# Information about the subject

**Degree:** Bachelor of Science Degree in Dentistry

**Faculty:** Faculty of Medicine and Health Sciences

**Code:** 480201 **Name:** Pathological Anatomy

**Credits:** 6,00 **ECTS Year:** 2 **Semester:** 1

**Module:** Module 3: General Medical-Surgical Pathology and Therapeutics

**Subject Matter:** MEDICAL PATHOLOGY **Type:** Compulsory

**Field of knowledge:** Health Sciences

**Department:** -

**Type of learning:** Classroom-based learning

**Languages in which it is taught:** English, Spanish

**Lecturer/-s:**

| | | |
|---|---|---|
| 482A | Jose Angel Garcia Garcia **(Responsible Lecturer)** | joseangel.garcia@ucv.es |
| | Enrique García Gómez | enrique.ggomez@ucv.es |
| 482GIQ | Jose Angel Garcia Garcia **(English Responsible Lecturer)** | joseangel.garcia@ucv.es |
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## Module organization

### Module 3: General Medical-Surgical Pathology and Therapeutics

| Subject Matter | ECTS | Subject | ECTS | Year/semester |
|---|---|---|---|---|
| GENERAL MEDICAL-SURGICAL PATHOLOGY | 18,00 | Anaesthesiology | 6,00 | 2/1 |
| | | General Medical-Surgical Pathology | 6,00 | 2/2 |
| | | Medical-Surgical Specialities | 6,00 | 2/2 |
| MEDICAL PATHOLOGY | 12,00 | General and Dental Pharmacology | 6,00 | 2/1 |
| | | Pathological Anatomy | 6,00 | 2/1 |

## Recommended knowledge

GENERAL OBJECTIVES
That students acquire knowledge of basic cellular lesions: the student must know the morphological characteristics of metabolic, inflammatory, vascular and cell growth disorders. You must be able to relate this knowledge with that of other disciplines such as Pathophysiology, Biochemistry, etc.Be able to practically identify the most frequent anatomopathological lesions and characteristics corresponding to: types of necrosis and inflammation, hemodynamic disorders, benign and malignant neoplasms.Know the usefulness of biopsy in dental pathology for establishing the diagnosis and prognosis of lesions.Know the anatomopathological types and clinical significance of the most frequent non-neoplastic and neoplastic lesions of the oral cavity, jaws and salivary glands.Acquire an anatomical-clinical mentality, assessing the clinical features of the disease and its evolution, in relation to morphological alterations.

## Learning outcomes

At the end of the course, the student must be able to prove that he/she has acquired the following learning outcomes:

| | |
|---|---|
| R1 | The student proves knowledge of basic cell injuries. The student should know the morphological characteristics of metabolic, inflammatory, vascular and cell growth disorders. |
| R2 | Knows the anatomopathological types and the clinical significance of the most frequent non-neoplastic and neoplastic lesions of the oral cavity, the jaws and the salivary glands. |
| R3 | The student shows ability to relate this knowledge to that of other disciplines such as Physiopathology. |
| R4 | Know the usefulness of biopsy in dental pathology to establish the diagnosis and prognosis of lesions. |
| R5 | Acquires an anatomical-clinical mentality, assessing the disease clinic and its evolution, in relation to morphological alterations. |
| R6 | The student is able to identify in a practical way, through microscopic observation, the most frequent anatomopathological lesions and characteristics corresponding to: types of necrosis and inflammation, hemodynamic disorders. |
| R7 | The student is able to identify under the microscope cysts of the oral regions. |
| R8 | The student can identify under the microscope the most relevant benign and malignant neoplasms of the oral region studied in the laboratory practices. |
| R9 | Acquires an anatomical-clinical mentality, assessing the clinic of the disease and its evolution, in relation to morphological alterations. |
| R10 | Knows the usefulness of biopsy in dental pathology to establish the diagnosis and prognosis of lesions. |

## Competencies

**Depending on the learning outcomes, the competencies to which the subject contributes are (please score from 1 to 4, being 4 the highest score):**

| GENERAL | Weighting | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| CG1 I a Capacity for analysis and synthesis | | | | x |
| CG2 I b Organizational and planning skills | | | | x |

| SPECIFIC | Weighting | | | |
|---|---|---|---|---|
| | 1 | 2 | 3 | 4 |
| CE A 7 Promote autonomous learning of new knowledge and techniques, as well as motivation for quality. | | | | x |
| CE B 1 Understand the basic biomedical sciences on which dentistry is based to ensure proper oral care. | | | | x |
| CE B 1 Know about general disease processes, including infection, inflammation, immune system disorders, degeneration, neoplasm, metabolic disorders and genetic disorders. | | | | x |
| CE B 1 Be familiar with the general pathological features of diseases and disorders affecting organ systems, specifically those with oral impact. | | | | x |
| CE B 1 Understand the fundamentals of action, indications and efficacy of drugs and other therapeutic interventions, knowing their contraindications, interactions, systemic effects and interactions on other organs, based on available scientific evidence. | | | | x |
| CE B 1 Know, critically evaluate and know how to use clinical and biomedical information sources to obtain, organize, interpret and communicate scientific and health information. | | | | x |
| CE B 1 Know the scientific method and have the critical capacity to value the established knowledge and the new information. Be able to formulate hypotheses, collect and critically evaluate information for the resolution of problems, following the scientific method. | | | | x |

| TRANSVERSAL | | Weighting | | | |
|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 |
| 1. h. | Decision making | | | | x |
| 2. n. | Critical Reasoning | | | | x |

# Assessment system for the acquisition of competencies and grading system

| Assessed learning outcomes | Granted percentage | Assessment method |
|---|---|---|
| R1, R2, R3, R4, R5, R6, R7 | 70,00% | MULTIPLE CHOICE TEST: Multiple choice test with one correct answer. This shows to greater extent the contents acquired by the student. |
| R1, R2, R4, R5 | 5,00% | PRESENTATION: The student develops by means of an oral presentation, supported with audio-visual materials, a theme or topic given by the teacher. At the end of the presentation, the teacher or audience may ask questions. |
| R1, R2, R4, R5 | 5,00% | CLASS PARTICIPATION: The teacher assesses the participation, involvement and progress the student makes in acquiring knowledge and skills in theory and practical classes and seminars. This is never more than 5% of the final grade. |
| R1, R2, R4, R5 | 20,00% | PRACTICAL EXAM: The student carries out a test in which he/she must show by means of practical application the acquisition of certain knowledge. For example, histological or anatomopathological diagnoses, interpretation of images or diagnostic tests. |

**Observations**

To achieve the passing level, it will be a necessary condition to have achieved a minimum score of 5 out of 10, both in the Theoretical Exam (Test type tests; Application of UCV-TEST), and in the practical Exam.

**MENTION OF DISTINCTION:**
According to Article 22 of the Regulations governing the Evaluation and Qualification of UCV Courses, the mention of "Distinction of Honor" may be awarded by the professor responsible for the course to students who have obtained, at least, the qualification of 9 over 10 (“Sobresaliente”). The number of "Distinction of Honor" mentions that may be awarded may not exceed five percent of the number of students included in the same official record, unless this number is lower than 20, in which case only one "Distinction of Honor" may be awarded.

## Learning activities

The following methodologies will be used so that the students can achieve the learning outcomes of the subject:

M1 Lecture.
Problem Solving.
Explanation of contents by the teacher.
Explanation of knowledge and skills.

M2 Practical basic sciences laboratory sessions, practical simulation laboratory sessions, virtual hospital and dissecting room.

M5 Problem and case solving. Written tasks.
Online activity on the e-learning platform.
Personal study.
Compiling information and documentation.

M10 Carrying out bibliographic reviews and practical work experience dissertations.

M13 Personal preparation of written texts, essays, problem solving, seminars.

M15 Personalised Attention. Period of instruction and/or guidance carried out by a tutor with the aim of analysing with the student his/her work, activities and evolution in learning of subjects.

## IN-CLASS LEARNING ACTIVITIES

| | LEARNING OUTCOMES | HOURS | ECTS |
|---|---|---|---|
| THEORY CLASS<br>M1 | R1, R2, R3, R4, R5, R6, R9, R10 | 42,00 | 1,68 |
| SEMINAR<br>M1, M5, M13 | R5 | 9,00 | 0,36 |
| TUTORING<br>M15 | R5 | 3,00 | 0,12 |
| EVALUATION<br>M5 | R1, R2, R3, R4, R5, R6, R7, R8, R9, R10 | 3,00 | 0,12 |
| PRACTICAL CLASS<br>M2 | R6, R7, R8 | 6,00 | 0,24 |
| **TOTAL** | | **63,00** | **2,52** |

## LEARNING ACTIVITIES OF AUTONOMOUS WORK

| | LEARNING OUTCOMES | HOURS | ECTS |
|---|---|---|---|
| INDIVIDUAL WORK | R1, R2, R3, R4, R5, R6, R7, R8, R9, R10 | 87,00 | 3,48 |
| **TOTAL** | | **87,00** | **3,48** |

## Description of the contents

Description of the necessary contents to acquire the learning outcomes.

### Theoretical contents:

| Content block | Contents |
|---|---|

BLOCK 1: GENERAL PATHOLOGICAL ANATOMY

TOPIC 1. PATHOLOGICAL ANATOMY: CONCEPT AND HISTORICAL EVOLUTION.
PATHOLOGY AS A MORPHOLOGICAL SUBSTRATE OF THE DISEASE. DIAGNOSTIC PROCEDURES AND HOSPITAL COMMITTEES. MAP OF PROCESSES IN THE ACTIVITY OF THE PATHOLOGICAL ANATOMY SERVICE.

TOPIC 2. INJURY, ADAPTATION AND CELL DEATH.
MECHANISMS AND EVOLUTION OF CELLULAR INJURY. TYPES OF INJURY. NECROSIS AND APOPTOSIS. CELLULAR RESPONSE TO AGGRESSION; CELLULAR ADAPTATION: HYPERTROPHY, HYPERPLASIA, ATROPHY AND METAPLASIA. STRUCTURAL MODELS OF ATROPHY AND GLANDULAR HYPERPLASIA.

TOPIC 3. INFLAMMATION AND REPAIR.
ACUTE AND CHRONIC INFLAMMATION. ACUTE INFLAMMATION. MEDIATORS OF INFLAMMATION. CYTOKINES. NATURAL EVOLUTION OF INFLAMMATION. MORPHOLOGICAL PATTERNS OF INFLAMMATION. CHRONIC INFLAMATION. REPAIR, REGENERATION AND HEALING. MOTHER CELLS. THE CELL CYCLE AND ITS REGULATION. GROWTH AND TRANSCRIPTION FACTORS. INTERCELLULAR MATRIX. HEALING AND REPAIR OF WOUNDS. PATHOLOGY OF HEALING.

TOPIC 4. HEMODYNAMIC DISORDERS, THROMBOEMBOLIC DISEASE AND SHOCK.
ETIOPATHOGENESIS OF ARTERIOSCLEROSIS. ANEURYSMS, VASCULITIS, DIABETIC VASCULOPATHY. THROMBOEMBOLIC DISEASE, ISCHEMIA AND INFARCTION. STRUCTURAL MODELS. BLEEDING DISORDERS. SHOCK, PATHOGENESIS OF SEPTIC SHOCK. PHASES OF SHOCK.

TOPIC 5. IMMUNITY DISORDERS AND GENETIC DISEASES.
HYPERSENSITIVITY REACTIONS. AUTOIMMUNE DISEASES. REJECTION OF TRANSPLANTS. IMMUNODEFICIENCY SYNDROMES.

TOPIC 6. GENETIC DISEASES AND CONGENITAL

ANOMALIES.
MENDELIAN DISORDERS; DISORDERS ASSOCIATED WITH DEFECTS IN STRUCTURAL PROTEINS. RECEPTOR PROTEINS, ENZYMATIC DEFECTS AND CELL GROWTH REGULATORY PROTEINS. CHROMOSOMIC DISORDERS OF AUTOSOMES AND SEX CHROMOSOMES. MOLECULAR DIAGNOSIS. PERINATAL INFECTIONS. INCONGENITAL ERRORS OF METABOLISM. SUDDEN INFANT DEATH SYNDROME. TUMORS AND PSEUDOTUMORAL LESIONS IN INFANTS AND CHILDREN.

TOPIC 7. NEOPLASMS.
GENERAL NOMENCLATURE. CONCEPT OF BENIGNITY AND MALIGNITY. INDIFFERENTIATION AND ANAPLASIA. CONCEPT OF DYSPLASIA. GENERAL CLASSIFICATION OF NEOPLASMS. MOLECULAR BASIS AND ETIOPATHOGENESIS OF CANCER. ACTIVATING AND INHIBITING GENES. NATURAL HISTORY OF CANCER. CANCER AND IMMUNITY. CARCINOGENETIC AGENTS. CLINICAL ASPECTS OF CANCER. PARANEOPLASTIC SYNDROMES. CANCER STAGING.

BLOCK 2. SPECIAL ORAL PATHOLOGY.

TOPIC 8. ORAL INFECTIOUS INFLAMMATORY LESIONS. BACTERIAL, VIRAL, FUNGAL CONDITIONS AND OTHER INFECTIOUS DISEASES. CAVITIES.

TOPIC 9. NON-INFECTIOUS ORAL INFLAMMATORY LESIONS.
9.1 ULCERATIVE AND INFLAMMATORY CONDITIONS.
9.2 IMMUNOMEDIATED, AUTOIMMUNE AND GRANULOMATOUS CONDITIONS.

TOPIC 10. INJURIES OF THE ORAL MUCOSA.
10.1 REACTIVE KERATOTIC (NON-LEUKOPLASTIC) LESIONS.
10.2 LEUKOPLASIA, ORAL DYSPLASIA AND SQUAMOUS CELL CARCINOMA.
10.3 PIGMENTED LESIONS AND EXOGENOUS PIGMENTATION.
10.4 NON-INFECTIOUS AND CONGENITAL-CYSTIC DEVELOPMENTAL PAPILLARY LESIONS.

TOPIC 11. ORAL MESENCHYMAL LESIONS (SOFT AND LYMPHATIC TISSUE INJURIES).
11.1 FIBROUS, GINGIVAL, LIPOCYTIC TUMORS.
11.2 VASCULAR, NEURAL AND MUSCLE TUMORS AND LYMPHOMA.

TOPIC 12. INJURIES OF THE SALIVARY GLANDS.
12.1 INFLAMMATORY DISORDERS OF THE SALIVARY GLANDS.
12.2 SALIVARY GLAND NEOPLASMS BENIGN NEOPLASMS AND MALIGNANT NEOPLASMS.

TOPIC 13. ODONTOGENIC INJURIES.
13.1 ODONTOGENIC CYSTS.
13.2 ODONTOGENIC TUMORS EPITHELIAL TUMORS WITHOUT/WITH ECTOMESENCHYMA AND MESENCHYMAL TUMORS.

TOPIC 14. NON-ODONTOGENIC INTRAOSSEUS LESIONS.

Temporary organization of learning:

| Block of content | Number of sessions | Hours |
|---|---|---|
| BLOCK 1: GENERAL PATHOLOGICAL ANATOMY | 14,50 | 29,00 |
| BLOCK 2. SPECIAL ORAL PATHOLOGY. | 17,00 | 34,00 |

## References

ROBBINS ESSENTIAL PATHOLOGY; KUMAR ET AL. 2021.
ROBBINS BASIC PATHOLOGY; KUMAR ET AL. 2018.
ORAL PATHOLOGY: A COMPREHENSIVE ATLAS AND TEXT; SOOK-BIN WOO 2016

# Addendum to the Course Guide of the Subject

Due to the exceptional situation caused by the health crisis of the COVID-19 and taking into account the security measures related to the development of the educational activity in the Higher Education Institution teaching area, the following changes have been made in the guide of the subject to ensure that Students achieve their learning outcomes of the Subject.

## Situation 1: Teaching without limited capacity (when the number of enrolled students is lower than the allowed capacity in classroom, according to the security measures taken).

In this case, no changes are made in the guide of the subject.

## Situation 2: Teaching with limited capacity (when the number of enrolled students is higher than the allowed capacity in classroom, according to the security measures taken).

In this case, the following changes are made:

### 1. Educational Activities of Onsite Work:

**All the foreseen activities to be developed in the classroom as indicated in this field of the guide of the subject** will be made through a simultaneous teaching method combining onsite teaching in the classroom and synchronous online teaching. Students will be able to attend classes onsite or to attend them online through the telematic tools provided by the university (videoconferences). In any case, students who attend classes onsite and who attend them by videoconference will rotate periodically.

In the particular case of this subject, these videoconferences will be made through:

[ ] Microsoft Teams

[X] Kaltura

## Situation 3: Confinement due to a new State of Alarm.

In this case, the following changes are made:

### 1. Educational Activities of Onsite Work:

**All the foreseen activities to be developed in the classroom as indicated in this field of the guide of the subject**, as well as the group and personalized tutoring, will be done with the telematic tools provided by the University, through:

| | |
|---|---|
| | Microsoft Teams |
| X | Kaltura |

Explanation about the practical sessions:

## 2. System for Assessing the Acquisition of the competences and Assessment System

**ONSITE WORK**

**Regarding the Assessment Tools:**

[X] The Assessment Tools will not be modified. If onsite assessment is not possible, it will be done online through the UCVnet Campus.

[ ] The following changes will be made to adapt the subject's assessment to the online teaching.

| Course guide | | Adaptation | |
|---|---|---|---|
| Assessment tool | Allocated percentage | Description of the suggested changes | Platform to be used |

The other Assessment Tools will not be modified with regards to what is indicated in the Course Guide.

**Comments to the Assessment System:**