Histology

Code: 106731
ECTS Credits: 3

2024/2025

Degree	Type	Year
2502442 Medicine	FB	1

Contact

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Teachers

Neus Miro Bernie

Teaching groups languages

You can view this information at the end of this document.

Prerequisites

Although there are no prerequisites for enrollment, it is advisable that the student has basic knowledge and competences in the subjects of *Cellular Biology, Biochemistry and Molecular Biology.*

Objectives and Contextualisation

The course of Histology is programmed in the second semester of the first year of the Degree in Medicine and develops the knowledge of the general characteristics of the basic human tissues structures in the organism. The acquisition of competences of the subject will allow the student to obtain a general basis to face the study of the histology of the diverse systems of the human organism during the second course.

The general training objectives of this subject are:

- Differentiate the types of tissues due to their histological and functional characteristics.

- Identify the different cell types that make up each tissue and describe their most important characteristics.

- Use textbooks, atlases and internet resources specific to the study of the subject.

- Develop with ability in the management of the optical microscope and the study of histological preparations.

Competences

- 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 of the principles and physical, biochemical and biological processes that help to understand the functioning of the organism and its disorders.
- Demonstrate understanding of the basic sciences and the principles underpinning them.
- 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.

Learning Outcomes

1. Apply morphofunctional knowledge to the production of structures review texts.
2. Communicate clearly, orally and in writing, with other professionals and the media.
3. Describe the cellular organisation of the different body tissues.
4. Describe the general organisation and function of the systems of the human body in health.
5. Distinguish the basic differences between tissue types from their histological and functional characteristics.
6. Formulate hypotheses and compile and critically assess information for problem-solving, using the scientific method.
7. Identify the cell types that make up each tissue and describe their most important differential characteristics.
8. Identify the main techniques used in histology laboratories.
9. Identify the scientific bases of human histology.
10. Identify the tissues and cell types that make up the different body systems in health.
11. Make correct use of histological information sources, including textbooks, atlas images, internet resources and other specific bibliographic databases.
12. Make correct use of the international anatomical and histological nomenclature.

Content

INTRODUCTION TO HISTOLOGY

- Concept of tissue

- Classification of the basic tissues

- Histological processing and techniques

EPITHELIAL TISSUES

- Revestment epithelia

- Glandular epithelia. Exocrine and endocrine glands

CONNECTIVE TISSUE

- Classification of connective tissues

- Conjunctive tissue

- Adipose tissue

- Blood tissue

- Cartilaginous tissue

- Bone tissue

MUSCULAR TISSUE

- Classification of the muscular tissues

- Smooth muscle tissue

- Striated muscle tissue: skeletal and cardiac

NERVOUS TISSUE

- Neural cells

- Glial cells

Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
LABORATORY PRACTICES	10	0.4	
THEORY (TH)	16	0.64	
Type: Supervised			
TUTORIALS	1	0.04	2, 6
Type: Autonomous			
SELF-STUDY	20	0.8	2, 6
SELF-STUDY / READING ARTICLES OR REPORTS OF INTEREST	20	0.8	2, 6

Theoretical classes: 16h

Laboratory practices in the microscope classroom: 10h

Preparation of cases and practices: 2h + personal study

Study and preparation of the subject: personal study

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
Practical evaluations	20	0.3	0.01	3, 5, 10, 7, 8
Practical evaluations	9	1.4	0.06	2, 6
Self learning	4	4.3	0.17	12, 11
Written evaluation: Objective tests	67	2	0.08	1, 2, 4, 3, 5, 6, 9, 10, 7, 8, 12, 11

The competencies of this subject will be assessed through continuous evaluation, which will include individual tests on theoretical and practical knowledge.

The evaluation system is organized into three sections, each evaluated independently and assigned a specific weight in the final grade of the subject:

1. Continuous assessment tests (30% of the overall grade): This section assesses, throughout the course, the students' theoretical and practical knowledge through virtual exercises on the Moodle and/or Teams platform, and exercises at the end of each practical session.

2. Written tests (50% of the overall grade): This section individually assesses, through multiple-choice exams, the knowledge acquired by each student (see the course schedule).

3. Image recognition (20% of the overall grade): This section individually assesses, through multiple-choice exams related to image recognition, the practical knowledge acquired by each student (see the course schedule).

Students who score less than 5 (out of 10) on any of these tests will have to take the corresponding recovery exam.

Passing the subject

To pass the subject, a minimum of 5 points out of 10 must be obtained in each of the previously described evaluation tests.

The student's participation in any recovery exam implies renouncing the previously obtained grade.

To participate in the recovery, the student must have been previously evaluated in a set of activities whose weight is equivalent to a minimum of two-thirds of the total grade of the subject. Therefore, the student will receive the grade of "Not assessable" when the evaluation activities carried out have a weighting of less than 67% in the final grade.

Single assessment:

Students who opt for the Single Assessment will have to take two tests:

- Partial Exam (PE) which will beheld on the officially designated day and will comprise 3 subtests similar to those described above. This exam will account for 70% of the final grade of the subject.
- Microscope Exam (ME): This will consist of identifying different tissues or structures related to the subject matter under the microscope. This exam will account for 30% of the final grade of the subject.

To pass the Single Assessment and the subject, it is essential to obtain a score equal to or greater than 5 in both the Partial Exam and the Microscope Exam.

Students who do not take the theoretical and practical assessment tests will be considered as Not Assessed, losing their rights to enroll in the subject.

Claims for defects in the response sheet of the various assessment tests will not be accepted.

Bibliography

The following text books are taken as reference for the follow-up of the subject:

- HISTOLOGY AND CELL BIOLOGY: An Introduction to Pathology. Kierszenbaum and Three. Editorial Elsevier Saunders, 2020, 5th edition.

- ROSS. HISTOLOGY: TEXT AND ATLAS. Pawlina. ED. WOLTERS KLUWER HEALTH 2020, 8th Edition.

- HISTOLOGIA. Geneser Editorial Panamericana Medical, 2015, 4th Edition

Note: These textbooks will be useful for the subject of histology taught in the second year and constitute an introduction to the pathological anatomy taught in the third year.

Software

No software is required

Language list

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	morning-mixed
(PLAB) Practical laboratories	110	Catalan/Spanish	second semester	morning-mixed
(PLAB) Practical laboratories	111	Catalan/Spanish	second semester	morning-mixed
(PLAB) Practical laboratories	112	Catalan/Spanish	second semester	morning-mixed
(PLAB) Practical laboratories	113	Catalan/Spanish	second semester	morning-mixed
(PLAB) Practical laboratories	114	Catalan/Spanish	second semester	morning-mixed
(PLAB) Practical laboratories	115	Catalan/Spanish	second semester	morning-mixed

(PLAB) Practical laboratories	116	Catalan/Spanish	second semester	morning-mixed
(PLAB) Practical laboratories	117	Catalan/Spanish	second semester	morning-mixed
(PLAB) Practical laboratories	118	Catalan/Spanish	second semester	morning-mixed
(TE) Theory	101	Catalan/Spanish	second semester	afternoon
(TE) Theory	102	Catalan/Spanish	second semester	afternoon
(TE) Theory	103	Catalan/Spanish	second semester	afternoon
(TE) Theory	104	Catalan/Spanish	second semester	afternoon