

## Master's Degree Course in Dentistry and Dental Prosthetics 2023/2024

**Teaching:** Pharmacology

**Scientific Disciplinary Sector:** BIO/14

**Responsible Professor:** Prof. [Silvio Festinese](mailto:silvio.festinese@unicamillus.org); e-mail: [silvio.festinese@unicamillus.org](mailto:silvio.festinese@unicamillus.org)

**Number of University Educational Credits (CFU):** 6

### PREREQUISITES

There are no prerequisites for the teaching of Pharmacology.

### LEARNING OBJECTIVES

The teaching of Pharmacology aims to provide the student with knowledge on:

- general principles: definition of drug, medicament, poison, drug concept, active ingredient, nature of drugs.
- methodology of pharmacological research clinical and preclinical phases
- Pharmacokinetics: routes of drug administration, absorption of drugs, drug metabolism, drug excretion
- dose-response relationship
- mechanism of action of drugs
- factors influencing drug response
- adverse drug reactions
- anti-inflammatory analgesic antipyretic drugs
- nociceptive system drugs
- drugs in general and local anesthesia
- drugs in diseases of the bone
- chemotherapeutic antiseptics disinfectants
- drugs of the cardiovascular and coagulation system
- drugs of the nervous system
- drugs for dental emergencies
- pharmaceutical prescription:
  - magistral prescriptions
  - ordinary prescriptions
  - limiting prescriptions
  - prescriptions for narcotics

### LEARNING OUTCOMES

Knowledge of pharmaceutical scientific methodology, pharmacokinetics, classification and use of active ingredients in various internist and dental pathologies; the acquisition of a comprehensive orientation in the field of clinical drug use with specific references to internist and dental pathologies.

#### **Knowledge and understanding**

At the end of this teaching the student will be able to:

- Know the definitions and origins of medicines, medicaments, poisons, drugs



- Describe the main pharmacokinetic characteristics and differences
- Know the methodology of clinical and preclinical pharmaceutical research
- Know the metabolism and mechanism of action of drugs
- Know the anti-inflammatory analgesic antipyretic drugs
- Know the drugs of the nociceptive system
- Know the drugs of general and local anesthesia
- Know the drugs of bone diseases
- Know the chemotherapeutic antiseptic disinfectant drugs
- Know the drugs of the cardiovascular and coagulation systems
- Know the drugs of the nervous system
- Know the drugs for dental emergencies
- Know the rules of pharmaceutical prescription:
  - magistral prescriptions
  - ordinary prescriptions
  - restrictive prescriptions
  - prescriptions for narcotics

### **Applying knowledge and understanding**

Skills related to understanding the drug use in both scientific research and clinical practice. Learning the scientific pharmacological method will be the "common thread" of the entire course; learners will be stimulated to develop the ability to make accurate and documented observations and to make proper critical analysis of them to derive verifiable generalizations and appropriate clinical applicability.

### **Communication skills**

The student will be able to adequately describe a drug and its use, demonstrating that they have also learned appropriate scientific and clinical language.

### **Making judgements**

Upon completion of the course the student, will have analyzed and learned the methodology of pharmacological research that then leads to the proper therapeutic use of various active ingredients.

### **Learning skills**

The student will have acquired appropriate learning skills and methods for the deepening and improvement of their skills in the field of Pharmacology.

## **COURSE SYLLABUS**

- Definitions and origins of drugs, medicaments, poisons, drugs
- Methodology of clinical and preclinical pharmacological research
- Pharmacokinetics
- Metabolism and mechanism of action of drugs
- Characteristics and differences of various pharmaceutical classes
- Classification criteria, therapeutic indications, posologies, interactions, side effects of:



1. Anti-inflammatory analgesic antipyretic drugs
  2. Nociceptive system drugs
  3. Drugs of general and local anesthesia
  4. Bone disease drugs
  5. Chemotherapeutic antiseptic disinfectant drugs
  6. Drugs of the cardiovascular and coagulation systems
  7. Drugs of the nervous system
  8. Drugs for dental emergencies
- Polytherapy of the complex frail patient
  - Pharmaceutical prescribing (forensic pharmacology)

### **COURSE STRUCTURE**

The 60-hour teaching consists of lectures, exercises, possible medical-scientific conferences, and meetings with interdisciplinary interprofessional experts; teaching will make use of tools such as presentations organized in powerpoint files, diagrams, illustrations and images to describe the various pharmacological notions; any films and animations will also be used to supplement them; planned exercises, including interactive ones, with in-class performance of exercises, both individuals and groups. Attendance is mandatory.

### **COURSE GRADE DETERMINATION**

The final examination will consist of an oral test.

The assessment parameters will be: determination of the level of learning of the methodology of medical and scientific research in pharmacology and the reasoned clinical use of the drug, ability to discursively organize knowledge; ability to critically reason about the study carried out; quality of exposition and competence in the use of specialized medical pharmacological vocabulary.

Unit of measurement used: grade in thirtieths

The examination paper will be graded overall according to the following criteria:

- Unsuitable: major deficiencies and/or inaccuracies in knowledge and understanding of the topics; limited ability to analyze and synthesize; frequent generalizations.
- 18-20: barely sufficient knowledge and understanding of topics with possible imperfections; sufficient skills of analysis synthesis and autonomy of judgment.
- 21-23: routine knowledge and understanding of topics; ability to analyze and synthesize correct with coherent logical argumentation.
- 24-26: fair knowledge and understanding of topics; good analytical and synthesis with rigorously expressed arguments.
- 27-29: complete knowledge and understanding of topics; remarkable analytical skills, synthesis. Good autonomy of judgment.
- 30-30L: excellent level of knowledge and understanding of topics. Remarkable skills of analysis and synthesis and autonomy of judgment. Arguments expressed in an original way.

Mode of evaluation: single oral examination

### **OPTIONAL ACTIVITIES**

Participation in medical-scientific conferences of pharmacological interest recognized by the Ministry



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of Health's national CME update and training program. Meetings with any interdisciplinary interprofessional experts on specific aspects of Integrated Pharmacology.

#### **RECOMMENDED TEXTBOOKS AND BIBLIOGRAPHY**

"Compendium of General and Special Pharmacology" Matilde Amico Roxas - UTET "Pharmacology in Dentistry" Matilde Amico Roxas, Achille P. Caputi, Mario Del Tacca - EDRA "Medical Urgencies and Emergencies in Dentistry" Giovanni Damia - Tecniche nuove "Pharmacology" Anita Conforti et al. - SORBONA.