

COURSE INFORMATION					
Course Title	Code	Semester	L+P+L Hour	Credits	ECTS
Clinical Pharmacology (Clinical Clerkship)	MED 513	5/9-10	30	3	3*

* ECTS credits are the university credits of the courses in Yeditepe University, Faculty of Medicine, Undergraduate Medical Education Program

Prerequisites	Phase IV MED (MED 402, MED 403, MED 404, MED 405, MED 406, MED 407, MED 408, MED 409, MED 410, MED 411, MED 412, MED 413)
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Language of Instruction	English/Turkish
Course Level	<u>Second-cycle higher education (i.e. QF-EHEA-2, EQF-LLL-7, TYYC-7) with Master's Degree/ "Regulated Professions" legislation by EU 2005/36/EC Directive</u>
Course Type	Compulsory
Course Coordinator	Prof. Dr. Ece Genç
Instructors	Prof. Dr. Ayşe Gelal, Dr. Volkan Aydın, Dr. Fatma İşli, Prof. Dr. Ece Genç, Dr. Nur Özdamar, Dr. Cenk Andaç
Assistants	None
Goals	The main purpose of this program is to discuss the necessity of training for rational pharmacotherapy decision and help students develop their way to choose a drug/treatment among many other alternatives by comparing them in terms of efficacy, safety, suitability and cost. We also aim to help students to learn how to write a "good prescription" and "how to use new drugs" during their medical carrier.
Content	The introductory session will explain why students should develop their own list of P-drugs and the principles of drug selection and how to use them in practice. The following modules will introduce how to choose personal selection of drugs (P-drugs), and how to prescribe P-drugs. Then, by keeping in mind that students have chosen P-drugs for an imaginary, standard patient with a certain condition, using the criteria of efficacy, safety, suitability and cost, they will exercise how to treat a patient with their P-drugs.

Learning Outcomes	Programme Learning Outcomes	Teaching Methods	Assessment Methods
1. define patient's problem	1.1.2, 1.1.4	1, 2, 3, 9, 12	A
2. list aims of therapy	1.1.9	1, 2, 3, 9, 12	A

3. categorize effective drug groups	1.1.9	1	A
4. discuss personal drugs	1.2.1	1,2,3	A
5. determine “proper” drug according to certain criteria	2.5.2	1,2,3	A
6. conduct preparation of personal formulary	2.5.2	1,2,3	A
7. enhance prescription writing skills.	1.2.1	1,3,9,12	A
8. use the right drug at the right dose at appropriate intervals with a special attention to economic aspects of therapy	1.2.2, 1.2.3	1,3,9,12	A

Teaching Methods:	1: Lecture, 2: Question-Answer, 3: Discussion, 9: Simulation, 12: Case Study
Assessment Methods:	A: Testing B: Presentation C: Homework

COURSE CONTENT		
Days	Topics	Study Materials
	Introduction to the clerkship: a) learning principles and procedures; b) Rational drug use principles; c) Prescription writing.	Katzung, B.G., Masters S.B. and Trevor, A.J. eds. Basic and Clinical Pharmacology, 15 th ed. McGraw Hill, 2021.
1	1. Rational drug use 2. Personal drugs /introduction to “MAUA” forms 3. Antihypertensive drugs: Introduction to reference materials	
2	Essential Hypertension	#2
3	Solving case studies for essential hypertension, acute bacterial rhinosinusitis	#3, #4
4	Solving case studies for acute bacterial rhinosinusitis	
5	Urinary tract infections	#5, #6
6	Solving case studies for urinary tract infections	

RECOMMENDED SOURCES	
Textbook & other Resources	1-Katzung, B.G., Masters S.B. and Trevor, A.J. eds. Basic and Clinical Pharmacology, 15 th ed. McGraw Hill, 2021. 2-Williams, B. et al.2018 ESC/ESH guidelines for the managemet of arterial hypertension, European Heart Journal, 1-98 (2018). 3-Aring, A.M, and Chan, M.M.: Current Concepts in Adult Acute

<p>Rhinosinusitis, Am Fam Physician. 94(2):97-105 (2016).</p> <p>4-Chow, A.W. et al.IDSA Clinical Practice Guideline for AcuteBacterial Rhinosinusitis in Children and Adults, CID 54:72-112(2012).</p> <p>5- Colgan, R. and Williams, M., Diagnosis and Treatment of Acute Uncomplicated Cystitis, American Family Physician 84:771-776 (2011).</p> <p>6. Gupta, K. et al. International Clinical practice guidelines for the treatment of acute uncomplicated cystitis and pyelonephritis in women: A 2010 update by the infectious diseases society of America and the European society for microbiology and infectious diseases. CID, 52: 103-120, (2011).</p>
<p>Additional Resources Lecture notes</p>

MATERIAL SHARING	
Documents	Photocopy shareable
Assignments	Shareable
Exams	Not shareable

ASSESSMENT		
IN-TERM STUDIES	NUMBER	PERCENTAGE
<p><i>Essay Questions in Objective Structured Clinical Exam Station (OSCE)-A</i></p> <p>During the internship, three indications are studied according to the international treatment guidelines. For the exam, a case is prepared among these three indications. Four theoretical questions (20 points each) are asked as following:</p> <ol style="list-style-type: none"> 1. Please identify the problem and the aim of your treatment. 2. Which pharmacotherapy (pharmacotherapies) would you choose? Which questions should you ask to test the suitability of the chosen treatment? 3. How would you inform the patient about the treatment? 4. What would you recommend for prophylaxis? What could be the options for non-pharmacological treatment? <p>Each question is evaluated and scored as seen in the attached example. Prescription for the presented case is explained in other assessment methods and tools section.</p>	1	80%
<p><i>Objective Structured Clinical Exam (OSCE)-B</i></p> <p>OSCE station related to the writing a prescription. Evaluation criteria are shown below.</p> <p>Patient's Name (1 pts), Date (1 pts), Diagnosis (1 pts), Protocol No (1 pts), Doctor's Name (1 pts), Signature/Stamp (1 pts), Diploma No (1 pts), Department (1 pts), Box Number (1 pts), Ending of Prescription (1 pts), Dosage (5 pts), Time (5 pts)</p> <p>Total: 20 pts</p>	1	20%
TOTAL		100%

COURSE'S CONTRIBUTION TO PROGRAMME						
No	Program Learning Outcomes	Contribution				
		1	2	3	4	5
1	Are aware of the local and global health issues				X	

2	Have acquired competence in knowledge, skills and attitudes to manage and provide primary health care services	X	
3	Know, apply and care for ethical principles of the medical profession	X	
4	Keep up with current knowledge at national and international level	X	
5	Are capable of systematic thinking	X	
6	Are investigative and questioning	X	
7	Continually renovate and improve themselves	X	
8	Are capable of teamwork	X	
9	Use technology competently in medicine and related areas	X	
10	Have effective communication skills	X	
11	Have community leadership qualifications	X	

ECTS ALLOCATED BASED ON STUDENT WORKLOAD BY THE COURSE DESCRIPTION			
Activities	Quantity	Duration (Hour)	Total Workload (Hour)
Course Duration (Including the exam week: 15x Total course hours/week)	19	3	57
Hours for off-the-classroom study (Pre-study, practice, review/week)	6	5	30
Total Work Load	25		87
Total Work Load / 25 (h)			3.48
ECTS Credit of the Course			3

	Thursday – Day 1	Friday – Day 2	Monday – Day 3	Tuesday – Day 4	Wednesday – Day 5
09.40 - 10.45	Lecture Introduction to the Program: Dr. Ayşe Gelal meet.google.com/yrv-atsk-smo	Module Hypertension: Definition of the problem and non-drug treatment Moderators: Dr. Ayşe Gelal, Dr. Volkan Aydın & Dr. Fatma İşli meet.google.com/yk-im-wj-xjp meet.google.com/eoy-cppy-xch meet.google.com/ruj-jtjy-cpb	Module Clinical pharmacology of antihypertensive drugs Moderators: Dr. Ayşe Gelal, Dr. Volkan Aydın & Dr. Fatma İşli meet.google.com/zhm-dhcf-tuw meet.google.com/btt-nobm-qhy meet.google.com/fyt-pioa-hri	Module Hypertension: P-drug selection and Case Studies Moderators: Dr. Ayşe Gelal, Dr. Volkan Aydın & Dr. Fatma İşli meet.google.com/tby-adyx-rwq meet.google.com/ppi-msyr-owu meet.google.com/vrs-jece-hgd	Module: Acute sinusitis: Clinical pharmacology Moderators: Dr. Ece Genç, Dr. Emine Özdamar, Dr. Cenk Andaç Mavi Salon, Yeşil Salon, Üzeyir Garih
10.45-12.15	Lecture Principles of Rational Pharmacotherapy Dr. Ayşe Gelal meet.google.com/yrv-atsk-smo	Lecture Generic Drugs Dr. Volkan Aydın meet.google.com/yk-im-wj-xjp			
12.15-13.30	Lunch				
13.30 - 14.20	Lecture Personal Drug Selection & MAUA Dr. Volkan Aydın meet.google.com/yrv-atsk-smo	Independent Learning	Module Acute sinusitis: Definition of the problem and non-drug treatment Moderators: Dr. Ece Genç, Dr. Emine Özdamar, Dr. Cenk Andaç	Independent Learning	Module Acute sinusitis: P-drug selection and case studies Moderators: Dr. Ece Genç, Dr. Emine Özdamar, Dr. Cenk Andaç Mavi Salon, Yeşil Salon, Üzeyir Garih
14.30 - 16.20	Basic concepts of prescribing Dr. Fatma İşli meet.google.com/yrv-atsk-smo				
	Thursday – Day 6	Friday – Day 7			
09.40 - 11.50	Module Uncomplicated urinary tract infections: Approach & clinical pharmacology Moderators: Dr. Ece Genç, Dr. Emine Özdamar, Dr. Cenk Andaç Mavi Salon, Yeşil Salon, Üzeyir Garih	OSCE İnan Kırac Salonu			
12.00 - 13.00	Lunch				
13.00 - 14.50	Module Uncomplicated urinary tract infections: P-drug selection & case studies Moderators: Dr. Ece Genç, Dr. Emine Özdamar, Dr. Cenk Andaç Mavi Salon, Yeşil Salon, Üzeyir Garih	Independent Learning			
15.00 - 16.50	Independent Learning				

ECTS ALLOCATED BASED ON STUDENT WORKLOAD BY THE COURSE DESCRIPTION			
Activities	Quantity day	Duration (Hour)	Total Workload (Hour)
Course Duration (1.5 weeks)	7	4.5	31.5
Hours for off-the-classroom study (Pre-study, practice, review/week)	7	6	42

Homework	-	-	-
Exam	1	2	2
Total Work Load			75.5
Total Work Load / 30 (h)			2.52
ECTS Credit of the Course			3