

Degree	Type	Year
Medicine	FB	1

## Contact

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## Teachers

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## Teaching groups languages

You can view this information at the [end](#) of this document.

## Prerequisites

Although there are no official prerequisites, it is advisable to have acquired self-learning and teamwork skills. Likewise, it is recommended to have achieved the objectives of the subject Human Anatomy: Generalities and Locomotor Apparatus, which is taught in the first semester of the first course.

Because practical sessions will be conducted in the dissection room, a commitment to maintain confidentiality and professional secrecy of the data that may be accessed during learning activities must be acquired, and a professional ethical attitude must be maintained in all actions. A safety certificate proving that the specific test for good practices in the dissection room has been passed must also be obtained.

## Objectives and Contextualisation

The general objective of the subject is the study of the general anatomical organization of the cardiovascular system, the head and neck, the principles of embryonic development of the cardiovascular system and of the head, and the systematic study of the anatomy of the cardiovascular system (heart, vessels of the major and minor circulation, and the lymphatic system), the osteo-musculo-articular organization of the head (including

the organ of vision and hearing) and the musculo-aponeurotic organization of the neck. This subject has its natural continuity with the second-year anatomy subjects, and it is complemented by other basic and compulsory subjects such as Histology, Physiology and Pathophysiology and Clinical Semiology.

The student who has passed this subject must be able to describe, with an international anatomical nomenclature, and to recognize the anatomical organization of the cardiovascular system, the head and neck, as well as the principles of their development.

## Competences

- Be able to work in an international context.
- Communicate clearly, orally and in writing, with other professionals and the media.
- Critically assess and use clinical and biomedical information sources to obtain, organise, interpret and present information on science and health.
- Demonstrate knowledge and understanding of descriptive and functional anatomy, both macro- and microscopic, of different body systems, and topographic anatomy, its correlation with basic complementary examinations and its developmental mechanisms.
- Demonstrate understanding of the basic sciences and the principles underpinning them.
- Demonstrate understanding of the causal agents and the risk factors that determine states of health and the progression of illnesses.
- Demonstrate understanding of the structure and function of the body systems of the normal human organism at different stages in life and in both sexes.
- Formulate hypotheses and compile and critically assess information for problem-solving, using the scientific method.
- Organise and plan time and workload in professional activity.
- Use information and communication technologies in professional practice.

## Learning Outcomes

1. Apply knowledge of anatomy to the production of structured review texts.
2. Be able to work in an international context.
3. Communicate clearly, orally and in writing, with other professionals and the media.
4. Describe anatomical structures, organisation and morphogenesis of the cardiovascular system, central nervous system and the sense organs.
5. Describe anatomical structures through inspection, palpation and/or different diagnostic imaging techniques.
6. Describe the factors that determine the form, general aspect and proportions of the human body in health at different stages in life and in both sexes.
7. Describe the fundamental scientific principles of human anatomy.
8. Describe the general anatomical organisation of the systems of the human body in health.
9. Explain the formation of the embryonic disc and its principal derivatives.
10. Formulate hypotheses and compile and critically assess information for problem-solving, using the scientific method.
11. Identify the anatomical structures that constitute the different body systems in good health in the major stages of the life cycle and in both sexes.
12. Identify the anatomical structures that make up the cardiovascular system, the central nervous system, and the sense organs in health, by using inspection, palpation and/or macroscopic methods and different diagnostic imaging techniques.
13. Identify the main techniques used in a human anatomy laboratory.
14. Identify the morphogenetic mechanisms of the main alterations in the development of the cardiovascular system, the central nervous system and the sense organs.
15. Know and make correct use of the international anatomical nomenclature.
16. Organise and plan time and workload in professional activity.
17. Use information and communication technologies in professional practice.

## Content

### Theoretical classes program (21h)

#### UNIT 1: HEAD

General Organization of the bones: views or norms, cranial fossae, joints. Morphogenesis: desmocranum, chondrocranium. Development of the viscerocranum: first and second pharyngeal arches. Skull joints: syndesmosis, synchondrosis and synovial. Temporomandibular joint. Kinematics. Muscles of mastication: temporal, masseter, medial and lateral pterygoid muscles. Suprathyroid muscles: digastric, mylohyoid, geniohyoid and stylohyoid. Muscles of facial expression: general characteristics. Circumorbital and palpebral muscles. Nasal muscles. Buccolabial muscles.

#### UNIT 2: NECK

General organization: fasciae and cervical spaces. Triangles of the neck: limits and content. Infrathyroid muscles: sternohyoid, omohyoid, sternothyroid and thyrohyoid muscles. Lateral muscles: scaleni anterior, medium and posterior. Craniozonal muscles: sternocleidomastoid and trapezius muscles. Cervical plexus: constitution, terminal and collateral branches.

#### UNIT 3: EYE

Bony orbit. Anatomical constitution of the eye: Outer coat (sclera, cornea), Uvea (choroid, ciliary body, iris), Retina. Lens and humours. Lacrimal system. Extraocular muscles and fascial sheet.

#### UNIT 4: EAR

External ear: pinna, externa auditory canal. Middle ear: tympanic cavity, pharyngotympanic tube, mastoid cells. Inner ear: bony labyrinth (vestibule, semicircular canals, cochlea) and membranous labyrinth (utricle, saccule, semicircular ducts, endolymphatic duct and sac, cochlear duct).

#### UNIT 5: HEART

General organization: anatomical constitution, location, relationships. External morphology: base, apex, surfaces and borders. Internal morphology: fibrous skeleton, cavities. Myocardium. Conduction tissues. Vascular supply and lymphatics drainage. Innervation. Pericardium: fibrous and serous pericardium. Pericardial cavity and fluid.

#### UNIT 6: DEVELOPMENT OF THE HEART AND CIRCULATION

Morphogenesis of the heart: premorphogenetic and morphogenetic phases. Cardiac tube: looping, septation and histodifferentiation processes. Morphogenesis of the vascular system: development of the aortic arches, development of the vitelline, umbilical and cardinal veins. Development of the lymphatic system.

#### UNIT 7: VASCULAR SYSTEM

Minor circulation (pulmonary); pulmonary trunk, right and left pulmonary arteries, Pulmonary arterial segmentation. Pulmonary veins. Major circulation (systematic): ascending aorta, arch and descending aorta (thoracic and abdominal parts). Common iliac arteries. Supra-aortic trunks: brachiocephalic trunk, left common carotid artery and left subclavian artery. Subclavian arteries. Common carotid arteries: carotid bifurcation. Internal carotid arteries. External carotid arteries. Maxillary and superficial temporal arteries. Venous systems. Jugular veins (internal, external, anterior). Subclavian veins. Jugulosubclavian angles. Brachiocephalic veins. Superior vena cava. Iliac veins. Inferior vena cava. Intercaval venous systems: azygous and vertebral plexuses. Lymphatic system: cisterna chyli (Pecquet), thoracic duct and right lymphatic duct.

### Seminar program (8h)

Seminar 1: Osteology of the skull (1). Bones of the neurocranium and bones of the viscerocranium (face). Adult and foetal skull. Sutures and fontanelles. Lateral view: bones and fossae. Main anthropometric points of the skull. Correlation of the osteology with diagnostic imaging techniques.

Seminar 2: Osteology of the skull (2). Frontal (anterior) view. Orbital cavity. Nasal cavity and paranasal sinuses. Correlation of the osteology with diagnostic imaging techniques.

Seminar 3: Osteology of the skull (3). Internal or cranial fossae of the skull: anterior, middle and posterior fossae and orifices. Correlation of the osteology with diagnostic imaging techniques.

Seminar 4: Development of the heart and circulation and its application to clinical cases.

#### Dissection practices (6h)

To access the dissection lab, it is mandatory to wear a gown, gloves and any other protective measure that is established, and to have the safety certificate. It is totally forbidden to make any type of image (photography, video, ..) in the dissection room.

Practice 1 (anatomy of the head and neck).

Contents: skull: views and cranial fossae. Sutures and fontanelles. Temporomandibular joint. Muscles of mastication. Muscles of facial expression. Muscles and fasciae of the neck. Cervical triangles: limits and contents. Cervical plexus.

Practice 2 (anatomy of the special senses).

Contents: orbital cavity, eyeball, ocular attachments (extraocular muscles, lacrimal system). Temporal bone and ear (inner, middle and external ear).

Practice 3 (anatomy of the cardiovascular system).

Contents: external morphology of the heart. Pericardium. Internal morphology of the heart: cardiac cavities and fibrous skeleton. Vascular supply (coronary arteries and cardiac veins and lymphatics). Nerves and cardiac plexuses. Heart relationships. Correlation of anatomical preparations of the heart with diagnostic imaging techniques. Vascular system: aorta. Pulmonary arteries and veins. Common iliac arteries. Carotid arteries: common, internal and external. Subclavian arteries and veins. Maxillary and superficial temporal arteries. Jugular veins and superior vena cava. Iliac veins and inferior vena cava. Intercaval anastomotic systems: azygous vein and vertebral plexuses. Lymphatic ducts: thoracic duct and right lymphatic duct.

## Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
LABORATORY PRACTICES (PLAB)	6	0.24	3, 15, 5, 10, 12, 11, 13, 16, 2, 17
SEMINARS (SEM)	8	0.32	3, 15, 7, 4, 5, 8, 9, 10, 12, 11, 16, 2, 17
THEORY (TE)	21	0.84	3, 15, 7, 4, 8, 9, 10, 12, 11, 16, 2, 17
Type: Supervised			
Queries with the tutors	11	0.44	3, 15, 7, 4, 5, 10, 12, 11, 13, 16, 2, 17

Type: Autonomous

READING OF ARTICLES / REPORTS OF INTEREST / PERSONAL STUDY	48	1.92	1, 3, 15, 7, 4, 5, 8, 9, 10, 12, 11, 13, 16, 2, 17
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## METHODOLOGY

Directed activities

Classes to teach the theory program (TE) (21h)

Seminars (SEM) (8h) (didactic material in Virtual Campus of UAB)

Dissection lab practices (PLAB) (6h) (didactic material in Virtual Campus of UAB)

Supervised activities

Personalized and/or group tutoring, face-to-face or virtual

Tutorials *on line*

Autonomous activities

Reading of texts and articles, study and creation of diagrams, summaries and conceptual assimilation of the contents. Advance preparation of seminars and dissection activities.

Annotation: Within the schedule set by the centre or degree programme, 15 minutes of one class will be reserved for students to evaluate their lecturers and their courses or modules through questionnaires.

## Assessment

### Continous Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Objective evaluation of content of the practical program	34%	2	0.08	3, 15, 5, 12, 11, 13, 16, 2, 17
Objective evaluation type test of the contents of the theoretical program	66%	4	0.16	1, 3, 15, 6, 7, 4, 5, 8, 9, 10, 14, 11, 16, 2

## EVALUATION

There will be 3 partial exams, two of which correspond to the theoretical contents of the subject and the third to the practical and seminars content

Exams contents

- First partial: theoretical contents corresponding to topics 1, 2, 3 and 4.
- Second partial: theoretical contents corresponding to topics 5, 6 and 7.
- Third partial exam: contents of practices 1, 2, 3 and seminars 1, 2, 3 and 4.

Exams characteristics

The first and second partial exams will consist of multiple-choice test. Each question has 4 possible options and only one correct answer. Wrongly answered questions will be penalized by 1/3 points. Unanswered questions will not be penalized

The third partial exam will consist in identification of anatomical structures and answering short questions. The identification of the structures will be carried out on diagrams and photographs of the pieces studied in the dissection room and seminars.

#### Sufficiency criteria

To aprove the subject, the following conditions must be met:

- The weighted average grade of the three partials must be equal to or greater than 5.0
- The grade of each partial must be greater than 5.0. If the average grade of the three partials is equal to or greater than 5.0 but the qualification of at least one partials is inferior to 5.0, a final qualification of 4.0 will be awarded.

#### Calculation of the grade

The following formula will be used:

Final qualification= (First partial qualification x 0.33) +(Second partial qualification x 0.33) + (Third partial qualification x 0.34)

#### Recovery

Those people who do not meet the sufficiency criteria may opt for recovery tests. Students must retake all partial exams that have a score equal to or lower than 5.0. Those who wish to improve their qualification smay also opt for retake exams. Before that they must waive the previous scores obtained in the corresponding partial exams. To do so, they must communicate this at the time of the exam announcement.

The retake exams will have the same characteristics as the partial exams and the same criteria for correction and sufficiency will be followed.

Students who have not taken any exam will receive the grade of not assessable.

Single evaluation is not planned in this subject (agreement inmedicine faculty on March 30, 2023)

## Bibliography

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### ANATOMIA

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Paulsen, F. Waschke J. (2018) Sobotta Atlas de Anatomía Humana. 24<sup>a</sup> edición. Ed. Elsevier. Disponible.

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Weber, E.D.; Vilensky, J.; Carmichael, S.W., Lee, K.S. (2015) Netter Anatomía Radiológica Esencial. 2<sup>a</sup> edición. Ed. Elsevier. Disponible.

Important:

Access to the Campus Virtual of the UAB

Access to the library's website of the UAB to consult the available bibliography

## Software

Is not necessary specific programari

## Groups and Languages

Please note that this information is provisional until 30 November 2025. You can check it through this [link](#). To consult the language you will need to enter the CODE of the subject.

Name	Group	Language	Semester	Turn
(PLAB) Practical laboratories	101	Catalan/Spanish	second semester	morning-mixed
(PLAB) Practical laboratories	102	Catalan/Spanish	second semester	morning-mixed
(PLAB) Practical laboratories	103	Catalan/Spanish	second semester	morning-mixed

(PLAB) Practical laboratories	104	Catalan/Spanish	second semester	morning-mixed
(PLAB) Practical laboratories	105	Catalan/Spanish	second semester	morning-mixed
(PLAB) Practical laboratories	106	Catalan/Spanish	second semester	morning-mixed
(PLAB) Practical laboratories	107	Catalan/Spanish	second semester	morning-mixed
(PLAB) Practical laboratories	108	Catalan/Spanish	second semester	morning-mixed
(PLAB) Practical laboratories	109	Catalan/Spanish	second semester	afternoon
(PLAB) Practical laboratories	110	Catalan/Spanish	second semester	afternoon
(PLAB) Practical laboratories	111	Catalan/Spanish	second semester	afternoon
(PLAB) Practical laboratories	112	Catalan/Spanish	second semester	afternoon
(PLAB) Practical laboratories	113	Catalan/Spanish	second semester	afternoon
(PLAB) Practical laboratories	114	Catalan/Spanish	second semester	afternoon
(PLAB) Practical laboratories	115	Catalan/Spanish	second semester	afternoon
(PLAB) Practical laboratories	116	Catalan/Spanish	second semester	afternoon
(PLAB) Practical laboratories	117	Catalan/Spanish	second semester	afternoon
(PLAB) Practical laboratories	118	Catalan/Spanish	second semester	afternoon
(SEM) Seminars	101	Catalan/Spanish	second semester	morning-mixed
(SEM) Seminars	102	Catalan/Spanish	second semester	morning-mixed
(SEM) Seminars	103	Catalan/Spanish	second semester	morning-mixed
(SEM) Seminars	104	Catalan/Spanish	second semester	morning-mixed
(SEM) Seminars	105	Catalan/Spanish	second semester	morning-mixed
(SEM) Seminars	106	Catalan/Spanish	second semester	morning-mixed
(SEM) Seminars	107	Catalan/Spanish	second semester	morning-mixed
(SEM) Seminars	108	Catalan/Spanish	second semester	morning-mixed
(SEM) Seminars	109	Catalan/Spanish	second semester	afternoon
(SEM) Seminars	110	Catalan/Spanish	second semester	afternoon
(SEM) Seminars	111	Catalan/Spanish	second semester	afternoon
(SEM) Seminars	112	Catalan/Spanish	second semester	afternoon
(SEM) Seminars	113	Catalan/Spanish	second semester	afternoon
(SEM) Seminars	114	Catalan/Spanish	second semester	afternoon
(SEM) Seminars	115	Catalan/Spanish	second semester	afternoon
(SEM) Seminars	116	Catalan/Spanish	second semester	afternoon

(SEM) Seminars	117	Catalan/Spanish	second semester	afternoon
(SEM) Seminars	118	Catalan/Spanish	second semester	afternoon
(TE) Theory	101	Catalan/Spanish	second semester	afternoon
(TE) Theory	102	Catalan/Spanish	second semester	afternoon
(TE) Theory	103	Catalan/Spanish	second semester	morning-mixed
(TE) Theory	104	Catalan/Spanish	second semester	morning-mixed