

Degree programme	Type	Course
Medicine	FB	2

Contact lecturer

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Teaching staff

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Group languages

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

Prerequisites

There are no official prerequisites.

It is recommended to have acquired the basic knowledge of the subjects of Cell Biology and Histology in order to fully acquire the proposed objectives.

Objectives

To understand the cellular and tissular organization of the different body systems.

To recognize and microscopically identify the different bodies and body systems.

To relate the characteristics of the tissues and the cells of the organs and systems with the function.

Learning outcomes

1. Describe the general organisation and function of the systems of the human body in health.
2. Identify the scientific bases of human histology.
3. Identify the main techniques used in histology laboratories.
4. Describe the cell and tissue organisation of the different body organs and systems.
5. Identify the microscopic structures that constitute the different body systems in good health in the major stages of the life cycle and in both sexes.
6. Describe these structures using different diagnostic imaging techniques.
7. Differentiate between tissue types from their histological and functional characteristics.
8. Describe the microscopic structure and formation mechanisms of blood and the blood-forming organs.

9. Identify microscopically the different cell types and tissue structures that form the organs and systems of the body.
10. Relate the cell and tissue characteristics of the organs and systems of the body to their function.
11. Make correct use of the international anatomical and histological nomenclature.
12. Apply morphofunctional knowledge to the production of structures review texts.
13. Make correct use of histological information sources, including textbooks, atlas images, internet resources and other specific bibliographic databases.
14. Maintain and sharpen one's professional competence, in particular by independently learning new material and techniques and by focusing on quality.
15. Convey knowledge and techniques to professionals working in other fields.
16. Formulate hypotheses and compile and critically assess information for problem-solving, using the scientific method.
17. Communicate clearly, orally and in writing, with other professionals and the media.
18. Use information and communication technologies in professional practice.
19. Describe the microscopic structure of tissues and lymphoid organs.
20. Identify the structures that make up the integumentary System and describe their elements.

Contents

Thematic Blocks

First Semester:

I. Cardiovascular System

II. Hematopoiesis: Bone Marrow

III. Immune and Lymphatic Systems

IV. Respiratory System

V. Urinary System

VI. Digestive System

Second Semester:

VII. Central and Peripheral Nervous Systems

VIII. Sensory System

IX. Integumentary System

X. Endocrine System

XI. Male and Female Reproductive Systems

Learning activities and methodology

Title	Hours	ECTS	Learning outcomes
THEORY (TE)	27	1.08	
PERSONAL STUDY / READING ARTICLES / REPORTS OF INTEREST	60.7	2.428	
PREPARATION OF DIAGNOSIS BY IMAGE	34	1.36	
LABORATORY AND VIRTUAL PRACTICES (PLAB)	26	1.04	

Theoretical discussion sessions in the classroom or seminars

The objective of the discussion classes in the classroom is to help the students to reach the objectives of marked knowledge of each thematic block. The students will raise the doubts that have arisen when preparing each of the objectives.

Teaching material in the Virtual Campus

Through MOODLE students can communicate with the different teachers of the subject and find the following material:

- the learning objectives of each thematic block of the subject;
- slide presentations, texts, images and information used in the discussion sessions and practice sessions;
- exam notifications and grades;
- a forum of the subject where students can raise topics.

Bibliography

It is advisable to use books and other resources available on the Internet to prepare the topics and achieve the objectives set. It is important not to confuse between a textbook, which will help us achieve the objectives of knowledge, and an atlas of histological images, which will help us to achieve the objectives of recognition and identification of structures.

Online resource of Digital Practices

The software of Digital Practices allows the identification of organs, structures and cell types as if it were a microscope and a tray of preparations, but in digital format.

Practical sessions in the microscope classroom (M4-010)

The sessions of practices in the classroom of microscopes are designed so that the student reaches the objectives of abilities using the microscope and histological preparations of different organs. Students must have previously worked on the subject using teaching resources. It is advisable to take textbooks and histology atlases to practical classes.

The practice sessions will consist of three parts. In the first part will work images and group discussion of cases, students can self-evaluate the work done and the objectives of each practice. In the second part, by means of the use of the microscope, they will be able to influence the objectives that have not been understood and in the points of greatest interest of the practice. Finally, in the third part, by means of an evaluation by groups, the objectives fulfilled will be qualified. Each practice will be evaluated with 0.2 points and the mark obtained in the set of the 9 practices will correspond to a maximum of 2 points in the final grade of the microscope test.

Computer rooms of the Faculty of Medicine

The computer rooms of the Teaching Unit of Basic Medical Sciences of the Faculty of Medicine are available to students during the school days of the course and online Virtual microscope can be used.

Classroom multimedia-microscopes (Medical Histology Unit, M5-103)

In this room, students can use a microscope and histological preparations as well as a computer with the virtual microscope, or both at the same time, depending on the activity that they want to develop. In addition, they can use the tutoring and self-assessment practices programs. The use of this classroom is subject to the availability of teachers.

For this course, the use of Artificial Intelligence (AI) technologies is permitted exclusively for support tasks, such as bibliographic or information searches, and text correction or translations. The student must clearly identify which parts have been generated with this technology, specify the tools used, and include a critical reflection on how these have influenced the process and the final result of the activity. Lack of transparency in the use of AI in this assessed activity will be considered academic dishonesty and may result in partial or total penalties in the activity grade, or more severe sanctions in serious cases.

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

Continuous assessment activities

Title	Weight	Hours	ECTS	Learning outcomes
Objective tests: Multiple choice test (2 parts)	60%	1.5	0.06	1, 2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 19, 20
Continued evaluation	20%	0.3	0.012	1, 3, 4, 5, 6, 7, 9, 13, 14, 15, 16, 17, 18
Microscope exam	20%	0.5	0.02	3, 5, 9

The final grade for this course will be based on three assessment components:

- A multiple-choice examination consisting of three subtests: basic knowledge, image identification, and case-based problem solving. Two midterm examinations will be held, one at the end of each semester.
- A microscope practical examination involving the identification of histological structures.
- Continuous assessment activities carried out during the practical laboratory sessions.

To pass the course, students must obtain a minimum grade of 5 out of 10 in each of the two multiple-choice midterm examinations and in the microscope practical examination.

The final grade will be calculated as follows:

- Multiple-choice examinations (two midterms): 60% (30% each)
- Microscope practical examination: 20%
- Continuous assessment: 20%

1. Multiple-Choice Examination

Assessment will be carried out through objective written examinations.

Students must achieve an average grade of 5 out of 10 or higher in each of the two midterm examinations. In addition, a minimum grade of 5 out of 10 must be obtained in each of the three subtests that comprise every examination.

The three subtests are:

Basic Knowledge Subtest (40%)

Students will answer True/False questions designed to assess their understanding of the fundamental concepts covered in the course.

Printed Image Identification Subtest (30%)

Students will identify the organ, tissue, cell type, or histological structure shown in printed images.

Case-Based Multiple-Choice Subtest (30%)

This subtest consists of multiple-choice questions (five answer options, with one or more correct answers) based on clinical or experimental cases. Its purpose is to assess students' ability to integrate and apply the knowledge acquired throughout the course.

The use of handwritten or printed materials, as well as electronic devices such as mobile phones, computers, tablets, smartwatches, or electronic organizers, is not permitted during the examination.

Students who do not pass one or both midterm examinations will have the opportunity to sit the corresponding resit examination(s), according to the official academic calendar.

2. Microscope Practical Examination

Each student will be provided with a microscope, a tray containing unidentified histological slides, and a questionnaire consisting of five questions. Students will be required to locate and identify specific organs, tissues, cellular structures, or cell types at different magnifications.

The histological slides used in the examination may differ from those studied during the practical sessions.

The examination will last 20 minutes and must be completed without the use of books, notes, or any other reference material.

Completion of this examination is mandatory.

Students who do not achieve a passing grade will be entitled to take a resit examination according to the official course schedule.

3. Continuous Assessment

During the practical laboratory sessions, students will be assessed through questions and exercises related to the topics covered in each practical class, including the identification of histological structures using the microscope.

Students should note the provisions of Article 112 ter, Title IV, which states:

"To be eligible for the resit examination, students must previously have completed assessment activities whose combined weight represents at least two-thirds of the total course grade."

Examinations presenting formal deficiencies (such as missing student identification number, missing name, failure to complete the required coding information, or unclear marking on the answer sheet) will not be graded.

Students who do not complete both the multiple-choice examinations and the microscope practical examination will be recorded as Not Assessed and will have exhausted the examination opportunities associated with their enrolment in the course.

Single Assessment

This course does not offer a single-assessment option.

Bibliography

Books

Ross. Histología: Texto y atlas: Correlación con biología molecular y celular. 9ª ed. 2023

GENESER. Histología. Cuarta edición. Editorial Panamericana, 2014.

JUNQUEIRA Y CARNEIRO. Histología Básica. Texto y Atlas. Editorial Masson. 13ª edición, 2022.

KIERSZENBAUM. Histología y biología celular: introducción a la anatomía patológica. 5ª edición. Editorial Elsevier, 2020.

KRSTIC. Human Microscopic Anatomy. An atlas for Students of Medicine and Biology. Editorial Springer Verlag. Primera edición, 1991.

WELSCH. Sobotta Histología. Tercera edición. Editorial Panamericana, 2013.

Atlas

GARTNER y Hiatt. Atlas en color y texto de Histología. Sexta edición. Editorial Panamericana, 2017.

BOYA. Atlas de Histología y Organografía Microscópica. Editorial Médica Panamericana. 3ª edición, 2021.

WHEATER'S. Histología Funcional. 6ª edición. Editorial Elsevier, 2014.

YOUNG y HEATH. Wheater's Histología Funcional. Texto y atlas en color. Harcourt Churchill Livingstone. 4ª ed, 2000.

Software

A specific programmes is not required for the course

Course groups and languages

The information provided is provisional until November 30. After this date, you will be able to consult the language of each group through this [link](#). To access the information, you will need to enter the course CODE

Type of teaching	Group	Language	Semester	Shift
(PLAB) Practical laboratories	1	Catalan/Spanish	annual	morning-mixed
(PLAB) Practical laboratories	2	Catalan/Spanish	annual	morning-mixed
(PLAB) Practical laboratories	3	Catalan/Spanish	annual	afternoon
(PLAB) Practical laboratories	4	Catalan/Spanish	annual	afternoon
(PLAB) Practical laboratories	5	Catalan/Spanish	annual	morning-mixed
(PLAB) Practical laboratories	6	Catalan/Spanish	annual	morning-mixed
(PLAB) Practical laboratories	7	Catalan/Spanish	annual	afternoon
(PLAB) Practical laboratories	8	Catalan/Spanish	annual	afternoon
(PLAB) Practical laboratories	9	Catalan/Spanish	annual	afternoon
(PLAB) Practical laboratories	10	Catalan/Spanish	annual	afternoon
(PLAB) Practical laboratories	11	Catalan/Spanish	annual	morning-mixed
(PLAB) Practical laboratories	12	Catalan/Spanish	annual	morning-mixed
(PLAB) Practical laboratories	13	Catalan/Spanish	annual	morning-mixed

(PLAB) Practical laboratories	14	Catalan/Spanish	annual	morning-mixed
(PLAB) Practical laboratories	15	Catalan/Spanish	annual	morning-mixed
(PLAB) Practical laboratories	16	Catalan/Spanish	annual	morning-mixed
(PLAB) Practical laboratories	17	Catalan/Spanish	annual	morning-mixed
(PLAB) Practical laboratories	18	Catalan/Spanish	annual	morning-mixed
(PLAB) Practical laboratories	19	Catalan/Spanish	annual	morning-mixed
(PLAB) Practical laboratories	20	Catalan/Spanish	annual	morning-mixed
(TE) Theory	101	Catalan	annual	morning-mixed
(TE) Theory	102	Catalan	annual	morning-mixed
(TE) Theory	103	Catalan	annual	morning-mixed