1. BASIC INFORMATION

Course	General Physiopathology
Degree program	Nursing Degree and Nursing-Physiotherapy double grade
School	Faculty of Health Sciences
Year	2º
ECTS	6 ECTS
Credit type	Mandatory
Language(s)	Spanish
Delivery mode	In class
Semester	First semester

2. PRESENTATION

Physiopathology is the health science responsible for the study of the abnormal course of vital processes, that is, the study of the relationship between the functions of the organism (physiology) and its possible alterations (pathology). Explains the genesis of the general manifestations (clinically or through complementary tests

Physiopathology allows us to know the causes of diseases in order to prevent them, how they can be expressed (signs and symptoms) to recognize them and have an early diagnosis, the complementary diagnostic methods or follow-up tests to assess the evolution, and the possible complications to reduce or alleviate them. It is also important to know the physiopathological justification of the possible therapeutic approaches, thus improving their understanding.

The study of Physiopathology allows the students to acquire a solid base in clinical knowledge, which, when integrated with other subjects, enables the students to acquire the skills necessary to provide quality nursing care, promoting responsibility and recycle.

For all these reasons, the subject of Physiopathology aims to guide students in this science, since in their professional activity it will be a key tool for its proper development

3. COMPETENCIES AND LEARNING OUTCOMES

Core competencies:

- **CB1:** That students have demonstrated an understanding of knowledge in an area of study that is based on general secondary education. It is usually supported by advanced textbooks but also includes some aspects that involve knowledge from the cutting edge of your field of study.

- **CB2:** That students know how to apply their knowledge to their work or vocation in a professional manner. Besides they should possess the skills that are usually demonstrated through the development and defence of arguments and the resolution of problems within their area of study.
- **CB3:** That students have the ability to gather and interpret relevant data (normally within their area of study) to make judgments that include thinking on relevant issues of a social, scientific or ethical nature.
- **CB4:** That students can transmit information, ideas, problems and solutions to both a specialized and a non-specialized audience.
- **CB5:** That students have developed those learning skills necessary to undertake further studies with a high degree of autonomy.

General competencies:

- **CG14:** Establish evaluation mechanisms, considering scientific-technical and quality aspects.
- **CG15:** Work with the team of professionals as a basic unit in which odontologists and other healthcare personnel are structured in a uni- or multidisciplinary and interdisciplinary manner.

Cross-curricular competencies:

- **CT1:** Responsibility: That the student is able to assume the consequences of the actions he or she performs and be responsible for his or her own actions.
- **CT7:** Teamwork: That the student is able to participate actively in achieving a common objective, listening, respecting and valuing the ideas and proposals of the rest of the members of his team.
- **CT9:** Planning: That the student is able to effectively determine his or her goals and priorities, defining the optimal actions, deadlines and resources required to achieve such objectives.
- **CT10:** Innovation-Creativity: That the student is able to devise new and different solutions to problems that contribute value to problems that may arise.

Specific competencies:

- **CE1:** To know and identify the structure and function of the human body. To understand the molecular and physiological bases of cells and tissues.
- **CE6:** To apply health care information and communication technologies and systems.
- **CE7:** To know the physiopathological processes, the clinical manifestations and the risk factors that determine health and disease states in the different stages of the life cycle.
- **CE9:** To recognize life-threatening situations and know how to execute basic and advanced life support manoeuvres.

Learning outcomes:

- **RA1:** Ability to recognize and interpret normal or changing signs of a person's health/disease, suffering, disability.
- **RA2:** Ability to question, evaluate, interpret and synthesize a range of information and data sources.
- **RA3:** Relevant knowledge and the ability to apply natural and life sciences.
- **RA4**: Ability to adapt to social situations of great complexity and ambiguity in nursing practice.

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

Competencies	Learning outcomes
• CB1, CB2, CB3, CB4, CB5 • CG15 • CT01, CT09 • CE1, CE6, CE7, CE9	RA1
• CB1, CB2, CB3, CB4, CB5 • CG14 • CT01, CT07, CT09 • CE1, CE6, CE7, CE9	RA2
• CB1, CB2, CB3, CB4, CB5 • CG15 • CT01, CT07, CT09 • CE1, CE6, CE7, CE9	RA3
• CB1, CB2, CB3, CB4, CB5, • CG14, CG15 • CT01, CT07, CT09, CT10 • CE6, CE9	RA4

4. CONTENT

Learning unit 1: Nervous System Physiopathology

- Lesson 1: General physiopathology of the brain.
- Lesson 2: Voluntary motility physiopathology.
- Lesson 3: Spinal cord physiopathology.
- Lesson 4: Basal ganglia physiopathology.
- Lesson 5: Awareness physiopathology. Epilepsy syndrome.

Learning unit 2: Cardiovascular System Physiopathology

- Lesson 6: Introduction to the physiopathology of the cardiovascular system.
- Lesson 7: Cardiac valve disorders.
- Lesson 8: Heart rate and rhythm disorders.
- Lesson 9: Physiopathology of the myocardium and pericardium. Atherosclerosis.
- Lesson 10: Coronary circulation physiopathology.
- Lesson 11: Blood pressure physiopathology.
- Lesson 12: Heart failure.
- Lesson 13: Acute cerebrovascular accident.
- Lesson 14: Peripheral vascular disorders

Learning unit 3: Blood Physiopathology

- Lesson 15: Introduction to general blood physiopathology. Semiology.
- Lesson 16: Red blood cells physiopathology. Anemia and polycythemia.
- Lesson 17: White blood cells physiopathology. Leukaemia and lymphomas.
- Lesson 18: Hemostasis physiopathology.

Learning unit 4: Kidney, urinary tract and pH Physiopathology.

- Lesson 19: Introduction to the nephrourinary system physiopathology.
- Lesson 20: Acute and chronic kidney failure. Kidney pathology syndromes.
- Lesson 21: Electrolyte balance physiopathology.
- Lesson 22: Acid-base balance physiopathology.

Learning unit 5: Respiratory System Physiopathology.

- Lesson 23: Introduction to the respiratory system physiopathology.
- Lesson 24: Respiratory and pulmonary circulation failure.
- Lesson 25: Obstructive pulmonary physiopathology.
- Lesson 26: Restrictive pulmonary physiopathology.

Learning unit 6: Digestive System Physiopathology.

- Lesson 27: Introduction to the digestive system physiopathology.
- Lesson 28: Secretions physiopathology.
- Lesson 29: Digestive and absorption physiopathology.
- Lesson 30: Exocrine pancreas physiopathology.
- Lesson 31: Liver physiopathology.

Learning unit 7: Endocrine System Physiopathology.

- Lesson 32: Introduction to the endocrine system physiopathology.
- Lesson 33: Endocrine pancreas physiopathology.
- Lesson 34: Thyroid gland physiopathology.
- Lesson 35: Adrenal glands physiopathology.
- Lesson 36: Parathyroid gland physiopathology.
- Lesson 37: Gonads physiopathology.

Learning unit 8: Musculoskeletal System Physiopathology

- Lesson 38: Skeletal striated muscle physiopathology.
- Lesson 39: Bone tissue physiopathology: osteoporosis, osteomalacia, Paget's disease.
- Lesson 40: Joint physiopathology: inflammatory and degenerative arthropathies.

Learning unit 9: Integumentary System and sense organs Physiopathology.

- Lesson 41: External, middle and internal ear disorders.
- Lesson 42: Ophthalmic disorders: lacrimal, conjunctival and corneal.

5. TEACHING-LEARNING METHODOLOGIES

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

- Master class.
- Cooperative learning.
- Communicative tasks.
- Problems based learning.
- Simulation environments
- Case method.

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 class	30 h
Asynchronous master class	12 h
Practical exercises	25 h
Seminars	5 h
Self-study	40 h
Tutoring sessions	10 h
Presentations	2 h
Case analysis	24 h
Knowledge tests	2 h
TOTAL	**150 h**

7. ASSESSMENT

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

Campus-based mode:

Assessment system	Weight
Knowledge test	40
Individual directed works: self-evaluations	30
Portfolio activities: complex simulation and interdisciplinary activity + integrated curriculum + SOD	10
Oral presentation	20
TOTAL	**100**

8. BIBLIOGRAPHY

The main reference work for this subject is:

- Pérez Arellano JL, Sisinio de Castro (2019). Manual de Patología General (8ªed), Elsevier.

- J. Larry Jameson, Anthony S. Fauci, Dennis L. Kasper, Stephen L. Hauser, Dan L. Longo, Joseph Loscalzo (2018). Harrison: Principios de Medicina Interna (20ª ed), México, McGraw-Hill/Interamericana.
- Pastrana Delgado & García de Casasola Sánchez (2013). Fisiopatología y patología general básicas para ciencias de la salud. Elsevier.

Complemmentary bibliography:

- Stanfield C (2011) Principios de fisiología humana (4a Ed) Pearson.
- Tortora G (2008) Introducción al cuerpo humano (7a Ed) Panamericana.