

1. BASIC INFORMATION

Course	Anatomy and Physiology of the Human body I
Degree Program	Dentistry
School	Faculty of Health Sciences
Year	First
ECTS	6 ECTS
Credit type	Basic
Language	Spanish/English
Delivery mode	On-site
Semester	First semester
Academic year	2024/2025
Coordinating professor	Cristina Estornut Navarro

2. PRESENTATION

This course serves as an introduction to Human Anatomy & Physiology, on the cellular, tissular, and macroscopic level.

The study of basic human anatomical, histological, and physiological concepts provides the student of a general comprehension of the human body behaviour.

Anatomy and physiology of human body I is a core course in the Health Sciences, and it is a subject that professional schools (e.g., medical, dental) both expect and require. Knowledge of the human body components and their functions, is the basis for many other modules or courses required in Dentistry Degree, such as Semiology, Microbiology, etc.

3. COMPETENCIES AND LEARNING OUTCOMES

Basic competencies:

- BC1 – That students have shown to possess and understand knowledge in the study area founded in the general secondary education.
- BC3 – That students have the ability to collect and interpretate relevant data to judge social, scientific and ethic relevant topics.
- BC5 – That students have developed this learning skills to further study on their own.

General competencies:

- GC11 – Ability to understand the basic biomedical sciences in which Dentistry is founded to ensure a proper buco-dental assistance.
- GC12 – Ability to understand and recognize the structure and function of the stomatognathic system at molecular, cellular, tissular, and organic levels during the diverse stages of life.
- GC18 – Knowledge to critically assess and use clinic and biomedical information sources to obtain, organize, interpretate and communicate sanitary and scientific information.
- GC19 – Knowledge of the scientific method and to have critical ability to assess established knowledge and new information. Be able to hypothesize, recollect and asses critically the information to resolve problems following the scientific method.
- GC7 – Ability to promote new knowledge autonomous learning and techniques, as well as motivation to quality.

Cross-curricular competencies:

- CC2 – Self-confidence: Ability to act firmly and with enough motivation to reach his/her goals.
- CC5 – Interpersonal understanding: Ability to perform an active listening to reach agreements using an assertive communication.
- CC8 - Initiative: Ability to proactively anticipate proposing alternatives or solutions to the presented situations.
- CC9 - Planning: Ability to effectively determinate his/her goals and priorities defining the actions, deadlines and optimum resources required to reach these goals.

Specific competencies:

- SC01 – Ability to understand the basic biomedical sciences in which Dentistry is founded to ensure a proper buco-dental assistance. These sciences include proper content about Embryology, anatomy, histology, and physiology of human body, genetic, biochemistry, cell biology, microbiology and immunology.
- SC02 – To know function and morphology of the stomatognathic system, including specific knowledge about embryology, anatomy, histology, and physiology.

Learning outcomes:

- LO01 – Knowledge about the characteristics of different types of tissues (epithelial, connective, muscular and nervous).
- LO02 – Knowledge about skeletal muscle, including ossification processes and regulation of it, muscle physiology, and main muscles, bones and joints.
- LO03 – Knowledge of the mechanisms involved in hemostasis and relate to the professional world.
- LO04 – Knowledge of neurophysiology and the functioning of the nervous system
- LO05 – Skills to apply knowledge acquired to the professional work.

The following table shows the relationship between the competencies developed during the course and the learning outcomes pursued:

Competencies	Learning outcomes
GC12, GC18, GC7, BC1, BC3, CC2, CC9, SC01, SC02	LO01: Knowledge about the characteristics of different types of tissues (epithelial, connective, muscular and nervous).
GC12, GC18, GC7, BC1, BC3, CC2, CC9, SC01, SC02	LO02: Knowledge about skeletal muscle, including ossification processes and regulation of it, muscle physiology, and main muscles, bones and joints.
GC11, GC18, GC19, BC5, CC2, CC5, CC8, CC9	LO03: Knowledge of the mechanisms involved in hemostasis and relate to the professional world.
GC12, GC18, GC7, BC1, BC3, CC2, CC9, SC01, SC02	LO04: Knowledge of neurophysiology and the functioning of the nervous system
GC11, GC18, GC19, BC5, CC2, CC5, CC8, CC9	LO05: Skills to apply knowledge acquired to the professional work.

4. CONTENT

Unit 1. Introduction. Organization of human body. Homeostasis

Unit 2. Histology and Physiology of the blood and its components.

Unit 3. Organization and development of tissues. Types of tissues.

Unit 4. Integumentary system.

Unit 5. Introduction to Anatomy. Bones and Joints.

Unit 6. Cartilage and Bone tissues.

Unit 7. Muscular system Anatomy.

Unit 8. Muscular tissue.

Unit 9. Physiology of skeletal, cardiac and smooth muscles.

Unit 10. Nervous system Anatomy.

Unit 11. Nervous tissue.

Unit 12. Physiology of generation and transmission of nerve impulses. Action potentials and synapses.

Unit 13. Central nervous system (CNS) and Autonomic nervous system (ANS).

Unit 14. Oral mucosa. General characteristics

Unit 15. Organs of the oral cavity: lips, tongue, soft and hard palate.

5. TEACHING-LEARNING METHODOLOGIES

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

- Master class
- Problem-based learning (PBL)
- Simulation environments

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:

Formation activity	Hours
Master Classes	40 h
Practical tasks	13 h
Virtual master classes	12 h
Case study	10 h
Practical lessons and activities	10 h
Tutoring	18 h
On-site knowledge assessment	2 h
Study and autonomous work	45 h
TOTAL	150 h

7. ASSESSMENT

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

Campus-based mode:

Topic	Evaluation parameters	%
1. Exams	Partial exams	60%
2. Practices	Laboratory practices	20%
3. Activities	Practical exercises	20%

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/Ordinary call

To pass the subject in ordinary call you must pass the **continuous evaluation process** of the different training activities that, in the general evaluation scheme, appear divided into 3 blocks.

To pass the subject in ordinary call you must obtain a grade greater than or equal to 5.0 out of 10.0 in the final grade (weighted average) of the subject.

In any case, it will be necessary for you to obtain a grade **higher or equal to 5.0 in each assessable block**. The final grade will be obtained by weighting the partial grades of each block, as indicated in the table and detailed below. It may be considered that knowledge tests segregated in partials have a weighted average from a grade **equal to or greater than 4**. In case any of the assessable blocks is not passed, **the grade on the records will be 4.0**.

The evaluation methodology for the 3 blocks may be based on: multiple-choice questions, short-answer questions, open-ended questions with and without length limitation, matching questions, oral questions, assignments, personal reflections, problems, etc.

The Universidad Europea de Valencia establishes continuous assessment as a system of evaluation of knowledge, skills and basic, general, transversal and specific competences of the degree in Dentistry, in accordance with the provisions of the Regulations for the evaluation of undergraduate degrees. In this regard and for the purposes of the consumption of calls the student should be aware that, if any evaluation system provided in the Learning Guide, in the ordinary call the student will have an overall grade of the subject, thus consuming call.

According to the aforementioned Regulations, students taking face-to-face undergraduate courses are **required to justify at least 50% attendance to theoretical classes in person. Following classes on Teams (online) will not count as attendance**. Absences in theoretical classes imply that the student has not acquired the necessary competencies to pass the subject and will have the subject suspended in the regular examination period, having to take the exam in the extraordinary period. Punctuality will be taken into account, three delays of more than 15 minutes or leaving class before it ends will be counted as one absence.

The student must consult in the schedule of the course in the Virtual Campus the sessions of compulsory attendance in the classroom.

The mention of "Matrícula de Honor" will be awarded to students who have obtained a grade equal to or higher than 9.0. Their number may not exceed 5% of the students enrolled in each subject in the corresponding academic year, unless the number of students enrolled is less than 20, in which case only one honorary registration may be awarded.

Here's what you'll need to do to get past each block:

- **Block 1. Knowledge tests/partial exams (60%):**

Two partial tests will be carried out. Students may take the second test regardless of whether or not they have passed the first.

To pass the subject in the regular examination period, the student must obtain **a grade of at least 5.0 as an average of the two partial exams, with the requirement of obtaining a grade higher than 4.0 in each partial exam in order to average them** (in the case of not obtaining an average equal to or higher than 5.0 or in the case of obtaining a mark lower than 3.0 in one of the tests, the student will have to make up the partial tests in which a mark lower than 5.0 has been obtained in the

extraordinary exam). The grade for this block will, therefore, be the weighted average of the first and second partial exams.

- **Block 2. Laboratory practices (20%):**

There will be 3 sessions of laboratory practices, with **compulsory attendance**.

The evaluation of the practices will be carried out demonstrating the knowledge and skills acquired during the practice sessions. The virtual campus will detail the evaluation modality of each of these practices.

The block grade will correspond to the weighted average of all included activities. It is necessary to obtain a minimum grade of 5.0 in this block to pass this section and be able to average with the other two blocks of the subject.

Students who do not attend 100% of the practices will have the practice block suspended and will have to recover it in an extraordinary call.

- **Block 3. Assessable activities (20%):**

This section includes the performance of:

- **Questionnaires of each lessons group (15%)**
- **Virtual simulations (5%)**

The virtual campus will detail the method of evaluation of each of these activities before they are carried out.

The block grade will correspond to the weighted average of all included activities. It is necessary to obtain a minimum grade of 5.0 in this block to pass this section and be able to average with the other two blocks of the subject.

7.2. Second exam period/Extraordinary call

To pass the course in the second exam period, you must obtain a grade higher or equal to 5.0 out of 10.0 in the final grade (weighted average) of the course.

In any case, it will be necessary to obtain a grade greater than or equal to 5.0 in the final test, so that it can be averaged with the rest of the activities.

The activities that were not passed in the ordinary exam must be handed in, after having received the corresponding corrections from the teacher, or those that were not handed in.

The Universidad Europea de Valencia establishes the continuous evaluation as a system of assessment of knowledge, skills and basic, general, transversal and specific competences of the degree in Dentistry, in accordance with the provisions of the Regulations for the evaluation of undergraduate degrees. In this regard and for the purposes of the consumption of calls the student should be aware that in the extraordinary call will be the Objective Test of Knowledge (POC) which determines whether or not to consume call and in the exceptional case that only has pending to overcome evaluation system /s that are not the POC, will be considered NP if not presented and will obtain a numerical grade if you present at least one of them.

Pursuant to the aforementioned Regulations, students taking face-to-face degree courses are required to justify at least 50% of class attendance, as a necessary part of the evaluation process, and in the case of practical classes determined as mandatory by the teacher in the schedules of the subject, the student must

register an attendance of 100%, whether the absence is justified or not. Those students who, due to non-compliance with this requirement, must appear in the extraordinary call, must perform as many activities or knowledge tests determined by the teacher to recover this part and its corresponding overcoming based on the specified rubric.

8. SCHEDULE

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

Assessable activities	Date
First partial test	November
Second partial test	January
Laboratory practices	See Virtual Campus
Questionnaires of each lessons group	See Virtual Campus
Skills workshop	See Virtual Campus

This schedule may be modified for logistical reasons of the activities. Any modification will be notified to the student in a timely manner.

The student must consult the mandatory attendance sessions in the classroom in the schedule of the subject on the Virtual Campus.

9. BIBLIOGRAPHY

The main reference works for this subject are:

- TORTORA G. & DERRICKSON B. (2017) **Principles of Anatomy and Physiology**. Hoboken, John Wiley & Sons Inc. 17th edition.
- GUYTON AC & HALL JE. (2020) **Treaty of medical physiology**. Philadelphia: Elsevier. 14th edition.
- SILVERTHORN D. (2019) **Human physiology: an integrated approach**. Upper Saddle River: Pearson Education. 8th edition.
- NETTER, F.H. (2011) **Atlas of human anatomy**. Philadelphia: Elsevier. 5th edition
- GARTNER, L.P. & HIATT, J. L. (2007) **Color textbook of histology**. Philadelphia, PA: Saunders/Elsevier, 2007. 3rd edition

The recommended Bibliography is

- NETTER's Anatomy Coloring Book (2019). Philadelphia: Elsevier. 2nd Edition.
- BERNE RM & LEVY MN. (2018). **Physiology**. Philadelphia: Elsevier. 7th Edición
- JUNQUEIRA, L.C. & CARNEIRO, J. (2016) **Junqueira's Basic Histology**. New York: McGraw-Hill, 14th edition.
- MARIEB E.N. (2014). **Human anatomy and Physiology**. Boston: Pearson Education, D.L. 9th edition.
- ROSS, M.W. & PAWLINA, W. (2016). **Histología: A Text and Atlas : with Correlated Cell and Molecular Biology**. Philadelphia: Lippincott Williams & Wilkins. 6th edición.
- POCOCK G. (2005) **Human physiology the basic of medicine**. Oxford: Oxford University Press. 2nd Edition
- ANTONY, C.P. (1983) **Anatomy and physiology**. Misuri: C. V. Mosby. 10th edition
- STANFIELD C.L. (2011). **Principles of Human Physiology**. Boston: Pearson Education, D.L. 4th edition

10. EDUCATIONAL GUIDANCE AND DIVERSITY UNIT

From the Educational Guidance and Diversity Unit we offer support to our students throughout their university life to help them reach their academic achievements. Other main actions are the students inclusions with specific educational needs, universal accessibility on the different campuses of the university and equal opportunities.

From this unit we offer to our students:

1. Accompaniment and follow-up by means of counselling and personalized plans for students who need to improve their academic performance.
2. In terms of attention to diversity, non-significant curricular adjustments are made in terms of methodology and assessment for those students with specific educational needs, pursuing an equal opportunities for all students.

3. We offer students different extracurricular resources to develop different competences that will encourage their personal and professional development.
4. Vocational guidance through the provision of tools and counselling to students with vocational doubts or who believe they have made a mistake in their choice of degree.

Students in need of educational support can write to us at:
orientacioneducativa.uev@universidadeuropea.es

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.