

1. OVERVIEW

Subject Area	General Pathological Anatomy Module/ Diagnostic and Therapeutic Procedures
Degree	Bachelor's Degree in Medicine
School/Faculty	BIOMEDICAL AND HEALTH SCIENCES
Ac. Year	THREE
ECTS	7 ECTS
Type	COMPULSORY
Language(s)	SPANISH
Delivery Mode	ON CAMPUS
Semester	Yearly

2. INTRODUCTION

General Anatomical Pathology is a compulsory subject (worth 7 ECTS) taught over the third year in the Degree in Medicine. This subject belongs to the Diagnostic and Therapeutic Procedures module worth a total of 43 ECTS.

The main aim of this subject is to teach students the mechanisms of the general pathological processes which form the base of anatomo-clinical reasoning. Students will also learn about the wide range of specific diseases affecting the different systems and apparatus.

3. SKILLS AND LEARNING OUTCOMES

Basic Skills (CB, by the acronym in Spanish):

- CB1: Students have shown their knowledge and understanding of a study area that builds on general secondary school education, and are usually at the level where, with the support of more advanced textbooks, they may also demonstrate awareness of the latest developments in their field of study.
- CB5: Students will develop the learning capacity required to undertake subsequent study with a high degree of autonomy.

General skills (CG, by the acronym in Spanish):

CG10 (CB10): Understand and recognise the causal agents and risk factors which determine health conditions and the development of a disease.

Transversal skills (CT, as per the Spanish acronym):

- CT10: Independent learning: the ability to govern your own development by choosing the most effective lines of action, strategies, tools and opportunities to independently learn and apply knowledge to practice.

Specific skills (CE, by the acronym in Spanish):

- CE42: Understand the indications of the biochemical, haematological, immunological, microbiological, and anatomical pathology and image tests.
- CE43: Understand the characteristics of tissues in different types of lesions, adaptation and cell death. Inflammation.
- CE44: Alterations in cell growth.
- CE45: Anatomical pathology of the different systems and apparatus.
- CE46: Biochemical markers, cytogenetic analysis and molecular biology applied to clinical diagnosis.
- CE60: Know how to obtain and process a biological sample to study it using the different diagnostic procedures.

Learning outcomes (RA, by the acronym in Spanish):

- Understand the procedures for obtaining and processing samples for anatomo-pathological study.
- Know how to use an optical microscope to recognise the main anatomo-pathological alterations.
- Understand the characteristics of tissues in different types of lesions, adaptation and cell death.
- Identify the characteristics of tissue inflammation, growth alterations and cell differentiation, neoplasms, ischaemia and necrosis, the different types of cell lesions, tissue deposits, and cell regeneration and repair.
- Understand the use of biochemical markers, cytogenetics and molecular biology in histopathologic diagnosis.

The following table shows how the skills developed in the subject area match up with the intended learning outcomes:

Skills	Learning outcomes
CB1, CB5, CT10, CE60	Understand the procedures for obtaining and processing samples for anatomo-pathological study.
CB1, CB5, CT10, CB10, CE60	Know how to use an optical microscope to recognise the main anatomo-pathological alterations.

CB1, CB5, CT10, CE43, CE44	Understand the characteristics of tissues in different types of lesions, adaptation and cell death.
CB1, CB5, CT10, CB10, CE45	Identify the characteristics of tissue inflammation, growth alterations and cell differentiation, neoplasms, ischaemia and necrosis, the different types of cell lesions, tissue deposits, and cell regeneration and repair.
CB1, CB5, CT10, CE42, CE46	Understand the use of biochemical markers, cytogenetics and molecular biology in histopathologic diagnosis.

4. CONTENTS

This subject area is divided into six learning units, which are then divided into various topics.

Topic	
	PART 1: GENERAL SYSTEMIC ANATOMICAL PATHOLOGY
TOPIC 1	INAUGURAL LESSON.
TOPIC 2	GENERAL ASPECTS OF THE LESION AND CELL DEATH.
TOPIC 3	REVERSIBLE CELL INJURIES. CELLULAR RESPONSE.
TOPIC 4	INTRACELLULAR DEPOSITS.
TOPIC 5	ACUTE INFLAMMATION I.
TOPIC 6	ACUTE INFLAMMATION II.
TOPIC 7	ACUTE INFLAMMATION III.
TOPIC 8	CHRONIC INFLAMMATION.
TOPIC 9	REPAIR: REGENERATION AND HEALING.
TOPIC 10	PATHOLOGY OF INFLAMMATION OF INFECTIOUS ORIGIN.
TOPIC 11	GRANULOMATOUS DISEASES OF INFECTIOUS AETIOLOGY I.
TOPIC 12	GRANULOMATOUS DISEASES OF INFECTIOUS AETIOLOGY II.
TOPIC 13	HAEMODYNAMIC DISORDERS I.
TOPIC 14	HAEMODYNAMIC DISORDERS II.
TOPIC 15	METABOLIC DISEASES I.

TOPIC 16	METABOLIC DISEASES II.
TOPIC 17	IMMUNE SYSTEM DISEASES I.
TOPIC 18	IMMUNE SYSTEM DISEASES II.
TOPIC 19	GENERAL ASPECTS OF NEOPLASMS I.
TOPIC 20	GENERAL ASPECTS OF NEOPLASMS II.
TOPIC 21	GENERAL ASPECTS OF NEOPLASMS III.
TOPIC 22	CARCINOGENESIS AND MOLECULAR BASIS OF CANCER I.
TOPIC 23	CARCINOGENESIS AND MOLECULAR BASIS OF CANCER II.
TOPIC 24	EPITHELIAL TUMOURS.
TOPIC 25	SOFT TISSUE TUMOURS I.
TOPIC 26	SOFT TISSUE TUMOURS II.
TOPIC 27	TUMOURS OF THE PERIPHERAL NERVE.
TOPIC 28	MELANOCYTIC TUMOURS.
TOPIC 29	NEUROENDOCRINE TUMOURS.
TOPIC 30	EMBRYONAL TUMOURS.
	NEW PART 2: GENERAL ANATOMICAL PATHOLOGY BY ORGANS AND APPARATUS
TOPIC 31	VASCULAR PATHOLOGY I: ARTERIOSCLEROSIS.
TOPIC 32	VASCULAR PATHOLOGY II. VASCULITIS.
TOPIC 33	CARDIAC PATHOLOGY.
TOPIC 34	ACUTE AND CHRONIC RESPIRATORY DISORDERS.
TOPIC 35	PULMONARY TUMOURS I.
TOPIC 36	PULMONARY TUMOURS II.
TOPIC 37	MEDIASTINAL PATHOLOGY.
TOPIC 38	THORACIC OUTLET SYNDROMES.
TOPIC 39	LYMPHOMAS I.
TOPIC 40	LYMPHOMAS II.

TOPIC 41	LYMPHOMAS III.
TOPIC 42	DISEASES OF THE OESOPHAGUS AND STOMACH.
TOPIC 43	TUMOURS OF THE OESOPHAGUS AND STOMACH.
TOPIC 44	SMALL INTESTINE.
TOPIC 45	LARGE INTESTINE.
TOPIC 46	PATHOLOGY OF THE LIVER AND BILE DUCT I.
TOPIC 47	PATHOLOGY OF THE LIVER AND BILE DUCT II.
TOPIC 48	PATHOLOGY OF THE PANCREAS AND SALIVARY GLANDS.
TOPIC 49	ENDOCRINE PATHOLOGY I.
TOPIC 50	ENDOCRINE PATHOLOGY II.
TOPIC 51	ENDOCRINE PATHOLOGY III.
TOPIC 52	PATHOLOGY OF THE FEMALE GENITAL APPARATUS I.
TOPIC 53	PATHOLOGY OF THE FEMALE GENITAL APPARATUS II.
TOPIC 54	PATHOLOGY OF THE MALE GENITAL APPARATUS.
TOPIC 55	PATHOLOGY OF THE BREAST I.
TOPIC 56	PATHOLOGY OF THE BREAST II.
TOPIC 57	GLOMERULAR RENAL PATHOLOGY (GLOMERULOPATHIES) I.
TOPIC 58	GLOMERULAR RENAL PATHOLOGY (GLOMERULOPATHIES) II.
TOPIC 59	TUMOURS OF THE KIDNEY AND URINARY TRACTS.
TOPIC 60	ANATOMICAL PATHOLOGY OF THE BONES AND JOINTS I.
TOPIC 61	ANATOMICAL PATHOLOGY OF THE BONES AND JOINTS II.
TOPIC 62	NEUROPATHOLOGY I.
TOPIC 63	NEUROPATHOLOGY II.

5. TEACHING/LEARNING METHODS

The types of teaching/learning methods are as follows:

1. Problem-based learning: Presentation of problems, reorganising into small groups, literature analysis, analysis of scientific texts and documents, symposiums and presentations, directed debates, specialised individual and collective tutorials, and reaching a consensus.
2. Specialised seminars: literature research and debate on scientific data in small groups.
3. Lectures: Classroom presentations by the professor on basic theory, encouraging debate and student participation.
4. Case study method: presentation and discussion of clinical cases in small groups.

6. LEARNING ACTIVITIES

The types of learning activities, plus the amount of time spent on each activity, and the percentage of participation in each of them are as follows:

On campus:

Learning activity	Number of hours	Attendance mode
Theory/practical learning activities	80	100
Directed learning activities	20	10
Independent working	52	0
Tutorials	21	100
Knowledge tests	2	100
TOTAL	175 h	

7. ASSESSMENT

The assessment methods, plus their weighting in the final grade for the subject area, are as follows:

On campus:

	Assessment system	Weighting
Cognitive objectives and clinical skills	Final assessment exam	80%
Skills and attitude objectives	Case study/problem with virtual microscope	10%

	Clinical case presentation	10%
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On the Virtual Campus, when you open the subject area, you can see all the details of your assessment activities and the deadlines and assessment procedures for each activity.

8. BIBLIOGRAPHY

Bibliography for the study:

- Robbins. Patología humana. Kumar V, Abbas AK, Aster Jon C. 10ª Ed (traducción en español): Elsevier España; 2018.

Recommended reference bibliography:

- Robbins Essential Pathology, 1ª Ed, 2020 Digital Version
- Robbins y Cotran. Patología estructural y funcional. Kumar V, Abbas AK, Aster Jon C. 10ª Ed (traducción en español): Elsevier-Saunders; 2021.
- Rubin's Pathology: Clinicopathologic Foundations of Medicine. Rubin R, Strayer DS, Rubin E, 6th Ed. (inglés): Lippincott; 2011.
- Robbins y Cotran. Atlas de anatomía patológica. Klatt E. 1ª Ed. (castellano): Elsevier España; 2007.
- Secretos: Patología. Damjanov I. 3ª Ed: Elsevier-Mosby 2010.