

**Pathological Clinical Concepts Diagnosis  
Techniques**

Code: 103015  
ECTS Credits: 6

| Degree                | Type | Year | Semester |
|-----------------------|------|------|----------|
| 2500892 Physiotherapy | FB   | 2    | 1        |

### Contact

Name: Roser Belmonte Martinez  
Email: roser.belmonte@uab.cat

### Use of Languages

Principal working language: catalan (cat)  
Some groups entirely in English: No  
Some groups entirely in Catalan: No  
Some groups entirely in Spanish: No

### Teachers

Miguel Angel Rubio Perez

### External teachers

Cindry Ramirez Fuentes

### Prerequisites

Students taking this subject should know basics of Biochemistry, Physiology and Human Anatomy in order to interpret the concepts of diseases that are susceptible to physiotherapy treatment.

### Objectives and Contextualisation

The basic objectives are that students are able:

- To understand the most prevalent physiological and functional changes of the organs and systems in order to understand the basic concepts of medical and surgical diseases.
- To recognize and interpret the symptoms and the alarm signs derived from illnesses in the field of knowledge involved in physiotherapy.

### Competences

- Act with ethical responsibility and respect for fundamental rights and duties, diversity and democratic values.
- Analyse and synthesise.
- Display knowledge of the morphology, physiology, pathology and conduct of both healthy and sick people, in the natural and social environment.
- Make changes to methods and processes in the area of knowledge in order to provide innovative responses to society's needs and demands.

- Take account of social, economic and environmental impacts when operating within one's own area of knowledge.
- Take sex- or gender-based inequalities into consideration when operating within one's own area of knowledge.

## Learning Outcomes

1. Analyse a situation and identify its points for improvement.
2. Analyse and synthesise.
3. Analyse the sex- or gender-based inequalities and the gender biases present in one's own area of knowledge.
4. Consider how gender stereotypes and roles impinge on the exercise of the profession.
5. Critically analyse the principles, values and procedures that govern the exercise of the profession.
6. Explain the explicit or implicit code of practice of one's own area of knowledge.
7. Explain the physiopathology of the principal diseases that can be treated by physiotherapy and identify the symptoms that appear during the process.
8. Identify situations in which a change or improvement is needed.
9. Identify the social, economic and environmental implications of academic and professional activities within one's own area of knowledge.
10. Propose new methods or well-founded alternative solutions.
11. Propose new ways to measure success or failure when implementing innovative proposals or ideas.
12. Propose projects and actions in accordance with the principles of ethical responsibility and respect for fundamental rights, diversity and democratic values.
13. Propose projects and actions that incorporate the gender perspective.
14. Weigh up the impact of any long- or short-term difficulty, harm or discrimination that could be caused to certain persons or groups by the actions or projects.
15. Weigh up the risks and opportunities of suggestions for improvement: one's own and those of others.

## Content

Dr. Miguel Angel Rubio

miguelangel.rubiop@e-campus.uab.cat

### UNIT 1 GENERALITIES

General Pathology, concept and relationship with other disciplines. The sick human being. Concepts of health and illness. Concepts of nosology, nosothagia, pathocronia, etiology, pathogenesis, semiology, physiopathology, semiotics.

### UNIT 2 PATHOLOGICAL MECHANISMS AND AGING

The living, mechanical, physical and chemical agents as a cause of illness. Endogenous factors of the disease: general principles of genetics. Types of genetic diseases. Constitution and illness. Immunological mechanisms of the disease.

Cell injury and cell death. Aging: physiological and pathological aspects.

### UNIT 3 SEMIOLOGY

General symptoms. Pathophysiology of pain, definition, type and general semiology. Fever: concept, causes and mechanisms. Febrile syndrome. Inflammation: concept, causes, types, mediators and clinical manifestations. Edema: concept, pathogenesis and semiology.

### UNIT 4 RESPIRATORY PATHOLOGY

Anatomical and functional aspects of the respiratory system. Ventilation control mechanisms. Ventilation disorders. Disorders of obstructive and restrictive ventilation. Diffusion disorders. Alveolar-capillary exchange disorders. Perfusion disorders and their relationship of ventilation / perfusion.

Hypoxia. Types of hypoxia. Hypoxia compensation mechanisms. Consequences of hypoxia. Concept and physiopathology of cyanosis. Types of cyanosis: central or arterial and peripheral or venous. Hypercapnia: concept, mechanisms, causes and consequences.

Pathophysiology of dyspnea and respiratory rhythm disorders. Concept, evaluation and mechanisms of dyspnea. Dyspnea more frequent causes and clinical implications.

Main symptoms of the respiratory system pathology. Mechanisms and causes, semiology meaning of cough, sneeze, expectoration and hemoptysis. Thoracic pain. Clubbing and asterixi.

Pathophysiology of pulmonary circulation. Thromboembolism and pulmonary infarction. Pulmonary hypertension: concept, mechanisms, causes and consequences. Pulmonary edema: concept, mechanisms, causes and consequences.

Respiratory system syndromes. Respiratory insufficiency: concept and pathophysiologic classification. Respiratory insufficiency with and without hypercapnia. Etiopathogenic classification.

Pathophysiology of main pulmonary syndromes: emphysema, atelectasis, condensation, fibrosis and cavitation. Aerial hyperactivity syndrome. Bronchitis. Bronchial asthma. Chronic obstructive pulmonary disease (COPD).

Physical examination of the respiratory system. Other diagnostic procedures: radiology, and pulmonary function tests.

#### UNIT 5 CARDIO CIRCULATORY PATHOLOGY

Anatomical and functional basis of the cardiovascular system. The heart cycle. Heart output: influential factors. Mechanisms of compensation for heart failure: Hypertrophy. Tachycardia Increased contractility.

Pathophysiology of cardiac rhythm and heart rate disorders. Mechanisms and causes of arrhythmias. Pathophysiology of blood pressure. Hypertension: mechanisms, causes and consequences. Hypotension: mechanisms, causes and consequences.

Chronic widespread circulatory insufficiency syndrome: congestive heart failure. Acute generalized circulatory insufficiency syndrome: shock and syncope.

LocalizeAL PATHOLOGYd circulatory insufficiency syndrome: coronary insufficiency. Circulatory insufficiency of limbs.

Physical examination of the circulatory system. Diagnostic tests: electrocardiography, echocardiography, cardiopulmonary exercise testing.

#### UNIT 6 NEUROLOGICAL PATHOLOGY

Anatomic and functional basis of the nervous system. Pathophysiology of the cerebrospinal fluid. Meningeal syndrome. Endocraneal hypertension syndrome.

Pathophysiology of consciousness. The sleep. The coma. Pathophysiology of the vegetative nervous System.

Pathophysiology of the peripheral nervous system. Main disorders of the peripheral nervous system.

Pathophysiology of the neuromuscular junction. Muscle and neuromuscular junction disorders. Signs and symptoms of muscular pathology: weakness, fatigue, muscle atrophy, sarcopenia. Myasthenia and myopathy syndromes.

Dra. R Belmonte; Roser.Belmonte@uab.cat

## UNIT 7 ONCOLOGICAL PATHOLOGY

General pathology of neoplasms. Carcinogenesis and neoplasm invasion. Cancer syndrome Paraneoplastic syndrome

Main cancer types: breast, prostate, colon, lung.

## UNIT 8 URINARY SYSTEM PATHOLOGY

Urinary semiology: dysuria, polaquiuria, urinary retention. Pathophysiology of the urinary tract.

Anatomical and functional basis of urinary continence. Pathophysiology of urinary incontinence. Clinical classification and evaluation of urinary incontinence. Child urinary incontinence: enuresis.

## UNIT 9 HEMATOLOGICAL PATHOLOGY

Pathophysiology of red blood cells (erythrocytes). Anemic syndrome and polycythemic syndrome.

Pathophysiology of white blood cells (leukocytes) and lymphocytes. Leukemia Myeloproliferative syndromes.

Pathophysiology of hemostasis. Hemorrhagic diathesis. Thrombotic diathesis.

## UNIT 10

Pathophysiology of the endocrine system. Pathophysiology of the hypothalamus pituitary axis. Pathophysiology of growth and development.

Physiopathology of glucide metabolism. Diabetes.

Complications of diabetes.

Pathophysiology of lipid metabolism. Dyslipidemia. Pathophysiology of the metabolism of proteins. Obesity and malnutrition

## UNIT 11 DIGESTIVE PATHOLOGY

General pathophysiology of digestive motility, digestion and absorption of the digestive tract. Diarrhea. Constipation.

Main symptoms of the digestive system: pain, dysphagia, nail biting, heartburn, ptyalism, sialorrhea, vomiting, regurgitation. Hematemesis and melena. Gastrointestinal bleeding.

Hepatocellular failure syndrome. Portal hypertension syndrome.

Jaundice and cholestasis. Diagnostic exam and test of the digestive system.

## UNIT 12 ARTICULAR OSTEO PATHOLOGY

Pathophysiology of bone tissue. Congenital bone diseases. Acquired bone diseases: nutrition, metabolism, osteoporosis, Paget's disease.

Pathophysiology of the joints. Inflammatory and degenerative disorders: arthritis and arthrosis.

Complementary explorations of the locomotive system: radiology, computerized tomography, magnetic resonance, ultrasound.

## **Methodology**

The subject contains theory, classroom practices and self 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.

## Activities

| Title                                  | Hours | ECTS | Learning Outcomes |
|--|-------|------|-------------------|
| Type: Directed                         |       |      |                   |
| CLASSROOM PRACTICES                    | 6     | 0.24 | 2, 7              |
| THEORY                                 | 39    | 1.56 | 2, 7              |
| Type: Autonomous                       |       |      |                   |
| PREPARATION OF WRITTEN WORKS           | 30    | 1.2  | 2, 7              |
| READING ARTICLES / REPORTS OF INTEREST | 13    | 0.52 | 2, 7              |
| SELF-STUDY                             | 60    | 2.4  | 2, 7              |

## Assessment

| Typology       | Duration   | Description of the evaluation tests   | Evaluation criteria  | % of final Grade |
|----------------|------------|---|--|------------------|
| Written exam 1 | 30 minutes | Objective test of item selection. Test of 25 questions, with 4 options per question, of which 1 is correct. | Each question correctly answered adds 1 point. Each question erroneously answered subtracts 0.33 points. Unanswered questions will not score.<br><br>If the student does not present the test, it will be considered non-evaluable.<br><br>Minimum grade to pass: 50% of the possible score. | 40%              |
| Written exam 2 | 30 minutes | Objective test of item selection. Test of 25 questions, with 4 options per question, of which 1 is correct. | Each question correctly answered adds 1 point. Each question erroneously answered subtracts 0.33 points. Unanswered questions will not score.<br><br>If the student does not present the test, it will be considered non-evaluable.<br><br>Minimum grade to pass: 50% of the possible score. | 40%              |
|                |            | Case studies and problem solving that the students will answer in   |  | 15%              |

|                                     |            |  |   |     |
|-------------------------------------|------------|--|---|-----|
| Case studies and problem solving    |            | writing and they will work in classroom practices.   |   |     |
| Attendance and active participation |            | From attendance and attitude during classroom theory and practices.  | Attendance  | 5%  |
| Recovery written exam               | 60 minutes | For students who have not passed exams 1 and 2.<br><br>Objective test of item selection. Test of 50 questions, with 4 options per question, of which 1 is correct. | Each question correctly answered adds 1 point. Each question erroneously answered subtracts 0.33 points. Unanswered questions will not score.<br><br>If the student does not present the test, it will be considered non-evaluable. | 80% |
| Final grade                         |            | 5 % Attendance and participation<br><br>15% Case studies and problem solving<br><br>40% Exam 1<br><br>40% Exam 2   | It is essential to pass exams 1 and 2, or the recovery exam to pass the subject.<br><br>Minimum grade to pass the subject: 50% of the score possible.   |     |

\*The dates of the evaluations and exams will be according to calendar

## Assessment Activities

| Title   | Weighting | Hours | ECTS | Learning Outcomes                                 |
|---|-----------|-------|------|---|
| Written evaluation 1: Objective tests multiple choice questions | 40%       | 0.5   | 0.02 | 2, 7  |
| Attendance and active participation in classroom practices      | 5%        | 0     | 0    | 5, 2, 3, 1, 6, 9, 8, 15, 10, 11, 12, 13, 4, 14    |
| Evaluation through case studies and problem solving             | 15%       | 1     | 0.04 | 5, 2, 3, 1, 6, 7, 9, 8, 15, 10, 11, 12, 13, 4, 14 |
| Written evaluation 2: Objective tests multiple choice questions | 40%       | 0.5   | 0.02 | 2, 7  |

## Bibliography

Specific bibliography

[Introducción a la medicina clínica : fisiopatología y semiología](#) / F. Javier Laso Gúzman

[Laso Guzmán, F. J.](#)

Book | 2015

[Introducción a la medicina clínica : fisiopatología y semiología](#) / F. Javier Laso Guzmán

[Laso Guzmán, F. Javier, autor](#)

On line book | 2020

[Manual de patología general](#) / Sisinio de Castro; José Luis Pérez Arellano editor

[Castro del Pozo, S. de, autor](#)

Book| 2020

[Manual de patología general](#) / Sisinio de Castro; José Luis Pérez Arellano [editor], Catedrático de Universidad, Departamento de Ciencias Médicas y Quirúrgicas, Universidad de Las Palmas de Gran Canaria, Servicio de Medicina Interna, Hospital Universitario Insular de Gran Canaria

[Castro del Pozo, S. de, autor](#)

On line book | 2020

Reference bibliography

[Medicina interna](#) / fundado por A. von Domarus ; continuado por P. Farreras Valentí ; director (desde 1968) C. Rozman ; subdirector (desde 2003) F. Cardellach López

Book | 2016

[Medicina interna](#) / fundado por A. von Domarus ; continuado por P. Farreras Valentí; director (desde 1968): C. Rozman; subdirector (desde 2003): F. Cardellach López

On line book | 2020

[Harrison principios de medicina interna](#) / editores: J. Larry Jameson [i 5 més]

Book | 2019

[Harrisons Manual of Medicine, 20th Edition](#)

Dennis L. Kasper;Anthony S. Fauci;Stephen L. Hauser;Dan L. Longo;J. Larry J...

eBook | 2019 [Si us plau, autèntiqueu-vos per veure més detalls](#)

[Robbins patología humana : décima edición](#) / Vinay Kumar, Abul K. Abbas, Jon C. Aster [editors]

Book | 2018

Exemplars a Biblioteca Josep Laporte - Sala (616-091 Rob) i 1 més veure tot

[Patología humana](#) / Robbins ; [editors] Vinay Kumar, Abul K. Abbas, Jon C. Aster ; ilustrador: James A. Perkins

[Robbins, Stanley L. \(Stanley Leonard\), 1915-2003, autor](#)

On line book | 2018

## Software

No specific software required