

Degree programme	Type	Course
Medicine	OP	3

Contact lecturer

Name : Jaume Mesquida Febrer

Email : jaume.mesquida@uab.cat

Teaching staff

Guillem Gruartmoner de Vera

Candelaria De Haro López

Group languages

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

Prerequisites

Basic human physiology knowledge is needed. Maximal students: 80.

Objectives

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.

Learning outcomes

1. Use information and communication technologies in professional practice.

Contents

- 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

Learning activities and methodology

Title	Hours	ECTS	Learning outcomes
Case presentation and discussion	2	0.08	
Personal learning, article reading	36	1.44	
Theoretical lessons	15	0.6	
ASISTENCIAL CLINICAL PRACTICES (PCAh)	15	0.6	

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.

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

Continuous assessment activities

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

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