1. BASIC INFORMATION

Course	General Pharmacology, Human Nutrition, Anesthesia and Resuscitation
Degree program	Dentistry
School	Dentistry
Year	2nd Year
ECTS	6 ECTS
Credit type	Mandatory
Language(s)	Spanish/English
Delivery mode	In class
Semester	2nd Semester
Academic year	2020 – 2021
Coordinating professor	Isabel Andújar Pérez

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 asses 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: 5. To identify situations which require urgent medical intervention. Knowledge of the management of the situations that require 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
• CC1, CC3, CC4 • GC2, GC11, GC17, GC16, GC18, GC24 • CT1, CT3, CT4, CT7, CT8 • SC27, SC28, SC29, SC30, SC31, SC32	LO1
• CC1, CC3, CC4 • GC2, GC11, GC17, GC16 • CT1, CT3, CT4, CT7, CT8 • SC27, SC31	LO2
• CC1, CC3, CC4 • GC2, GC11, GC16, GC18 • CT1, CT3, CT4, CT7, CT8 • SC33	LO3
• CC1, CC3, CC4 • GC16, GC18, GC24 • CT1, CT7, CT8 • SC31, SC32	LO4
• CC1, CC3, CC4 • GC16, GC18, GC24 • CT1, CT7, CT8 • SC32	LO5

4. CONTENT

UNIT 1. GENERAL PHARMACOLOGY.
LESSON 1. Basic Principles of Pharmacology.
LESSON 2. Principles of Drug Administration.
LESSON 3. Pharmacokinetics.
LESSON 4. Pharmacodynamics.
LESSON 5. Adverse Reactions and Drug Interactions.

UNIT 2. PHARMACOLOGY OF THE NERVOUS SYSTEM. MANAGEMENT OF PAIN. ANESTHESIA AND SEDATION IN DENTISTRY.
LESSON 6. Autonomic Pharmacology.
LESSON 7. Benzodiazepines.
LESSON 8. Antiseizure Drugs.
LESSON 9. Antidepressant Drugs.
LESSON 10. Antipsychotic Drugs.
LESSON 11. Drugs for Neurodegenerative Diseases: Parkinson's Disease and Alzheimer's Disease.
LESSON 12. Pain Management: Painkillers, NSAID and Opioids.
LESSON 13. Local Anesthetics, General Anesthetics and Muscle Relaxants.

UNIT 3. PHARMACOLOGY OF THE CARDIOVASCULAR SYSTEM.
LESSON 14. Drugs for Erythopoietic Disorders.
LESSON 15. Drugs for Coagulation Disorders.
LESSON 16. Lipid-Lowering Agents.
LESSON 17. Antihypertensive Drugs.
LESSON 18. Antiarrhythmic Drugs.
LESSON 19. Drugs for Heart Failure.
LESSON 20. Drugs for Myocardial Ischemia.
LESSON 21. Diuretics.

UNIT 4. PHARMACOLOGY OF THE IMMUNE SYSTEM.
LESSON 22. Immune Modifiers.
LESSON 23. Steroidal Anti-Inflammatory Drugs.
LESSON 24. Antibiotics. New Antibiotics in Dentistry.
LESSON 25. Antiseptics and Disinfectants.
LESSON 26. Antifungal and Antiviral Drugs.
LESSON 27. Treatment of Neoplasia.

UNIT 5. PHARMACOLOGY OF THE RESPIRATORY SYSTEM.
LESSON 28. Drugs for Allergic Rhinitis and Cold.
LESSON 29. Drugs for Asthma and Other Pulmonary Diseases.

UNIT 6. PHARMACOLOGY OF THE GASTROINTESTINAL SYSTEM.
LESSON 30. Drugs for the Treatment of Peptic Ulcer.
LESSON 31. Drugs for the Treatment of Gastrointestinal Disorders.

UNIT 7. PHARMACOLOGY OF THE ENDOCRINE SYSTEM.
LESSON 32. Insulins and Other Hypoglycemic Drugs.

UNIT 8. PHARMACOLOGY OF THE SKELETAL SYSTEM.
LESSON 33. Pharmacology of the Bone.

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	53 h
Seminars	20 h
Practical exercises	30 h
Analysis of cases	17 h
Tutoring sessions	30 h

7. ASSESSMENT

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

Assessment system	Weight
Evaluation of knowledge	70%
Oral presentation	10%
Practical exercises	10%
Case/Problem	10%

The evaluation of knowledge will consist of several activities that will take place on different days throughout the course and will be detailed in the Virtual Campus.

When you access the course on the *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. First exam period

To pass the course in the first exam period, you must obtain a final course grade of at least 5 out of 10 (weighted average).

In any case, you will need to obtain a grade of at 5.0 in all of the elements of the evaluation of knowledge in order for it to count towards the final grade along with all the grades corresponding to the other activities.

7.2. Second exam period

To pass the course in the second exam period, you must obtain a final grade of at least 5 out of 10 (weighted average).

In any case, you will need to obtain a grade of at 5.0 in all of the elements of the evaluation of knowledge in order for it to count towards the final grade along with all the grades corresponding to the other activities.

The student must deliver the activities not successfully completed in the first exam period after having received the corresponding corrections from the professor, or those that were not delivered in the first place.

8. SCHEDULE

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

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

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**. Editoral McGraw-Hill Interamericana. 13th Edition.
- Baxter, Karen. (2009). **Stockley Interacciones Farmacológicas**. Barcelona: Pharma Editores, S.L 3ª Ed.
- Waechter, Jason E; Martin, Douglas S: (2011). **Applied Pharmacology**. St. Louis, Mo: Elsevier Saunders.
- Rang & Dale. (2015). **Farmacología**. Barcelona: Elsevier. 8th 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.
- www.vademecum.es
- Medimecum. (2018). **Odontología: Guía de terapia farmacológica.** Madrid: Springer Healthcare D.L.

Nutrition and Dietetics – Bibliografía recomendada indispensable:

- 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.

10. DIVERSITY MANAGEMENT UNIT

Students with specific learning support needs:

Curricular adaptations and adjustments for students with specific learning support needs, in order to guarantee equal opportunities, will be overseen by the Diversity Management Unit (UAD: Unidad de Atención a la Diversidad).

It is compulsory for this Unit to issue a curricular adaptation/adjustment report, and therefore students with specific learning support needs should contact the Unit at unidad.diversidad@universidadeuropea.es at the beginning of each semester.

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.