

1. BASIC INFORMATION

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| Course | Semiology and General Pathophysiology I |
| Degree program | Dentistry |
| School | Dentistry |
| Year | 2 nd Year |
| ECTS | 6 ECTS |
| Credit type | Mandatory |
| Language(s) | Spanish/English |
| Delivery mode | In class |
| Semester | 2 nd Semester |
| Academic year | 2020 – 2021 |
| Coordinating professor | Pedro García Bermejo |

2. PRESENTATION

The subject of General Semiology and Pathophysiology I is part of the Pathology and General Medical-Surgical Therapy Module and it is developed every six months in the second year of the Dentistry degree. From a general perspective, the purpose of the subject is for students to know the anatomical basis and the pathophysiological mechanisms of disease production.

The competences that the graduate must reach are oriented to their training at the service of society by satisfying their health demands through a comprehensive and top-quality university education, aimed at adapting the student to the work environment and their personal development within the objectives of the Faculty of Health Sciences of the European University.

As part of the student's training, it is necessary not only the knowledge of the health-disease process, but also the learning, development of skills and social relationships, both professionally and personally, in order to achieve teamwork in an optimal way, adequate problem-solving, development of empathy and self-confidence.

3. COMPETENCIES AND LEARNING OUTCOMES

Core competencies:

- **CC2:** That students know how to apply their knowledge to their work or vocation in a professional manner and possess the skills that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area 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.
- **CC5:** That the students have developed the necessary learning skills to undertake further studies with a high degree of autonomy.

General competencies:

- **GC3:** 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.
- **GC6:** Understand the importance of developing a professional practice with respect to the patient's autonomy, beliefs and culture.
- **GC7:** Ability to promote autonomous learning of new knowledge and techniques, as well as motivation for quality.
- **GC8:** Ability to know how to share information with other health professionals and work as a team.
- **GC9:** Ability to understand the importance of maintaining and using records with patient information for further analysis, preserving the confidentiality of data.
- **GC11:** Ability to understand the basic biomedical sciences on which Dentistry is based to ensure proper oral-dental care.
- **GC14:** Knowledge of the general processes of the disease, among which are infection, inflammation, alterations of the immune system, degeneration, neoplasia, metabolic disorders and genetic disorders.
- **GC15:** Be familiar with the general pathological characteristics of diseases and disorders that affect organic systems, specifically those that have an oral repercussion.
- **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.
- **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.
- **GC19:** Knowledge of the scientific method and have critical capacity to assess established knowledge and new information. Be able to formulate hypotheses, collect and critically evaluate information to solve problems, following the scientific method.

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.
- **CT5:** Interpersonal comprehension: That the student be able to perform an active listening in order to reach agreements using an assertive communication style.
- **CT6:** Flexibility: That the student is able to adapt and work in different and varied situations and with diverse people. It involves assessing and understanding different positions adapting their own approach as the situation requires.
- **CT8:** Initiative: The student has to be able to anticipate proactively, proposing solutions or alternatives to the situations presented.
- **CT10:** Responsibility: That the student is able to assume the consequences of the actions he performs and respond to his own actions.

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 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 |
|---|-------------------|
| <ul style="list-style-type: none"> • CC2, CC3, CC4, CC5 • GC14, GC15, GC18, GC7, GC8 • CT1, CT10, CT6, CT8 • SC27, SC28, SC29 | LO1 |
| <ul style="list-style-type: none"> • CC2, CC3, CC5 • GC18, GC19, GC8 • CT1, CT8 | LO2 |
| <ul style="list-style-type: none"> • CC2, CC3, CC4, CC5 • GC14, GC15, GC18, GC7, GC8 • CT5, CT8 • SC28 | LO3 |
| <ul style="list-style-type: none"> • CC2, CC3, CC4, CC5 • GC14, GC15, GC18, GC7, GC8 • CT5, CT8 • SC27, SC28 | LO4 |
| <ul style="list-style-type: none"> • CC2, CC3, CC4, CC5 • GC14, GC15, GC18, GC7, GC8 • CT5, CT8 • SC27, SC28, SC29 | LO5 |

4. CONTENT

LEARNING UNIT 1: GENERAL CONCEPTS.

Lesson 1: General Pathophysiology and Semiology.

Lesson 2: Pathophysiology of the Immune System

Lesson 3: Microorganisms-Induced Diseases.

Lesson 4: Environment-Induced Diseases.

Lesson 5: Pathophysiology of Tumoral Diseases.

Lesson 6: Diseases Related to Inheritance.

Lesson 7: Nutrition-Related Diseases.

LEARNING UNIT 2: PHYSIOPATHOLOGY AND SEMIOLOGY OF BLOOD AND LYMPHOID SYSTEM.

Lesson 8: Introduction to Hematology.

Lesson 9: Red Blood Cells Disorders.

Lesson 10: White Blood Cells, Lymph Nodes and Spleen Disorders.

Lesson 11: Pathology of Hemostasis.

LEARNING UNIT 3: PHYSIOPATHOLOGY AND SEMIOLOGY OF THE CARDIOVASCULAR SYSTEM.

Lesson 12: Introduction to the Pathology of the Circulatory System.

Lesson 13: Atherosclerosis.

Lesson 14: Ischemic Heart Disease.

Lesson 15: Heart Failure.

Lesson 16: Arterial Hypertension.

Lesson 17: Valvular Diseases.

Lesson 18: Rhythm Disorders. Normal ECG. Main Arrhythmias.

Lesson 19: Vascular Pathology of Lower Limbs.

LEARNING UNIT 4: PHYSIOPATHOLOGY AND SEMIOLOGY OF THE RESPIRATORY SYSTEM.

Lesson 20: Introduction to the Pathology of the Respiratory System.

Lesson 21: Respiratory Failure.

Lesson 22: Obstructive Pulmonary Pathology.

Lesson 23: Restrictive Pulmonary Pathology.

Lesson 24: Pathology of the Pulmonary Circulation

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 | 37,5 h |
| Group work | 10 h |
| Practical exercises | 10 h |
| Analysis of cases | 60 h |
| Laboratory sessions | 15 h |
| Tutoring sessions | 17,5 h |
| TOTAL | 150 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 I. Test and Short Questions | 40% |
| Evaluation of knowledge II. Clinical Case | 20% |
| Oral presentations | 15% |
| Case/Problem | 5% |
| Laboratory sessions | 10% |
| Practical exercises | 10% |

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 grade equal to or greater than 5.0 out of 10.0 in the final grade (weighted average) of the course.

It is necessary to get a 5.0 out of 10.0 in the Evaluation of knowledge I and II to pass the subject.

To be able to take the evaluative test in ordinary call, students must attend a minimum of 50% of the theoretical or theoretical-practical face-to-face classes.

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 in the final evaluation of knowledge in order for it to count towards the final grade along with all the grades corresponding to the other activities.

Those students who did not obtained a grade equal to or greater than 5.0 out of 10.0 in the ordinary call must attend this call. The exam will consist of a theoretical part similar to the ordinary call and in the same conditions. In addition, those students who have not presented or participated in the different evaluation activities, must do them in this call or be evaluated in the corresponding case such as clinical cases and oral presentations.

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 |
|---|------------------------|
| Evaluation of knowledge I. Test and Short Questions | January 2021 |
| Evaluation of knowledge II. Clinical Case | December 2020 |
| Oral presentations | November/December 2020 |
| Case/Problem | November/December 2020 |
| Laboratory sessions | December 2020 |
| Practical exercises | December 2020 |

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

Indispensable recommended bibliography:

- Laso Guzman. Introducción a la medicina clínica fisiopatología y semiología. (3ª edición). España 2015. Elsevier
- Pastrana Delgado J. (2013). Fisiopatología y Patología General Básicas para ciencias de la salud (1a ed), Elsevier.
- Manual de Patología General. Sisinio De Castro. Ed. Pérez Arellano, José Luis. 7ª Edición (Junio 2013).

Complementary recommended bibliography:

- Braunwald E (2019). Harrison: Principios de Medicina Interna (20a ed), México, McGraw-Hill/Interamericana.
- HALL, John Edward; GUYTON, Arthur C. Guyton & Hall tratado de fisiología médica. 13. ed. Barcelona: Elsevier, 2016.
- Porth C (2007). Fisiopatología. Salud-enfermedad: un enfoque conceptual (7a ed), Editorial Médica Panamericana.

Recommended web-pages:

Medline-PubMed: <http://www.ncbi.nlm.nih.gov/sites/entrez>

The Cochrane Collaboration: <http://www.cochrane.org/>

UpToDate: <http://www.uptodate.com/index>

Organización Mundial de la Salud (OMS): <http://www.who.int/es/>

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.