

SYLLABUS

1. Information on the study programme

1.1. Higher education institution	UNIVERSITY OF MEDICINE AND PHARMACY "VICTOR BABEȘ" TIMIȘOARA
1.2. Faculty	FACULTY OF DENTAL MEDICINE
1.3. Department	IV Biochemistry and Pharmacology
1.4. Study programme field	licence
1.5. Study cycle	licence
1.6. Study programme / Qualification	Denatal Medicine

2. Information on the course

2.1. Course title	PHARMACOLOGY							
2.2. Lecture faculty	Ș.L. dr.Flangea Corina							
2.4. Laboratory instructor	Ș.L. dr.Flangea Corina							
2.5. Study year	II	2.5 Semester	II	2.6 Examination type	Exam	2.7 Course type	Content ³⁾	DF
							Mandatory ⁴⁾	DI

3. Estimated study time (number of hours per semester)

3.1 Attendance hours per week	4	3.2 out of which lecture	2	3.3 laboratory	2
3.4 Attendance hours per semester	56	3.5 out of which lecture	28	3.6 laboratory	28
Distribution of the allocated amount of time					hours
Study of literature, course handbook and personal notes					37
Supplementary documentation at library or using electronic repositories					10
Preparing for laboratories, homework, reports etc.					14
Tutoring					
Examinations (4 tests, 1 practical exam, 1 final exam)					3
Other activities...					
3.7 Total number of hours of individual study	64				
3.8 Total number of hours per semester	120				
3.9 Number of credits (ECTS) ⁵⁾	4				

4. Prerequisites (if it is the case)

4.1. curriculum	Biochemistry, Physiology, Microbiology, Immunology, Cell and molecular biology
4.2. competences	Not necessary

5. Requirements (if it is the case)

5.1 for the lectures	<ul style="list-style-type: none"> -Students will comply with the UMFT internal rules. • Mobile phones will be closed during classes, telephone conversations are not tolerated during the course, students will not leave the classroom for personal phone calls; • The attendance at the course is obligatory, the student being accepted in the examination if he / she fulfills at least 70% of the total attendance.
5.2 for the seminar / laboratory	<ul style="list-style-type: none"> • Mobile phones will be shut down during the lab, with no telephone conversations during the lab nor with students leaving the classroom to take over personal phone calls; • The students' delay will not be tolerated as it proves disruptive to the educational process; • Presence at practical works (laboratory) is mandatory; the student is accepted to the practical examination if he / she fulfills at least 85% of attendance • Recovery is allowed up to 15% of the total number of paid absences in the second last week of the semester • The practical exam will be held in the last week of the semester II from the subject of the practical works / laboratories / traineeships previously displayed

6. Specific acquired competences

Professional competences	<ol style="list-style-type: none"> 1. General knowledge of how to approach and study pharmacology, information about drugs; 2. Knowledge of the main pharmaco-therapeutic classes: representatives (international non-proprietary name), pharmacokinetic characteristics, pharmacodynamic action, principles of administration, incompatibilities and drug interactions, administration routes, adverse effects 3. General knowledge of pharmaceutical forms, their routes of administration and how they are administered.
Transversal competences	<ol style="list-style-type: none"> 1. Preoccupation for professional development through the development of critical thinking skills demonstrated through active participation in the educational process 2. Involvement in scientific research activities by participating in the elaboration of papers, research articles and setting in the study of one of the subjects of the discipline 3. Effective use of communication and information resources for specific training

7. Course objectives

7.1. General objective	<ol style="list-style-type: none"> 1. The lecture aims at acquiring the terminology of pharmacokinetics, pharmacodynamics and general pharmacotoxicology as well as the main classes of drugs. Within the drug classes, the employ of their therapeutic uses, adverse effects, contraindications and drug interactions (drug-drug or drug-food) is sought. 2. Practical aims at applying the knowledge gained in the course by prescribing medication appropriate to selected cases according to the desired effect, contraindications and associated pathology. There is a medical reasoning that prescribes the treatment of a disease based on scientific evidence.
7.2. Specific objectives	<ol style="list-style-type: none"> 1. Knowledge and understanding of the theoretical and practical knowledge of different drug classes. 2. Understanding the basis for choosing a drug / medicine in certain pathologies depending on the mechanism of action and the pharmacodynamic aspects. 3. Explaining the mode of drug administration depending on the pharmacokinetic properties of the drugs 4. Preoccupation for professional development by engaging critical thinking skills demonstrated through active participation in the course and laboratory 5. Involvement in scientific research activities by participating in the elaboration of papers, studies, specialized articles as well as involving in scientific student activities; 6. Effective use of information sources and communication resources and assisted training (Internet portals, specialized software applications, databases, on-line courses, etc.) both in Romanian and in an international language.

8. Content

8.1 Lecture	Teaching methods	Hours	Remarks, details
1. General principles in pharmacology. Routes of administration for drugs. Pharmacokinetics.	Courses are presented as power point presentations, some of which include interactive short films. The material is systematically structured and accompanied by a rich and suggestive iconography (picture, tables and explanatory schemes of pathogenic mechanisms). The material is continuously adapted to the latest pharmacological information. Interactive communication and debate are also used	2	Frontal activity Power Point presentation Animations Short movies
2. Pharmacodynamics. Drug interactions and adverse effects of drugs in dentistry.		2	
3. Pharmacology of adrenergic and cholinergic drugs		2	
4. Pharmacology of antibacterial agents I		2	
5. Pharmacology of antibacterial agents II		2	
6. Pharmacology of antiviral and antifungal drugs		2	
Pharmacology of antiseptics-disinfectants used in dentistry.		2	
7. Pharmacology of local and general anesthetics in dentistry.		2	
8. Pharmacology of analgesic and non-steroidal anti-inflammatory drugs used in dentistry.		2	
9. Pharmacology of drugs acting on the central nervous system and their application in dentistry		2	
10. Pharmacology of blood medication in dentistry: antianemia agents, hemostatic medication, antithrombotic drugs.		2	
11. Pharmacology of cardio-vascular agents used in dentistry .		2	
12. Pharmacology of hormones used in dentistry.		2	
Pharmacology of anticancer drugs used in dentistry.		2	
13. Pharmacology of gastrointestinal drugs used in dentistry		2	
14. Pharmacology of drugs acting on respiratory system used in dentistry.		2	

Mandatory literature: 1. Ioana Malița, Ioana Ana, Adelina Chevereșan, Rodica Cinca – Pharmacology for students, Ed. Mirton, Timișoara, 2011			
Recommended literature: 1. Pharmacology and dental therapeutics – Robin Seymour, John Meechan, Michael Yates, Oxford University press 1999; ISBN: 019262952-2 2. Pharmacology and therapeutics for dentistry – John Yagierla, Enid Neidle, Frank Dowd; 1998, Mosby Year Book; ISBN: 0-8016-7962-1; 3. Katzung B.: Basic and Clinical Pharmacology, 13th Edition, Ed. Lange, 2014 4. Lipincott Illustrated Review Pharmacology 6th Edition -Richard A, Harvey, 2014 5. Rang H.P, Ritter J.M, Flower R.J, Henderson G. Rang & Dale's Pharmacology 8th Edition, Ed Elsevier 2015			
8.2 Laboratory	Teaching methods	Hours	Remarks, details
1. Pharmacology-overview and introduction. Pharmaceutical dosage forms.	Oral presentation of the prescriptions of drugs under different forms of medicine; general rules; Discussions on the practical approach. Prescription of various therapeutic regimens on different pathologies; Interpretation of therapeutic indications on principles based of medical evidence. Oriented and supervised practice	2	Frontal activity , used materials and didactic supports: Romanian Pharmacopoeia 10 th edition
2. The medical prescription		2	Frontal activity used materials and didactic supports: pharmaceutical dosage forms discussed
3. Practical applications in the treatment of the anaphylactic shock and bronchial asthma crisis.		2	Frontal activity , used materials and didactic supports: pharmaceutical dosage forms discussed
4. Practical applications of antibacterial drugs used in dentistry I		2	Frontal activity , used materials and didactic supports: forms for different types of medical prescriptions
5. Practical applications of antibacterial drugs used in dentistry II		2	Frontal activity , used materials and didactic supports: calculation techniques of pharmacokinetic parameters for selected drugs
6. Practical applications of antiviral, anti-fungal and antituberculosis medication used in dentistry.		2	Frontal activity , used materials and didactic supports: therapeutic protocols
7. Test. Practical applications of anticancer drugs used in dentistry		2	Frontal activity , used materials and didactic supports: therapeutic protocols
8. Practical applications of non-steroidal anti-inflammatory drugs and analgesic drugs used in dentistry.		2	Frontal activity , used materials and didactic supports: therapeutic protocols
9. Practical applications of anxiolytic and sedative-hypnotic drugs used in dentistry.		2	Frontal activity , used materials and didactic supports: therapeutic protocols
10. Practical applications of anticoagulants in dental medicine. Management of acute hemorrhage and malignant hemopaties in dentistry.		2	Frontal activity , used materials and didactic supports: therapeutic protocols

11. Practical applications of medication of heart emergencies in dentistry.		2	Frontal activity , used materials and didactic supports: therapeutic protocols
12. Drug considerations for female patients in dentistry during pregnancy and breastfeeding.		2	Frontal activity , used materials and didactic supports: therapeutic protocols
13. Practical applications of drugs acting on digestive system in dentistry. Practical applications of antidiabetic drugs in dentistry.		2	Frontal activity , used materials and didactic supports: therapeutic protocols
14. Practical exam		2	
Mandatory literature: 1. Ioana Malița, Ioana Ana, Adelina Chevereșan, Rodica Cîncă – Pharmacology for students, Ed. Mirton, Timișoara, 2011 Recommended literature: 1. Pharmacology and dental therapeutics – Robin Seymour, John Meechan, Michael Yates, Oxford University press 1999; ISBN: 019262952-2 2. Pharmacology and therapeutics for dentistry – John Yagierla, Enid Neidle, Frank Dowd; 1998, Mosby Year Book; ISBN: 0-8016-7962-1; 3. Katzung B.: Basic and Clinical Pharmacology, 13th Edition, Ed. Lange, 2014 4. Lipincott Illustrated Review Pharmacology 6th Edition -Richard A, Harvey, 2014 5. Rang H.P, Ritter J.M, Flower R.J, Henderson G. Rang & Dale's Pharmacology 8th Edition, Ed Elsevier 2015			

9. Correlations between the content of the course and the requirements of the professional field and relevant employers.

<ul style="list-style-type: none"> - The curriculum of the discipline is designed to facilitate the formation of professional skills and transversal skills; - The content of the lectures / labs delivers basic notions and skills for postgraduate specializations (residency) - The contents of the discipline are corroborated with the requirements of the market - highly qualified medical personnel - The thematic content of the course / labs was selected as a result of the analysis of the analytical programs from the national and foreign universities
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10. Evaluation

Activity	10.1 Assessment criteria	10.2 Assessment methods	10.3 Weight in the final mark
10.4 Lecture	<i>Requirements for mark 5:</i> - common name, main effects, adverse effects of drug substances. These requirements are included in 50% of the questions. <i>Requirements for mark 10:</i> common and commercial name, mechanism of action, pharmacodynamics, therapeutic uses, adverse effects, contraindications, pharmacography of drug substances.	Written test with 50 multiple choice questions (5 variants) with a different degree of difficulty, lasting 60 minutes, including questions on the subject of the course.	50%
10.5 Laboratory	<i>Requirements for mark 5 :</i> -general prescribing rules for medicines. <i>Requirements for mark 10:</i> correctly and completely prescribing the therapeutic scheme for the case	- Writing a medical prescription of a selected case by drawing lots by the student. - Writing emergency medication for a selected case by drawing lots by the student. - Justification of the therapeutic choice made in both cases.	40%

10.3. Activity during the year:		– Presence at courses - Degree of interactive engagement – Test marks	10%
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10.6 Minimum needed performance

Lecture:

- knowledge of the main classes of drugs
- knowledge of the therapeutic indications of each class of drugs
- knowledge of the route of administration for each class of medication
- knowledge of side effects and contraindications of medicines
- Understanding the mechanisms of action of drugs

Labs:

- knowledge of the rules of prescribing a medical prescription
- the ability to write a medical prescription
- indication of medication used in emergencies

Date of completion: 26.10.2018	Signature (lecture): Ș.L. Dr. Flangea Corina	Signature (laboratory instructor): Ș.L. Dr. Flangea Corina
Course Chair Prof. dr. DUMITRAȘCU VICTOR		
Date of department approval: 26.10.2018	Signature (head of the department): Conf. dr. ȘECLĂMAN EDWARD	