

1. BASIC INFORMATION

Course	General Pharmacology, Human Nutrition, Anesthesia and Resuscitation
Degree program	Dentistry
School	Faculty of Health Science
Year	2nd Year
ECTS	6 ECTS
Credit type	Mandatory
Language(s)	Spanish and English
Delivery mode	Face to face
Semester	2 nd Semester
Academic year	2024 – 2025
Coordinating professor	Dr. Martín Pérez Leal

2. PRESENTATION

General Pharmacology, Human Nutrition, Anesthesia and Resuscitation is part of the Pathology and General Medical Surgical Therapeutics module. It is a six-month course developed during the 2nd year of Dentistry Degree.

From an overall perspective, the objective of the course General Pharmacology, Human Nutrition, Anesthesia and Resuscitation, along with the course Applied Medical and Surgical Pathology and the course Semiotics and General Physiopathology is that students know and understand the most prevalent problems that their dental patients may have, together with their treatment, as well as to introduce students to knowledge through evidence-based Dentistry.

The outcomes to be achieved by the graduate are oriented to their training in the service of society by meeting its sanitary demands through a comprehensive university education and quality-oriented students adjusted to working environment and personal development within the objectives of the Faculty of Health Sciences at the European University (EU). The student's training includes not only knowledge of the health-disease process, but also learning skills development and social relations, at a professional and personal level, in order to achieve teamwork, appropriate problem solving, and the development of empathy and self-confidence.

3. COMPETENCIES AND LEARNING OUTCOMES

Core competencies:

- CC1: Students have demonstrated that they possess and understand knowledge in an area of study that starts from the base of high school education, and it is usually found at a level which, although supported by advanced textbooks, also includes some aspects that imply knowledge from the state of the art of their field of study.

- CC3: Students have the ability to gather and interpret relevant data (usually within their field of study) to inform judgments that include reflection on relevant social, scientific or ethical issues.
- CC4: Students can communicate information, ideas, problems and solutions to both a specialist and a non-specialist audience.

General competencies:

- GC2: To understand the importance of such principles for the benefit of patients, society and the profession, with special attention to professional secrecy.
- CG3 - Ability to know how to identify the concerns and expectations of the patient, as well as to communicate effectively and clearly, both orally and in writing, with patients, relatives, the media and other professionals.
- GC11: Ability to understand the basic biomedical sciences on which Dentistry is based to assure a correct oral-dental care.
- GC16: Ability to understand the fundamentals of action, indications and efficacy of drugs and other therapeutic interventions, knowing their contraindications, interactions, systemic effects and interactions on other organs, based on the available scientific evidence.
- GC17: Ability to understand and recognize the principles of ergonomics and safety at work (including cross-infection control, protection from radiation and occupational and biological diseases).
- GC 18: Knowledge to critically assess and use the sources of clinical and biomedical information to obtain, organize, interpret and communicate scientific and health information.
- GC24: Ability to recognize life-threatening situations and know how to perform basic life support maneuvers.

Cross-curricular competencies:

- CT1: Responsibility: The student has to be able to assume the consequences of the actions taken and be accountable for their own actions.
- CT3: Consciousness of ethical values: The student's ability to feel, judge, argue and act according to moral values in a coherent, persistent and autonomous way.
- CT4: Communicative skills: The student is able to effectively express concepts and ideas, including the ability to communicate, writing concisely and clearly, as well as speaking in public effectively.
- CT7: Teamwork: Students have to be able to participate in an active way in achieving a common goal, listening, respecting and valuing the ideas and proposals of the other members of his/her team.
- CT8: Initiative: The student has to be able to anticipate proactively, proposing solutions or alternatives to the situations presented.

Specific competencies:

- SC27: To know the general processes of sickness, healing and repair, among which we can include infection, inflammation, bleeding and clotting, healing, trauma, immune system disorders, degeneration, neoplasia, metabolic disturbances and genetic disorders.
- SC28: To know the general pathological features of diseases and disorders that affect different organ systems.
- SC29: To know the oral manifestations of systemic diseases.
- SC30: To know the general and clinical Pharmacology in dental practice.
- SC31: To know the pharmacological basis of different anesthetic techniques - both local and general - and the role of sedation and general anesthesia in dental patient management.
- SC32: To recognize and handle medical emergencies in the dental practice and basic cardiopulmonary resuscitation techniques.
- SC33: To have appropriate knowledge of human nutrition, in particular, the relationship of nutritional habits and diet with maintaining health and prevention of oral-dental disease.

Learning outcomes:

- LO1: To know the General and Clinical Pharmacology in the dental practice.
- LO2: To know the pharmacological bases of the different local and general anesthetic techniques, as well as the role of sedation and general anesthesia in the management of the dental patient.
- LO3: To have appropriate knowledge of human nutrition, in particular, the relationship of nutritional habits and diet with maintenance of health and prevention of oral diseases.
- LO4: To know and to manage the most frequent medical emergencies in dental practice and basic life support techniques.
- LO5: To identify situations that require urgent medical intervention.
- LO6: Knowledge of the management of situations that require the administration of immediate treatment by the dentist.

The following table shows the relationship between the competencies developed during the course and the learning outcomes pursued:

Competencies	Learning outcomes
<ul style="list-style-type: none"> • CC1, CC3, CC4 • GC2, GC11, GC17, GC16, GC18, GC24 • CT1, CT3, CT4, CT7, CT8 • SC27, SC28, SC29, SC30, SC31, SC32 	LO1
<ul style="list-style-type: none"> • CC1, CC3, CC4 • GC2, GC11, GC17, GC16 • CT1, CT3, CT4, CT7, CT8 • SC27, SC31 	LO2
<ul style="list-style-type: none"> • CC1, CC3, CC4 • GC2, GC11, GC16, GC18 • CT1, CT3, CT4, CT7, CT8 • SC33 	LO3
<ul style="list-style-type: none"> • CC1, CC3, CC4 • GC16, GC18, GC24 • CT1, CT7, CT8 • SC31, SC32 	LO4
<ul style="list-style-type: none"> • CC1, CC3, CC4 • GC16, GC18, GC24 • CT1, CT7, CT8 • SC32 	LO5
<ul style="list-style-type: none"> • CC1, CC3, CC4 • GC16, GC18, GC24 • CT1, CT7, CT8 • SC32 	LO6

4. CONTENT

UNIT 1. GENERAL PHARMACOLOGY

- Lesson 1.1 Introduction to Pharmacology
- Lesson 1.2. Routes of drug administration
- Lesson 1.3. Pharmacokinetics
- Lesson 1.4. Pharmacodynamics
- Lesson 1.5. Mechanisms of adverse reaction production and drug interactions

UNIT 2. ANAESTHESIA AND SEDATION IN DENTISTRY

- Lesson 2.1. Benzodiazepines and other anti-anxiety drugs
- Lesson 2.2. Local and general anaesthetic drugs and neuromuscular blockers

UNIT 3. PHARMACOLOGY OF THE NERVOUS SYSTEM AND PAIN MANAGEMENT

- Lesson 3.1. Pharmacology of the autonomic nervous system
- Lesson 3.2. Antiepileptic drugs
- Lesson 3.3. Antidepressant drugs
- Lesson 3.4. Antipsychotic drugs
- Lesson 3.5. Antiparkinsonian drugs and other neurodegenerative disorders
- Lesson 3.6. Non-steroidal analgesic and opioid drugs

UNIT 4. PHARMACOLOGY OF INFECTIOUS PROCESSES

- Lesson 4.1. Antibiotics
- Lesson 4.2. Antiseptic and disinfectant drugs
- Lesson 4.3. Antifungal and antiviral drugs

UNIT 5. PHARMACOLOGY OF THE CARDIOVASCULAR SYSTEM

- Lesson 5.1. Anti-anaemic drugs
- Lesson 5.2. Coagulant, anticoagulant and antiplatelet drugs
- Lesson 5.3. Lipid-lowering drugs
- Lesson 5.4. Antihypertensive drugs
- Lesson 5.5. Anti-arrhythmic drugs
- Lesson 5.6. Drugs for heart failure
- Lesson 5.7. Anti-anginal drugs
- Lesson 5.8. Diuretics

UNIT 6. PHARMACOLOGY OF DIGESTIVE SYSTEM

- Lesson 6.1. Anti-ulcer drugs
- Lesson 6.2. Other drugs used in digestive pathologies

UNIT 7. ENDOCRINE-METABOLIC PHARMACOLOGY

- Lesson 7.1. Anti-inflammatory steroid drugs (glucocorticoids)
- Lesson 7.2. Insulin and other hypoglycemic drugs

UNIT 8. OTHER PHARMACOLOGICAL GROUPS

- Lesson 8.1. Immunostimulant and immunosuppressive drugs
- Lesson 8.2. Antineoplastic drugs
- Lesson 8.3. Antihistamine drugs and other drugs used in respiratory pathology
- Lesson 8.4. Antiasmatic drugs and other drugs used in respiratory pathology
- Lesson 8.5. Drugs for bone disorders

UNIT 9. NUTRITION AND DIETETICS

Lesson 9.1 Principles of human nutrition

5. TEACHING-LEARNING METHODOLOGIES

The types of teaching-learning methodologies used are indicated below:

- Master class
- Case method
- Cooperative learning
- Problem-Based Learning
- Simulations

6. LEARNING ACTIVITIES

Listed below are the types of learning activities and the number of hours the student will spend on each one:

Campus-based mode:

Learning activity	Number of hours
Master classes	24 h
Seminars	12 h
Practical exercises	30 h
Analysis of cases	16 h
Tutoring sessions	18 h
Self-study	45 h
Virtual master classes	3 h
In-person knowledge tests	2 h
TOTAL	150 h

7. ASSESSMENT

Listed below are the assessment systems used and the weight each one carries toward the final course grade:

Campus-based mode:

Assessment system	Weight
Evaluation of knowledge	60%
Oral presentation	10%
Practical exercises	15%
Case/Problem	15%

When you access the course on *Campus Virtual*, you'll find a description of the assessment activities you have to complete, as well as the delivery deadline and assessment procedure for each one.

7.1. Ordinary call (first exam period)

To pass the course in the first exam period, you must obtain a grade greater than or equal to 5.0 out of 10.0 in the final grade (weighted average) of the course.

In any case, it will be necessary to obtain a grade greater than or equal to 5.0, independently, in each of the evaluation systems that make up the course (including the knowledge tests separated into partials). It may be assessed that a grade equal to or greater than 4 is needed in the knowledge tests when separated into partial exams.

The Universidad Europea de Valencia establishes continuous assessment as a system of evaluation of knowledge, skills and core, general, cross-curricular and specific competences of the degree in Dentistry, in accordance with the provisions of the Regulations for the evaluation of undergraduate degrees. In this regard and for the purposes of the use of calls the student should be aware that, if any evaluation system provided in the Learning Guide, in the ordinary call (first exam period the student will have an overall grade of the subject, thus using up one call.

According to the aforementioned Regulations, students taking face-to-face degree courses are required to justify at least 50% of class attendance, as a necessary part of the evaluation process and in the case of theoretical or practical classes determined as mandatory by the teacher in the schedules of the subject, the student must register an attendance of 90%, whether the absence is justified or not. The lack of accreditation by the means proposed by the University will entitle the professor to grade the subject as failed in the ordinary call, according to the grading system.

Punctuality will be required, 3 delays of more than 15 minutes or departures before class will be counted as a lack of attendance.

The student must consult in the schedule of the course in the Virtual Campus the sessions of compulsory attendance in the classroom.

The mention of "Matrícula de Honor" will be awarded to students who have obtained a grade equal to or higher than 9.0. Their number may not exceed 5% of the students enrolled in each subject in the corresponding academic year, unless the number of students enrolled is less than 20, in which case only one honorary registration may be awarded.

7.2. Extraordinary call (second exam period)

To pass the course in the second exam period, you must obtain a grade higher or equal to 5.0 out of 10.0 in the final grade (weighted average) of the course.

In any case, it will be necessary to obtain a grade greater than or equal to 5.0 in the final test, so that it can be averaged with the rest of the activities.

The activities that were not handed in or passed in the first exam period must be submitted, after having received the corresponding corrections from the teacher.

The Universidad Europea de Valencia establishes the continuous evaluation as a system of assessment of knowledge, skills and core, general, cross-curricular, and specific competences of the degree in Dentistry, in accordance with the provisions of the Regulations for the evaluation of undergraduate degrees. In this regard and for the purposes of using calls, the student should be aware that in the extraordinary call the

Objective Test of Knowledge (OTK) which determines whether or not the call was used. In the exceptional case that the student only needs to pass evaluation system /s that are not the OTK, it will be considered NP if not presented and will obtain a numerical grade if the student was examined of, at least, one of them.

Pursuant to the aforementioned Regulations, students taking face-to-face degree courses are required to justify at least 50% of class attendance, as a necessary part of the evaluation process, and in the case of theoretical or practical classes determined as mandatory by the teacher in the schedules of the subject, the student must register an attendance of 90%, whether the absence is justified or not. Those students who, due to non-compliance with this requirement, must take the extraordinary call (second exam period), need to perform as many activities or knowledge tests determined by the teacher to recover this part successful completion will be based on the specified rubric.

8. SCHEDULE

This table shows the delivery deadline for each assessable activity in the course:

Assessable activities	Deadline
Partial evaluations of knowledge	Check in Campus Virtual
Dose calculation practical exercise	Check in Campus Virtual
Oral presentations	Check in Campus Virtual
Case/problem for each unit	Check in Campus Virtual

This schedule may be subject to changes for logistical reasons relating to the activities. The student will be notified of any change as and when appropriate.

9. BIBLIOGRAPHY

General Pharmacology – Indispensable recommended bibliography:

- Flórez J. (2013). **Farmacología Humana**. Barcelona: Elsevier. 6th Edition.
- Goodman & Gilman's. (2018). **Bases Farmacológicas de la Terapéutica**. Editorial McGraw-Hill Interamericana. 13th Edition.
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- Waechter, Jason E; Martin, Douglas S: (2011). **Applied Pharmacology**. St. Louis, Mo: Elsevier Saunders.
- Rang & Dale. (2020). **Pharmacology**. Barcelona: Elsevier. 9th Edition.

General Pharmacology – Complementary recommended bibliography:

- Tripathi, KD. (2008). **Farmacología en Odontología: Fundamentos**. Buenos Aires Madrid: Ed. Panamericana. 1st Edition.
- Lüllman, H. Mohr, K. (2004). **Atlas de Farmacología**. Barcelona: Masson SA. 2nd Edition.

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- Stahl, SM. (2021) **Stahl's Essential Psychopharmacology: Neuroscientific basis and Practical Applications**. Ed. Cambridge University Press. 5th Edition.

Human Nutrition – Recommended bibliography:

- Carballo, M. Larrañaga, I. y Rodríguez, M.M. (1997). **Dietética y Dietoterapia**. Ed. McGraw-Hill/Interamericana de España. 1st Edition
- Gómez, R. (2000). **Dietética Práctica**. Madrid: Rialp. 2nd Edition.
- Coronas, R. (1998). **Manual Práctico de Dietética y Nutrición**. Barcelona: Ed. Médica JIMS. 2nd Edition.
- Salas-Salvadó, J. (2014). **Nutrición y dietética clínica**. Ed. Barcelona-Elsevier. 3rd Edition.
- Verdú, FJ. (2009). **Nutrición y alimentación humana**. Ed. Madrid Ergon cop. 2nd Edition.

10. EDUCATIONAL GUIDANCE AND DIVERSITY UNIT

From the Educational Guidance and Diversity Unit we offer support to our students throughout their university life to help them reach their academic achievements. Other main actions are the students inclusions with specific educational needs, universal accessibility on the different campuses of the university and equal opportunities.

From this unit we offer to our students:

1. Accompaniment and follow-up by means of counselling and personalized plans for students who need to improve their academic performance.
2. In terms of attention to diversity, non-significant curricular adjustments are made in terms of methodology and assessment for those students with specific educational needs, pursuing an equal opportunities for all students.
3. We offer students different extracurricular resources to develop different competences that will encourage their personal and professional development.
4. Vocational guidance through the provision of tools and counselling to students with vocational doubts or who believe they have made a mistake in their choice of degree.

Students in need of educational support can write to us at:

orientacioneducativa.uev@universidadeuropea.es

11. ONLINE SURVEYS

Your opinion matters!

The Universidad Europea encourages you to participate in several surveys which help identify the strengths and areas we need to improve regarding professors, degree programs and the teaching-learning process.

The surveys will be made available in the “surveys” section in virtual campus or via e-mail.

Your assessment is necessary for us to improve.

Thank you very much for your participation.