry and evaluates laboratory findings,
	8. Recognizes medicinal plants and pharmaceutical products and criticizes the advantages and disadvantages of their use, knows the instrumental
	9. Learns rational drug use,
	10. Analyzes drug-drug interactions and pharmacological pathways of their application and makes risk assessment
	11. Knows the preparation, raw material formulations and production techniques of cosmetic products
	12. Knows human anatomy and physiology, knows the distribution, absorption, metabolism and excretion of drugs,
	13. Knows Pharmacy Deontology,
	14. Have the necessary knowledge about medical first aid,
	15. Can comment on pharmacy management and health law

COURSE DESCRIPTIONS

	COURSE DESCRIPTIONS					
Course	Course Descriptions – I: All Area Core and Faculty/School Core co	urses offer	ECTS		ment of the prog	gram.
Code	Course Title	Credit	Credit	Course Catego.	Pre-requisite	Teaching Language
PHRM101	INTRODUCTION TO PHARMACY AND TERMINOLOGY	(2, 0, 0)2	3	AC	-	English
Course Content	The aim of this course is to inform the student starting pharmacy education about pharm definition of pharmacist and pharmacy and their functions within the professional health evaluation and gives information about pharmacopeeias and formulas. Explains work and Turkish Republic of Northern Cyprus and international. It covers important pharmaceutica medical field. Explains prefixes, suffixes and root words with a system-based approach. D largely defines them and puts them into practice.	care team. It co l career opport al terms found	overs pres unities an in pharma	cription sys d ganizatio acy, pharma	tems and drug proce ns related to pharma aceutical sciences an	urement and acy on the basis of the d literature, medicine,
BIOL101	MEDICAL BIOLOGY AND GENETICS	(3, 0, 0)3	4	AC	-	English
Course Content	The medical biology and genetics course introduces students to the principles and moder biology, which is essential for understanding medical conditions. Main topics scientific run organization of the cell, membrane structure, organelles, DNA and chromosome structure recombination, transcription and translation, control of gene expression, mechanism of c to be equipped with basic knowledge about the cellular organization of living systems and repair.	ethodology, sci e and function, ell division, gen	entific res genome, netic disor	earch and a genetic div ders. At the	analysis, universal pr ersity of genomes, D e end of the course,	roperties and internal NA replication, repair, students are expected
ANTY104	HUMAN ANATOMY	(3, 0, 0)3	4	AC	-	English
Course Content	The aim of this course is to educate medical and anatomical terminology, as well as the st properties, relations, blood supply, and innervations of the organs that compose each sys system. The differences and similarities between the male and female urinary systems an vessels. Based on the overall objectives students are expected to achieve the following ou system cardiovascular system, genitourinary system, nervous system, and gastrointestina	tem. To teach d reproductive utcomes by the	the locom systems.	otors syste The respira	m, the nervous system atory tract, the heart	em, the gastrointestinal , and peripheral
CHEM111	GENERAL CHEMISTRY	(3, 0, 0)3	4	AC	-	English
Course Content	This lesson aims to provide pharmacy students with the fundamental principles and conc compounds, chemical reactions, reactions in aqueous solutions, gases, periodic table and solutions and their physical properties, chemical kinetics, chemical equilibrium, acids and explain the basic concepts of chemistry within an intellectual discipline framework, devel quantitative correlation, systematically solve problems in chemistry, and acquire skills to	atomic proper bases. At the o op analytical th	ties, chem end of this hinking ski	nical bonds course, su lls through	, liquids, solids and i ccessful students wi effective thinking ar	ntermolecular forces, Il be able to define and id rational and
CHEM112	ORGANIC CHEMISTRY	(3, 0, 0)3	4	AC	CHEM111	English
Course Content	The aim of this course is to teach students the fundamental concepts of organic chemistro reactions. At the end of this course, the student is expected to be able to recognize the st and mechanisms specific to this structure. Additionally, the goal is to develop the ability of education periods and professional life. In this course, basic reaction types of organic con hydrocarbons, alkyl halides, alcohols, ethers, epoxides, thiols, carbonyl groups, aldehydes mechanisms, as well as nomenclature and stereochemistry will be presented.	ructural prope of the student t npounds such a	rties of org to use the as alkanes,	ganic comp basic orgar alkenes, a	ounds and write cha nic chemistry knowle Ikynes, benzene and	racteristic reactions dge gained in future aromatic
CHEM116	ANALYTICAL CHEMISTRY-I	(3, 0, 0)3	4	AC	CHEM111	English
Course Content	General concepts in analytical chemistry will be presented. The aim of the course is to giv Aqueous solution chemistry, solubility, selective precipitation, gravimetric analysis, acids, carbonate-bicarbonate titrations, precipitation titrations, oxidation-reduction titrations a solutions, concentrations of solutions, separation and purification processes, law of effec introduction to electrochemistry and coordination chemistry are the main topics of the co about qualitative and quantitative analysis in analytical chemistry.	e the basic con bases, buffer nd complexom t of masses, hy	cepts of A solutions, etric titrat drolysis, s	nalytical Cl volumetric ions, balan olubility pr	analysis principles, ices and weighing, in oduct and precipitat	y and practically. acid-base titrations, troduction to ion, crystallization,
CHEM118	ANALYTICAL CHEMISTRY LAB-I	(0, 0, 3)1	2	AC	-	English
Course Content	Laboratory experiments of qualitative analysis of group I-V cations and anions, quantitativ carbonate-bicarbonate titration, oxidation-reduction titration and complex formation titr qualitative and quantitative analysis applications in analytical chemistry. The content of tl experiments and discussion of results. At the end of this course, students will be able to s decantation and centrifugation; be able to perform precipitation and filtration operations real samples.	ation will be pe he course will b eparate and de	erformed b be in the fo etermine c	by the stud form of hand ations and	ents. Students will h ds-on experiments, o anions in mixtures;	ave skills related to demonstration be able to perform

PHRM102	RESEARCH METHODS IN PHARMACY	(2, 0, 0)2	2	AC	-		English
	The main topics of the course are basic statistical definitions, data types, descriptive stati		ion of data		es of central	tendency,	-
	distribution, tables and graphs, probability distributions, normal, binomial and Poisson di	stributions, no	rmality tes	ts and gra	aphs, samplir	ng, samplir	ng distributions
Course	sampling of mean distribution, confidence intervals, introduction to hypothesis testing, p	and alpha valu	es, decisio	on making	process, par	ametric ar	nd non-paramet
Content	hypothesis testing, correlations and regression analysis, multiple linear regression, factor	design: 2n and	3n design	. At the e	nd of this cou	urse, the st	tudent knows he
content	science research methods, knows basic statistical concepts, calculates appropriate descri	otive statistics,	creates ap	propriate	tables and g	raphs, kno	ows basic theore
	distributions and sample distribution, selects and applies the appropriate hypothesis test	, and comment	s.				
HRM201	INTRODUCTION TO PHARMACY APPLICATIONS-I	(0, 0, 2)1	3	AC	-		English
	Contents of the course are the definition of pharmacy and pharmacist, computer applicat				-		
_	purchase of the drugs need and arrangement and placement of the pharmacy according t						
Course	needs of the patients, drug information activities and keeping the records of the pharmac	•		•			
Content	informal units. Also, the course is aimed to enable students to see the roles of pharmacis' pharmacy and hospital services, and to help to gain the necessary experience before start		•	•	to be carried	Journico	initiality of hos
	pharmacy and nospital services, and to help to gain the necessary experience before star	ing their profe	ssionarine	•			
HRM203	PHARMACEUTICAL MICROBIOLOGY AND IMMUNOLOGY	(2, 0, 0)2	3	AC	-		English
	The course is aimed to provide the basic and practical knowledge in the field of Pharmace				gv. Developr	nent of mi	
	microorganisms, bacterial cell structure, classification of microorganisms, characteristics						
	viruses, biological characteristics of microorganisms, genetics, nervous system, upper and	l lower respira	tory tract,	gastrointe	estinal and ge	enitourina	ry system, skin a
Course	soft tissue, bone and joint infections, hospital infections, antimicrobial agents, disinfectar	nts, preservativ	es, antisep	otics, antik	piotics and th	ieir mecha	anisms of action,
Content	resistance formation against antibiotics, principles of immunology, vaccines and immuniz	ation, industria	al microbic	logy, mici	robial contan	nination ir	n the pharmaceu
	industry, sterile pharmaceutical products, hospital hygiene, sanitation in the pharmaceut	cal industry, d	sinfection	and good	manufacturi	ing technio	ques are among
	contents of the course.						
HRM205	PHARMACEUTICAL MICROBIOLOGY AND IMMUNOLOGY LAB	(0, 0, 2)1	2	AC	-		English
	The aim of the course is to introduce the microorganisms (bacteria, fungi, parasites, virus	es, etc.) that m	ake up the	microbe	world throug	gh laborate	ory work, to info
	the pharmacy students about their interactions with the host cell and the main infectious						
Course	and devices used in microbiology laboratory, use of microscope, sterilization and disinfec		•		-		•
Content	bacterial isolation and culture methods, bacterial colony types, environmental conditions	0 0		0	,	ng of bacte	eria and staining
	methods, simple and negative staining, gram staining, biochemical tests, counting metho	ds of microorg	anisms and	d antibiog	ram.		
PHYL201	BASIC PHYSIOLOGY	(2, 0, 0)2		10	1		English
PHTL201	Course content includes the physiology and diseases of the different systems of the huma	(3, 0, 0)3	4	AC	atory system	actroint	
	endocrine system, female and male genital systems, urinary system, sensory organs, hear						
Course	infectious diseases and neoplasia. Aim of this course is to teach the physiology of the mu						
Content	respiratory, gastrointestinal, urogenital systems, endocrine system and sensory organs ar						
	of diseases of these systems. At the end of the course, students are expected to have bas						Briobio and treat
		ie knowieuge o	. ,				
CHEM209	ANALYTICAL CHEMISTRY-II		4	AC	CHEM		English
CHEM209	ANALYTICAL CHEMISTRY-II	(3, 0, 0)3	4	AC	CHEM	1111	
CHEM209		(3, 0, 0)3 Juantitative and	4 alysis is, w	AC hich is an	CHEM important pa	1111 art of analy	ytical chemistry.
CHEM209 Course	ANALYTICAL CHEMISTRY-II The aim of the course is to build a solid knowledge and thought background about what c	(3, 0, 0)3 quantitative and at infrared ator	4 alysis is, w nic), chron	AC hich is an natograph	CHEM important pa iy (thin layer,	1111 art of analy paper and	ytical chemistry. d column
	ANALYTICAL CHEMISTRY-II The aim of the course is to build a solid knowledge and thought background about what c course content covers the principles of spectroscopy (ultraviolet visible region, fluorescer	(3, 0, 0)3 Juantitative and the infrared atom the infrared atom	4 alysis is, w nic), chron	AC hich is an natograph try, condu	CHEM important pa iy (thin layer, ictometry). T	111 art of analy paper and his course	ytical chemistry. d column e will contribute
Course	ANALYTICAL CHEMISTRY-II The aim of the course is to build a solid knowledge and thought background about what o course content covers the principles of spectroscopy (ultraviolet visible region, fluorescer chromatography, gas and liquid chromatography, and electrochemistry (polarography, ar	(3, 0, 0)3 Juantitative and the infrared atom the infrared atom	4 alysis is, w nic), chron	AC hich is an natograph try, condu	CHEM important pa iy (thin layer, ictometry). T	111 art of analy paper and his course	ytical chemistry. d column e will contribute
Course	ANALYTICAL CHEMISTRY-II The aim of the course is to build a solid knowledge and thought background about what or course content covers the principles of spectroscopy (ultraviolet visible region, fluorescer chromatography, gas and liquid chromatography, and electrochemistry (polarography, ar students in learning analytical thinking At the end of this course, students will gain knowl	(3, 0, 0)3 Juantitative and the infrared atom the infrared atom	4 alysis is, w nic), chron	AC hich is an natograph try, condu	CHEM important pa iy (thin layer, ictometry). T	111 art of analy paper and his course	ytical chemistry. d column e will contribute
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Course Content	This course includes an introduction to dosage forms and basic metrology calculations associated with pharmacy. It covers a range of physics topics such as phase diagrams, solubility, solutions, and kinetics. In addition, related unit operations, pharmaceutical purified water and preparation methods of pure water are also given to the student. Upon completion of this course, students will have knowledge of the basic calculations, processes and techniques used in Pharmaceutical Technology. Students who successfully complete this course know pharmacopoeia, prescription and dose calculations; have knowledge about the production, controls and properties of pharmaceutical water; knows the basic procedures used in pharmacy; have knowledge about solutions, colloids, suspensions, emulsions and aerosols
	PHARMACEUTICAL TECHNOLOGY LAB-I (0, 0, 3)1 2 AC - English In this course, by creating a scientific infrastructure, with appropriate and important technological applications; It is aimed to teach dosage form design, basic (conventional) dosage forms and therapeutic applications. This course again focuses on biopharmaceutical issues and the physicochemical basis of various dosage forms. Discussion topics include basic information such as preformulation factors (melting point, solubility, viscosity, melting, particle and solid state properties), rheology, pharmaceutical solutions, colloids and dispersions, suspensions, emulsions, ointments, aerosols, suppositories. The principles and technologies applied in the preparation of pharmaceutical dosage forms are also presented to the students. These include product design, formulation, production, magisterial production, quality control, and clinical application of various dosage forms. Students completing this course will learn extraction techniques, enzyme, hormone preparations.
PHRM212	PHARMACOLOGY-I (2, 0, 0)2 3 AC - English
	Objectives of the course, to teach the basic concepts of pharmacology, to introduce the drug administration methods, the processes related to the absorption, distribution and elimination of drugs, the mechanisms of action of drugs, dose-concentration relationships, receptors and drug-receptor relationships, basic principles of drug effects, interactions between drugs, the factors that change the drug effect, the undesirable effects of drugs, pharmacogenetics, autocoids as well as the general principles of chemotherapy. The aim of the course is to inform students about basic pharmacokinetic and pharmacodynamic concepts of drugs and introduce the principles of chemotherapy and the points to be considered during treatment with chemotherapeutic agents, antibacterial, antiviral, antifungal, antiparasitic and anticancer drugs and their use and undesirable effects.
BCHM214	BIOCHEMISTRY-II (3, 0, 0)3 4 AC BCHM213 English
Course Content	Course contents, mitochondrial entry pathways of cytoplasmic NADH, oxidative phosphorylation; alternative catabolic pathways for glucose; pentose phosphate pathway, glutathione; glucuronate pathway; amino acid catabolism; oxidation and energy balance of fatty acids, formation and utilization of ketone bodies; gluconeogenesis; glycogen synthesis and degradation; synthesis of lipids; protein synthesis and control; posttranslational modifications; metabolic coordination; neura and hormonal control mechanisms; signaling, secondary messengers; metabolism of lipids, proteins, nucleic acids and their control, function and replication of information macromolecules, hormones and hormone action mechanisms and integration of metabolisms, vitamins, hemostasis, thrombosis, biological membranes, transport mechanisms. The students are expected to have knowledge about the biochemical synthesis and degradation pathway in humans and different control mechanisms in these pathways.
	PHARMACEUTICAL BOTANY (2, 0, 0)2 4 AC - English Course Content, general concepts, naming and classification of plants. Diagnosis of medicinal plants and drugs, biologically active compounds and uses. Cryptogam plants used in vaccine, serum and antibiotic production and classification. Bacteriophyta, Cyanophyta, Mycophyta, Pteridophyta, Spermatophyta; Gymnospermae and Angiospermae. Features and comparison of monocot and dicot plants, Families important for pharmacy, Plants important in pharmacy according to their use and effects, drugs and active substances, Importance of medicinal plants in pharmacy, distribution and usage of medicinal plants in Turkey. The aim of the course is to introduce, scientifically and practically, the plants used as medicine or giving drugs to pharmacist candidates, in other words, plants with medical and economic importance as well as beneficial and poisonous plants.
PHRM216 Course Content	PHARMACEUTICAL BOTANY LAB (0, 0, 3)1 3 AC - English Course Content, Preliminary Information; General concepts related to naming plants, defining their morphological features, preparing and storing herbicides, and identifying important plants in pharmacy: Root, stem, metamorphosis, leaf, flower, fruit and examination; General concepts related to the identification of medicinal plants and identification of medicinal plants: The families of Coniferae and Angiospermae plants that are important in pharmacy and flora of Turkey and Cyprus will be determined. The Objective of the Course is to enable students to learn the morphological and anatomical features and family determinations of medicinal plants practically in order to scientifically identify the herbal source used as medicine or giving drugs.
PHRM300	SUMMER TRAINING-I (0, 0, 0)0 2 AC - English
Course Content	The aim of this course is to enable students to see the roles of pharmacists in their field during the practices to be carried out in community pharmacy and to help them gain the necessary experience before starting their professional life. As a result of this course, students will understand the role of the pharmacist in hospital services; students learn about the most common questions in community pharmacies; can prepare a "patient profile" for people with chronic diseases in community pharmacies; applies the profession of pharmacy with its wide professional knowledge and skills; students understand the pharmacist's roles in different parts of the pharmaceutical industry and/or the professional routines of a community pharmacist.
	PHARMACEUTICAL CHEMSITRY-II (2, 0, 0)2 2 AC PHRM204 English The aim of the course is to give information about the chemical properties, structures, synthesis, mechanisms of action and biotransformations of drugs affecting the nervous system, cardiovascular system and autocoids. Adrenergic agents, adrenergic blocking agents, cholinergic agents, cholinergic blocking agents, cardiac glycosides, antiarrhythmics, antianginal and vasodilator agents, antihypertensives, antihyperlipidemics, coagulation and anticoagulant agents, antianemic drugs, thrombolytics, antiagretic agents and diuretics are the main subjects. As a result of this course, students recognize the chemical structures and properties of nervous system, cardiovascular system, antiallergic drugs and antidiabetic drugs; explains the mechanism of action and structure-activity relationships of these drugs; proposes synthesis methods for said drugs, discusses the metabolism pathways of these drugs; follows up-to-date books and publications on the subject.
PHRM305	PHARMACEUTICAL CHEMSITRY LAB-II (0, 0, 3)1 2 AC - English
Course Content	In this course, paper, thin layer, column and high pressure liquid chromatography techniques and their applications in drug analysis, separation of solid-solid and liquid liquid mixtures, determination of some physical parameters such as density, boiling and melting point, measurement of refractive index and specific rotation, determination of drug metabolism and pharmacopeia analysis will be done. The main aim of the course is to give students the oretical information and practical examples about the separation and purification methods of drugs. Also, students work on the determination of metabolites of some drug molecules and their pharmacopoeia analysis. Students who take this course will gain theoretical and practical experience in the separation of mixed drugs in the laboratory and control of their purity.
PHRM307	PHARMACEUTICAL TECHNOLOGY-II (3, 0, 0)3 3 AC PHRM208 English
Course Content	Rheology, colloidal dispersions, aerosols, suspension type preparations and technology, emulsion type preparations and technology, ointment type preparations and technology, transdermal drug delivery systems and suppository type preparations and technology and cosmetics are the main topics of the course. The aim of the course is to inform students about biphasic systems, semi-solid dosage forms and formulation, functions and quality control of cosmetics, as well as semisolid pharmaceutical dosage forms and radiopharmaceuticals such as Ointments, gels and suppositories, GMP, Validation, contamination, sterilization, injectable dosage forms and hospital It is aimed to give information about pharmacy
PHRM309	PHARMACEUTICAL TECHNOLOGY LAB-II (0, 0, 3)1 2 AC - English
	In the Pharmaceutical Technology II Laboratory course, suspensions, sedimentation volume, viscosity in suspensions, emulsions, liniments, intravenous emulsions, suspensions in HLB, triple phase diagrams, ointments and drug releases, sedimentation volume, redispersibility and particle size distribution analysis, ointments, suppositories and drug release form suppositories, vaginal suppository formulations and properties of semi-solid systems will be covered throughout the course. The

Content	purpose of Pharmaceutical Technology.II Laboratory course is to design, practically prepar similar) and two-phase systems (suspension and emulsion).	e and control	semi-solid	dosage for	ms (ointment, pa	ste, supp	ository, gel and
PHRM311	PHARMACOGNOSY-I	(2, 0, 0)2	2	AC	-		English
Course Content	This course covers the definition and history of pharmacognosy, definitions of primary (lip (phenylpropane derivatives; coumarin, tannin etc.), physical and chemical properties, sepa use among the public, chemistry of biological drugs, inorganic compounds, organic acids, p identification of sugars, plant material. Course objective is aimed to give information abou homogeneous and heterogeneous polysaccharides, tannins, glycosides and biological orig metabolism products and sources used as drugs and pharmaceutical raw materials in term	ids, amino aci aration metho plant enzymes t classificatior in drugs conta	ds, qualita , lipids, ca n, isolation ining the a	n and enzym itive and qu rbohydrate n, identificat above comp	antitative analysi s, monosaccharid ion, pharmacolog onents, the prim	s, ways a e derivat gical effeo ary and s	olism products nd purposes of ives, isolation cts, uses of
PHRM313	PHARMACOGNOSY LAB-I	(0, 0, 3)1	2	AC	-		English
	Definition of microscope, examination under microscope, microscopic analysis and examir and measurement in plant cells and tissues with a microscope), plant cells and tissues: Erg elements (examples of glandular and covering hairs; some examples of epidermis and stor (investigation and examples of related elements); microscopic examination of powdered h anthraquinides, cyanogenetic and cardiac glycoids, tannins, proteins and their chromatogr the anatomical structure of powder drugs and to identify and quantify some secondary me	astic substanc mata), root, rh erbal medicin raphic applicat etabolites.	es (crystal izome and es, chemic ions will b	ls: single, tw l bark eleme cal identifica de performe	vin, sand-shaped, ents, fruit and see ation of active co d. The course will	raffits, si d elemen nponent	tarch); Leaf nts s of saponins, prmation about
PHRM315	PHARMACOLOGY-II	(2, 0, 0)2	3	AC	PHRM212		English
Course Content	Information on the mechanisms of action, side effects, use, contraindications and drug int drugs, autacoids and drugs that affect the respiratory system are discussed. The aim of the autonomic nervous system, the basic mechanisms regulating the functioning of the cardio course, students have knowledge about antiparasitic, antineoplastic, antiviral and immune of action, side effects, use and contraindications of drugs acting on the autonomic nervous	e course is to g vascular syste omodulatory d	ive knowler m and the lrugs; learn	edge about drugs that ns autocoid	the neurochemic affect this system s and related drug	al proper . At the e gs; learns	ties of the end of this the mechanism
BICM317	CLINICAL BIOCHEMISTRY	(2, 0, 0)2	3	-	SCHM213, BCHM21		English
Course Content	The content of the course includes the practical performance of qualitative and quantitative spectroscopic and electrochemical methods. Students will gain practical skills by applying spectroscopy, thin layer, paper, ion exchange and column chromatography, potentiometry of chemical analysis and calculation. At the end of this course, students will use chemicals substances by synthesis from starting materials; identify and calculate some moisture prol reaction; will be in a position to use a ball mill for experimental studies.	various instrui ,, conductome safely for wor	mental and etry and re kers and t	alysis metho fractometry he environr	ods (UV-GB specti /) and will learn th nent; will produce	roscopy, ne metho e many ir	atomic ods, applications norganic
BICM319	CLINICAL BIOCHEMISTRY LAB	(0, 0, 2)1	2	AC	-		English
Course Content	Basic techniques in biochemical analysis, hematological tests, quantitative tests for carboh cholesterol and lipoproteins in plasma, liver and kidney function tests, determination of ke As a result of this course, students learn the biochemical basis of diseases and the consequent the diagnosis of diseases and monitoring the response to drugs; learns the ability to interp effects of drugs on diagnostic tests; gain the ability to analyze some biochemical tests	etone bodies a uences of bein pret biochemis	nd metab g differen	olites in urii t from norm	ne and enzymatic nal; learns the bio	tests wil chemical	l be performed. tests used in g; learns the
Course Content	PHARMACEUTICAL TOXICOLOGY-I In this course, the history and principles of toxicology, toxicity tests and absorption, distrik mechanisms of toxic effects, mutagenesis and mutagenic agents, teratogenesis and terato immunotoxic effects, toxicological evaluation of drugsdrug interactions, hypersensitivity to emergency management of poisoning will be covered. The aim of this course is to inform courses, the student is expected to have acquired the necessary basic knowledge about to	genic agents, reactions to t m students ab	carcinoger oxic subst	nesis, carcin ances and i	ogenic agents, al diosyncratic react	ergic rea ions, ger	ctions and leral approach
PHRM304	PHARMACEUTICAL CHEMISTRY-III	(2, 0, 0)2	2	AC	PHRM303		English
Course Content	The main topics are drugs used in the treatment of infection and tumoral diseases, antiseg antitricomonal, anthelmintic, ectoparasitic, antifungal, antiviral, antineoplastic, antibacter antidiarrhetics, antiallergics, local anesthetics, vitamins, diagnostic compounds and hormo synthesis methods, structure-activity relationships, mechanisms of action and to inform st the chemical structures and properties of drugs and explain the mechanism of action and a hormones and vitamins; proposes synthesis methods and discusses the metabolism pathw based on their chemical names.	ial antimycoba ones. The cour udents about structure-activ	acterials, s se is aime chemothe vity relatio	ulfonamide d to teach t rapy. As a r nships of ar	s, oxazolidones, l he structures of c esult of this cours ntineoplastic ager	axatives- hemothe se, stude its, immu	purgatives, rapeutic drugs, nts recognize inomodulators,
PHRM306	PHARMACEUTICAL CHEMISTRY LAB-III	0, 0, 3)1	2	AC	-		English
Course Content	Fundamentals of quantitative analysis; Basic principles of quantitative analysis including ti complexometry, nitritometry and their applications in drug analysis. In addition, the princi spectrophotometric methods, derivative spectroscopy, quantitative analysis of drug mixtu and structural illumination of drugs will be discussed. The aim of this course is to give basi drugs. In addition, in this course, the student is expected to learn the application of quanti	trimetric meth ples and appli res, ultraviole c concepts on	cations of t, infrared the differe	as Titrimetr chemical ar , nuclear ma ent method	nd instrumental to agnetic resonance s used in the quar	echnique e, and qu	s such as light, alitative analysis
PHRM308	PHARMACEUTICAL TECHNOLOGY-III	(2, 0, 0)2	3	AC	PHRM307		English
Course Content	New drug delivery systems, parenteral solutions, water for injections, pyrogenicity tests, p ophthalmic, grinding theories and sampling methods and particle size determination meth Investigation of organoleptic and organoleptic properties, excipients used in tablet formul capsules, stability, packaging materials are the main subjects. As a result of this course, stu capsules and coated dosage forms; knows the controls made in solid dosage forms; knows and incompatibility; have knowledge about dosage forms used in veterinary treatment and	arenteral prep ods, general p ation, compre udents will lea s arrhenius equ	parations, properties ssion meti rn about p uation, acc	contaminat powders de hods and ap owders, tab	efinition, importa oplications, coatin olets, hard gelatin ability, shelf life c	nce of programs of methor capsules	rance, eformulation ds, gelatin s, soft gelatin
PHRM310	PHARMACEUTICAL TECHNOLOGY LAB-III	(0, 0, 3)1	2	AC	-		English
Course Content	At the end of the Pharmaceutical Technology III Laboratory course, the student will be able combine sterile preparations and perform final product sterilization using a filtration meth solutions, calculate the amount of materials required to combine the selected sterile prep. selection of appropriate drug containers and administration sets for sterile products, prep requirements and assist in the promotion, and correct use of the drug.	e to perform s od, calculate i arations. (inclu	terilizatior millimoles uding the a	n technique , milliequiva ability to use	alents and millios e E-values to prep	mols of s are isoto	nal sterilization), elected sterile onic solutions),
PHRM312	PHARMACOGNOSY-II	(2, 0, 0)2	3	AC	PHRM311		English

	Pharmacognosy, as one of the fundamental disciplines of pharmacy, aims to develop	a clear understand	ing of the	theraneut	ic properties of p	atural nro	ducts (nlants
	fungi, marine organisms and others) in medicine. The Pharmacognosy II course is the		-	•		•	
Course	theoretical and practical information about raw materials for natural medicines. The g	general properties	of flavono	ids, pheno	olic glycosides, alo	cohol glyco	osides, coumar
Content	glycosides, tannins, lipids and waxes, tannins, terpenoids and essential oils (definition	n, physical properti	es, recogn	ition reac	tions and product	ion, quan	titation, effect
	and use) are given and then these factors are given. Drugs carrying substances are des	scribed.					
PHRM314	PHARMACOGNOSY LAB-II	(0, 0, 3)1	2	AC	BCHM213		English
11/10/14	In the Pharmacognosy II Laboratory course, isolation techniques, quantitative and qua					quantita	
	essential oils by volumetric and gravimetric methods, index determinations and TLC a	• •					
Course	colorimetric analysis of Solanaceae alkaloids, quantitative cinnana total alkaloids. Ana	•					
Content	black tea and pharmacopoeia analysis, total qualitative analysis of herbal teas, project		• •				
	oil and fixed oil, to teach qualitative and quantitative pharmacopoeia analysis method	•					
PHRM316	PHARMACOLOGY-III	(2, 0, 0)2	3	AC	PHRM315		English
	Information about the central nervous system, mechanisms of action of effective drug		,		0		
Course	of the course is to provide the students with necessary information about the mechar system and gastrointestinal system and the drugs used in the treatment of diseases th	nat occur in case of	f their diso	orders. As	a result of this co	urse, stud	ents learn abou
Content	central nervous system diseases and drugs used in their treatments; learns its regulat treatment; knows birth control methods learns psychiatric and neurological diseases a			learns gas	trointestinal system	em diseas	es and their
	treatment, knows birth control methods learns psychiatric and neurological diseases a		its.				
PHRM318	DEONTOLOGY AND ETHICS OF PHARMACY	(2, 0, 0)2	3	AC	-		English
	The course aims to identify ethical issues they encounter during professional practice,	, to solve problem:	s, and to u	se ethical	principles on cert	ain issues	. Thus, the
	prestige of the pharmacy profession while providing a more accurate and higher quali	ity pharmacy servi	ce will be p	protected.	Turkish pharmad	y laws and	d regulations,
Course	business ethics, good pharmacy practices, pharmaceutical industry, hospital, pharmac				•		
Content	information about the ethical obligations of the pharmacist; the legal dimension of th	•			• •		
	of medical ethics; identifies and resolves ethical dilemmas that may arise in health car	re processes; ident	ifies possi	ble right-a	ction options in e	ethical dile	emmas and
	justifies their choice.						
PHRM400	SUMMER TRAINING-II	(0, 0, 0)0					Englich
PHRIVI400		(0, 0, 0)0	2	AC	-		English
	The purpose of the summer internship-II course is to enable students to see the roles help them gain the necessary experience before starting their professional life. As a re	•		-	•		
Course	services; learns about the most common questions in community pharmacies; studen		,			•	•
Content	pharmacies; applies the profession of pharmacy with its wide professional knowledge		•	•	•		
content	pharmaceutical industry and/or the professional routines of a community pharmacist	· ·	inenu the	TOIES OF LI		interent p	
	pharmaceutical mutistry and/or the professional routines of a community pharmacist	•					
PHRM403	CLINICAL PHARMACY-I	(2, 0, 0)2	2	AC	PHRM212		English
111111405	Clinical Pharmacy I course aims to introduce students to the basic principles of clinical					roles that	
	pharmacist can play in the rational use of drugs and the success of patient treatment.			•			
Course	and patient-centered pharmacy; knows the general and specific duties of the clinical p				-		
Content	importance of systematic approach in patient treatment; recognizes the methods of u		re rearris pe	attent cau	cation methods a	na anacis	
		use of different dos	age forms	: knows th	ne roles of the ph	armacist i	n the treatmen
		use of different dos	age forms	; knows tł	ne roles of the ph	armacist ii	n the treatmen
content	of common cases in pharmacy such as pain and fever.	use of different dos	age forms	; knows tł	ne roles of the ph	armacist i	n the treatmen
			-		e roles of the ph	armacist i	n the treatmen
PHRM405	of common cases in pharmacy such as pain and fever.	(0, 0, 2)1	2	AC	-		English
	of common cases in pharmacy such as pain and fever. CLINICAL PHARMACY PRACTICE-I	(0, 0, 2)1 nables making clin	2 ical observ	AC vations in a	- a hospital setting	. Students	English will understan
PHRM405	of common cases in pharmacy such as pain and fever. CLINICAL PHARMACY PRACTICE-I This course introduces patient care and meeting medication needs in the clinic, and end	(0, 0, 2)1 nables making clin arns the role and e:	2 ical observ	AC vations in a duties an	hospital setting d responsibilities	. Students of the clin	English will understan nical pharmacis
PHRM405 Course	of common cases in pharmacy such as pain and fever. CLINICAL PHARMACY PRACTICE-I This course introduces patient care and meeting medication needs in the clinic, and en the importance of clinical pharmacy in the hospital and explain its basic principles; lea	(0, 0, 2)1 nables making clin arns the role and e obtains informatic	2 ical observ xplains the in about di	AC vations in a duties an iseases an	a hospital setting d responsibilities d drugs used; into	. Students of the clin erpret labo	English will understar nical pharmaci: oratory data
PHRM405	of common cases in pharmacy such as pain and fever. CLINICAL PHARMACY PRACTICE-I This course introduces patient care and meeting medication needs in the clinic, and end the importance of clinical pharmacy in the hospital and explain its basic principles; lead in patient follow-up and treatment; observing different patients in different services,	(0, 0, 2)1 nables making clin arns the role and ex obtains informatic seases and the pha	2 ical observ kplains the n about di rmacothe	AC vations in a e duties an iseases an rapy of dis	a hospital setting d responsibilities d drugs used; inte eases; can make	. Students of the clin erpret labo comment	English will understan nical pharmacis oratory data s about the dru
PHRM405 Course	of common cases in pharmacy such as pain and fever. CLINICAL PHARMACY PRACTICE-I This course introduces patient care and meeting medication needs in the clinic, and end the importance of clinical pharmacy in the hospital and explain its basic principles; lead in patient follow-up and treatment; observing different patients in different services, related to diseases; explains the clinical pharmacist's approach to various systemic dis	(0, 0, 2)1 nables making clin arns the role and ex obtains informatic seases and the pha	2 ical observ kplains the n about di rmacothe	AC vations in a e duties an iseases an rapy of dis	a hospital setting d responsibilities d drugs used; into eases; can make	. Students of the clin erpret labo comment	English will understan nical pharmacis oratory data s about the dru
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PHRM405 Course Content PHRM407 Course	of common cases in pharmacy such as pain and fever. CLINICAL PHARMACY PRACTICE-I This course introduces patient care and meeting medication needs in the clinic, and et the importance of clinical pharmacy in the hospital and explain its basic principles; lea in patient follow-up and treatment; observing different patients in different services, related to diseases; explains the clinical pharmacist's approach to various systemic dis used in treatment by observing patients in the hospital; can prepare and present a cas PHARMACEUTICAL TOXICOLOGY-II Hepatotoxicity, nephrotoxicity, skin toxicity, pulmonary system toxicity, cardiovascula metals, toxic effects of volatile organic solvents, natural toxins in food, toxic effects of poisons and treatments, toxic effects and treatments of plants, toxicity of household soil pollution, toxicity of analgesics, toxic effects of sedative-hypnotics, toxic effects of soil pollution, toxicity of analgesics, toxic effects of sedative-hypnotics, toxic effects of soil pollution, toxicity of analgesics, toxic effects of sedative-hypnotics, toxic effects of soil pollution, toxicity of analgesics, toxic effects of sedative-hypnotics, toxic effects of soil pollution, toxicity of analgesics, toxic effects of sedative-hypnotics, toxic effects of soil pollution toxicity of analgesics, toxic effects of sedative-hypnotics, toxic effects of soil pollution toxicity of analgesics, toxic effects of sedative-hypnotics, toxic effects of soil pollution toxicity of analgesics, toxic effects of sedative-hypnotics, toxic effects of soil pollution toxicity of analgesics toxic effects of sedative-hypnotics, toxic effects of soil pollution toxicity of analgesics, toxic effects of sedative-hypnotics, toxic effects of soil pollution toxicity of analgesics toxic effects of sedative-hypnotics, toxic effects of soil pollution toxicity of analgesics toxic effects of sedative-hypnotics, toxic effects of soil pollution toxicity of analgesics toxic effects of soil pollution toxicity of anal	(0, 0, 2)1 nables making clin rrns the role and e: obtains informatic seases and the pha se report of a patie (2, 0, 0)2 ar system toxicity, s f food additives an chemicals, disaster f antihypertensive	2 ical observ cplains the n about di rmacothei nt observe 2 selective to d contami t toxicolog s, toxic eff	AC vations in a e duties an iseases an rapy of dis ed and foll AC oxicity, tox nants toxis y, toxicolc ects of car	a hospital setting d responsibilities d drugs used; inte eases; can make owed in the hosp icc effects of pest c effects of terres gical principles in diovascular syste	Students of the clii erpret labo comment ital servic icides, tox trial anim. I legal caso m drugs, si	English will understar nical pharmaci: oratory data s about the dru- re. English ic effects of al poisons and es, air, water a alcohol Toxicit
PHRM405 Course Content PHRM407	of common cases in pharmacy such as pain and fever. CLINICAL PHARMACY PRACTICE-I This course introduces patient care and meeting medication needs in the clinic, and et the importance of clinical pharmacy in the hospital and explain its basic principles; lea in patient follow-up and treatment; observing different patients in different services, related to diseases; explains the clinical pharmacist's approach to various systemic dis used in treatment by observing patients in the hospital; can prepare and present a case PHARMACEUTICAL TOXICOLOGY-II Hepatotoxicity, nephrotoxicity, skin toxicity, pulmonary system toxicity, cardiovascula metals, toxic effects of volatile organic solvents, natural toxins in food, toxic effects of poisons and treatments, toxic effects and treatments of plants, toxicity of household o soil pollution, toxicity of analgesics, toxic effects of sedative-hypnotics, toxic effects, to of aldehydes, opioids and hallucinogenic narcotics, vitamins and their toxic effects, to	(0, 0, 2)1 nables making clin rrns the role and e: obtains informatic seases and the pha se report of a patie (2, 0, 0)2 ar system toxicity, s f food additives an chemicals, disaster f antihypertensive	2 ical observ cplains the n about di rmacothei nt observe 2 selective to d contami t toxicolog s, toxic eff	AC vations in a e duties an iseases an rapy of dis ed and foll AC oxicity, tox nants toxis y, toxicolc ects of car	a hospital setting d responsibilities d drugs used; inte eases; can make owed in the hosp icc effects of pest c effects of terres gical principles in diovascular syste	Students of the clii erpret labo comment ital servic icides, tox trial anim. I legal caso m drugs, si	English will understam nical pharmaci: oratory data s about the dru e. English ic effects of al poisons and es, air, water a alcohol Toxicity
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PHRM415	PHARMACEUTICAL BIOTECHNOLOGY	(2, 0, 0)2	2	AC	_	English
111111415	The aim of the Pharmaceutical Biotechnology course is to give information about pharmac		chnology a	-	duction and propert	_
Course Content	with this technology. Applications of recombinant DNA in pharmaceutical sciences, biotec pharmaceutical applications, formulation of pharmaceutical biotechnology products, gene and bioreactor systems, use of transgenic plants and plants for the production of biopharn biotechnology, the role of pharmacists in the distribution and application of biotechnology	hnology-deriv therapy and naceuticals. a	ved protein viral and n mimals, and	products, on-viral ge alytical me	vaccines, monoclon ne therapeutics, cel thods used in pharn	al antibodies and l culture, fermentation naceutical
	knowledge about recombinant DNA technology, drugs produced with this technology; hav	e knowledge	about biot	echnologic	al drug production	and process.
PHRM417	PHARMACOTHERAPY	(2, 0, 0)2	2	AC	-	English
	This course introduces students to the clinical use of drugs in the prevention and treatme	nt of disease	and provid	es a basis f	or the delivery of pl	narmaceutical care.
Course Content	Prospective pharmacists will focus on core chronic disease states with an emphasis on out treatment principles learned during pharmacology education by taking the most common related to treatment. Thereby, students read and evaluate prescriptions; learns drugs user respiratory, kidney and gastrointestinal diseases; learns drugs used in cases such as sepsis	diseases as ai d in immune s	n example system mod	and to gair dulation, ra	n the ability to exam adiopharmaceutical	ine the problems
PHRM402	PHARMACY LEGISLATION	(2, 0, 0)2	3	AC	-	English
Course Content	Laws and regulations related to pharmacy and pharmacy in Turkey and Cyprus and ethical scope of this course, the latest laws and regulations, definition of social pharmacy and hear drugs, patient-physician-pharmacist communication, drug incompatibility and its consequ information about the laws and regulations related to pharmacy practices; have knowledg pharmaceutical industry and universities must comply with; Evaluates the current legislati	alth, consume ences will be e about the la	r behavior discussed. aws that ph	in the sele As a result armacists	ction of prescriptior of this course, stud to work in pharmac	and nonprescription ents will have ies, hospitals,
PHRM404	CLINICAL PHARMACY-II	(2, 0, 0)2	3	AC	-	English
	The course aims to explain the roles of the clinical pharmacist in the pharmacotherapy of	common acut			s and in the follow-	up of patients. The
Course Content	course is containing grug use during pregnancy and lactation and clinical pharmacist's app treatment and digoxin monitoring, congestive heart failure pharmacotherapy are among. establish a relationship between medicine and disease during in rotations in the hospital; clinical use of the drug and knowledge of clinical biochemistry and in the treatment of con	The students knows the rol	will know t les of the cl	he clinical inical phar	pharmacist's duties macist, make a case	in the hospital; can
PHRM406	PHYTOTHERAPY	(2, 0, 0)2	4	AC	PHRM216	English
	The aim of the phytotherapy course is to state the regulatory and curative role of herbal m					
Course Content	history of phytotherapy, plants used against gastrointestinal diseases, cardiovascular dise sedatives, gynecology, ophthalmology, dermatology, cancer treatment, aromatic baths. Ar medicine; learns herbal drugs (such as carminative, sedative, liver protector) used in certa	s a result of th in symptoms;	nis course,	students ki	now the methods of	preparing herbal
	herbal teas (dose, toxicity, interaction, side effects); have information about the preparati	on samples av	vailable in 1	he market	; Prepares herbal te	a formulas.
PHRM408	PHARMACY MANAGEMENT course content; Business concept and its reatures, Business Management and the develo	(2, 0, 0)2	3 mess mana	<mark>АС</mark> gement, в	usiness objectives, i	English ools and functions,
PHRM408	PHARMACY MANAGEMENT	(2, 0, 0)2 priment of busic ility studies fo iss in pharmac pharmacies a	3 mess mana or pharmac cy, finance as a busine	AC gement, B y, Selection in pharma ss; can carr	usiness objectives, in n of pharmacy estab cy, personnel mana y out marketing act	English colis and functions, ilishment location and gement in pharmacy. ivities of pharmacies as
	PHARMACY MANAGEMENT course content, business concept and its reatures, business management and the develo Businesses as an economic unit, Businesses in legal terms, Pharmacy as a business, Feasib determination of its size, Case study, In pharmacy marketing works, communication proce Thereby, students will have a knowledge of how businesses work and the management of	(2, 0, 0)2 priment of busic ility studies fo iss in pharmac pharmacies a	3 mess mana or pharmac cy, finance as a busine	AC gement, B y, Selection in pharma ss; can carr	usiness objectives, in n of pharmacy estab cy, personnel mana y out marketing act	English colis and functions, ilishment location and gement in pharmacy. ivities of pharmacies as
	PHARMACY MANAGEMENT course content, business concept and its reatures, business wanagement and the develo Businesses as an economic unit, Businesses in legal terms, Pharmacy as a business, Feasib determination of its size, Case study, In pharmacy marketing works, communication proce Thereby, students will have a knowledge of how businesses work and the management of a business; they act according to their position within the distribution channel as a busine	(2, 0, 0)2 primerit of boss ility studies for sss in pharmace pharmacies a ss; learn how (2, 0, 0)2 MP, GLP, etc.] ticals will be o osmetic prod metic industr	3 mess mana or pharmac cy, finance as a busines to commun 3), features covered. As ucts applie y and the l	AC gement, B y, Selection in pharma ss; can carr nicate with AC of dermate a result of d to the ha egal regula	usiness objectives, i n of pharmacy estab cy, personnel manaj y out marketing act patients as a busin blogical products, co t this course, studer ir; know the formul tions regarding cosi	English cots and runctions, slishment location and gement in pharmacy. ivities of pharmacies as ess. English ismetics containing its know the anatomical a design and quality metic products; will
	PHARMACY MANAGEMENT Course content, business concept and its reatures, business management and the develop Businesses as an economic unit, Businesses in legal terms, Pharmacy as a business, Feasib determination of its size, Case study, In pharmacy marketing works, communication proce Thereby, students will have a knowledge of how businesses work and the management of a business; they act according to their position within the distribution channel as a busine COSMETOLOGY Production technologies of cosmetic products on the basis of international regulations (G active ingredients, product types, stability and efficacy tests, and side effects of cosmeceu / physiological structure of hair and skin; know the formula design and quality control of c	(2, 0, 0)2 primerit of boss ility studies for sss in pharmace pharmacies a ss; learn how (2, 0, 0)2 MP, GLP, etc.] ticals will be o osmetic prod metic industr	3 mess mana or pharmac cy, finance as a busines to commun 3), features covered. As ucts applie y and the l	AC gement, B y, Selection in pharma ss; can carr nicate with AC of dermate a result of d to the ha egal regula	usiness objectives, i n of pharmacy estab cy, personnel manaj y out marketing act patients as a busin blogical products, co t this course, studer ir; know the formul tions regarding cosi	English cots and runctions, slishment location and gement in pharmacy. ivities of pharmacies as ess. English ismetics containing its know the anatomical a design and quality metic products; will
PHRM410 Course Content	PHARMACY MANAGEMENT Course content, business concept and its reatures, business management and the develop Businesses as an economic unit, Businesses in legal terms, Pharmacy as a business, Feasib determination of its size, Case study, In pharmacy marketing works, communication proce Thereby, students will have a knowledge of how businesses work and the management of a business; they act according to their position within the distribution channel as a busine COSMETOLOGY Production technologies of cosmetic products on the basis of international regulations (G active ingredients, product types, stability and efficacy tests, and side effects of cosmeceu / physiological structure of hair and skin; know the formula design and quality control of c control of cosmetic products applied to the skin; know the raw material sources of the cos have information about the history of cosmetics, its regulations, good manufacturing prace	(2, 0, 0)2 primerit or busis illity studies fc sss in pharmace pharmacies a sss; learn how (2, 0, 0)2 MP, GLP, etc.; ticals will be co osmetic prodi metic industri tices in cosme (0, 0, 3)1 of the skin and d in Turkey, Cy ons of the cou	3 mess mana or pharmac cy, finance is a busine: to commune 3), features covered. As ucts applie y and the l etics and the etics and the 2 d oral cavit yprus and t	AC gement, B y, Selection in pharma s; can carr hicate with AC of dermate a result of d to the ha ggal regula ie purpose AC y and the c he world, i ction and c	usiness objectives, r n of pharmacy estab cy, personnel manaj y out marketing act patients as a busin ological products, cc f this course, studen ir; know the formul tions regarding cosi of use of cosmetic p osmetic products us and informs student control of different t	English cours and runctions, olishment location and gement in pharmacy. ivities of pharmacies as ess. English smetics containing its know the anatomical a design and quality metic products; will products. English sed in these areas. In is about laboratory ypes of products in the
PHRM410 Course Content PHRM412 Course Content	PHARMACY MANAGEMENT Course content, business concept and its reatures, business management and the develop Businesses as an economic unit, Businesses in legal terms, Pharmacy as a business, Feasib determination of its size, Case study, In pharmacy marketing works, communication proce Thereby, students will have a knowledge of how businesses work and the management of a business; they act according to their position within the distribution channel as a busine COSMETOLOGY Production technologies of cosmetic products on the basis of international regulations (G active ingredients, product types, stability and efficacy tests, and side effects of cosmeceu / physiological structure of hair and skin; know the formula design and quality control of cosmetic products applied to the skin; know the raw material sources of the cos have information about the history of cosmetics, its regulations, good manufacturing pract COSMETOLOGY LAB Cosmetic products on the main principles of cosmetics laws and regulations used practices, cosmetic products on the main principles of cosmetics laws and regulations used practices, cosmetic product on on new cosmetic products in the laboratory application laboratory environment, production of new cosmetic products in the laboratory environment	(2, 0, 0)2 primeric of busis ility studies foc sis in pharmace sis in pharmace sis in pharmace sis; learn how (2, 0, 0)2 MP, GLP, etc.] ticals will be of osmetic prodi- metic industri tices in cosmet (0, 0, 3)1 of the skin and d in Turkey, Cy- ons of the cou- ent from all R	3 mess manacor proprima cor cy, finance is a busine: to communi- sa a busine: to communi- to communi- a busine: a busine: busine: a busine: a busine: a busine: busine: a busine: a busine: busine: a busine: a busine: busine: a busine: a busine: busine: a busine: busine: a busine: busine: a busine: busine: a busine: busine: a busine: busine: busine: a busine: busine	AC gement, B y, Selection in pharma is; can carr s; can carr s; can carr d to the ha egal regula ie purpose AC y and the c he world, ic tion and c s from idea	usiness objectives, r n of pharmacy estab cy, personnel manaj y out marketing act patients as a busin ological products, cc f this course, studen ir; know the formul tions regarding cosi of use of cosmetic p osmetic products us and informs student control of different t	English cots and runctions, solishment location and gement in pharmacy. ivities of pharmacies as ess. English semetics containing ts know the anatomical a design and quality metic products; will products. English sed in these areas. In ts about laboratory ypes of products in the t launch, production
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PHRM410 Course Content PHRM412 Course Content PHRM500 Course Content	PHARMACY MANAGEMENT Course Content, business concept and its reatures, business management and the develop Businesses as an economic unit, Businesses in legal terms, Pharmacy as a business, Feasib determination of its size, Case study, In pharmacy marketing works, communication proce Thereby, students will have a knowledge of how businesses work and the management of a business; they act according to their position within the distribution channel as a busine COSMETOLOGY Production technologies of cosmetic products on the basis of international regulations (G active ingredients, product types, stability and efficacy tests, and side effects of cosmeceu / physiological structure of hair and skin; know the formula design and quality control of costentic products applied to the skin; know the raw material sources of the cos have information about the history of cosmetics, its regulations, good manufacturing pract COSMETOLOGY LAB Cosmetology course introduces the students to the anatomical structure and physiology addition, the course focuses on the main principles of cosmetics laws and regulations user practices, cosmetic product formulation and the entire R&D process. Laboratory applicatic laboratory environment, production of new cosmetic products in the laboratory environment addition, the course is to enable students to see the roles of pharmacists in the field and life during the practices to be carried out in the community pharmacy, hospital phar	(2, 0, 0)2 primerri or busi ility studies fic sis in pharmace sis in pharmace pharmacies a ss; learn how (2, 0, 0)2 MP, GLP, etc.] ticals will be co osmetic produ- metic industr tices in cosme (0, 0, 3)1 of the skin and d in Turkey, Cy ons of the cou ent from all R (0, 0, 0)0 to help them and industry. ty pharmacie: essional know unity pharma	3 mess manacor printer pharmac cy, finance is a busine: to community as a busine: to community as a busine: to community as a busine: a	AC gement, B y, Selection in pharma ss; can carr hicate with AC of dermate a result of d to the ha egal regula e purpose AC y and the c, iction and c, iction and c, iction and c, iction and c, iction and c, is from idea	usiness objectives, r n of pharmacy estab cy, personnel mana y out marketing act patients as a busin ological products, cc f this course, studen ir; know the formul tions regarding cosi of use of cosmetic p osmetic products us and informs student control of different t in creation to product experience before stat irs, students will ui ent profile" for peop	English code and reactions, blishment location and gement in pharmacy. ivities of pharmacies as ess. English symetics containing its know the anatomical a design and quality metic products; will products. English sed in these areas. In its about laboratory ypes of products in the t launch, production English intring their professional inderstand the role of ole with chronic f the pharmacist in
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PHRM410 Course Content PHRM412 Course Course Content PHRM501 PHRM501 Course	 PHARMACY MANAGEMENT Conse Content, Business Concept and its reatures, Business Management and the develop Businesses as an economic unit, Businesses in legal terms, Pharmacy as a business, Feasib determination of its size, Case study, In pharmacy marketing works, communication proce Thereby, students will have a knowledge of how businesses work and the management of a business; they act according to their position within the distribution channel as a busine COSMETOLOGY Production technologies of cosmetic products on the basis of international regulations (G active ingredients, product types, stability and efficacy tests, and side effects of cosmeceu / physiological structure of hair and skin; know the formula design and quality control of c control of cosmetic products applied to the skin; know the raw material sources of the cos have information about the history of cosmetics, its regulations, good manufacturing prace addition, the course focuses on the main principles of cosmetics laws and regulations user practices, cosmetic product formulation and the entire R&D process. Laboratory environment, production of new cosmetic products in the laboratory environment and other out types. SUMMER TRAINING-III The aim of the course is to enable students to see the roles of pharmacists in the field and life during the practices to be carried out in the community pharmacy, hospital pharmacy the pharmacist in hospital services; learns about the most common questions in communi diseases in community pharmaceis; applies the profession of pharmacy with its wide profidifferent parts of the pharmaceutical industry and/or the professional routines of a community barmaceutical industry and/or the professional routines of a community discussion of the literature, creating the research topic, presentation of the interir the pilot studies, report presentation are among the contents of the course. As a result of subject under the supervision of an academi	(2, 0, 0)2 priment or busic sis in pharmace pharmacies a ss; learn how (2, 0, 0)2 MP, GLP, etc.; ticals will be co osmetic prodi metic industri tices in cosme (0, 0, 3)1 of the skin and d in Turkey, Cy ons of the cou ent from all R (0, 0, 0)0 to help them and industry. ty pharmacies essional know unity pharma (2, 0, 0)2	3 mess manager pharmac or pharmac cy, finance sa busines to community 3), features covered. As ucts applie y and the letics and the etics and the 2 d oral cavit yprus and t urse; produ & gain the n As a result s; can prep /ledge and icist. 10 hoose a res inization of tudents gai	AC germent, B y, Selection in pharma sy; can carr hicate with AC of dermate a result of d to the ha egal regula ee purpose AC y and the c he world, i ction and c from idea cessary er of this cou are a "pati skills; com AC eeerch topi the study, n the abiliti	usmess objectives, r, n of pharmacy estab cy, personnel mana y out marketing act patients as a busin ological products, cc f this course, studer ir; know the formul tions regarding cosi of use of cosmetic p osmetic products us and informs student correction to product weather of different t is creation to product experience before stat irse, students will ui ent profile" for peop prehend the roles o c, to plan and to cor pilot studies, evalu	English codis and runctions, solishment location and gement in pharmacy. ivities of pharmacies as ess. English smetics containing its know the anatomical a design and quality metic products; will broducts. English sed in these areas. In its about laboratory ypes of products in the t launch, production English and erstand the role of ole with chronic f the pharmacist in English anduct it. Literature ation of the results of report on a specific

Course Code	Course Title	Credit	ECTS Credit	Course Catego.	Pre-requisite	Teaching Langua
MATH135	BASIC MATHEMATICS	(3, 0, 0) 3	3	AC	-	English
Course Content	Within the scope of this course, numbers, sets, exponential expressions, logarithmic calcul function, inverse of a function, limit concept, continuity, derivative concept, derivative rule derivative of the sum of two functions, derivative of the product of two functions, derivatif functions, derivative of exponential functions, indefinite shapes, L'Hopital's rule, critical podecreasing of a function Finding intervals, methods of integrating and integrating: indefinite area between two curves are covered.	es: derivative of the division	of constan on of two cal maxim	t function, functions, um and loo	derivative of expone chain rule, derivative cal minimum points, i	ntial functions. , e of logarithmic ncreasing and
PHYS111	PHYSICS	(2, 0, 2) 2	4	AC	-	English
Course Content	This course is a basic physics course with elective subjects that aims to present the necessa and to skip unnecessary concepts. To this end, the course begins with an introduction to V Then he studies Mechanics, which has its roots in the very heart of any branch of physics. I Fluid Mechanics, Electricity, Magnetism and Radiation. Each topic is accompanied by as ma	ector Algebra The course is t	and Meas hen follov	urement as ved by som	s essential tools for the selected topics in t	ne following section he fields of Elastici
	and increase student motivation.					
HESC107	and increase student motivation. FIRST AID	(2, 0, 0)2	3	FC	-	English
HESC107 Course Content		er, poisoning, event the dete aluation of the s, dislocations	suffocation erioration e scene an , sprains a	on etc., ens of the patie and the patie	ent's condition until p nt / injured, basic life , shock and consciou	tim to learn and ap professional help support in adults, sness disorders,
Course	FIRST AID The course includes the following topics; all kinds of sudden illness, accident, injury, disast non-drug interventions, preventing injuries and shortening the healing process that will pr arrives. Definition of first aid, basic applications of first aid, human body and vital signs, ev children and infants, respiratory tract obstruction, bleeding, injuries and traumas, fractures	er, poisoning, event the dete aluation of the s, dislocations	suffocation erioration e scene an , sprains a	on etc., ens of the patie and the patie	ent's condition until p nt / injured, basic life , shock and consciou	tim to learn and ap professional help support in adults, sness disorders,

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Course Descriptions - III: All Area Elective and Faculty/School Elective courses offered by the department of the progra							
Course Code	Course Title	Credit	ECTS Credit	Course Catego.	Pre-requisite	Teaching Language	
PHRM419	VOCATIONAL LATIN	(3, 0, 0)3	4	AE	-	English	
Course Content	Latin is an important and helpful language in anatomy, botany, pharmacology and pharma meaning of the terms during pharmacy education and to serve as a key in professional life and pronunciation of the terms used in pharmacy in order to learn and understand Profess recognition of adverbs in Latin; Recognition of adjectives in Latin, Recognition of names in form of understanding the origins of the Latin terms involved in pharmacy education.	. The aim of th sional Latin in	iis course pharmacy	is to learn educatior	the grammar knowled n. Contributions of thi	dge and the spelling s course to students,	
PHRM421	HISTORY OF PHARMACY	(3, 0, 0)3	4	AE	-	English	
Course Content	This course aims to introduce the importance and birth of the history of science and pharmacy; to inform about the historical processes of medicine and pharmacy and to enable making comparisons with today's practices. The main topics are the origin of pharmacy and its evolution through the ages, pharmacy in Turkey and Cyprus, famous pharmacists in the world, the discovery of drugs. Thereby, students acquire the concept that pharmacy has reached the present day in a long development process; become conscious of what steps the drug has passed through in history and reached its current state; By understanding the development of pharmacy in Turkey and Cyprus, they reach the level of evaluating today.						
PHRM423	APPLICATIONS OF COMPUTER SOFTWARES IN PHARMACY	(3, 0, 0)3	4	AE	-	English	
Course Content	Within the scope of this course, general information is given about the basic concepts of computers, hardware and software, as well as the use of some important programs in terms of internet and pharmacy. The aim of this course is to make pharmacy students aware of computer programs and Public Computer Applications they will encounter in pharmacy. The course consists of theoretical part and laboratory applications. Theoretical part: Computer parts, Operating systems Library introduction, Rx MediaPharma, while Laboratory applications: Web design, MS Excel, MS Word, MS Power Point, Science Direct, Web of Science, Pubmed application, Molecule drawing programs, CV / petition preparation contains.						
PHRM425	CONCEPTS ABOUT NATURAL MEDICINES	(3, 0, 0)3	4	AE	-	English	
PHRM425 Course Content	CONCEPTS ABOUT NATURAL MEDICINES Natural medicine is products of natural origin, not synthetic. The course covers the basic or substances obtained from inorganic materials, plants, animals, microorganisms, sea creati Pharmaceuticals and all natural products used as pharmaceutical raw materials and auxilia interactions, drug interactions and rational use of drugs of natural origin. He learns the qu their standardization.	oncepts of nat ures and mine ary substances	tural medi rals. The a . Learns th	cine, phar im of the ne analysis	course is to provide ba techniques, possible	ial and auxiliary asic information about side effects, food	
Course	Natural medicine is products of natural origin, not synthetic. The course covers the basic c substances obtained from inorganic materials, plants, animals, microorganisms, sea creatu Pharmaceuticals and all natural products used as pharmaceutical raw materials and auxilia interactions, drug interactions and rational use of drugs of natural origin. He learns the qu	oncepts of nat ures and mine ary substances	tural medi rals. The a . Learns th	cine, phar im of the ne analysis	course is to provide ba techniques, possible	ial and auxiliary asic information about side effects, food	
Course Content	Natural medicine is products of natural origin, not synthetic. The course covers the basic of substances obtained from inorganic materials, plants, animals, microorganisms, sea create Pharmaceuticals and all natural products used as pharmaceutical raw materials and auxilia interactions, drug interactions and rational use of drugs of natural origin. He learns the quart their standardization.	(3, 0, 0)3 (3, 0, 0)3	tural medi rals. The a . Learns th urity and a refore, in m pharma reability o	cine, phar im of the one analysis efficacy lev AE order to re aceutical d f drugs and	course is to provide ba techniques, possible vels of drugs of natura - educe the cost of in vi losage form are exami d is grouped under va	ial and auxiliary asic information about side effects, food al origin and follows English vo bioequivalence ined. The rious headings. In this	
Course Content PHRM414 Course	Natural medicine is products of natural origin, not synthetic. The course covers the basic of substances obtained from inorganic materials, plants, animals, microorganisms, sea creater Pharmaceuticals and all natural products used as pharmaceutical raw materials and auxilia interactions, drug interactions and rational use of drugs of natural origin. He learns the que their standardization. CLASSIFICATION OF PHARMACEUTICALS Today, in vitro biopharmaceutical evaluations can be used instead of in vivo bioequivalence studies in healthy volunteers, the solubility, permeability and release properties of active signification system based on the solub	(3, 0, 0)3 (3, 0, 0)3	tural medi rals. The a . Learns th urity and o refore, in m pharma reability o	cine, phar im of the one analysis efficacy lev AE order to re aceutical d f drugs and	course is to provide ba techniques, possible vels of drugs of natura - educe the cost of in vi losage form are exami d is grouped under va	ial and auxiliary asic information about side effects, food al origin and follows English vo bioequivalence ined. The rious headings. In this	
Course Content PHRM414 Course Content	Natural medicine is products of natural origin, not synthetic. The course covers the basic of substances obtained from inorganic materials, plants, animals, microorganisms, sea creater Pharmaceuticals and all natural products used as pharmaceutical raw materials and auxilia interactions, drug interactions and rational use of drugs of natural origin. He learns the que their standardization. CLASSIFICATION OF PHARMACEUTICALS Today, in vitro biopharmaceutical evaluations can be used instead of in vivo bioequivalence studies in healthy volunteers, the solubility, permeability and release properties of active : Biopharmaceutical Classification System (BCS) is a classification system based on the solut course, it is aimed to discuss the approaches of various health authorities to the concept of active the solution of the solution	(3, 0, 0)3 (3, 0, 0)3 (3, 0, 0)3 (3, 0, 0)3 (3, 0, 0)3 (4, 0, 0)3 (5, 0, 0)3 (5, 0, 0)3 (7, non-life-three (5, 0) lifestyle m the course; It i will have deta	ural medi rals. The a . Learns th urity and d refore, in m pharma eability of ad BCS app 4 eatening c edications s an unde iled inform	cine, phar im of the he analysis efficacy lev AE order to ra aceutical d f drugs an- plications i AE onditions, ; (such as ; (such as ; standing mation abo	course is to provide base techniques, possible vels of drugs of naturate vels of drugs of naturate duce the cost of in viorage form are examined is grouped under van national and internate and self-care. This coobesity, baldness, obe of the general concept out non-prescription of the cost of t	al and auxiliary asic information about side effects, food al origin and follows <u>English</u> vo bioequivalence ined. The rious headings. In this ational guidelines. <u>English</u> urse will discuss the esity, impotence, its of OTC (Over-the- drugs; learn the	

Co	The aim of the course is to introduce the plants used as traditional folk medicine in Turke of ethnobotanical information in the discovery of new drugs from Turkish ethnobotanical					
Course	and spices will be covered. As a result of this course, students recognize the plants used a			•		
Content	morphological features; have information about the distribution of plants used as tradition				, ,,	
	plants used as traditional folk medicine and the local names in Turkey and Cyprus.					
PHRM420	PATIENT SAFETY AND MEDICAL MISTAKES	(3, 0, 0)3	4	AE	-	English
	The Patient Safety and Medical Mistakes course provides an in-depth overview of the pre mistakes. The course defines the scope of the problem and explores why medical errors a				-	
Course	strategies to decrease medical errors, optimize communication, and increase patient safe		•	-		
Content	understanding of how to prevent medical mistakes and create a safer healthcare environ	ment.				-
PHRM422	GOOD MANUFACTURING PRACTICE	(3, 0, 0)3	4	AE	-	English
	The main topics are quality assurance, quality control, organization and personnel, perim		and equipr	nent man	ufacturing and proce	ess controls, packaging
	and labeling controls, laboratory controls, storage and distribution, documentation, prod	•				
Course Content	students will have information about Documentation, Validation and Calibration in the Pl Pharmaceutical Industry; Recognize Environment, Buildings and Equipment in the pharm pharmaceutical industry; students will have information about Quality Control and Qualit	aceutical indus	try; Gain k	nowledge	of Organization and	
PHRM424	BIOCHEMICAL SOURCES OF DISEASES	(3, 0, 0)3	4	AE	-	English
	The aim of this course is to inform pharmacy students about the basic biochemical mecha the end of the course, the students will be equipped with basic and up-to-date information					-
	diseases in the human body and their results; In addition, it is expected that they will be i					
Course	immunological and neurological diseases that are frequently encountered. As a result of					
Content	biochemical point of view; define disease agents can describe carbohydrate metabolism of	disorders; expla	ain lipid m	etabolism	disorders, explain p	rotein metabolism
	disorders.					
PHRM426	INDUSTRIAL PHARMACY	(3, 0, 0)3	4	AE	-	English
	The aim of the Industrial Pharmacy course is to give information about industrial product				he pharmacist in the	
	in the industry are often involved in production, quality control and sales. Introduction, p			•	•	•
Course	assurance, good conditions of production (GMP), quality control, documentation, verification		•		,	
Content	Bioequivalence/Bioavailability, Biotechnology and Pharmacovigilance; Recognizes clinical					on, GMP and Validation
	Gains knowledge about Marketing and Promotion, Gains knowledge about the pharmace	utical industry	in the wor	id, Turkey	and Cyprus.	
PHRM428	PHARMACOVIGILANCES	(3, 0, 0)3	4	AE		English
-TIKIVI420	Fundamental principles of drug interactions, positive or negative situations that may arise				I be discussed and t	5
	explained. So, students get to know the National and International Pharmacovigilance Ce	-		-		•
Course	are frequently encountered in the clinic, and drug-nutrient interactions; will have knowle	dge and skills a	bout the p	precaution	ns to be taken and fo	llow-up regarding the
Content	problems that may arise in drug administration; will have knowledge and skills about trac	king problems	encounter	red in dru	g administration, det	termining the causes,
content	recognizing, researching, recording and announcing; will have knowledge and skills about	t the collection	of clinical	data on th	ne safety of drugs in	daily clinical practice.
PHRM430	RECOMBINANT DNA TECHNOLOGY AND VACCINE PRODUCTION	(3, 0, 0)3	4	۵F		English
PHRM430	RECOMBINANT DNA TECHNOLOGY AND VACCINE PRODUCTION The aim of the course is to inform students about the production of proteins and vaccine	(3, 0, 0)3 s produced by	4 recombina	AE nt DNA te	- echnology in the pha	English rmaceutical industry.
PHRM430	RECOMBINANT DNA TECHNOLOGY AND VACCINE PRODUCTION The aim of the course is to inform students about the production of proteins and vaccine Recombinant DNA technology production flowchart, cell bank and preparation technique	s produced by	recombina	nt DNA te	•••	rmaceutical industry.
Course	The aim of the course is to inform students about the production of proteins and vaccine Recombinant DNA technology production flowchart, cell bank and preparation technique up and down processes, separation and purification techniques for expressed proteins, g	s produced by s, expression s eneral informa	recombina ystems, fe tion about	nt DNA te rmentatic vaccine p	on techniques, ferme production and probl	rmaceutical industry. enters and bioreactors, lems related to
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	oxygen and nitrogen species; the formation and detoxification mechanisms of ROS/RNS; will be able to evaluate their role in disease and health; will be able to interpret diseases associated with free radical damage with oxidative stress markers.
PHRM515 Course Content	MEDICINES KNOWLEDGE AND CLINICAL PHARMACY PRACTICES (3, 0, 0)3 4 AE - English The basic concepts of drug information and the information resources used in accessing drug information are transferred to the student. Clinical pharmacists are responsible for counseling and monitoring the use of oral contraceptives prescribed and used in the clinic, clinical use of nonsteroidal anti-inflammatory drugs, drug information about anticoagulants, iron preparations, vitamins and minerals, determination and prevention and management of food, drug-drug interactions of drugs administered in the clinic. In addition, drug information in systemic diseases, pregnancy and lactation period, clinical use of antifungal drugs, pharmacist consultation in oral hygiene and care, drug-induced nephrotoxicity, drug-induced hepatotoxicity, drug allergy are the main topics taught to the students.
PHRM517	RESEARCH IN MEDICINES (3, 0, 0)3 4 AE - English
Course Content	The aim of this course is to familiarize students (in the fields of medicine, pharmacy and nursing) with the rules, types and methodology of clinical research in the capacity of the researcher, sponsor, audience or decision maker. Information about the researcher's responsibility for the target product in clinical trials, trial records, and inspection is conveyed. The principles of the research to be carried out on volunteers, the rules for inclusion of special groups such as children, pregnant women and postpartum women are given. The student who takes the course learns the phases of clinical research. Gains knowledge of good clinical practices by learning research application and permission processes. Learns the principles of termination of clinical research.
PHRM519	ECONOMY OF HEALTH AND MEDICINE (3, 0, 0)3 4 AE - English
Course Content	This course covers information about general and human resources management, general accounting, pharmacoeconomics. Health technology evaluations and pharmacoeconomics from health economics perspective, Pharmacoeconomics definition, history and basic concepts, Basic methods used in pharmacoeconomic analysis, it's steps and determination of perspective, Decision process and decision tree method in pharmacoeconomic analysis, Cost-minimization analysis and Cost-effectiveness Analysis, Health policy overview, Drug management and the use of pharmacoeconomics in the pricing of drugs, The use of pharmacoeconomics in determining the reimbursement of drugs are among the contents of the course. Students will make an idea about health and drug policies; take an active part in drug administration; define basic pharmacoeconomic concepts, recognize and interpret pharmacoeconomic methods; know where and how to use pharmacoeconomic analysis.
PHRM521	GRAVIMETRIC METHODS USED IN THE ANALYSIS OF MEDICINES (3, 0, 0)3 4 AE - English
Course Content	The aim of this course is to give information about gravimetric analysis methods and application areas by illuminating the structure and composition of the substance for the determination of analyte concentration. Students taking this course will learn gravimetric methods, mostly the detectability of inorganic anions and cations, their applicability to the determination of neutral species such as water, sulfur dioxide, carbon dioxide and nitrogen, their easy gravimetric determination in many organic substances, the analyte amount based on mass measurement. learn the methods by which it is assigned; learns protolysis, application of precipitation titrations to drug analysis, solubility, complex formation, precipitation markers, drug analysis by gravimetric method; learns the methods of determining the amount of analyte based on mass measurement.
PHRM523	PHARMACEUTICAL AND PALLIATIVE CARE (3, 0, 0)3 4 AE English
Course Content	Today, the aging of societies and biotechnological developments make death a medical event. This course includes information about palliative care, ethical dilemmas and pharmaceutical treatment approaches that begin with the diagnosis of all life-threatening diseases and continue with the support of the relatives of the patient after death or the rehabilitation process of the surviving patient. As a result of this course, students recognize examples of palliative-pharmaceutical care in pediatric patients; learns palliative-pharmaceutical care in common chronic diseases; have an idea about the palliative-pharmaceutical care plan in some acute cases through sample cases; knows the relationship between clinical pharmacy and pharmaceutical care; know the basic steps of pharmaceutical care.
PHRM525	CANCER BIOCHEMISTRY (3, 0, 0)3 4 AE - English
Course Content	The aim of this course is to understand the concept of cancer, to have theoretical knowledge about the biochemical changes in the formation and progression of cancer, and to be able to interpret research studies on cancer. As a result of this course, students understand the specific molecular mechanisms that lead to the formation of specific tumors; learns apoptosis, cell cycle, chromatin and gene regulation and signaling mechanisms involved in tumor pathogenesis; explains how these mechanisms are used in the diagnosis and treatment of cancer; understand the mechanisms of invasion, metastasis and angiogenesis; evaluates tumor markers revealed through changes in cancer cells and their use in the clinic and laboratory.
PHRM527	SOCIAL PHARMACOANTHROPOLOGY (3, 0, 0)3 4 AE - English
	This course deals with practical experience for research into health behaviors and drug consumption habits, and factors in various cultural and theoretical frameworks,
Course Content	for example the classification of diseases and their medical treatments in different populations. In the content of the course, it is tried to understand the social structure of disease and drug therapy (folkloric, popular, alternative, biomedical, etc.). Students are expected to conduct in-depth interviews about patients' drug use, collect patient and disease histories, make observations, and contact health professionals. As a result of this course, students know anthropology research methods; can review and understand anthropological research, make decisions about drug use in culturally different groups; can discuss drug use experiences, meaning, sources and usage habits.
	structure of disease and drug therapy (folkloric, popular, alternative, biomedical, etc.). Students are expected to conduct in-depth interviews about patients' drug use, collect patient and disease histories, make observations, and contact health professionals. As a result of this course, students know anthropology research methods; can review and understand anthropological research, make decisions about drug use in culturally different groups; can discuss drug use experiences, meaning, sources
Content	structure of disease and drug therapy (folkloric, popular, alternative, biomedical, etc.). Students are expected to conduct in-depth interviews about patients' drug use, collect patient and disease histories, make observations, and contact health professionals. As a result of this course, students know anthropology research methods; can review and understand anthropological research, make decisions about drug use in culturally different groups; can discuss drug use experiences, meaning, sources and usage habits.
Content PHRM529 Course Content	structure of disease and drug therapy (folkloric, popular, alternative, biomedical, etc.). Students are expected to conduct in-depth interviews about patients' drug use, collect patient and disease histories, make observations, and contact health professionals. As a result of this course, students know anthropology research methods; can review and understand anthropological research, make decisions about drug use in culturally different groups; can discuss drug use experiences, meaning, sources and usage habits. BIOCHEMISTRY OF THE IMMUNE SYSTEM (3, 0, 0)3 4 AE - English Course aims introducing cells and tissues of immune system, defense mechanisms of immune system against pathogens, the biochemical events involved in these mechanisms, immune system disorders, the role of immune system in tissue and organ rejection, and to provide students with basic immunology knowledge. Course covers the basic concepts of the immune system, the acquired and congenital immune system, primary immunodeficiency, infectious diseases and the biochemistry of immune system. Therby, students understand the importance of the immune system, humoral and cellular immunity mechanisms; to have information about cells and tissues that play a role in immunity; to have knowledge about basic structures of antigens and antibodies; will have the ability to comprehend the role of antigenantibody reaction in immunological methods.
Content PHRM529 Course	structure of disease and drug therapy (folkloric, popular, alternative, biomedical, etc.). Students are expected to conduct in-depth interviews about patients' drug use, collect patient and disease histories, make observations, and contact health professionals. As a result of this course, students know anthropology research methods; can review and understand anthropological research, make decisions about drug use in culturally different groups; can discuss drug use experiences, meaning, sources and usage habits. BIOCHEMISTRY OF THE IMMUNE SYSTEM (3, 0, 0)3 4 AE - English Course aims introducing cells and tissues of immune system, defense mechanisms of immune system against pathogens, the biochemical events involved in these mechanisms, immune system disorders, the role of immune system in tissue and organ rejection, and to provide students with basic immunology knowledge. Course covers the basic concepts of the immune system, the acquired and congenital immune system, primary immunodeficiency, infectious diseases and the biochemistry of immune system. Therby, students understand the importance of the immune system, humoral and cellular immunity mechanisms; to have information about cells and tissues that play a role in immunity; to have knowledge about basic structures of antigens and antibodies; will have the ability to comprehend the role of antigen-
Content PHRM529 Course Content PHRM531 Course Content	structure of disease and drug therapy (folkloric, popular, alternative, biomedical, etc.). Students are expected to conduct in-depth interviews about patients' drug use, collect patient and disease histories, make observations, and contact health professionals. As a result of this course, students know anthropology research methods; can review and understand anthropological research, make decisions about drug use in culturally different groups; can discuss drug use experiences, meaning, sources and usage habits. BIOCHEMISTRY OF THE IMMUNE SYSTEM (3, 0, 0)3 4 AE - English Course aims introducing cells and tissues of immune system, defense mechanisms of immune system against pathogens, the biochemical events involved in these mechanisms, immune system disorders, the role of immune system in tissue and organ rejection, and to provide students with basic immunology knowledge. Course covers the basic concepts of the immune system, the acquired and congenital immune system, primary immunodeficiency, infectious diseases and the biochemistry of immune system. Therby, students understand the importance of the immune system, humoral and cellular immunity to comprehend the role of antigen- antibody reaction in immunological methods. INSTRUMENTAL ANALYSIS (3, 0, 0)3 4 AE - English The lecture teaches and applies the basic principles of instrumental analysis, the principles of spectrophotometric and chromatographic analysis. Optical methods, light scattering photometry (turbidimetry, nephelometry), refractometry, polarimetry. Basic information of spectroscopy, electromagnetic radiation, light energy and matter, classical theory. UV-Visible field theory and applications, basic information of Infrared and Raman spectroscopy, applications are among the contents of the course. So, students learn the basic principles of spectrophotometry and design of spectrophotometer and high performance liquid chromatography (HPLC) equipment; learn the interpretation of absorption spectra in qualitative analysis; learn to use spectrophotome
Content PHRM529 Course Content PHRM531 Course	structure of disease and drug therapy (folkloric, popular, alternative, biomedical, etc.). Students are expected to conduct in-depth interviews about patients' drug use, collect patient and disease histories, make observations, and contact health professionals. As a result of this course, students know anthropology research methods; can review and understand anthropological research, make decisions about drug use in culturally different groups; can discuss drug use experiences, meaning, sources and usage habits. BIOCHEMISTRY OF THE IMMUNE SYSTEM (3, 0, 0)3 4 AE - English Course aims introducing cells and tissues of immune system, defense mechanisms of immune system against pathogens, the biochemical events involved in these mechanisms, immune system disorders, the role of immune system in tissue and organ rejection, and to provide students with basic immunology knowledge. Course covers the basic concepts of the immune system, the acquired and congenital immune system, primary immunodeficiency, infectious diseases and the biochemistry of immune system. Therby, students understand the importance of the immune system, humoral and cellular immunity mechanisms; to have information about cells and tissues that play a role in immunity; to have knowledge about basic structures of antigens and antibodies; will have the ability to comprehend the role of antigen-antibody reaction in immunological methods. INSTRUMENTAL ANALYSIS INSTRUMENTAL ANALYSIS INSTRUMENTAL ANALYSIS INSTRUMENTY, refractometry, polarimetry. Basic information of spectroscopy, electromagnetic radiation, light energy and matter, classical theory. UV-Visible field theory and applications, basic information of Infrared and Raman spectroscopy, applications are among the contents of the course. So, students learn the basic principles of spectrophotometry and chromatography; learn to use spectrophotometer and Hip Derformance liquid chromatography (HPLC) equipment; learn the interpretation of absorption spectra in qualitative analysis; learn to use spectropho
Content PHRM529 Course Content Course Course Content	structure of disease and drug therapy (folkloric, popular, alternative, biomedical, etc.). Students are expected to conduct in-depth interviews about patients' drug use, collect patient and disease histories, make observations, and contact health professionals. As a result of this course, students know anthropology research methods; can review and understand anthropological research, make decisions about drug use in culturally different groups; can discuss drug use experiences, meaning, sources and usage habits. BIOCHEMISTRY OF THE IMMUNE SYSTEM (3, 0, 0)3 4 AE - English Course aims introducing cells and tissues of immune system, defense mechanisms of immune system against pathogens, the biochemical events involved in these mechanisms, immune system disorders, the role of immune system in tissue and organ rejection, and to provide students with basic immunology knowledge. Course covers the basic concepts of the immune system, the acquired and congenital immune system, primary immunodeficiency, infectious diseases and the biochemistry of immune system. Therby, students understand the importance of the immune system, humoral and cellular immunity to comprehend the role of antigen- antibody reaction in immunological methods. INSTRUMENTAL ANALYSIS (3, 0, 0)3 4 AE - English The lecture teaches and applies the basic principles of instrumental analysis, the principles of spectrophotometric and chromatographic analysis. Optical methods, light scattering photometry (turbidimetry, nephelometry), refractometry, polarimetry. Basic information of spectroscopy, electromagnetic radiation, light energy and matter, classical theory. UV-Visible field theory and applications, basic information of Infrared and Raman spectroscopy, applications are among the contents of the course. So, students learn the basic principles of spectrophotometry and design of spectrophotometer and high performance liquid chromatography (HPLC) equipment; learn the interpretation of absorption spectra in qualitative analysis; learn to use spectrophotome

Course Content PHRM510	interactions with antibacterial agents, antiviral and antineoplastic agents, anticoagulants, a effective in the CNS, Drugs that are effective in the endocrine system and drugs used to tre cough suppressants will be discussed in the second part of the course. As a result of this co	antihypertensi		AE	-	English		
Course Content PHRM510	interactions with antibacterial agents, antiviral and antineoplastic agents, anticoagulants, a effective in the CNS, Drugs that are effective in the endocrine system and drugs used to tree cough suppressants will be discussed in the second part of the course. As a result of this co drugs; will be able to interpret general concepts related to drug interactions; will be able to	antihypertensi		d pharmaco				
		drugs; will be able to interpret general concepts related to drug interactions; will be able to summarize drug interaction patterns; will be able to discuss the						
	TRADITIONAL AND ALTERNATIVE TREATMENT APPROACHES	(3, 0, 0)3	4	AE	-	English		
Course Content	The aim of the Traditional and Alternative Treatment Approaches course is to provide students with the basic concepts, definitions and terminology in conventional and complementary therapy systems currently practiced around the world. As a result of the Traditional and Alternative Treatment Approaches course, students define traditional treatment and alternative treatment approaches and know the official definitions of traditional treatment and alternative treatment approaches; Learns the regulations and regulations regarding traditional treatment and alternative treatment approaches in Turkey and Cyprus; Knows the regulations and regulations about traditional treatment and alternative treatment approaches in the world.							
PHRM512	HOSPITAL PHARMACY / COMMUNITY PHARMACY TRAINING	(3, 0, 0)3	4	AE	-	English		
Course Content	Determining the drug needs of the hospital pharmacy, purchasing drugs for the hospital pharmacy, organization and placement of the pharmacy, meeting the drug needs of outpatients and inpatients, obtaining information about drug information studies and keeping and evaluating the records in the pharmacy, the relations of hospital pharmacies with official and unofficial units. is located. It includes focusing on compound drugs and related compound drugs, key processes for controlled substances, and specific drugs (narcotics and psychotropic drugs). It also includes undertaking the necessary skills related to dispensing prescriptions, reviewing and evaluating prescriptions for rational drug use, identifying and resolving drug-related problems, therapeutic drug follow-up and counseling to patients.							
PHRM514	INDUSTRY TRAINING	(3, 0, 0)3	4	AE	-	English		
Course Content	The aim of this course is to inform the student about formulation design studies, quality co production studies of different dosage forms, studies of sales and marketing units, prepara GMP / GLP. The student will have information about researches for the adaptation of drug laboratory practices, sales and marketing management and presentation of product inform and the balance between the stages.	ation of approv s produced ab	val files fo road to th	r licensed ar ie country, a	nd generic products nalytical tests withi	, studies related to n the scope of good		
PHRM516	RELATIONSHIP BETWEEN METABOLIC DIEASES AND NUTRITION	(3, 0, 0)3	4	AE	-	English		
Course	The relationship between metabolic diseases and nutrition is presented to the student in a sciences approaches. Applications and achievements in diagnosis and treatment require a and covers the whole life. The success achieved in medical nutrition therapy, with practices possible with the increase of healthy, functioning individuals in the society, and a teamwor working on this subject. The student sees that early diagnosis and early medical nutrition t	treatment plan s that are spec rk such as pedi	n that cov ific to the atricians,	ers metaboli individual a psychologis	ic diseases from chi nd evaluate all diag ts, dietitians, chemi	Idhood to adulthood nostic parameters, is ists, and nurses		

Course Code	Course Title	Credit	ECTS Credit	Course Catego.	Pre-requisite	Teaching Language	
PSYC385	BEHAVIOURAL SCIENCE AND COMMUNICATION	(2, 0, 0)2	3	FE	-	English	
Course Content	The course aims enabling students to learn the basic of psychology to get to know themse behavioral science, disciplines related to behavioral sciences, factors that form the basic of learning and factors affecting learning are among the contents of the course. As a result o understand the internal and external causes of human behavior; students recognize them people, knows the effects of attention and perception laws on behaviors, knows the chara communication skills.	of behavior, dri f this course, s selves and the	ive, motiva tudents ge ir persona	ation, motiv et to know lity traits; l	vation, conflict and re people with their var earns the motivation	solution, mediation ious characteristics, s that motivate	
LAWF313	MEDICAL LAW	(2, 0, 0)2	3	FE	-	English	
Course Content	This course examines in depth the legal questions raised by medical practice and science. Students will learn about medical ethics and law. Huge questions are raised by advances in fields such as genetics and assisted reproduction. In a changing moral climate, debates about conflicts between mother and fetus, or about physician- assisted suicide, are very much alive. There are challenging questions about psychiatry, about the allocation of scarce medical resources, about the boundaries of the market in medicine, and about the law and ethics of medical research. Students will learn mostly about these subject that can rise questions of medical ethics and law.						
HESC350	BASIC PUBLIC HEALTH	(2, 0, 0)2	3	FE	-	English	
Course Content	Course aims to teach meaning and scope of public health, the importance of factors affecting the health of the individual, to examine the factors affecting public health, to understand the inequalities in health by emphasizing the situation. Course covers health services and factors affecting it, obstacles that may arise in service delivery and how to remove them, rights in maternal and child health services and reproductive health, evaluation of current situation in infectious diseases, assessing health situation of health workers, the importance of environmental health, to look after people with disabilities within the framework of the social model and developing the right attitude, regulations on smoking and tobacco control, and understand and evaluate the importance of access to healthy food.						
	BASIC PATHOLOGY	(2, 0, 0)2	3	FE	-	English	
PATH351	This course aims to teach students the mechanisms of disease formation, the changes it c	roatos in tho ti	ssue, and	the undesi	rable effects of drugs	Information will be	
Course Content	givenon mechanisms of cell injury and cellular changes as a result of cell injury, inflammat formation of diseases, the undesirable effects of drugs andspecific organ pathologies, bas pathologist in cancer treatment, body fluids and changes in body fluids in diseases and blo changes in tissue caused by common infectious agents.	ion and inflam ic concepts in	matory pr neoplasia,	etiopathog	genesis of the tumor	mmune system in the and the role of the	
Course	givenon mechanisms of cell injury and cellular changes as a result of cell injury, inflammat formation of diseases, the undesirable effects of drugs andspecific organ pathologies, bas pathologist in cancer treatment, body fluids and changes in body fluids in diseases and blo	ion and inflam ic concepts in	matory pr neoplasia,	etiopathog	genesis of the tumor	mmune system in th and the role of the	

Course Content	energy concepts of macro and micro nutrients that are important for human health and di- importance of macro (carbohydrate, protein, fat) and micro nutrients (vitamins and miner- structures, metabolisms, functions, sources, requirements, inadequacy or health problems	als) in adequat	te and bal	anced nut	rition and body work, t	
HESC349	PREVENTATIVE HEALTH	(2, 0, 0)2	3	FE	-	English
Course Content	Taking protective actions is important to increasing the level of knowledge in the protection individuals and societies. The concepts of health, disease and preventive health will be expected situation of our country will be discussed. Solutions will be offered to understand and spre- nutrition, physical activity and addiction, including environmental problems, will be covere infectious diseases, as well as the strategies to be followed in immunization, the legal and	lained, the rec ad the import ed. The spread	commenc ance of p of infecti	lations of reventive l on, the ge	the World Health Organ nealth in society, and to neral characteristics an	nization and the opics such as d control of
HESC350	BASIC PUBLIC HEALTH	(2, 0, 0)2	3	FE	-	English