School of Pharmacy / School of Pharmacy (English)

2024 - 2025 Academic Year

PHARMACEUTICAL TECHNOLOGY III

Syllabus

Course Description					
Name	**Code**	**Semester**	**T+A Hour**	**Credit**	**ECTS**
PHARMACEUTICAL TECHNOLOGY III	PHA4114868	Fall Semester	3+0	3	5

Prerequisites Courses	FARMASÖTİK TEKNOLOJİ I
Recommended Elective Courses	
Language of Instruction	English
Course Level	First Cycle (Bachelor's Degree)
Course Type	Required
Course Coordinator	Prof.Dr. Fatma Julide AKBUĞA
Name of Lecturer(s)	Prof.Dr. Fatma Julide AKBUĞA, Assist.Prof. Burcu ÜNER
Assistant(s)	
Aim	To give knowledge about the preparation methods of sterile dosage forms, the design of the sterile areas, the pharmaceutical packaging materials, GMP and quality assurance issues.
Course Content	This course contains; Parenteral preparations,Parenteral preparations,Parenteral preparations,Ocular drugs,Sterilization and contamination,Nasal preparations,Sterile area and it's design,Sterile area and it's design,GMP, quality assurance, validation,GMP, quality assurance, validation,Medical devices and products,Drug incompatibility,Pharmaceutical packaging materials and Surgical materials,Biotechnological Drugs.

Course Learning Outcomes	**Teaching Methods**	**Assessment Methods**
1. Will be telled the basic knowledge and calculations about the pharmaceutical formulations.	16, 9	A
1.1. Define the basic concepts of the isotonic solutions.	16, 9	A
1.2. Interpret isotonicity and isohidricity concept.	16, 9	A
1.3. Categorize the methods of isotonic solution preparation.	16, 9	A
1.4. Design parenteral dosage forms.	16, 9	A
2. Will be interpreted the knowledge about ocular, otic and nasal preparations.	16, 9	A
2.1. Design ocular, otic and nasal preparations.	16, 9	A
2.2. Categorize the excipient used in ocular, otic and nasal preparations.	16, 9	A
3. Will be defined the design of sterile areas and sterilization.	16, 9	A
3.1. Categorize the sterilization methods.	16, 9	A
3.2. Evaluate the conditions that must be considered in the design of the sterile areas.	16, 9	A
4. Will be assessed pharmaceutical packaging materials and drug incompatibility.	16, 9	A
4.1. Categorize pharmaceutical packaging materials.	16, 9	A
4.2. Define the physical and chemical raections that cause drug incompatibility.	16, 9	A
4.3. Plan the solution methods of drug incompatibility.	16, 9	A
5. Will be evaluated current approaches about GMP and quality assurance issues.	16, 9	A
5.1. Define GMP ve GLP concepts.	16, 9	A
5.2. Interpret the compliance of GMP for the pharmaceutical industry.	16, 9	A
6. Will be assessed medical devices, medical products and surgical materials.	16, 9	A
6.1. Interpret the regulations about medical devices and products.	16, 9	A
6.2. Recognize the medical materials in community pharmacies and the medical products in hospitals.	16, 9	A
6.3. Explain the definitions of health equipments and interventional surgical products (stents etc.).	16, 9	A
6.4. Assess the basic knowledge and quality controls of surgical materials.	16, 9	A

Teaching Methods	16: Question - Answer Technique, 9: Lecture Method
Assessment Methods	A: Traditional Written Exam

Lecture Schedule

Sequence	**Topics**	**Preliminary Preparation**
1	Parenteral preparations	1,2,3
2	Parenteral preparations	1,2,3
3	Parenteral preparations	1,2,3
4	Ocular drugs	1,2,3
5	Sterilization and contamination	1,2,3
6	Nasal preparations	1,2,3
7	Sterile area and it's design	1,2,3
8	Sterile area and it's design	1,2,3
9	GMP, quality assurance, validation	1,2,3
10	GMP, quality assurance, validation	1,2,3
11	Medical devices and products	1,2,3
12	Drug incompatibility	1,2,3
13	Pharmaceutical packaging materials and Surgical materials	1,2,3
14	Biotechnological Drugs	1,2,3

Evaluation Methods	**Weight(%)**
Midterm Exam	40
General Exam	60

Resources
Lecture notes, powerpoint presentations, relevant web pages will be given to students.Acartürk F, Ağabeyoğlu İ, Çelebi D, Değim T, Değim Z, Doğanay T, Taka S, Tırnaksız F. Modern Farmasötik Teknoloji, Türk Eczacılar Birliği Yayını, 2.baskı, Ankara, 2008. Zırh Gürsoy A (ed.). Farmasötik Teknoloji –Temel Konular ve Dozaj Şekilleri- Kontrollü Salım Sistemleri Derneği Yayını, 2.baskı, İstanbul, 2012.