

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

Code	34440
Name	General anatomy
Cycle	Grade
ECTS Credits	6.0
Academic year	2021 - 2022

Study (s)

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

Subject-matter

Degree	Subject-matter	Character
1204 - Degree in Medicine	1 - Human anatomy	Basic Training

Coordination

Name	Department
GIMENO MONROS, AMPARO	190 - Physiology
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

COMPETENCES (RD 1393/2007) // LEARNING OUTCOMES (RD 822/2021)

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.
- Organizar y planificar adecuadamente la carga de trabajo y el tiempo en las actividades profesionales.
- Capacidad para trabajar en equipo y para relacionarse con otras personas del mismo o distinto ámbito profesional.
- 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 (RD 1393/2007) // NO CONTENT (RD 822/2021)

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
TOTAL	150,00	

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.

EVALUATION

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

Theoretical assessment: 60% of the final grade (6 points). It will be carried out by means of written test on the contents of the theoretical program and will have as objective to evaluate the acquisition of knowledge. The content of the test will be the same for all groups of the same subject. It consists of:

Evaluation of 60 multiple choice questions (5 answers, 1 true / 4 false). Qualification criteria: 0.1 point /correct answer. The formula for removal of the component will be applied by chance, that is, 0.025 points will be subtracted for each question that is not answered correctly. **This part will have a maximum value of 6 points. The theoretical evaluation must be passed with a minimum of 3 points.**

Practical assessment: 40% of the final grade (4 points). It will be carried out by means of the continuous evaluation of the participation in the different practical activities and with the accomplishment of a test that evaluates the acquisition of the knowledge related to the general and specific competences of the subject. It consists of:

1. Evaluation of 10 questions about the anatomical structures seen in the dissection room during the practical classes of the cadaver and anatomical preparations or models. **This part will have a maximum value of 2 points.**

2. Evaluation of 10 questions on anatomical structures studied using different medical imaging techniques seen in the classroom, seminars and / or practical computer classes. **This part will have a maximum value of 1 point.**

3. Continuous evaluation of the acquisition of the general skills and of the expository work carried out in the tutored classes with the presence of the professor. **This part will have a maximum value of 1 point.**

The practical evaluation must be passed with a minimum of 2 points among all, being able to average whenever a 40% score is reached in each of them.



In order to pass the subject the final grade must be at least 5 points, being the result of the sum of theoretical and practical qualifications.

Attendance is compulsory.

If you do not attend to more than 20% of the practices and it is not justified, you will not be able to take the exam.

REFERENCES

Basic

- LIBROS DE TEXTO

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MOORE K.L.; DAILEY A.F.; AGUR A.M.R. (2018) Anatomía con orientación clínica. 8ª ed. Ed. Wolters Kluwer, 1.133 páginas.

AMAT MUÑOZ P.; SMITH-AGREDA J.M. (2007) Escolar. Anatomía humana. Funcional y aplicada. (2 vol.) 5ª ed. Ed.Espaxs, 1440 páginas.

- ATLAS

SCHÜNKE M.; SCHULTE E.; SCHUMACHER U. (2015) Prometheus. Texto y atlas de anatomía, (3 vol.) 3ª ed. Ed Medica Panamericana, 1714 páginas.

PAULSEN F.; WASCHKE J. (2018) Sobotta. Atlas de anatomía humana (3 vol.) 24ª ed. Ed. Elsevier, 1360 páginas.

NETTER F.H. (2015) Atlas de anatomía humana. 6ª ed. Ed. Elsevier Masson, 640 páginas.

ROHEN J.W.; YOKOCHI C.; LÜTJEN-DRECOLL E. (2015) Atlas de anatomía humana. Estudio fotográfico del cuerpo humano. 8ª ed. Ed. Elsevier, 560 páginas.

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

LLUSÁ PÉREZ M.; MERÍ VIVED A.; RUANO GIL D. (2004) Manual y atlas fotográfico de anatomía del aparato locomotor. Ed Medica Panamericana, 450 páginas.

- IMAGEN

SPRATT J.D.; SALKOWSKI L.R.; LOUKAS M.; TURMEZEI T.; WEIR, J; ABRAHAMS P.H. (2017) Atlas de anatomia humana por técnicas de imagen. 5ª ed. Ed. Elsevier, 280 páginas.

- NÓMINA

FENEIS H.; DAUBER W. (2006) Nomenclatura anatómica ilustrada. 5ª edición Ed. Masson, 616 páginas.

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- GOODMAN L.R. FELSON. (2009). Principios de radiología, un texto programado. Ed. McGraw Hill.
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- MÖLLER, T.B., REIF, E. (2015). Atlas de bolsillo de cortes anatómicos de TC y RNM. 4ª ed. Ed. Panamericana
- MÖLLER, T.B. (2017) Atlas de anatomía radiológica. Ed. Marban.
- GRAYS ANATOMY. (2016). The Anatomical Basis of Clinical Practice. 41 ed. Ed. Elsevier.
- LOUKAS, BENNINGER, TUBBS. (2019). Gray. Guía fotográfica de disección del cuerpo humano 2ª ed. Ed. Elsevier.
- Guía de Nomenclatura Anatómica Internacional en latín, castellano, catalán e inglés (<http://visionmedicavirtual.com/es/terminologia-anatomica>)
- Atlas anatómico interactivo en 3D: Human Biodigital (<https://human.biodigital.com>).
- Atlas de Anatomía Humana interactivo 3D PRIMAL Pictures. Acceso gratuito desde la UV (<http://www.anatomy.tv>).

ADDENDUM COVID-19

This addendum will only be activated if the health situation requires so and with the prior agreement of the Governing Council

Siguiendo las recomendaciones del Ministerio, la Consellería y el Rectorado de nuestra Universidad, para el período de la "nueva normalidad", la organización de la docencia para el segundo cuatrimestre del curso 2021-22, seguirá un modelo híbrido, donde tanto la docencia teórica como práctica se ajustará a los horarios aprobados por la CAT pero siguiendo un modelo de Presencialidad / No presencialidad en la medida en que las circunstancias sanitarias y la normativa lo permitan y teniendo en cuenta el aforo de las aulas y laboratorios docentes. Se procurará la máxima presencialidad posible y la modalidad no presencial se podrá realizar mediante videoconferencia cuando el número de estudiantes supere el coeficiente de ocupación requerido por las medidas sanitarias. De manera rotatoria y equilibrada los estudiantes que no puedan entrar en las aulas por las limitaciones de aforo asistirán a las clases de manera no presencial mediante la transmisión de las mismas de manera síncrona/asíncrona via "on line".