

## 1. OVERVIEW

Subject area	Disease Mechanisms and Processes 1
Degree	Bachelor's Degree in Nursing
School/Faculty	Biomedical and Health Sciences
Year	Second
ECTS	6 ECTS
Type	Core
Language(s)	Spanish
Delivery Mode	On campus
Semester	Semester 3

## 2. INTRODUCTION

"Disease Mechanisms and Processes 1" is a compulsory subject area within the curriculum of the Bachelor's Degree in Nursing of the Universidad Europea de Madrid. We will study the mechanisms and processes of disease linked to normal physiological functioning, including the pathophysiological changes that occur in the health/illness process throughout the different stages of life. Conditions brought on by a disturbance in the physiological balance will be studied from a clinical perspective, integrating relevant aspects of interprofessional relations.

## 3. SKILLS AND LEARNING OUTCOMES

### Basic skills (CB, by the acronym in Spanish):

- CB1: Students have shown their knowledge and understanding of a study area that builds on general secondary school education, and are usually at the level where, with the support of more advanced textbooks, they may also demonstrate awareness of the latest developments in their field of study.
- CB3: Students have the ability to gather and interpret relevant data (normally within their area of study) to form opinions which include reflecting on relevant social, scientific or ethical matters.

### General skills (CG, by the acronym in Spanish):

- CG2: Plan and provide nursing care directed at individuals, families or groups, geared towards effective results for health and assess their impact through clinical care practice guidelines, which describe the processes by which a health problem is diagnosed, treated or cared for.
- CG6: Base nursing interventions on scientific evidence and available resources.

- CG17: Perform physiotherapeutic interventions based on comprehensive healthcare, which requires multidisciplinary cooperation, process integration and continuity of care.

**Cross-curricular skills (CT, by the acronym in Spanish):**

- CT2: Manage information, resources and technologies independently to achieve your learning objectives.
- CT3: Contribute actively in work teams, assuming shared responsibilities.
- CT4: Apply effective communication strategies in professional practice.

**Specific skills (CE, by the acronym in Spanish):**

- CE7: Explain the pathophysiological processes and risk factors that determine health and disease status at different stages of the life cycle.

**European skills:**

- CUE1: Independently diagnose the necessary nursing care using theory and medical knowledge, and plan, organise and administer nursing care when treating patients on the basis of the knowledge and skills acquired in accordance with point 6(a), (b) and (c), in order to improve professional practice.
- CUE2: Collaborate effectively with other actors in the health sector, including taking part in practical training for health workers based on the knowledge and skills acquired in accordance with paragraph 6(d) and (e).

**Learning outcomes (RA, by the acronym in Spanish):**

- RA1. Explain the pathophysiological processes and the risk factors that determine health and disease status at different stages of the life cycle.
- RA2. Identify the manifestations of pathophysiological processes that determine health and disease status at different stages of the life cycle.
- RA3. Identify the potential complications of pathophysiological processes that determine health and disease status at different stages of the life cycle.
- RA4. Describe how diagnostic tests and therapeutic procedures relate to pathophysiological processes.
- RA5. Discuss the clinical status of a patient with nursing professionals and other professionals in the interdisciplinary team.
- RA6. Implement strategies to search for, analyse, understand and evaluate relevant information, related to the pathophysiological processes studied in this subject area.

The following table shows how the skills developed in the subject area relate to the intended learning outcomes:

Skills	Learning outcomes
CB1, CG2, CE7	<b>RA1.</b> Explain the pathophysiological processes and the risk factors that determine health and disease status at different stages of the life cycle. <b>RA2.</b> Identify the manifestations of pathophysiological processes that determine health and disease status at different stages of the life cycle. <b>RA3.</b> Identify the potential complications of pathophysiological processes that determine health and disease status at different stages of the life cycle.
CB3, CG2	<b>RA4.</b> Describe how diagnostic tests and therapeutic procedures relate to pathophysiological processes.

CB1, CG2, CG17, CT3, CT4 CUE1, CUE2	<b>RA5.</b> Discuss the clinical status of a patient with nursing professionals and other professionals in the interdisciplinary team.
CB3, CG6, CT2	<b>RA6.</b> Implement strategies to search for, analyse, understand and evaluate relevant information, related to the pathophysiological processes studied in this subject area.

## 4. CONTENTS

The subject area is organised into four units, which are further divided into topics:

### Unit 1. Pathophysiology of Cardiovascular Disorders

- 1.1. Ischaemic heart disease
- 1.2. High blood pressure
- 1.3. Syncope
- 1.4. Heart failure
- 1.5. Valvular heart disease
- 1.6. Heart inflammation
- 1.7. Heart disease
- 1.8. Arrhythmias

### Unit 2. Pathophysiology of Respiratory Disorders

- 2.1. Pathophysiological mechanisms in acid-base imbalances
- 2.2. Infections of the airways
- 2.3. Ventilation and gas exchange disorders

### Unit 3. Pathophysiology of Digestive Disorders

- 3.1. Disorders of the upper digestive tract
- 3.2. Disorders of the lower digestive tract
- 3.3. Disorders of the hepatobiliary system and pancreas

### Unit 4. Pathophysiology of Kidney and Genitourinary Disorders

- 4.1. Urinary tract infections
- 4.2. Obstructive uropathy
- 4.3. Nephron disorders
- 4.4. Kidney failure
- 4.5. Disorders of the outer genitals and vagina
- 4.6. Disorders of the uterus, fallopian tubes and ovaries
- 4.7. Breast disorders
- 4.8. Prostate disorders
- 4.9. Sexually transmitted diseases

## 5. TEACHING-LEARNING METHODS

The types of teaching-learning methods are as follows:

- Lecture
- Case studies

- Collaborative learning

## 6. LEARNING ACTIVITIES

The types of learning activities, plus the amount of time spent on each activity, are as follows:

**On campus:**

Learning activity	Number of hours
Lectures	49 h
Asynchronous lectures	10 h
Reports and written work	10 h
Case studies	3 h
Problem-solving	9 h
Group tutorials	2 h
Searching resources and choosing information sources	10 h
Oral presentations	3 h
On-campus knowledge tests	4 h
Independent working	50 h
<b>TOTAL</b>	<b>150 h</b>

## 7. ASSESSMENT

The assessment systems, plus their weighting in the final grade for the subject area, are as follows:

**On campus:**

Assessment system	Weighting
Objective knowledge test	50%
Reports and written work: Clinical case study	30%
Oral presentation	10%
Reports and written work: Interprofessional activity	10%

On the Virtual Campus, when you open the subject area, you can check the guide with the details of your assessment activities, including the deadlines and assessment procedure for each.

## 8. BIBLIOGRAPHY

The works of reference for following up this subject area are:

- Porth C, Gaspard K.J., Noble K.A., Araiza Martínez M.E., Tovas Sosa M.A., Véliz Salazar L. (2011). *Fundamentos de fisiopatología: alteraciones de la salud, conceptos básicos*. 3ª ed. Barcelona, España: Wolters Kluwer-Lippincott Williams & Wilkins.

The recommended bibliography is indicated below:

- Barrachina Bellés L. (2003). *Enfermería médico-quirúrgica: generalidades*. 1ª ed. Barcelona, España: Masson.
- Burke, K. y LeMone, P. (2009). *Enfermería Medicoquirúrgica volumen I*. 4ª ed. Madrid, España: Pearson.
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- Chocarro González L y Venturini Medina, C. (2006). *Procedimientos y cuidados de enfermería médico-quirúrgica*. Madrid, España: Elsevier.
- Dafnis, E. , Raymond, J., Zelman, M. , Mulvihill, M.L. y Holdaway, P. (2018). *Fisiopatología*. 8ª ed. Madrid, España: Pearson.
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- Kasper D.L., Harrison T.R., Blengio Pinto J.R. (2009). *Harrison principios de medicina interna*. 17ª ed. México: McGraw-Hill Interamericana.
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- Lorenzo M.A., Simon F, Gómez F, Hernández B. (2015). *Fisiopatología General*. Barcelona, España: Altamar.
- Pastrana Delgado, J., García de Casasola, G. (2013). *Fisiopatología y patología general básicas para ciencias de la salud*. Madrid, España: Elsevier.
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- Silbernagl S, Lang F. (2010). *Fisiopatología: texto y Atlas*. 3ª rev y ampl ed. Madrid, España: Panamericana.
- Swearingen P.L. y Ross D.G. (2008). *Manual de enfermería médico-quirúrgica: intervenciones enfermeras y tratamientos interdisciplinarios*. Madrid, España: Harcourt.
- Uribe Olivares, R.A. (2018). *Fisiopatología. La ciencia del porqué y el cómo*. Madrid, España: Elsevier.