UAB
Universitat Autònoma de Barcelona

Applied Physiology

Code: 102916
ECTS Credits: 3

2025/2026

Degree	Type	Year
Medicine	OT	3

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

Mian basic human physiology knowlege is needed. Maximal students: 80.

Objectives and Contextualisation

The subject Applied Physiology, scheduled during the third year of the Medicine Degree, aims to introduce students to a dynamic understanding of physiological concepts across the various functional systems, with the goal of integrating them into daily clinical practice, with special focus on acute medical conditions.

The general learning objectives of the course are:

- To understand the response mechanisms of the different organs and systems in acute clinical situations.
- To integrate the knowledge acquired in core Medical Physiology subjects, as well as to incorporate new concepts related to the response to acute illness.
- To apply physiological assessment within the ABCD systematic approach during clinical evaluation.
- To become familiar with practical methods for assessing the function of the body's different systems.

Competences

- Use information and communication technologies in professional practice.

Learning Outcomes

1. Use information and communication technologies in professional practice.

Content

- Respiratory physiology and instrumental respiratory support
- Acute and chronic respiratory failure
- Physiology of mechanical ventilation
- Oxygen transport to the tissues
- Bedside evaluation of tissue oxygenation
- Cardiovascular monitoring
- Microcirculatory alterations and response in acute illness
- Physiological basis for hemodynamic support
- Heart-lung interaction
- Neurological monitoring
- Response to infection
- Physiological basis for acute renal support and extracorporeal blood purification

Activities and Methodology

Title	Hours	ECTS	Learning Outcomes
Type: Directed			
ASISTENCIAL CLINICAL PRACTICES (PCAh)	15	0.6	
Theoretical lessons	15	0.6	
Type: Supervised			
Case presentation and discussion	2	0.08	
Type: Autonomous			
Personal learnig, article reading	36	1.44	1

Theoretical classes:
Systematic presentation of the course content, with emphasis on the most important concepts. Students acquire the basic scientific knowledge of the subject by attending lectures, which will be complemented by personal study of the course topics.

Practical classes:
Practical sessions in the Intensive Care Unit for observation and performance of procedures, hands-on learning of functional assessment techniques, and their medical application. Group work and active self-directed learning are encouraged.

Supervised teaching:
A clinical case presentation and discussion will take place at the end of the practical training period.

Exceptionally, and depending on the criteria of the responsible faculty, the available resources, and the current health situation in the different Teaching Units, some of the content corresponding to lectures, practical sessions, and seminars may be delivered in person or virtually.

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
Evaluation through practical-based activity and discussion of a clinical case (30%)	30%	2	0.08	1
Free-text objective assessment (30%)	30%	2	0.08	1
Objective assessment multiple-choice test (40%)	40%	3	0.12	1

The competencies of this course will be assessed through:

- Objective multiple-choice test on acquired knowledge (40% of the final grade)
- Free-text objective assessment (30% of the final grade)
- Continuous assessment of participation in practical sessions and preparation of the clinical case (30% of the final grade)

Students who do not take the theoretical and practical assessment tests will be considered Not assessed, and will forfeit their enrollment rights for the course.

A resit examination will be scheduled for students who do not pass the course, with the format to be determined.

This course does not include a single assessment system.

Bibliography

- WEST JB. Fisiología Respiratoria (10ª ed.). Editorial Médica Panamericana, 2021.

- GUYTON AC, HALL JE. Tratado de Fisiología Médica (12ª ed.). Elsevier-Saunders, 2009.

Software

NO programari needed

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.