

1. BASIC INFORMATION

Course	Normal and pathological occlusion
Degree program	Dentistry
School	Health science
Year	Second year
ECTS	3
Credit type	Mandatory
Language(s)	English
Delivery mode	Face-to-face modality
Semester	Second
Academic year	2020-2021
Coordinating professor	Rosa Galiana Roig

2. PRESENTATION

The aim of the course is the compression and recognition of the structure, normal and pathological function of the stomatognathic system, specially the temporomandibular joint, the dental articulation and all the elements that control the occlusion. The intention of this course is to develop a knowledge and a logical treatment of the study of the stomatognathic system the masticatory function and the occlusion. To be able to differentiate between the normal occlusion and the pathological one and know how to give a solution to the patient to his occlusal problem. All of that inside the clinical process of diagnosis, planning and accomplishment of a multidisciplinary, sequential and integrated treatment of complexity limited in all kinds of patients.

3. COMPETENCIES AND LEARNING OUTCOMES

Core competencies:

- CB1: That the students have demonstrated to possess and to understand knowledge in an area of study that departs from the base of the secondary general education, and it is usually present at level that, though it is based on the support of advanced books of

text, it includes also some aspects that imply knowledge proceeding from the forefront of his field of study. ·

- CB2: That the students can apply his knowledge to his work or vocation of a professional form and possess the competitions that are in the habit of being demonstrated by means of the production and defense of arguments and the resolution of problems inside the area of study.
- CB4: That the students could transmit information, ideas, problems and solutions to a both specialized and not specialized public.
- CB5: That the students have developed those necessary skills of learning to undertake later studies with a high degree of autonomy.

General competencies:

- CG1: To know the essential elements of the dentist's profession, including the ethical beginning and the legal responsibilities. ·
- CG2: To understand the importance of such beginning for the benefit of the patient, of the company and the profession, with special attention to the professional secret. ·
- CG3: Aptitude to be able to identify the worries and expectations of the patient, as well as the mass media and other professionals to communicate of effective and clear form, so much of oral as written form, with the patients, the relatives. ·
- CG9: Aptitude to understand the importance of supporting and using the patients records with relevant information to its later analysis, preserving the confidentiality of the information
- CG12: Aptitude to understand and recognize the structure and normal function of the Stomatognathic system, at the molecular level, cellular, tisular and organically, in the different stages of the life. ·
- CG13: Aptitude to understand and recognize the sciences of the essential biomateriales for the odontologic practice, as well as the immediate managing of the possible allergies to the same ones. ·

- CG14. Knowledge of the general processes of the disease, between which there are included the infection, the inflammation, the alterations of the immune system, the degeneracy, the neoplasia, the metabolic alterations and the genetic disorders.
- CG15. To be acquainted with the pathological general characteristics of the diseases and disorders that concern the organic systems, specifically those that have mouth repercussion. ·
- CG16. Aptitude to understand the foundations of action, indications and efficiency of the medicaments and other therapeutic interventions, knowing his contraindications, interactions, systemic effects and interactions on other organs, being based on the scientific available evidence.
- CG19. Knowledge of the scientific method and to have critical aptitude to value the established knowledge and the new information. To be capable of formulating hypothesis, gathering and valuing of critical form the information for the resolution of problems, following the scientific method.

Cross-curricular competencies:

- CT1: Responsibility: That the student is capable of assuming the consequences of the actions that it realizes and to answer of his own acts.
- CT2: Autoconfidence: That the student is capable of acting safely and with the sufficient motivation to obtain his aims.
- CT4: Communicative Skills: That the student is capable of expressing concepts and ideas of effective form, including the aptitude to report in writing with terseness and clarity, as well as of speaking publicly in an effective way.
- CT5: interpersonal Comprehension: That the student is capable of realizing an active scout in order to come to agreements using an assertive style of communication. ·
- CT7: Teamwork: That the student is capable of taking part of an active form in the attainment of a common aim, listening, respecting and valuing the ideas and offers of the rest of members of his equipment. ·
- CT8: Initiative: That the student is capable of being anticipated proactively proposing solutions or alternatives to the presented situations.
- CT9: Planning: That the student is capable of determining effectively his goals and priorities defining the actions, period, and ideal resources needed to reach such goals.

- CT10: Innovation - creativity: That the student is capable of designing solutions new and different from problems that contribute value to problems that appear him.

Specific competencies:

- CE36: To take and to interpret X-ray photographs and other procedures based on the image, relevant in the odontologic practice. ·
- CE37: diagnostic models to realize, to mount and to take inter-occlusal records. ·
- CE39: Identifies the patient who needs taken special care, recognizing his characteristics and peculiarities. ·
- CE40: the function Values motorboat and sensory of the mouth, maxillary and attached.

Learning outcomes:

- LO1: To know the physiology of the Stogmantognatic system
- LO2: To analyze the static and dynamics mandibular relations
- LO3: To study the phisiology of the occlusion
- LO4: To penetrate into the alterations of the temporomandibular disorders.
- LO5: To fix the knowledge acquired to be able to realize a correct diagnosis.
- LO6:
- LO7: To promote the critical spirit for the choice of the ideal treatment plan .
- LO8: Compression of concepts related to the anatomy, physiology and physiopathology of mandibular dynamics.

The table below shows the relation between the competencies developed during the course and the envisaged learning outcomes:

Skills	Results of learning
CB1, CB2, CG9, CG12, CG13, CT7, CT8, CT9, CT10, CE40	LO1
CB1, CG9, CG12, CT10, CE37, CE40	LO2

CB1, CG9, CG12, CT10, CE37, CE40	LO3
CB1, CB2, CB4, CB5, CG1, CG3, CG14 CT1, CT4, CE39, CE40	LO4
CB1, CB2, CB4, CB5, CG1, CG2, CG3, CG8, CG12, CG15, CG19, CT1, CT4, CT7, CT9, CE36, CE37, CE39, CE40	LO5
CB1, CB2, CB4, CB5, CG1, CG3, CG14, CT1, CT7, CT9, CE36, CE37	LO6
CB1, CB2, CB4, CB5, CG1, CG3, CG14, CT1, CT7, CT9, CE36, CE37	LO7
CB1, CG9, CG12, CT10, CE37, CE40	LO8

4. CONTENT

Subject 1. The occlusion in Odontology: general considerations. Relation of the occlusion with other sciences and other branches of the Odontology. Methodology of the teaching in this discipline.

Lesson 1: Introduction to the occlusion. Basic concepts.

Lesson 2: Morphology and dental physiology

Lesson 3: Functional anatomy and biomechanics of the Masticatory System. TMJ.

Subject 2. Anatomical and functional study of the components of the Stomatognathic System

Cephalometric Points and cephalic planes of reference in occlusion. Biomechanics of the TMJ
Lesson 4: Movements and mandibular positions registered in the plane Sagittal

Lesson 5: Movements and mandibular positions registered in the plane Horizontal

Lesson 6: Movements and mandibular positions registered in the plane frontal

Subject 3. Positions and mandibular movements: concept and terminology. Postural position of rest and free way space: Vertical Dimension. Centric Relation position. Maxim intercuspitation. Centric occlusion. Study of the dental arches and relation of the dental arches in occlusion

Lesson 7: Occlusal contacts and its relations

Lesson 8: Optimal functional occlusion

Subject 4. Dental articulators: concept, clasificationand principles of use. Facebow: concept and priciples of use.

Lesson 9: Articulators and facebow

Lesson10:Creneomaxillary and intermaxillary records

Lesson 11: Adjusting a semiadjustable articualtor (stratos 300)

Subject 5.Physiology of the Stogmatognatic system.:Mastication, degluticion and phonation

Eccentric relations:Lateral and protrusive movements

Lesson12:Study of the masticatory system

Lesson 13: Occlusal analysis

Subject 6.

Lesson 14: Pathology of the occlusion. Bruxism. Craneomandibular dysfuntion

5. TEACHING-LEARNING METHODOLOGIES

The types of teaching-learning methodologies used are indicated below:

- Master class
- Case methodology
- Problem-based learning
- Simulation environment

6. LEARNING ACTIVITIES

Listed below are the types of learning activities and the number of hours the student will spend on each one:

Campus-based mode:

Learning activity	Number of hours
Master Classes	22,4
Portfolio	3,3
Case Studies	2,2
Laboratory practices	36,6

7. ASSESSMENT

Listed below are the assessment systems used and the weight each one carries towards the final course grade:

Assessment system	Weight
Knowledge test	45%
Portfolio	10%
Laboratory practices	40%
Case problem	5%

When you access the course on the *Campus Virtual*, you'll find a description of the assessment activities you have to complete, as well as the delivery deadline and assessment procedure for each one.

7.1. First exam period

To pass the course in the first exam period, you must obtain a final course grade of at least 5 out of 10 (weighted average).

In any case, you will need to obtain a grade of at 5.0 in the final exam in order for it to count towards the final grade along with all the grades corresponding to the other activities.

“Attendance to laboratory practices is MANDATORY in person. Failure to attend these practices implies failing them. It is necessary to pass the laboratory practices independently to be able to make an average with the rest of the evaluable activities ”

7.2. Second exam period

To pass the course in the second exam period, you must obtain a final grade of at least 5 out of 10 (weighted average).

In any case, you will need to obtain a grade of at 5.0 in the final exam in order for it to count towards the final grade along with all the grades corresponding to the other activities.

The student must deliver the activities not successfully completed in the first exam period after having received the corresponding corrections from the professor, or those that were not delivered in the first place.

8. SCHEDULE

This table shows the delivery deadline for each assessable activity in the course:

Assessable activities	Deadline
Case/problem delivery	End of semester
Portfolio delivery	End of semester
Knowledge test	June

This schedule may be subject to changes for logistical reasons relating to the activities. The student will be notified of any change as and when appropriate.

9. BIBLIOGRAPHY

COMPULSORY BIBLIOGRAPHY

- Okeson J. (2019). **Occlusion and temporomandibular affection**. Madrid: Mosby/Doyma books. 8TH Edition.
- Echeverri E, Sencherman G. (1997). **Neurophysiology of occlusion**. Bogotá: Monserrate. 2nd edition
- Dawson P. (1995). **Evaluation, diagnosis and treatment of occlusal problems**. Barcelona: Masson/Salvat. 2nd.edition.
- Solnit, A, Curnutte D. (1998). **Occlusal correction**. Chicago: Quintessence.
- Klinenberg I. (1991). **Occlusion. Principles and assesment**. Oxford: Wright Ed.
- Ramfjord S, Ash M. (1982). **Occlusion**. México. DF.:Interamerican. 3rd edition.
- Neff P. (1993). **Occlusion and function**. Washington:Georgetown University School of Dentistry. 1st.edition.
- Ide Y, Nakazawa K. (1991). **Anatomical atlas of the temporomandibular joint**. Tokio: Quintessence. 1st edition.
- Isberg A. (2003). **Temporomandibular Joint Dysfunction**. Sao Paulo: Artes médicas.

RECOMMENDED BIBLIOGRAPHY

- Bumann A, Lotzmann U. (2000). **Functional diagnosis and therapeutic principles in Dentistry**. Barcelona: Masson.
- Bumann A, Lotzmann U, Mah J. (2002). **TMJ Disorders and Orofacial Pain: The Role of Dentistry in a Multidisciplinary Diagnostic Approach: Color Atlas**. Stuttgart/New York: Thieme.

12. Alonso A, Albertini JS. (2005). **Occlusion and diagnosis in oral rehabilitation**. Buenos Aires: Médica Panamericana.
13. Espinosa R. (1996). **Practical diagnosis of occlusion: Color Atlas**. México: Panamericana.
14. Klineberg I, Eckert S. (2016). **Functional occlusion in restorative dentistry and prosthodontics**. St. Louis, Mo: Elsevier/Mosby.
15. Pessina E, Bosco M, Vinci A. (1995). **Articulators and facial arches in dental prostheses and gnathology**. Barcelona: Masson.

10. DIVERSITY MANAGEMENT UNIT

Students with specific learning support needs:

Curricular adaptations and adjustments for students with specific learning support needs, in order to guarantee equal opportunities, will be overseen by the Diversity Management Unit (UAD: Unidad de Atención a la Diversidad).

It is compulsory for this Unit to issue a curricular adaptation/adjustment report, and therefore students with specific learning support needs should contact the Unit at unidad.diversidad@universidadeuropea.es at the beginning of each semester.

11. ONLINE SURVEYS

Your opinion matters!

The Universidad Europea encourages you to participate in several surveys which help identify the strengths and areas we need to improve regarding professors, degree programs and the teaching-learning process.

The surveys will be made available in the “surveys” section in virtual campus or via e-mail.

Your assessment is necessary for us to improve.

Thank you very much for your participation.