

**COURSE DATA****Data Subject**

<b>Code</b>	34440
<b>Name</b>	General anatomy
<b>Cycle</b>	Grade
<b>ECTS Credits</b>	6.0
<b>Academic year</b>	2023 - 2024

**Study (s)**

<b>Degree</b>	<b>Center</b>	<b>Acad. year</b>	<b>Period</b>
1204 - Degree in Medicine	Faculty of Medicine and Odontology	1	First term

**Subject-matter**

<b>Degree</b>	<b>Subject-matter</b>	<b>Character</b>
1204 - Degree in Medicine	1 - Human anatomy	Basic Training

**Coordination**

<b>Name</b>	<b>Department</b>
GIMENO MONROS, AMPARO	17 - Human Anatomy and Embryology
SANCHEZ ZURIAGA, DANIEL	17 - Human Anatomy and Embryology
VALVERDE NAVARRO, ALFONSO AMADOR	17 - Human Anatomy and Embryology

**SUMMARY**

The study of Anatomy is fundamental in the training of a doctor, for, as it is a biological science, it explains the shape of the human being in state of health or normality, why it is like this and what its function is.

It is the fundamental basis to address the study of other subjects both in the first courses (Physiology, Histology...) and in Medical and Surgical subjects, where the anatomical knowledge is essential (Traumatology, General Surgery...).

Secondarily it provides the 80% of all the fundamental medical terminology.

Regarding the medical practice the anatomy provides the essential bases for any medical act from the exploration to the diagnosis. Currently, this is seen maximized when studying the anatomy with the new diagnoses techniques due to the image of the human shape that the study allows increasingly more precise and more real.



## PREVIOUS KNOWLEDGE

### Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

### Other requirements

## OUTCOMES

### 1204 - Degree in Medicine

- Understand and recognise the structure and normal function of the human body, at the following levels: molecular, tissue, organic, and of systems, in each phase of human life and in both sexes.
- Understand and recognise the effects of growth, development and aging which affect individuals and their social environment.
- Know how to use the sources of clinical and biomedical information available, and value them critically in order to obtain, organise, interpret and communicate scientific and sanitary information.
- Know how to use IT in clinical, therapeutic and preventive activities, and those of research.
- Be able to formulate hypothesis, gather information and evaluate it critically in order to solve problems by following the scientific method.
- Establish a good interpersonal communication which may allow professionals show empathy and talk to the patients efficiently, as well as to their relatives, the media and other professionals.
- Proper organisation and planning of the workload and timing in professional activities.
- Team-working skills and engaging with other people in the same line of work or different.
- Criticism and self-criticism skills.
- Capacity for communicating with professional circles from other domains.
- Acknowledge diversity and multiculturality.
- Consideration of ethics as a fundamental value in the professional practise.
- Working capacity to function in an international context.
- Knows the morphology, structure and function of skin, blood, organs and body systems: circulatory, digestive, locomotor, reproductive, excretory and respiratory systems; endocrine system, immune system, central and peripheral nervous systems.
- Knows the processes of growth, maturation and aging of the different organs and systems. Homeostasis. Adaptation to the environment.
- Recognises the morphology and structure of tissue, organs and systems through macroscopic and microscopic methods, and image techniques.



## LEARNING OUTCOMES

1. To know the structural and organizational bases of the human body addressed to the clinical function and applicability.
2. To know the basic kinesiological foundations of the muscle-skeletal system.
3. To know and to apply the terminology of the subject
4. Acquisition of skills in the recognition of anatomical structures and their disposition.
5. To know the basic principles of the work, instrumental utility and protocol security in the practice of human dissection.

## DESCRIPTION OF CONTENTS

### 1. INTRODUCTION

1. General concepts and introduction to Anatomy.

### 2. SPINE AND BACK

2. Osteoarthrology of the spine.
3. Back muscles: extrinsic and intrinsic.
4. Vascularization, sensory innervation and topographic spaces of the back.

### 3. LOWER LIMB

5. Osteoarthrology of the lower limb.
6. Lumbosacral plexus and main neuromuscular systems (NMS) of the lower limb.
7. Muscles of the sole of the foot (NMS of the plantar nerves).
8. Muscles of the posterior aspect of the leg (NMS of the tibial nerve). Muscles of the posterior aspect of the thigh (NMS of the sciatic nerve).
9. Pelvitrochanteric muscles (NMS of the gluteal nerves and other branches of the sacral plexus).
10. Muscles of the dorsum of the foot and anterolateral aspect of the leg (NMS of the peroneal nerves).
11. Muscles of the anterior aspect of the thigh (NMS of the obturator nerve and NMS of the femoral nerve).
12. Vascularization, sensory innervation and topographic spaces of the lower limb.



#### **4. UPPER LIMB**

13. Osteoarthrology of the upper limb.
14. Brachial plexus and main neuromuscular systems of the upper limb.
15. Muscles of the palm of the hand and anterior aspect of the forearm (I): NMS of the ulnar nerve.
16. Muscles of the palm of the hand and anterior aspect of the forearm (II): NMS of the median nerve.
17. Muscles of the anterior aspect of the arm (NMS of the musculocutaneous nerve). Muscles of the pectoral region (NMS of the nerves of the internal rotator muscles of the upper limb).
18. Muscles of the dorsum of the hand and posterior aspect of the forearm (NMS of the antebrachial radial nerve).
19. Muscles of the posterior aspect of the arm (NMS of the brachial radial nerve). Muscles of the shoulder and the scapular region (NMS of the axillary nerve and NMS of the suprascapular nerve).
20. Vascularization, sensory innervation and topographic spaces of the upper limb.

#### **5. BODY WALLS**

21. Osteoarthrology of the thoracic wall. Thoracic parietal musculature.
22. Diaphragm. Musculature of the abdominal wall (anterolateral and posterior). Inguinal canal. Hernias of the anterior wall of the abdomen.

#### **6. HEAD AND NECK**

23. Skull (I): Neurocranium.
24. Skull (II): Viscerocranium.
25. Jaw. Temporomandibular joint. Craniofacial fossae.
26. Anterolateral neck muscles: cervical prevertebral muscles, scalene muscles, infrahyoid muscles, and sternocleidomastoid muscle.
27. Facial muscles (I): NMS of the facial nerve.
28. Facial muscles (II): NMS of the mandibular nerve.
29. Cervicocephalic vascularization.
30. Sensory innervation (trigeminal nerve and cervical plexus) and cervicocephalic topographic spaces. Cervical fasciae.

#### **7. LABORATORY PRACTICES (DISSECTION ROOM)**

- 1.-Study of the osteoarthrology of the spine. Dissection of the back and neck muscles.
- 2.-Study of the osteoarthrology of the Lower Limb (I): foot and leg. Dissection of the posterior aspect of the Lower Limb (I): sole of the foot and posterior aspect of the leg.
- 3.-Study of the osteoarthrology of the Lower Limb (II): thigh and pelvic girdle. Dissection of the posterior aspect of the Lower Limb (II): posterior aspect of the thigh and gluteal region.
- 4.-Dissection of the anterior aspect of the Lower Limb.
- 5.-Study of the osteoarthrology of the Upper Limb (I): hand and forearm. Dissection of the anterior aspect of the Upper Limb (I): palm of the hand and anterior aspect of the forearm.
- 6.-Study of the osteoarthrology of the Upper Limb (II): arm and shoulder girdle. Dissection of the anterior aspect of the Upper Limb (II): anterior aspect of the arm, pectoral region and brachial plexus.



- 7.-Dissection of the posterior aspect of the Upper Limb.
- 8.-Study of the osteoarthrology of the thorax. Dissection of the cervical, thoracic and abdominal walls.
- 9.-Study of the skull. Dissection of the facial muscles: facial and mastication muscles.

### 8. COMPUTER PRACTICAL SESSIONS

- 1.-Study of the anatomy of the spine, through radiological imaging. Study of the anatomy of the lower limb through radiological imaging.
- 2.-Study of the anatomy of the upper limb through radiological imaging. Study of the anatomy of the neck and head through radiological imaging.

### 9. TUTORED GROUPS

A group of students, with the tutorage of the teacher, attend a dissection sessions and carry out an assignment about it, which they present to their classmates during the practical sessions in the Dissection Room.

## WORKLOAD

ACTIVITY	Hours	% To be attended
Theory classes	33,00	100
Laboratory practices	19,00	100
Computer classroom practice	4,00	100
Tutorials	4,00	100
Development of individual work	5,00	0
Study and independent work	30,00	0
Preparation of evaluation activities	10,00	0
Preparing lectures	30,00	0
Preparation of practical classes and problem	15,00	0
<b>TOTAL</b>	<b>150,00</b>	

## TEACHING METHODOLOGY

- Theoretical Lessons (30 Thematic Units). These lessons will be based on the master class method using the anatomical image that allows the recognition and the easy following of the theoretical description.
- Laboratory Practical Lessons (9 Thematic Units). The practical lessons will be based on the anatomical dissection of fixed cadaveric pieces, essential complement of theoretical lesson.



- Computer Practical Lessons (2 Thematic Units). They will be based on the study of the medical image with those aspects that allow to relate the anatomical knowledge with the clinical practice. X-ray images, magnetic resonance (MR) and computerized axial tomography (CAT) will be used.
- Tutored Groups. The lessons with these reduced groups will allow the precise formation in the dissection technique and in the preparation of practical descriptions to be exposed in the practical groups.
- The gender perspective and the sustainable development goals (SDGs) will be incorporated into teaching, whenever possible.

## EVALUATION

The final grade is established by means of the joint assessment of the activities, written and oral tests carried out in relation to the theoretical and practical content.

**Theoretical evaluation:** This part accounts for 60% of the overall grade of the course (6 points of 10). It will be carried out by means of a written test on the contents of the theoretical syllabus and its aim will be to assess the acquisition of knowledge. The contents of the test will be the same for all groups of the same subject.

It will consist of:

Evaluation of 60 multiple choice questions (4 answers, of which only 1 will be correct). Qualification criteria: 0.1 point/ correct answer. 0.033 points will be subtracted for each question answered incorrectly, in order to eliminate the effect of chance.

**Practical evaluation:** This part accounts for 40% of the overall grade of the course (4 points of 10). It will be carried out by means of the continuous evaluation of the participation in the different practical activities and the completion of a test which assesses the acquisition of knowledge related to the general and specific competences of the subject.

It will consist of:

1. Dissection Room practical sessions exam: 10 questions about the anatomical structures seen in the dissection room during the practical classes on the cadaver and anatomical preparations or models. This part represents 50% of the practical grade.
2. Computer practical sessions exam: 10 questions on anatomical structures studied by means of the different medical imaging techniques seen in computer seminars and / or practical classes. This part represents 20% of the practical grade.
3. Assessment of the Tutored Group practical sessions: assessment of the acquisition of general skills and the exposition of assignments carried out in the tutored classes in front of the teacher. This part represents 15% of the practical grade.
4. Continuous evaluation: Continuous evaluation activities may include assignments, questionnaires or other types of activities at the discretion of the teacher in charge, and may be carried out in person or by means of online resources. Continuous assessment activities ARE NOT RECOVERABLE. This part represents 15% of the practical evaluation.



Attendance at the Dissection Room practical sessions will be mandatory: the unjustified absence to more than 20% of the sessions will mean the impossibility of taking the Dissection Room practical sessions exam, in the first call.

To pass the course in the First Call:

- At least 50% of the maximum mark of the theoretical evaluation must be obtained.
- At least 50% of the maximum mark of the practical evaluation must be obtained, taking into account that, in the exams of the Dissection room and Computer practical sessions, and in the evaluation of the practical sessions of the Tutored Group, at least 40% of the maximum grade for each of these parts must be achieved.

To pass the course in the Second Call, the criteria will be the same applied in the First Call. Since continuous evaluation activities ARE NOT RECOVERABLE, the grades obtained in the First Call will be kept for the second call. In the case of not having fulfilled the minimum attendance requirement to the Dissection Room practical sessions, in order to take the exam of said practical sessions in the second call, a compensatory activity must be carried out at the discretion of the teacher in charge.

In both calls, to pass the course, the overall grade must be at least 50% of the maximum mark (5 points out of 10). Failure to reach any of the minimum percentages required in each teaching modality automatically implies not performing the calculation of the final grade and, therefore, not passing the subject.

Students are reminded of the importance of carrying out evaluation surveys on all the teaching staff of the degree subjects.

## REFERENCES

### Basic

#### - LIBROS DE TEXTO

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- IMAGEN

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NIELSEN M.; MILLER S. (2012) Atlas de Anatomía Humana. Ed Medica Panamericana, 350 páginas.

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