Universitat Autònoma de Barcelona

2023/2024

Systems Histology

Code: 101895
ECTS Credits: 6

Degree	Type	Year	Semester
2501230 Biomedical Sciences	OB	2	1

Contact

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Teaching groups languages

You can check it through this link. To consult the language you will need to enter the CODE of the subject. Please note that this information is provisional until 30 November 2023.

Teachers

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Prerequisites

There are no official prerequisits. However, a basic knowledge of Cell Biology and Histology of tissues is recommended.

Objectives and Contextualisation

This is an obligatory subject in the 2n year, concerning the cellular and tissue bases of human organs and systems. It has been designed assuming students have a basic knowledge of Histology and Physiology that will facilitate they acquire a comprehensive understanding and an integrated approach to the organization of human organs.

The subject gives the basic knowledge to undertand the subject of Anatomy of pathology next year.

The main goals of the subject are:

a) Understand the cellular and tissular organization of the different organs and systems of the human body.

b) Recognize and identify at the microscopic level the different organs and systems of the human body.

c) Relate the tissular composition of the organs with their function.

Competences

- Act with ethical responsibility and respect for fundamental rights and duties, diversity and democratic values.
- Display knowledge of the bases and elements applicable to the development and validation of diagnostic and therapeutic techniques.
- Display knowledge of the basic life processes on several levels of organisation: molecular, cellular, tissues, organs, individual and populations.
- Make changes to methods and processes in the area of knowledge in order to provide innovative responses to society's needs and demands.
- Students must be capable of applying their knowledge to their work or vocation in a professional way and they should have building arguments and problem resolution skills within their area of study.
- Students must be capable of collecting and interpreting relevant data (usually within their area of study) in order to make statements that reflect social, scientific or ethical relevant issues.
- Students must be capable of communicating information, ideas, problems and solutions to both specialised and non-specialised audiences.
- Students must develop the necessary learning skills to undertake further training with a high degree of autonomy.
- Students must have and understand knowledge of an area of study built on the basis of general secondary education, and while it relies on some advanced textbooks it also includes some aspects coming from the forefront of its field of study.
- Take account of social, economic and environmental impacts when operating within one's own area of knowledge.
- Work as part of a group with members of other professions, understanding their viewpoint and establishing a constructive collaboration.

Learning Outcomes

1. Act with ethical responsibility and respect for fundamental rights and duties, diversity and democratic values.
2. Define the morphological characteristics of the tissues and cells of the digestive system.
3. Define the morphological characteristics of the tissues and cells of the excretory system.
4. Describe the morphological characteristics of the tissues and cells of the cardiovascular system.
5. Describe the morphological characteristics of the tissues and cells of the endocrine glands.
6. Describe the morphological characteristics of the tissues and cells of the respiratory system.
7. Describe the principal histological techniques for studying human tissues and their component cells.
8. Discern the morphological characteristics of the tissues and cells of the genital system.
9. Discern the morphological characteristics of the tissues and cells of the nervous system.
10. Identify the different organs and tissues of the body microscopically.
11. Make changes to methods and processes in the area of knowledge in order to provide innovative responses to society's needs and demands.
12. Students must be capable of applying their knowledge to their work or vocation in a professional way and they should have building arguments and problem resolution skills within their area of study.
13. Students must be capable of collecting and interpreting relevant data (usually within their area of study) in order to make statements that reflect social, scientific or ethical relevant issues.
14. Students must be capable of communicating information, ideas, problems and solutions to both specialised and non-specialised audiences.
15. Students must develop the necessary learning skills to undertake further training with a high degree of autonomy.
16. Students must have and understand knowledge of an area of study built on the basis of general secondary education, and while it relies on some advanced textbooks it also includes some aspects coming from the forefront of its field of study.
17. Take account of social, economic and environmental impacts when operating within one's own area of knowledge.

18. Work as part of a group with members of other professions, understanding their viewpoint and establishing a constructive collaboration.

Content

Themes:

1. Integumentary system
2. Sensory organs
3. Cardiovascular system
4. Immune system
5. Endocrine system
6. Respiratory system
7. Digestive system
8. Excretory system
9. Male reproductive system
10. Female reproductive system

Methodology

The contents of Systems Histology include theoretical lectures and seminars.
Theory classes
The theory program will be taught in 38 classes. They will be carried out using audiovisual material prepared by
teacher, material that the students will have at their disposal in the Virtual Campus.
Seminars
The scheduled seminars are designed for students to work in small groups, and acquire
group work and critical reasoning skills. The students will be divided into groups to work on a topic
specific of the program for the subsequent oral presentation and collective discussion. The organization of the groups and the
distribution of topics to be discussed will be made during the first seminar. In the remaining seminars, some groups
of students will have to submit the proposed topic to the teacher in writing. The same groups of students will exhibit
orally the topic to the rest of the class with the media available in the classroom.
The bibliography that the students must use, as well as the scientific works related to the subjects, is
they will find collected in the Virtual Campus.
Attendance at the seminars is mandatory
Tutorials
Tutoring will take place in a personalized way in the teacher's office (hours to be agreed). The tutorials
they must be used to clarify concepts, establish the knowledge acquired and facilitate the study by the students
students. They can also be used to resolve any doubts that students may have about their preparation
seminars

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.

Activities

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
Lectures	38	1.52	2, 3, 5, 4, 6, 7, 8, 9, 10
Seminars	10	0.4	18
Type: Supervised			
Tutorials	6	0.24	2, 3, 5, 4, 6, 7, 8, 9, 10
Type: Autonomous			
Seminars	23	0.92	18
Study	66	2.64	

Assessment

The skills of this subject will be assessed through continuous assessment, which will include individual tests of theoretical and practical knowledge and group seminars.

The evaluation system is organized in three sections, each of which is evaluated independently and will have assigned a specific weight in the final grade of the subject:
Written tests (80% of the overall mark): In this section, the
knowledge achieved by each student. There will be two partial tests, eliminatory subject, throughout the course and a final recovery test (see course schedule).
Students who have obtained a grade lower than 4 (out of 10) in any of these tests will not be able to weight it with the grade obtained in the seminars and, therefore, they will have to take the recovery exam a the final maturity test.
Seminars (20% of the overall mark). In this section, the students' ability to analyze and synthesize is assessed of each group, as well as group work and oral presentation skills.

The seminars will be assessed as follows:
Written work (20%). The teacher evaluates (out of 10) the works submitted by each group of students (see deliveries)
Oral presentation (40%). The teacher evaluates (out of 10) the abilities of each group of students in the public presentation of their work
Inter-group qualification (10%). Each group of students evaluates (out of 10) the groups that carry out the exhibition
oral of work
Problems (30%).

Attendance at seminars is mandatory. In case of not attending any of the sessions, for no reason justified, there will be a penalty in the final grade of the seminars:
Absence 1 session = reduction of 20% of the grade.
Absence 2 sessions = reduction of 40% of the grade.
Absence 3 sessions = reduction of 80% of the grade.
Passing the subject
To pass the subject, at least 5 points out of 10 must be obtained in the overall calculation of the tests theory papers andseminars.
The presentation of the student to any remedial exam (theory and/or practical) entails the waiver of the previously obtained qualification.
To participate in the recovery, students must have previously been assessed in a set of weight activities of which is equivalent to a minimum of two thirds of the total qualification of the subject. So,

the student will obtain the qualification of "Not assessable" when the assessment activities carried out have one
weighting lower than 67% in the final qualification.

Unique assessment:

This subject foresees the single assessment system. In this sense, this consists of a synthesis test

only one that will coincide with the same date fixed in the calendar for the last continuous assessment test (2nd term)

and the same system will be applied in case of need for recovery.

Repeater students

Regarding the passing of the subject by the repeaters, it will not be necessary to repeat the written tests or the seminars if the student had previously obtained a minimum grade of 5 in any of these tests.
This exemption will be maintained for a period of three additional registrations.

Assessment Activities

Title	Weighting	Hours	ECTS	Learning Outcomes
Seminars	20	2	0.08	1, 17, 2, 3, 5, 4, 6, 7, 8, 9, 10, 11, 15, 14, 12, 13, 18
Written exams	80	5	0.2	2, 3, 5, 4, 6, 7, 8, 9, 10, 16, 15, 14, 12, 13

Bibliography

BOOKS

- Fawcett, D.W.: Tratado de Histología (ed. Interamericana-McGraw Hill).
- Gartner, L.P. Hiatt, J.L.: Texto Atlas De Histología, (ed. McGraw Hill).
- Geneser, F.: Histologia (ed. Panamericana).
- Krstic, R.V.: Los tejidos del hombre y de los mamíferos (ed. McGraw Hill).
- Krstic, R.V.: Human Microscopic Anatomy (ed. Springer-Verlag).
- Ross, M.H. y Pawlina, W: Histología. Texto y atlas color con biología celular y molecular (ed. Panamericana).
- Stevens, A. y Lowe, J.: Histología Humana. (ed. Elsevier).
- Welsch. U.: Sobotta Welsch Histología. (ed. Panamericana).
- Kierszembaum. A. y Tres. L: Histología y Biología Celular. Introducción a la anatomía patológica. (Ed. Elsevier)

ATLAS

- Boya, J. Atlas de Histología y organografía microscópica, ed. Panamericana.
- Cross, P.C. & Mercer, K.L. Cell and Tissue Ultrastructure. A functional perspective, ed. Freeman and Company.
- Eroschenko, V.P. Di Fiore's Atlas of Histology, ed. Lea and Febiger.
- Fawcett, D.W. The Cell, ed. W.B. Saunders Company.
- Gartner, L.P. & Hiatt, J.L. Atlas color de Histología, ed. Panamericana.
- Kessel, R.G. and Kardon, R.H.: Tissues and organs: a text-atlas of scanning electron microscopy, ed. Freeman and Company.
- Kühnel, W. Atlas de Citología y Anatomía microscópica, ed. Omega.
- Stanley, L.E. & Magney, J.E. Coloratlas Histología, ed. Mosby.

- Welsch, U. Histología (Sobotta / Hammersen), ed. Marbán.
- Young, B. & Heath, J.W. Histología funcional (Wheater), ed. Churchill Livingstone
- https://histologyguide.org//index.html

Software

There is no specific software for this course