



**“CAROL DAVILA” UNIVERSITY  
OF MEDICINE AND PHARMACY BUCHAREST**  
Faculty of Dentistry  
Dental Medicine in English



## DISCIPLINE GRID

### 1. Programme:

1.1.	<b>CAROL DAVILA UNIVERSITY OF MEDICINE AND PHARMACY BUCHAREST</b>
1.2.	<b>FACULTY OF MEDICINE / 1<sup>st</sup> DEPARTMENT</b>
1.3.	<b>DIVISION: PHARMACOLOGY, CLINICAL PHARMACOLOGY AND PHARMACOTHERAPY</b>
1.4.	<b>STUDY DOMAIN: Health, sectoral regulated within European Union</b>
1.5.	<b>STUDY LEVEL: LICENCE</b>
1.6.	<b>STUDY PROGRAMME: DENTAL MEDICINE IN ENGLISH</b>

### 2. Discipline:

2.1.	DISCIPLINE NAME: <b>PHARMACOLOGY</b>						
2.2.	LOCATION: <b>Carol Davila University of Medicine and Pharmacy , 8 Eroii Sanitari Street</b>						
2.3.	Lectures tenure: <b>Prof.Univ.Dr. Oana Andreia Coman</b>						
2.4.	Practical classes tenure: <b>Teaching assistant dr. pharm. Ruxandra-Cristina Marin</b>						
2.5. Study year	<b>3</b>	2.6. Semester	<b>V</b>	2.7. Evaluation	<b>Exam</b>	2.8. Type of discipline	<b>CD/FD</b>

### 3. Estimated total time (hours/semester)

No. hours/week	<b>4</b>	out of which	<b>Lectures: 2</b>	<b>Laboratory session: 2</b>
Total hours out of learning schedule	<b>56</b>	out of which	<b>Lectures: 28</b>	<b>Laboratory sessions: 28</b>

Time distribution	hours
<b>Textbook study, lecture support, bibliography and notes</b>	20
<b>Supplementary documentation activity in the library, on online platforms</b>	10
<b>Practical activity support material, homework, portfolio and essays</b>	6
<b>Tutorial activity</b>	2
<b>Examinations</b>	4
<b>Other activities</b>	2
<b>Total hours of individual study</b>	<b>44</b>
<b>Total hours per semester</b>	<b>100</b>
<b>Credits</b>	<b>4</b>

### 4. Preconditions

<b>4.1. curriculum</b>	Knowledge of physiology, physiopathology and medical semiology.
<b>4.2. proficiencies</b>	Prior training in labor protection



**“CAROL DAVILA” UNIVERSITY  
OF MEDICINE AND PHARMACY BUCHAREST**  
Faculty of Dentistry  
Dental Medicine in English



## 5. Conditions

<b>5.1. for lecture activity</b>	Amphitheatre of minimum 90 places
<b>5.2. for laboratory activity</b>	Practical works rooms.

## 6. Accumulated skills

<b>6.1. Proficiencies (knowledge and abilities)</b>	<p><b>I. Knowledge (cognitive dimension)</b></p> <ul style="list-style-type: none"> <li>- Knowing the action of drugs on the body as a whole and applying this knowledge in medical practice.</li> <li>- Knowledge of the mechanisms of action at the molecular and cellular level of the main drug groups.</li> <li>- Knowledge of the fundamental notions regarding pharmacokinetic parameters and the possibility of using them to establish the dosage and administration intervals.</li> <li>- Knowing the basic notions of drug addiction.</li> <li>- Knowing the impact of different classes of medicinal substances on the dental act.</li> <li>- Knowledge of the main types of adverse reactions in the oral cavity.</li> <li>- Knowing the necessary bases for the most appropriate use of drugs in the treatment and prevention of diseases in the orodental sphere.</li> </ul> <p><b>II. Abilities (functional dimension)</b></p> <ul style="list-style-type: none"> <li>- Evaluation of the benefits and risks of using drugs, alone or in different therapeutic regimens.</li> <li>- The ability to individualize a treatment according to the particularities of the patient.</li> <li>- The ability to individualize a treatment according to the possible interactions between medication frequently used in dentistry and a possible chronic medication of the patient.</li> <li>- Knowledge of the medicines needed in the treatment of emergencies that may occur to the dental patient, as well as the ability to administer them, when needed.</li> </ul>
<b>6.2. Transversal skills (role, professional and personal development)</b>	<p><b>III. Role skills</b></p> <ul style="list-style-type: none"> <li>- Identification of the objectives to be achieved, the available resources, the conditions for their completion, work stages, working times, related completion deadlines and related risks</li> <li>- Identification of roles and responsibilities in a multidisciplinary team and the application of communication techniques and effective work within the team and in relation to the patient</li> </ul> <p><b>IV. Professional and personal development skills</b></p> <ul style="list-style-type: none"> <li>- Effective use of information sources and communication resources and assisted professional training (Internet portals, specialized software applications, databases, online courses, etc.).</li> </ul>

## 7. Objectives (based on the grid of acquired specific skills)

<b>7.1. General Objective</b>	The development, in the context of the discipline of pharmacology, of the knowledge, skills and behaviors necessary to develop a medical career in optimal conditions.
<b>7.2. Specific Objectives</b>	<p><i>Course objectives:</i></p> <ul style="list-style-type: none"> <li>- Understanding and knowing the action of drugs on the body as a whole and applying this knowledge in medical practice.</li> </ul>



**“CAROL DAVILA” UNIVERSITY  
OF MEDICINE AND PHARMACY BUCHAREST**  
**Faculty of Dentistry**  
**Dental Medicine in English**



	<ul style="list-style-type: none"> <li>- Acquiring the necessary information for the most appropriate use of drugs in the treatment and prevention of diseases in the orodental sphere.</li> <li>- Evaluation of the benefits and risks of using drugs alone or in different therapeutic regimens.</li> <li>- Acquiring the necessary knowledge to individualize a treatment according to the particularities of the patient.</li> <li>- Knowledge of the mechanisms of action at the molecular and cellular level of the main drug groups.</li> <li>- Knowledge of the fundamental notions regarding pharmacokinetic parameters and the possibility of using them to establish the dosage, the administration intervals and the individualization of the treatment for different categories of patients.</li> <li>- Knowing the basic notions of drug addiction.</li> <li>- Knowledge of the impact of different classes of medicinal substances on the dental act.</li> <li>- Knowledge of possible interferences between medication frequently used in dentistry and a possible chronic medication of the patient.</li> <li>- Knowledge of the main types of adverse reactions in the oral cavity.</li> <li>- Knowledge of the medicines needed in the treatment of emergencies that may occur to the dental patient, as well as the methods of their administration.</li> </ul> <p><i>Objectives of practical works:</i></p> <ul style="list-style-type: none"> <li>- Knowledge of pharmaceutical forms, drug administration routes and drug prescription rules.</li> <li>- Acquiring the skill to correctly prescribe a series of drugs used in general pathology or in conditions related to the dental act itself.</li> <li>- Discussing some particular aspects related to the use of medicines in patients with various dental problems.</li> <li>- Rational use of electronic scientific databases in the field of medicine.</li> </ul>
--	---

## 8. Content

8.1. Lectures	No. hrs/topic	Teaching method	Obs.
<b>Chapter 1</b> – The object and goals of pharmacology. The position of pharmacology in dental training. Introductory course: The object and goals of pharmacology	1		
<b>Chapter 2</b> – General pharmacology. <i>General pharmacokinetics:</i> absorption, distribution and elimination of drugs; pharmacokinetic drug interactions. (1 hour) <i>General pharmacodynamics:</i> the action of drugs at the molecular level and on different effector systems; types of pharmacological receptors; pharmacodynamic drug interactions. (1 hour) <i>Pharmacotoxicology:</i> types of adverse reactions, adverse drug reactions in the oral cavity. (1 hour)	3	The courses are taught in amphitheaters: rooms technically equipped for this purpose - screen, writing boards, laptop, video projector and discussions. All courses are video projected and have written support. They are brought up to date in terms of information, according to treaties, scientific papers, as well as new data appearing online in the field of pharmacology and pharmacotherapy.	-
<b>Chapter 3</b> – Medication of the nervous system <i>Medication of the autonomic nervous system:</i> general notions about neurotransmitters and	8		



**“CAROL DAVILA” UNIVERSITY  
OF MEDICINE AND PHARMACY BUCHAREST**  
**Faculty of Dentistry**  
**Dental Medicine in English**



synaptic transmission; substances with action in the cholinergic and adrenergic field; particularities of their use in dentistry. (4 hours) <i>Central nervous system medication: general and local anesthetics, hypnotics, sedatives, tranquilizers, antiseizure drugs, antiparkinsonian drugs, skeletal muscle relaxants, antipsychotics. (4 hours)</i>			
<b>Chapter 4 – Analgesics</b> <i>Analgesics: opioids, nonsteroidal anti-inflammatory drugs</i>	2		
<b>Chapter 5 – Hormonal and metabolic drugs</b> <i>Glucocorticoid medication. Regulators of bone mineral homeostasis (1,5 hours)</i> <i>Active tissue substances and antagonists: histamine and antihistamine antagonists (0,5 hours)</i>	2		
<b>Chapter 6 – Medication of different effector systems</b> <i>Circulatory system medication: drugs used in heart failure, antiarrhythmic, antianginal, antihypertensive, antihypotensive drugs. Diuretics. (4 hours)</i> Drugs acting on the respiratory system: antitussives, expectorants, drugs used in asthma. (1 hour) Drugs acting on the gastrointestinal tract: drugs used to treat peptic ulcer disease, antiemetics, laxatives, antidiarrheal agents, drugs for irritable bowel syndrome. (1 hour) Blood medication: antianemic, procoagulant, antithrombotic drugs (anticoagulants, antiplatelet agents, thrombolytics). (2 hours)	8		
<b>Chapter 7 – Chemotherapeutic drugs</b> <i>Principles of antibiotic therapy (one hour)</i> <i>Chemotherapeutic antibacterial drugs: beta-lactams, macrolides, lincosamides, (2 hours) aminoglycosides, tetracycline and chloramphenicol, antibacterial sulfamides and trimethoprim, quinolones, metronidazole.</i> <i>Antiviral and antifungal chemotherapeutic drugs. (0,5 hours)</i> <i>Antiseptics and disinfectants (0,5 hours)</i>	4		
<b>TOTAL</b>	<b>28</b>		



**“CAROL DAVILA” UNIVERSITY  
OF MEDICINE AND PHARMACY BUCHAREST**  
**Faculty of Dentistry**  
**Dental Medicine in English**



8.2 Laboratory Sessions	No. hrs/topic	Teaching method	Obs.
1. Pharmacology - generalities. The name of the drugs. Solid and semi-solid pharmaceutical forms.	2	<p>Practical work take place in work rooms technically equipped for this purpose - screen, blackboard, laptop, video projector.</p> <p>The practical works have written support and are brought up to date from the point of view of information, according to the treaties, scientific papers, as well as new data appearing online in the field of pharmacology and pharmacotherapy. They are interactive. Students are trained in self-documentation of drug use issues in current dental practice.</p>	
2. Liquid and gaseous pharmaceutical forms.	2		
3. Pharmacography – general rules for prescription; parts of the recipe. Prescription of pharmaceutical forms – part 1	2		
4. Prescription of pharmaceutical forms – part 2	2		
5. Prescription - central nervous system medication (sedative-hypnotic drugs, antiseizure drugs, antipsychotic drugs)	3		
6. Prescription - central nervous system medication (local anesthetics, opioid analgesics, non-steroidal anti-inflammatory drugs).	3		
7. Prescription - glucocorticoids, H1-antagonists.	2		
8. Prescription – Cardiovascular system medication – drugs used in heart failure, antiarrhythmic and antianginal drugs.	2		
9. Prescription Cardiovascular system medication - antihypertensive. Diuretics	2		
10. Prescription – Blood medication	2		
11. Prescription – Drugs acting on the respiratory system.	1		
12. Prescription – Drugs acting on the gastrointestinal tract.	1		
13. Prescription – Chemotherapeutic antibacterial drugs	2		
14. Prescription – Antiviral and antifungal chemotherapeutic drugs. Antiseptics and disinfectants	2		
<b>TOTAL</b>	<b>28</b>		

8.3. Bibliography for lectures and laboratory/practical sessions
<p>1. Editors: James M. Ritter, Rod J. Flower, Graeme Henderson, Yoon Kong Loke, David MacEwan, Emma Robinson, James Fullerton, Rang and Dale`s Pharmacology, 10<sup>th</sup> Edition, 2023</p> <p>2. Editors: Frank J. Dowd, Bart Johnson, Angelo Mariotti. Pharmacology and Therapeutics for Dentistry, Mosby Elsevier, 7<sup>th</sup> edition, 2017.</p>



**“CAROL DAVILA” UNIVERSITY  
OF MEDICINE AND PHARMACY BUCHAREST**  
**Faculty of Dentistry**  
**Dental Medicine in English**



**9. Corroborating the contents of the discipline with the expectations of epistemic community representatives, professional associations and employers in the fields representative for the program**

The student acquires the necessary skills to know the drugs, as desired by the authorities in the field, as well as the necessary skills to use the medicines in therapy according to the expectations of operators in the field of Public Health and the health needs of the population

## 10. Evaluation

10.1 Evaluation			
Activity type	Evaluation Criteria	Methods of evaluation	% out of final grade
Lecture	<b>A. Knowledge for mark 5:</b> The use of medicines in dental medical practice in non-dangerous conditions.  <b>B. Additional knowledge for mark 10</b> Detailed knowledge of the theoretical and practical information taught during the semester, the ability to make connections regarding different drug information, recognizing and treating adverse drug reactions and medical emergencies appearing into dental medical practice.	Written exam - grid test	70%
Laboratory Sessions	<b>A. Knowledge for mark 5:</b> Practical skills in the use of medicines in dental medical practice  <b>B. Additional knowledge for mark 10</b> Practical skills in prescribing medicines, treating adverse drug reactions and managing drug interactions and emergencies appearing into dental medical practice.	Practical exam	30%
<b>Minimum performance standards</b>			
<ul style="list-style-type: none"><li>• The use of medicines in medical practice in non-dangerous conditions.</li><li>• The passing grade is Grade 5.</li><li>• The final grade is established based on the evaluation criteria taken into account the relationship: 70% for the written test and 30% for the oral test.</li><li>• The practical exam is an eliminatory test</li></ul>			

Date:  
8.10.2024

Chair of PHARMACOLOGY AND PHARMACOTHERAPY Division,  
Prof..Dr. Oana Andreia Coman

Date of the approval in  
Department Board:

Department Director,  
Prof. Dr. Ion Fulga

.....