1. OVERVIEW

Subject area	Structure and Function of the Human Body 2
Degree	Bachelor's Degree in Nursing
School/Faculty	Biomedical and Health Sciences
Year	1st
ECTS	6 ECTS
Type	Core
Language(s)	Spanish
Delivery Mode	On campus
Semester	Semester 2

2. INTRODUCTION

The subject area "Structure and Function of the Human Body 2" is taught in the second semester of the 1st year of the Bachelor's Degree in Nursing. It is one of the standard core educational subject areas in Health Sciences that students will study, and is part of the fundamental basis for developing their curricular and professional activity, together with the other core subject areas.

The subject area aims to provide the student with comprehensive knowledge of the structure and function of the various parts of the human body, based on the knowledge acquired from "Structure and Function of the Human Body 1". It is divided into six overall blocks. In the first, we will explore the musculoskeletal system, dealing mainly with the most relevant clinical issues for the future Nursing graduate. The second block is the broadest and we will examine concepts key to the understanding of the anatomy and physiology of the cardiovascular system. In the third, students will be able to identify the basics of respiratory mechanics and gas exchange and relate these to function and application in clinical practice. In the fourth, we will study both the anatomical structure and function of the digestive system. In the fifth, students will understand the anatomical and physiological foundations that characterise the renal system. Finally, the sixth block will deal with the most relevant structural and functional concepts of the reproductive system.

The integrated study of anatomy and physiology allows for meaningful learning regarding body systems, which is necessary for understanding other subject areas in the curriculum of the Bachelor's Degree in Nursing. In addition, this subject area focuses on a practical context that facilitates the development of the skills needed for professional practice.

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.

European skills:

- CEU1: Independently diagnose the necessary nursing care using theoretical and clinical knowledge, in order to plan, organise and manage nursing care when treating patients on the basis of the knowledge and skills acquired, with the aim of improving professional practice.

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.

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

- CE1: Know and identify the structure and function of the human body and understand the molecular and physiological basis of cells and tissues.

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

- RA1. Describe the structure and function of bodily organs, apparatuses and systems using international anatomical terminology and terms used in human physiology.
- RA2. Topographically locate the different structures that make up the human body.
- RA3. Understand the histological and physiological basis of tissues, organs, apparatuses and systems.
- RA4. Understand the functional integration of the apparatuses and systems of a healthy human body throughout the life cycle.
- RA5. Explain the main regulatory mechanisms of body functions in a healthy person.
- RA6. Interpret the values of the main physiological parameters indicative of correct functionality.

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

Skills	Learning outcomes
CB1, CB3, CG2, CEU1, CT2, CT3, CE1	RA1. Describe the structure and function of bodily organs, apparatuses and systems using international anatomical terminology and terms used in human physiology.

CB1, CG2, CEU1, CT2, CT3, CE1	RA2. Topographically locate the different structures that make up the human body.
CB1, CB3, CG2, CEU1, CT2, CT3, CE1	RA3. Understand the histological and physiological basis of tissues, organs, apparatuses and systems.
CB1, CB3, CG2, CEU1, CT2, CT3, CE1	RA4. Understand the functional integration of the apparatuses and systems of a healthy human body throughout the life cycle.
CB1, CB3, CG2, CEU1, CT2, CT3, CE1	RA5. Explain the main regulatory mechanisms of body functions in a healthy person.
CB1, CB3, CG2, CEU1, CT2, CT3, CE1	RA6. Interpret the values of the main physiological parameters indicative of correct functionality.

4. CONTENTS

The subject area is organised into six units, which in turn are divided into topics:

FUNCTIONAL INTEGRATION

1. **Unit 1. Structure and Function of the Musculoskeletal System**
   - 1.1. Bones and muscles: head and neck, torso, upper limbs, lower limbs
   - 1.2. Joints: types and functional dynamics
2. **Unit 2. Structure and Function of the Cardiovascular System**
   - 2.1. Cardiovascular anatomy
     - 2.1.1. Blood and lymphatic vessels
     - 2.1.2. The heart
   - 2.2. Cardiovascular physiology
     - 2.2.1. Cardiac physiology
     - 2.2.2. Vascular histology and physiology
   - 2.3. Blood circulation
3. **Unit 3. Structure and Function of the Respiratory System**
   - 3.1. Structure of the airways and lungs
   - 3.2. Gas exchange: external and internal respiration
   - 3.3. Physiology of respiratory mechanics
4. **Unit 4. Structure and Function of the Digestive System**
   - 4.1. Anatomy of the digestive system
   - 4.2. Histological and functional characteristics of the main components of the digestive system
5. **Unit 5. Structure and Function of the Urinary System**
   - 5.1. Anatomy and histology of the urinary system
   - 5.2. Physiology of the urinary system
6. **Unit 6. Structure and Function of the Reproductive System**
   - 6.1. Anatomy and histology of the female reproductive system
   - 6.2. Anatomy and histology of the male reproductive system
   - 6.3. Hormonal control, gametogenesis and menstrual cycle

5. TEACHING-LEARNING METHODS

The types of teaching-learning methods are as follows:

- MD1: Lecture
- MD3: Collaborative learning
- MD7: Workshop-based 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	44 h
Asynchronous lectures	10 h
Reports and written work	32 h
Workshops and/or laboratory work	8 h
Group tutorials	2 h
On-campus knowledge tests	4 h
Independent working	50 h
TOTAL	**150 h**

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	30%
Laboratory work	20%

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:

- TORTORA GJ, DERRICKSON B.: *Principios de Anatomía y Fisiología*. Ed. Panamericana. 15ª edición. 2018.

- THIBODEAU G., PATTON K.: *Estructura y Función de Cuerpo Humano*. Ed. Elsevier. 15ª edición. 2016.

The recommended bibliography is indicated below:

- **Basic bibliography**

- SILVERTHORN: *Fisiología Humana, Un enfoque integrado,* Ed. Panamericana. 8ª edición. 2019.
- GAL B y COLS. *Bases de fisiología*. Ed. Tebar. 2ª edición. 2007
- GARTNER L.: *Texto de Histología*. Ed. Elsevier 4ª edición. 2017.
- GILROY AM, VOLL M, WESKER K.: Prometheus. *Anatomía. Manual para el estudiante*. Ed. Panamericana. 2015.
- GUYTON, A. C. *Tratado de fisiología médica*. Ed. Elsevier. 13ª edición. 2016.
- LIPPINCOTT'S ILUSTRATED REVIEWS. Fisiología. WoltersKluwer/ Lippincott Williams and Wikins. 2013
- MULRONEY, S. Netter. *Fundamentos de fisiología.* Ed. Elsevier. 2ªEdición. 2016
- RL. DRAKE, MITCHELL, VOGL.: Gray. Anatomía para estudiantes. Ed. Elsevier. 3ª edición. 2015.
- ROSS MH., PAWLINA W., BARNASH TA.: *Histología*. Ed. Panamericana. 6ª edición. 2013.
- TORTORA GJ, DERRICKSON B.: *Principios de Anatomía y Fisiología*. Ed. Panamericana. 15ª edición. 2018.
- WELSCH U.: Sobotta. *Histología*. Ed Panamericana. 3ª edición. 2014.

- **Complementary bibliography**

- Hansen J.: Netter. *Cuaderno de Anatomía para colorear*. Ed. Elsevier. 2ª ed. revisada 2019.
- Hansen J.: Netter. *Flashcards de Anatomía*. Ed. Elsevier. 4ª ed. 2017.

- **Other resources**

- Visible Body Anatomy. Argosty Publishing. Versión 2017.
- Visible Body Anatomy and Physiology. Argosy Publishing.
- Smart Histology. Smart Zoom technology.