Course Guide 2018/2019

Oral Anatomy

Anatomía Bucodental

Bachelor in Dentistry

Mode: On Campus

Index

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Oral Anatomy

Module: **Biomedical Sciences.**

Subject: **Oral Anatomy.**

Level: **Basic.**

No. of Credits: **6 ECTS.**

Academic Session: **1st Course – 2nd Semester.**

Course Professors: **María Guirao Asunción and Andrés Martínez-Almagro Andreo.**

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Office Hours: **Prior request by e-mail/Virtual Campus.**

Professor coordinating the Module: **Sonia Sánchez Bautista.**

Brief Description

The first part of this course begins with the study of craniofacial organogenesis, and continues with a description of the neurocranium, splanchnocranium, and temporomandibular joint, finishing with the study of the soft tissues of the head – both parietal and visceral – and their general vascularization and innervation. In the second part, this course focuses on the dental system (terminology, chronology, and general and specific characteristics of each tooth) and finishes with the neurovascular system, imaging techniques, and craniofacial and oral clinical aspects, which may be relevant for health.

Prerequisites

None.

Objectives

1. To familiarize the student with international anatomical language and nomenclature.
2. To acquire autonomous study habits and reasoned learning.
3. To know the organogenesis of the skull, face, cranial-facial cavities, and the dental system.
4. To know the structure, topography, and function of the different apparatuses and systems that make up the human head.
5. To know the essentials of the clinical anatomy of the skull, the face, and the cranial-facial cavities, as well as their anatomical variants of normality.
6. To know the normal anatomy, the anatomical variants of normality, and to detect the presence of pathological alterations through imaging techniques commonly used in dentistry.

Competencies and Learning Outcomes

Basic competencies

MECES1: Students have demonstrated that they possess and understand the knowledge in an area of study that starts from the basis of general secondary education, and is usually found at a level that, although supported by advanced textbooks, also includes some aspects that imply knowledge coming from the forefront of their field of study.
MECES2: Students know how to apply their knowledge to their work or vocation in a professional manner and they possess the skills that are usually demonstrated through the elaboration and defense of arguments and through problem-solving within their area of study.
MECES3: Students have the ability to gather and interpret relevant data (usually within their area of study) to make judgments that include a reflection on relevant issues of a social, scientific, or ethical nature.
MECES4: Students can transmit information, ideas, problems, and solutions to a specialized and non-specialized public.
MECES5: Students have developed the learning skills necessary to undertake later studies with a high degree of autonomy.

General competencies

G11: To understand the basic biomedical sciences on which Dentistry is based to ensure correct oral and dental care.
G12: To understand and recognize the structure and normal function of the stomatognathic apparatus at the molecular, cellular, tissue, and organ levels in the different stages of life.

Interdisciplinary competencies

CT1: To communicate effectively in their field in oral and written form.

Specific competencies

CBM1: To understand the biomedical sciences on which Dentistry is based to ensure correct oral and dental care. Among these, appropriate subject matter should include:

- Embryology, anatomy, histology and physiology of the human body.
- Genetics, biochemistry, molecular and cellular biology.
- Microbiology and immunology.

CBM2: To know the morphology and function of the stomatognathic apparatus, including specific appropriate subject matters of embryology, anatomy, histology, and physiology.

Methodology

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Methodology	Hours	Hours of Classroom Work	Hours of Non-Classroom Work
Classroom based Classes	24	60 hours (40 %)	
Academic Tutorials	6		
Practicums	15		
Seminars	12		
Classroom Evaluations	3		
Personal Study	63		90 hours (60 %)
On-line Tutorials	9		
Resolution of Exercises and Practical Cases	9		
Project Completion and Oral Presentations	9		
TOTAL	150	60	90

Syllabus

Theoretical instructional program

THEMATIC UNIT I. CRANIAL-FACIAL AND DENTAL EMBRYOLOGY
Lesson 1.
Embryological development of the skull and face. First phases. Neurocranium and splachnocranium. Arches, pouches, and pharyngeal clefts. Lingual organogenesis.

Lesson 2.
Partitioning and formation of the facial cavities: mouth and nostrils.

Lesson 3.
Dental organogenesis: phases.

THEMATIC UNIT II. DENTAL ANATOMY
Lesson 4.
Dental anatomy: terminology, nomenclature, dental formulas. Tooth structure.

Lesson 5.
Permanent dentition. Anterior teeth: incisors and canines. Central and lateral incisor. Central and lateral mandibular incisor. Maxillary canine and mandibular canine.

Lesson 6.

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Permanent dentition. First maxillary premolar. Second maxillary premolar. First mandibular premolar. Second mandibular premolar.

Lesson 7.
Permanent dentition. First maxillary molar. Second mandibular molar.

Lesson 8.
Permanent dentition. First mandibular molar. Second mandibular molar.

Lesson 9.
Temporary dentition. Description of each temporary tooth. Differences between temporary and permanent dentition.

Lesson 10.
Dental eruption. Timeline of temporary dentition. Mixed dentition: first replacement period, inter-transitional period, and second replacement period. Permanent dentition.

Lesson 11.
Pulp anatomy. Alveolar process and periodontium, root, and root canals. Periodontal conformation. Delimitation of the chamber and the root canals.

Lesson 12.
Study of occlusion. Form of the arcade. Crossing over of the teeth. Curves of the occlusal planes. The relationship between cusp, fossa, and marginal ridge.

THEMATIC UNIT III. CRANIAL-FACIAL ANATOMY
Lesson 13.
Neurocranium. Exocranial and endocranial configuration. Base of the skull. Anterior, middle, and posterior cranial fossae. Cranial vault. Frontal. Ethmoid. Sphenoid. Occipital. Parietal. Temporal.

Lesson 14.
Facial viscerocranium. Eye socket. Nostrils. Pterygomaxillary fossa and pterygopalatine fossa. Malar. Maxilla. Jaw. Paranasal sinuses.

Lesson 15.
Temporo-mandibular joint: mandibular fossa, condyle, joint capsule, ligaments, disc. Lateral pterygoid muscle. Joint biomechanics. Joint movements.

Lesson 16.
Musculature of the face and neck. Chewing muscles. Mimic muscles. Musculature of the floor of the mouth. Tongue.

Lesson 17.

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Cranial-cervical visceral mechanism. Oral cavity. Limits of the oral cavity. Hard palate and soft palate. Salivary glands: parotid, submaxillary and sublingual. Pharynx. Structure. The anatomy of swallowing.

Lesson 18.
Cervicocephalic, orofacial, and dental alveolar innervation. Cranial and cervical nerves. Trigeminal systemization.

Lesson 19.
Vascularization of cervicocephalic, orofacial, and dental alveoli. Arterial, venous, and lymphatic systemization of the neck and head.

THEMATIC UNIT IV. TOPOGRAPHICAL AND RADIOLOGICAL ANATOMY
Lesson 20.
Radiological cranial-facial anatomy. Exploration strategies. Radiological anatomy in orthopantomography. Radiological anatomy in the lateral teleradiography of the skull. Tomography.

Lesson 21.
Radiological anatomy of dental alveoli. Radiological anatomy in periapical radiology.

Practical instructional program

Practicum 1.
Neurocranium: exocranial and endocranial configuration, base, and vault. Endocranial fossae: anterior, middle and posterior. Bones, joints, orifices and structures of interest.
In models and anatomical preparations.

Practicum 2.
Splanchnocranium. Bones, joints, orifices and structures of interest. Dental system.
In models and anatomical preparations.

Practicum 3.
Temporomandibular joint (TMJ). Musculature of chewing. Palpation of the musculature.
In models and digital platform.

Practicum 4.
Muscles of the head: facial and swallowing muscles. Musculature of the tongue. Supra and infrahyoid musculature. Musculature of the neck.
In models and digital platform.

Practicum 5.
Cervicocephalic and orofacial innervation and vascularization.
In models and digital platform.

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Practicum 6.
Cervicocephalic dissection. Surface plane.
In the dissection room.

Practicum 7.
Cervicocephalic dissection. Deep plane. Oral cavity and dental system.
In the dissection room.

Seminars

1. Soap carving of an upper central incisor.
2. Soap carving of an upper canine.
3. Soap carving of a first upper molar.
4. Soap carving of a first lower molar.
5. Temporary dentition and dental eruption. In models.
6. Radiological anatomy. Oral presentation of projects.

Relationship to Other Courses of the Study Plan

This subject is based on knowledge about Cell Biology and will facilitate the understanding of Physiology and Histology. It will allow students to apply the knowledge acquired about normality in Anatomical Pathology and will be the basis for morphological recognition in medical-surgical subjects.

Grading System

For the June/September Sessions:

1. **Theoretical exams (65%):** Exams (or evaluative tests) will be carried out with theoretical-practical questions and resolution of assumptions that include the contents of the material studied.

2. **Practical exams (30%):** The practicums and/or seminars will be evaluated through different grading systems (practical exercises, completion and exhibition of projects, clinical cases, etc.…) that include the practical content worked on.

3. **Academic tutorials (5%):** The student's participation will be evaluated though different means such as forums, chats, videoconferences, self-evaluations, activities proposed by the professor, and/or debates.

The student shall pass the subject when the weighted average is equal to or greater than 5 points and all the parts that make up the grading system have been passed, with an overall weight equal to or greater than 20%.

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If the student has less than 5 in any of the parts with a weight equal to or greater than 20%, the subject will be suspended, and the student must retake the part(s) in the next session within the same academic year. The suspended part(s) in official sessions (February/June) will be saved for successive sessions that are held in the same academic year.

In the event that the subject is not passed in the September session, the passed parts will not count for successive academic years.

The grading system (RD 1.125/2003. of September 5) shall be the following:

0-4.9 Suspended (SS)

5.0-6.9 Passed (AP)

7.0-8.9 Excellent (NT)

9.0-10 Outstanding (SB)

Honorable mention may be granted to students who have earned a grade equal to or greater than 9.0. This number may not exceed 5% of the total number of students enrolled in a subject in the corresponding academic year, unless the number of students enrolled is less than 20, in which case only a single honorable mention may be granted.

Bibliography and Reference Sources

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- Paulsen F, Waschke J. Sobotta: Atlas de Anatomía Humana. 23ª edición. [*Atlas of Human Anatomy. 23rd Edition*] Barcelona: Elsevier España SL, 2012.

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Related Websites

Available on the Virtual Campus.

Study Recommendations

Study of the subject is recommended on a daily, continuous and orderly basis, in order to keep up with the classes and seminars. There is a very high number of terms to memorize, so it is essential to stay up to date with the subject, carefully follow the guidelines of the professor in class, and complete personal notes with the recommended bibliography.

Teaching Materials

In the Practicum Room, the use of a lab coat, gloves, and instruments for dissection is mandatory.

Tutorials

Brief Description

In academic tutorials, the focus will be to work on Decree No. 359/2009, of October 30th, which establishes and regulates the educational response to the diversity of students in the Autonomous Community of the Region of Murcia.
The activities that are carried out in the Academic Tutorials on this subject are:

- Personal orientation on the contents of the subject and the grading systems.
- Consolidation of knowledge, abilities, skills and attitudes of group work, and oral and written communication.
- Planning and promoting student learning through the provision of bibliographic and documentary sources.
- Advice on how to approach the activities of the practical seminars.

The University also has a Special Body of Tutors that conducts personal tutoring with students enrolled in the degree. The personal tutor accompanies the students throughout the university phase. You can check the following link:

http://www.ucam.edu/servicios/tutorias/preguntas-frecuentes/que-es-tutoria

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