

	PHYSIOTHERAPY DEGREE COURSE GUIDE	EUIF GIMBERNAT Physiotherapy
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GENERAL INFORMATION

COURSE DETAILS

Course	ANATOMY I		
Code	200536	Academic year	2020-2021
ECTS credits	6	Course type	CORE SUBJECT
Year	1	Semester	1
Timetable	Available on the virtual campus for all students enrolled in this course		
Teaching language	CATALAN / SPANISH		

FACULTY DATA

- Course coordinator

Professor's name	DR. NEUS CIURANA I MAYNEGRE
e-mail	marianeus.ciurana@eug.es
Tutorial Schedule	To be arranged

ENTRY REQUIREMENTS

- There are no official prerequisites

CONTEXTUALIZATION OF THE COURSE

- Course content: Human anatomy
- This course aims to consolidate the morphological and functional bases of the locomotor system
- Knowledge of anatomy is fundamental within the profile of the degree and the profession as it lays the foundations for pathology and therapy

COMPETENCIES AND LEARNING OUTCOMES

Specific Competencies

Competency	E1. Demonstrate knowledge of the morphology, physiology, pathology and behavior of people, both healthy and sick, in their natural and social environments.
Learning outcomes	<p>E1.2. Recognize the arrangement of anatomical structures in a living subject.</p> <p>Specific objectives:</p> <p>E1.2.1. Recognize the structure of the bones of the trunk. E1.2.2. Recognize the structure of the joints of the trunk. E1.2.3. Recognize the structure of the muscles of the trunk. E1.2.4. Recognize the structure of the vessels and nerves of the trunk. E1.2.5. Recognize the structure of the bones of the upper limb. E1.2.6. Recognize the structure of the joints of the upper limb. E1.2.7. Recognize the structure of the muscles of the upper limb. E1.2.8. Recognize the structure of the vessels and nerves of the upper limb. E1.2.9. Recognize the structure of the bones of the head and neck. E1.2.10. Recognize the structure of the joints of the head and neck. E1.2.11. Recognize the structure of the muscles of the head and neck. E1.2.12. Recognize the structure of the vessels and nerves of the head and neck.</p> <p>E1.3. Explain the function of these anatomical structures.</p> <p>Specific objectives:</p> <p>E1.3.1. Explain the function of the bones of the trunk. E1.3.2. Explain the function of the joints of the trunk. E1.3.3. Explain the function of the muscles of the trunk. E1.3.4. Explain the function of the vessels and nerves of the trunk. E1.3.5. Explain the function of the bones of the upper limb. E1.3.6. Explain the function of the joints of the upper limb. E1.3.7. Explain the function of the muscles of the upper limb. E1.3.8. Explain the function of the vessels and nerves of the upper limb. E1.3.9. Explain the function of the bones of the head and neck. E1.3.10. Explain the function of the joints of the head and neck. E1.3.11. Explain the function of the muscles of the head and neck. E1.3.12. Explain the function of the vessels and nerves of the head and neck.</p> <p>E1.4. Locate by surface palpation the different anatomical structures.</p> <p>E1.4.1. Identify by surface palpation the principal bone structures of the upper limb. E1.4.2. Identify by surface palpation the main articular structures of the upper limb.</p>

Transversal Competencies

Competency	T1. Analyze and summarize.
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Learning outcomes	Specific objectives: T1.1. Observe and extract visual information data from anatomical images.
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General Competencies

Competency	G2. Develop independent learning strategies.
Learning outcomes	This competency is considered to be developed in this course by working on "T1. Analyze and summarize".

CONTENTS

1. Overview of the locomotor system
 - 1.1. General osteology
 - 1.2. General arthrology
 - 1.3. General myology
 - 1.4. General angiology
 - 1.5. General neurology
2. Anatomy of the head
 - 2.1. The skull
 - 2.2. Joints of the head
 - 2.3. Muscles of the head
3. Anatomy of the trunk
 - 3.1. Bones of the trunk
 - 3.2. Joints of the trunk
 - 3.3. Muscles of the trunk
 - 3.4. Vessels of the trunk
 - 3.5. Nerves of the trunk
 - 3.6. Pelvic floor
4. Anatomy of the neck
 - 4.1. Neck bones
 - 4.2. Neck joints
 - 4.3. Neck muscles
 - 4.4. Neck vessels
 - 4.5. Nerves of the neck
 - 4.6. Neck fascias
5. Anatomy of the upper limb
 - 5.1. Bones of the upper limb
 - 5.2. Shoulder girdle articulations
 - 5.3. Shoulder girdle muscles
 - 5.4. Axillary cavity
 - 5.5. Elbow joint
 - 5.6. Arm muscles
 - 5.7. Wrist joint
 - 5.8. Hand joints
 - 5.9. Forearm muscles
 - 5.10. Carpal and digital sheaths
 - 5.11. Hand muscles
 - 5.12. Vessels of the upper limb
 - 5.13. Nerves of the upper limb
 - 5.14. Fascias of the upper limb

TEACHING METHOD AND TRAINING ACTIVITIES

TEACHER-LED ACTIVITIES

Theory classes in the form of lectures with graphic and computer support in which the main morphological, structural and functional aspects of specific anatomical regions will be discussed
 Estimated hours: 51.

Practical classes in which the professor will explain, on a model, how the different palpation techniques are performed. Graphic and computer support will be used.
 Estimated hours: 1.5.

SUPERVISED ACTIVITIES

Analysis of images and anatomical parts
 Estimated hours: 7.5

INDEPENDENT ACTIVITIES

Research and processing of information to complement the lessons taught by the professor.
 Estimated hours: 15

Independent personal study for exam preparation, organization of notes and/or materials, and free tutorials: individual or in groups.
 Estimated hours: 72.5.

ACTIVITY TYPE	ACTIVITY	LEARNING OUTCOMES	STUDENT HOURS
Teacher-led activities	Theory classes	E1.2, E1.3	51
	Practical classes	E1.2, E1.4	1.5
Supervised activities	Analysis of images and anatomical parts	E1.2, E1.4, T1, G2	7.5
Independent activities	Research and processing information	E1.2, E1.3, T1, G2	15
	Independent work	E1.2, E1.3	72.5
TOTAL HOURS			147.5

ASSESSMENT

- **Written tests to assess theoretical and practical knowledge.**
- **Continuous assessment on the observation of images, anatomical pieces and reports.**

See Appendix I for further details of the assessment activities.

In order to pass the course, the following conditions must be met:

- Pass every unit of each section of the course, with a minimum grade of 5.
- Have attended 100% of the practical classes. (If there is a well-founded reason, it is permissible to miss up to 20% of the practical classes).
- Achieve an overall grade of 5 or higher for the course.

Internal Practice Regulations:

Please, check the University's Internal Practice regulations regarding the minimum requirements demanded of the student in the development of the course's practical activities.

Final assessment period: from 02/01/2021 to 02/10/2021.

Re-sit examination period: from 02/12/2021 to 02/19/2021.

Procedure for reviewing grades: see the University's Assessment Guidelines.

A student shall be “non-assessable” if he/she has not taken the required assessment tasks or has not completed a compulsory training activity.

ASSESSMENT ACTIVITIES	PERCENTAGE FINAL GRADE	LEARNING OUTCOMES	STUDENT HOURS
Written theory and practical tests	50%	E1.2, E1.3	2
Continuous assessment on the observation of images, anatomical pieces and reports.	50%	E1.2, E1.4, T1, G2	0.5
TOTAL HOURS			2.5

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BIBLIOGRAPHY AND WEB LINKS / BASIC READING LIST

Books					
Author/s	Year	Title	Edition	City	Publisher
Rouvière-Delmas	2005	Anatomía humana descriptiva, topográfica y funcional		Barcelona	Masson
Drake-Vogl-Mitchell	2015	Gray. Anatomía para estudiantes.		Madrid	Elsevier
Latarjet, M., Ruíz, Liard, A.	2004	Anatomía humana		Buenos Aires	Editorial Médica Panamericana
Netter	2015	Atlas de anatomía humana		Barcelona	Masson
Llorca, Orts	1988	Anatomía Humana		Barcelona	Editorial Científico-Médica
Platzer	2000	Atlas de anatomía para estudiantes y médicos		Barcelona	Ediciones Omega
Schünke-Schulte-Schumacher	2014	Prometheus. Texto y atlas de anatomía			Editorial Médica Panamericana
Sobotta-Staubesand	2012	Atlas de anatomía humana		Madrid	Editorial Médica Panamericana
Muscolino, J.	2017	Manual de Palpación Ósea y Muscular con Puntos Gatillo, Patrones de Referencia y Estiramientos	2nd	Barcelona	Panamericana
Feneis	2007	Nomenclatura anatómica ilustrada	5th	Barcelona	Masson

BIBLIOGRAPHY AND WEB LINKS / RECOMMENDED READING LIST

Books					
Author/s	Year	Title	Edition	City	Publisher
Biel, A	2009	Guía Topográfica del cuerpo humano		Badalona	Paidotribo
Llusá-Merí-Ruano	2004	Manual y atlas fotográfico de anatomía del aparato locomotor		Madrid	Editorial Médica Panamericana
Moore	2014	Anatomía con orientación clínica		Barcelona	Editorial Médica Panamericana
Rohen-Yokochi	2015	Atlas fotográfico de anatomía humana		Barcelona	Ediciones Doyma
Snell	2001	Anatomía clínica para estudiantes de medicina		México DF	McGraw-Hill Interamericana
Testut-Latarjet	1996	Tratado de anatomía humana		Barcelona	Salvat Editores

COURSE SYLLABUS

Available on the virtual campus for all students enrolled in this course

APPENDIX I – ASSESSMENT DETAILS

WRITTEN THEORY AND PRACTICAL TESTS (50 %)

- Theory test

At the end of the semester there will be re-sits. However, to re-sit an exam you must have already taken the ordinary exam.

CONTINUOUS ASSESSMENT ON THE OBSERVATION OF IMAGES AND ANATOMICAL PIECES (50%)

The following image and anatomical piece observation exercises will be carried out:

- Osteology of the trunk, head and neck
- Muscles of the trunk, head and neck
- Osteology of the upper extremities
- Muscles of the upper extremities

Consult the virtual campus for the dates and times of each group.

Before each practical class, a report of 100 questions on the subject of the practice must be submitted through the virtual campus. The questions will be found on the virtual campus of the course and will have to be submitted, once completed, the day before the practical class.

The submission of this report is optional, but at the end of the course students who have submitted it will be considered positively.

EXAM ON IMAGES

At the end of practical classes 2 and 4, there will be an exam on the virtual campus of the course on the units: trunk, head, neck and upper limb with the following methodology:

- Exam on bone images
- Exam on muscle images
- Exam on the submitted reports

At the end of practical classes 1 and 3 there will be an exam on the topic of the practical class.

In the exams at the end of each practical class, all the material given during the course will be assessed, even if it corresponds to previous practical classes.

EXAM ON THE REPORTS

After the submission of each report, there will be an exam on the virtual campus with the following methodology:

- Exam on the report on osteology of the trunk, head and neck
- Exam on the report on the muscles of the trunk, head and neck
- Exam on the report on osteology of the upper extremities
- Exam on the report on the muscles of the upper extremities

These assessments will be carried out by the students outside of the practical class timetable, as a complementary and independent activity. The virtual campus will provide information on the timetables for these assessments.

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COURSE DETAILS

Course	PHYSIOLOGY – I		
Code	200538	Academic year	2020-2021
ECTS credits	6	Course type	CORE SUBJECT
Year	1	Semester	1
Timetable	Available on the virtual campus for all students enrolled in this course		
Teaching language	CATALAN/SPANISH/ENGLISH		

FACULTY DATA

- Course coordinator

Professor's name	Dr. ISHAR DALMAU
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Tutorial Schedule	To be arranged

- Lecturers

Professor's name	Dr. PAULA PIFARRÉ
e-mail	paula.pifarre@eug.es
Tutorial Schedule	To be arranged

ENTRY REQUIREMENTS

- There are no official prerequisites

CONTEXTUALIZATION OF THE COURSE

Course content: Physiology

This course aims to provide the basic knowledge of the cell as a functional unit, the biochemical foundations of the human body and human histophysiology.

Physiology is the science that studies the human being in a state of health and thus enables the understanding of the pathophysiological situations that lead to disease.

Physiology provides basic and fundamental knowledge to students of health sciences as it introduces

them to the mechanisms that the body uses to maintain internal balance.

Understanding the human individual as a living being requires understanding of the local functioning of each of the organs and systems, but also an understanding of the different interrelationships and controls between them.

The study of physiology of the human body also requires the development of a basic knowledge of biochemistry in order to understand the function and structure of cells and tissues, as well as the body's metabolism.

Understanding the different tissues and their differential characteristics is essential for the work of the physiotherapist, taking into account that their actions are focused on one or more tissues.

All this knowledge of biochemistry and histophysiology is the foundation of the basic understanding of the human body, which is essential for physiotherapy studies. The application of this knowledge to the understanding of the functioning of the body in conditions of health, injury or disease will be key to the professional development of the physiotherapist.

Furthermore, the physiology course aims to stimulate a critical attitude towards science and its paradigms from the knowledge of the scientific method. As well as developing the capacity to synthesize and summarize information, and express oneself with the appropriate register.

COMPETENCIES AND LEARNING OUTCOMES

Specific Competencies

Competency	E1. Demonstrate knowledge of the morphology, physiology, pathology and behavior of people, both healthy and sick, in their natural and social environments.
Learning outcomes	<p>E1.9. Explain the functioning of the human body in a healthy state and thus have a solid basis for understanding the processes that lead to disease.</p> <p>Specific objectives:</p> <p><u>Principles of biochemistry and cell biology:</u></p> <p>E1.9.1. Explain the introductory concepts to human physiology and discuss homoeostatic principles.</p> <p>E1.9.2. Reason on the basic concepts of chemistry and the body's general structure, biological functions and reactions of the most important organic and inorganic compounds in the human body.</p> <p>E1.9.3. Explain the introductory concepts to the metabolism of carbohydrates, lipids and proteins.</p> <p>E1.9.4. Discuss the cellular organization of the organism with particular reference to the functions and interactions of the different components of the cell.</p> <p>E1.9.5. Describe the human body's communication systems.</p> <p>E1.9.6. Identify the different types of tissues and discuss the relationship between structure and function.</p>

Epithelial tissue:

E1.9.7. Explain the body functions of the epithelial tissue.

E1.9.8. Describe the structure and function of the different types of epithelial tissue.

Connective tissue:

E1.9.9. Differentiate between connective tissue proper and specialized connective tissue.

E1.9.10. Define the concept of the extracellular matrix (ECM).

E1.9.11. Associate each component of the ECM with a biomechanical characteristic and the transmission of cellular information. The concept of mechanobiology.

E1.9.12. List the functions of connective tissue proper.

E1.9.13. Describe the structural characteristics of adipose tissue.

E1.9.14. Explain the role of adipose tissue in the body's metabolism: describe the metabolic reactions that take place in adipose tissue

E1.9.15. Differentiate at the biochemical, structural and functional level the tendon and the ligament.

Cartilage

E1.9.16. Identify the different types of cartilage.

E1.9.17. Describe the structural and functional characteristics of the different types of cartilage.

Bone tissue

E1.9.18. Explain the body functions of the bone tissue.

E1.9.19. Describe the structural characteristics of bone tissue.

E1.9.20. Describe the process of bone formation and the factors that condition it.

E1.9.21. Understand the mechanical and hormonal influence on the remodelling process.

Histophysiology of the blood:

E1.9.22. Describe the structure and functions of blood.

E1.9.23. Microscopically differentiate the different cells that make up blood.

E1.9.24. Describe the composition and function of blood plasma.

E1.9.25. Explain the different blood groups (ABO), as well as the role of the Rh blood group in mother-child incompatibility.

E1.9.26. Describe the process of hemostasis.

E1.9.27. Have a broad knowledge of lymphocytes and immunity: general foundation on immunology.

Muscle tissue:

E1.9.28. Explain the body functions of skeletal, smooth and cardiac muscle.

E1.9.29. Differentiate between the three types of muscle tissue.

E1.9.30. Describe the structural characteristics of skeletal, smooth and cardiac muscle.

E1.9.31. Relate the structure of skeletal muscle to muscle

contraction.

E1.9.32. Differentiate the different types of skeletal muscle fibres in relation to biochemical, structural and functional differences.

Histology of the nervous system:

E1.9.33. Explain the bodily functions of the nervous system.

E1.9.34. Identify the different components of the nervous system and associate them with their function.

E1.9.35. Describe the structural characteristics of the neuron.

E1.9.36. Identify the function of the different parts of the neuron.

E1.9.37. Differentiate between the transmission of electrical and chemical information.

Histology of the integumentary system – skin and appendages:

E1.9.38. Explain the microscopic structure of the skin.

E1.9.39. Describe the functions of the skin.

E1.9.40. Describe the differences between thin and thick skin.

E1.9.41. Identify the functions of the appendages.

E1.7. Identify the physiological and structural changes that may occur as a result of the injury and/or disease process in the various body systems.

Specific objectives:

E1.7.1. Apply histological knowledge of cartilage in the context of osteoarthritis.

E1.7.2. Apply histological knowledge of bone tissue in the context of osteoporosis.

E1.7.3. Identify diseases resulting from alterations in the secretion of growth hormone, e.g. acromegaly or dwarfism.

E1.7.4. Explain the pathophysiological processes that occur as a result of altered calcium metabolism, such as hypocalcemia and tetany as its most serious complication.

E1.7.5. Recognize the changes in bone structure due to calcium disorders.

Physiology of the blood:

E1.7.6. Analyze the different alterations in a hemogram and their correlation with basic hematological problems, such as anemia, polycythemia, alterations in the hematocrit and its erythrocyte sedimentation rate, infection and its casual mechanism.

E1.7.7. Identify the different coagulation factors and the type of disease that the lack of some of these factors will lead to.

E1.7.8. Explain disorders in blood coagulation and their implication in the production of thrombosis and embolisms.

E1.7.9. Discuss immunity and its alterations. Describe the antigen-antibody mechanism. Explain the processes of allergy and their impact on the body.

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Competency	E2. Demonstrate knowledge of the sciences, models, techniques and instruments on which physiotherapy is based, articulated and developed.
Learning outcomes	<p>E2.1. Explain the theories of cell biology through an understanding of the cell as a functional unit.</p> <p>Specific objectives:</p> <p>E2.1.1. Identify the main cellular components and their functions.</p> <p>E2.1.2. Identify the main processes of body communication (hormonal, neuroendocrine, cell-cell, cell-ECM)</p> <p>E2.2. Explain the biochemical foundations of the functioning of the human body.</p> <p>Specific objectives:</p> <p>E2.2.1. Recognize the main biomolecules and link them to a body function and location.</p> <p>E2.2.2. Differentiate the main metabolic pathways in relation to their catabolic or anabolic function.</p> <p>E2.2.3. Classify the main catabolic metabolic pathways according to the type of substrate (glucides, lipids, proteins).</p> <p>E2.2.4. Describe the processes that occur in the main metabolic pathways.</p> <p>E2.2.5. Define the final objective of the main processes that occur in the main metabolic pathways.</p> <p>E2.2.6. Describe the mechanisms of bone mineralization and the factors that regulate it.</p> <p>E2.2.7. Describe the biochemical principles of electrical stimulus transmission and synapses.</p>

Transversal Competencies

Competency	T1. Analyze and summarize.
Learning outcomes	<p>Specific objectives:</p> <p>T1.1. Collect and synthesize information about the main molecules in the body.</p> <p>T1.2. Prepare a report on the information gathered on the molecules</p> <p>T1.3. Recognize the main ideas of a text or a theoretical case.</p> <p>T1.4. Prepare a summary of a scientific article.</p> <p>T1.5. Draw conclusions from a scientific article.</p> <p>T1.6. Explain a concept through an oral presentation.</p>

Competency	T5. Problem solving
Learning outcomes	<p>Specific objectives:</p> <p>T5.1. Identify the main parameters that have been altered in a clinical analysis or in a clinical case.</p> <p>T5.2. Develop an action plan to identify the causal and associated factors in the alteration of the parameter.</p>

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	<p>T5.3. Develop explanatory hypotheses.</p> <p>T5.4. Identify the concepts to be presented and discuss them in a working group.</p> <p>T5.5. Organize oneself in a working group to gather information.</p> <p>T5.6. Prepare a PowerPoint presentation.</p> <p>T5.7. Prepare and plan the oral presentation.</p>
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General Competencies

Competency	G2. Develop independent learning strategies.
Learning outcomes	This competency is considered to be developed in this course by working on "T1. Analyze and summarize" and "T5. Problem solving".

CONTENTS

THEORY

1. Introduction to Biochemistry and Cell Biology
 - 1.1. Introduction to Physiology. Homeostasis
 - 1.2. Main biomolecules: type, location and associated functions
 - 1.3. Introduction to carbohydrate, lipid and protein metabolism
 - 1.4. Concept of the cell and main components
 - 1.5. Body communication systems
 - 1.5.1. Meaning of communication system
 - 1.5.2. Communication needs of the body. Implications for physiotherapy
 - 1.5.3. Types of communication systems
 - 1.6. Role of biochemistry and cell biology in the practice of physiotherapy
 - 1.7. Introduction to Histology. The role of histology in the practice of physiotherapy
2. Epithelial tissue
 - 2.1. General characteristics, structure and types of epithelial cells
 - 2.2. Tissue function in the body
 - 2.3. Structure and function of the digestive, respiratory and renal epithelium
3. Connective tissue
 - 3.1. Concept of connective tissue
 - 3.2. Structural, biochemical and functional differentiation of the connective tissue
 - 3.3. Role of muscle tissue in the practice of physiotherapy
 - 3.4. Connective tissue proper: function and structure. Concept of ECM
 - 3.5. The connective tissue as a system of intercellular communication
 - 3.6. Adipose tissue function in the body
 - 3.7. Adipose tissue structure.
 - 3.8. Biochemical, structural and functional differentiation between tendon and ligament
 - 3.9. Role of tendons and ligaments in the practice of physiotherapy
 - 3.10. Structure and biochemical composition
4. Cartilage (Cartilaginous tissue)
 - 4.1. Tissue function in the body
 - 4.2. Role of cartilage in the practice of physiotherapy
 - 4.3. Tissue structure: cells and specialized ECM
 - 4.4. Function: nutrition by diffusion
5. Bone tissue (bone)
 - 5.1. Tissue function in the body.
 - 5.2. Role of bone tissue in the practice of physiotherapy.
 - 5.3. Bone tissue structure: cells and specialized ECM
 - 5.4. Function: growth, mineralization and remodeling
 - 5.5. Mechanical and hormonal influence
6. Histophysiology of the blood
 - 6.1. Structure and functions of blood. Blood plasma
 - 6.2. Red blood cells
 - 6.3. Leukocytes
 - 6.4. Lymphocytes and immunity
 - 6.5. Blood groups
 - 6.6. Hemostasis
7. Muscle tissue
 - 7.1. Bodily functions of muscle tissue

- 7.2. Role of muscle tissue in the practice of physiotherapy
- 7.3. General characteristics, structure and types of muscle cells
- 7.4. Structure of skeletal muscle tissue. Types of muscle fibers.
- 7.5. Structure of smooth muscle tissue
- 7.6. Muscle contraction
- 7.7. Muscle metabolism
- 8. Nerve tissue
 - 8.1. Bodily functions of nerve tissue. Communication systems
 - 8.2. Role of nerve tissue in the practice of physiotherapy
 - 8.3. General characteristics
 - 8.4. Structure of the neuron. Functions of the different parts
 - 8.5. Structure of the peripheral nerve
 - 8.6. Electrical and chemical transmission
- 9. Skin and appendages
 - 9.1. Functional structure of the skin. Physiology of the skin
 - 9.2. Functions of the appendages

PRACTICAL CLASSES:

- 1. Problem-based learning on biochemistry, cell biology and connective tissue histophysiology in the body systems (practical exercises in class).

TEACHING METHOD AND TRAINING ACTIVITIES

TEACHER-LED ACTIVITIES

- **Theory classes** with graphic and computer support providing the theoretical basis on biochemistry, cell biology, histology and physiology.
Estimated hours: 45.
- **Practical classes** with graphic and computer support in which the professor will explain the procedures to be used during the exercise. These will always be related to key themes and procedures in physiology.
Estimated hours: 1.5.

SUPERVISED ACTIVITIES

- **Practical activity among students**, under the supervision of the professor, implementing the different techniques presented in class.
Estimated hours: 7.5.

INDEPENDENT ACTIVITIES

- **Research and processing of information** in different formats that will serve both to consolidate the teaching of the professors and to carry out the assignments and practical exercises.
Estimated hours: 15.
- **Written assignments:**
 - Assignment on the problem-based learning (PBL) report.
Estimated hours: 15.
- **Independent personal study** for exam preparation, organization of notes and/or materials, and free tutorials: individual or in groups.
Estimated hours: 62.

ACTIVITY TYPE	ACTIVITY	LEARNING OUTCOMES	STUDENT HOURS
Teacher-led activities	Lectures	E1.7, E1.9, E1.11., E2.1, E2.2	45
	Practical classes	E1.9, E1.11, E2.1, E2.2	1.5
Supervised activities	Practical student activities	E1.9, E1.11, E2.1., E2.2 T5	7.5
Independent activities	Research and processing information	E1.7, E1.9, E2.1, E2.2, T1, G2	15
	Written assignments	E1.7, E1.9, E2.1, E2.2, T1, T5	15
	Independent work	E1.7, E1.9, E1.11, E2.1, E2.2	62
TOTAL HOURS			146

ASSESSMENT

The assessment criteria will include:

- Written tests will assess the knowledge acquired in class. With an overall weight of 50% towards the final grade.
- Practical activities, on the problem-based learning (PBL), with a overall weight of 20% towards the final grade.
- Assignment on the problem-based learning (PBL) report. With an overall weight of 30% towards the final grade.

See Appendix I for further details of the assessment activities.

In order to pass the module, the following conditions must be met:

- Pass every unit of each section of the course, with a minimum grade of 5.
- Have attended 100% of the practical classes. (If there is a well-founded reason, it is permissible to miss up to 20% of the practical classes).
- Achieve an overall grade of 5 or higher for the course.

Internal Practice Regulations:

Please, check the University's Internal Practice regulations regarding the minimum requirements demanded of the student in the development of the course's practical activities.

Final assessment period: from 02/01/2021 to 02/10/2021.

Re-sit examination period: from 02/12/2021 to 02/19/2021.

Procedure for reviewing grades: see the University's Assessment Guidelines.

A student shall be “non-assessable” if he/she has not taken the required assessment tasks or has not completed a compulsory training activity.

ASSESSMENT ACTIVITIES	PERCENTAGE FINAL GRADE	LEARNING OUTCOMES	STUDENT HOURS
Written tests	59%	E1.7, E1.9, E1.11., E2.1, E2.2	2
Practical tests on PBL	20%	E1.9, E1.11, E2.1., E2.2 T5	2
Assignment on the PBL report	30%	E1.7, E1.9, E2.1, E2.2, T1, T5, G2	--
TOTAL HOURS			4

BIBLIOGRAPHY AND WEB LINKS / BASIC READING LIST

	PHYSIOTHERAPY DEGREE COURSE GUIDE	EUIF GIMBERNAT Physiotherapy
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Books					
Author/s	Year	Title	Edition	City	Publisher
Tortora, G., Derrickson, B.	2013	Principios de Anatomía y Fisiología	13th	Madrid	Médica Panamericana
Gartner, L., Hiatt, J.	2002	Texto y atlas de histología	2nd	Mexico	McGraw-Hill
Tresguerres, J.	2010	Fisiología Humana	4th		McGraw-Hill
Guyton & Hall	2016	Textbook of Medical Physiology	13th	Philadelphia	Elsevier

Web references			
Title	Description	URL	
Cells alive	Information on cell components	http://www.cellsalive.com/toc_cellbio.htm	
Biomoleculas 3D	Structure of different biomolecules	http://www.xtec.cat/~mmulet/Bmols/	
Blue Histology	Images of different tissues	http://www.lab.anhb.uwa.edu.au/mb140/	
Histology	Images of different tissues	https://histo.life.illinois.edu/histo/atlas/slides.php	
Histology at Southern Illinois University School of Medicine	Images of different tissues	http://www.siumed.edu/~dking2/index.htm	

BIBLIOGRAPHY AND WEB LINKS / RECOMMENDED READING LIST

Books					
Author/s	Year	Title	Edition	City	Publisher
Fox Stuart	2008	Fisiología Humana	7th	Madrid	McGraw-Hill
Albers et al.	1996	Biología molecular de la célula	3rd	Barcelona	Omega
Junqueira, J. L., Carneiro, J.	2005	Histología básica	6th	Barcelona	Masson
Wheater, P. R., Burkitt, H. G., Stevens, A., Lowe, J. S	2003	Histopatología básica	4th	Barcelona	Elsevier
Nordin, M., Frankel, V.	2004	Biomecánica básica del sistema musculoesquelético	4th	Madrid	McGraw-Hill Interamericana
McKee, T., McKee, J. R.	2003	Bioquímica. La base molecular de la vida.	3rd	Madrid	McGraw-Hill Interamericana
Pilat, A.	2003	Terapias miofasciales: inducción miofascial	1st	Madrid	McGraw-Hill Interamericana
Koeppen	2009	Berne y Levi. Fisiología	6th		Elsevier
Silverthorn	2008	Fisiología Humana. Un enfoque integrado.	4th		Panamericana
Gal, B.	2007	Bases de la Fisiología	1st		Tebar Flores
Barret, K.	2010	Fisiología Gastrointestinal	23rd		Interamericana
Pocock, G.	2010	Fisiología Humana La base de la Medicina	2nd		Masson
Thibodeau	2009	Anatomía y Fisiología	4th		Elsevier
Yong, B., Heath, J. W.	2002	Histología funcional: texto y atlas en color	4th	Madrid	Elsevier Science
Kierszenbaum, A. L.	2008	Histología y biología celular. Introducción a la anatomía patológica.	2nd	Barcelona	Elsevier Mosby
Stevens, A., Lowe, J.	1993	Texto y atlas de histología	3rd	Madrid	Mosby / Doyma libros
Lehninger, Nelson, Cox	1995	Principios de Bioquímica	2nd	Barcelona	Omega

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Ganong, Villiam F.	2009	Fisiología Médica	18th	Manual Moderno
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Web references			
Title	Description	URL	
La cèl·lula	Main cellular components	http://www.xtec.cat/~jgurrera/index.htm	
The Jay Doc Histo Web	Images of different tissues	http://www.kumc.edu/instruction/medicine/anatomy/histoweb/index.htm	
University of Wisconsin Medical School Histology home page	Images of different tissues	http://histologyatlas.wisc.edu/uw/histo.htm	
Histology tutorial	Images of different tissues	http://medinfo.ufl.edu/year1/histo/	

COURSE SYLLABUS

Available on the virtual campus for all students enrolled in this course

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APPENDIX I – ASSESSMENT DETAILS

THEORY TEST (50 %)

- Theory test

At the end of the semester there will be re-sits. However, to re-sit an exam you must have already taken the ordinary exam.

PRACTICAL TESTS (20%)

PRACTICAL CLASSES ON THE PROBLEM-BASED LEARNING (PBL) – Dr. Paula Pifarré

Description/outline of the practical class:

Problem-based learning (PBL) with teacher-led activity: practical class in the form of specialized seminars on biochemistry, cell biology and histophysiology.

In groups, practical problems related to the main theoretical contents of the curriculum on biochemistry, cell biology and histophysiology will be addressed. The aim of the practical problem-based learning will be on one of the four basic tissues and the dysfunctions and diseases in which physiotherapy is a treatment of choice.

In the 1st practical PBL session, the group work dynamics of the PBL sessions and the assessment criteria rubric will be explained. The work groups will then be decided, and each group will complete a form setting out the members of their group. Each member of the group will read their case (problem) individually, then carry out a brainstorming session (identify the most important aspects that need to be known to resolve the situation described, draw up a list of the knowledge areas related to the case and prepare the research question), describe the sources of information where research will be carried out and draw up a work plan in relation to the knowledge areas identified. In the 2nd and 3rd practical PBL sessions, the information that each member has gathered and worked on in the general feedback sessions will be shared with their group: the information must be scientifically supported and, before sharing it, it must be selected, analysed and synthesised individually. In groups, you will discuss and prioritise the information gathered, identify areas of knowledge where further research is needed and specify new research questions. In the 4th session, the research strategy and two articles (at least one of them must be found in a database) related to the case (problem) must be submitted individually; the conceptual principles of the concept map will need to be identified and the outline of the concept map will be prepared, including basic concepts and the relationships between them. In the 5th session, each group will give an oral presentation with PowerPoint (ICT support) defending the results obtained from their group's conclusions regarding the case (problem) and from the concept map. The duration of the oral presentation will be 10 minutes for each group.

Attendance to the PBL sessions is mandatory (you may only miss 1 session).

The groups will be made up of 4–5 people.

The practical problem-based learning classes consist of five 2-hour sessions in a theory class (Classroom practice): 10 hours

Marking criteria:

The grade for the PBL practical classes will be based on the following criteria: motivation and commitment, self-learning skills, knowledge acquisition, teamwork and written communication.

The practical PBL grade will be the same for all members of the group. However, 1 point will be deducted in the case of group members who show – during the oral presentation defense of the results obtained from the group's conclusions regarding the case (problem) – a lack of basic knowledge on biochemistry, cell biology and histophysiology. In addition, a penalty of 1 point will also be applied in the case of those who demonstrate a lack of active participation and a poor attitude throughout the practical PBL sessions.

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ASSIGNMENTS (30%)

PROBLEM-BASED LEARNING REPORT (PBL) (Dr. Paula Pifarré)

Description/outline of the assignment:

The PBL report will consist of two assignments:

- In the 4th practice session, the research strategy (according to the assessment rubric published in the subject's Moodle classroom) and two articles (at least one of which must be found in a database) related to the case (problem) must be submitted individually. The research strategy should summarize the main ideas of the literature in your own words; the bibliographic references should be prepared according to the Vancouver style, and the presentation and style guide should be carefully followed. It is not necessary to bring the printed document; you need only submit what is requested in the rubric. The individual assignment has a value of 50% towards the final grade of the report.
- In the 5th practical session, each group will submit the concept map (PowerPoint document of the presentation and also printed in PDF format) that will include the basic concepts behind the research and the relationships between them. The group assignment has a value of 50% towards the final grade of the report.

Marking criteria:

The final grade of the report will be calculated by averaging the grades obtained in the individual and group assignments.

Assignments that do not follow the instructions specified by the professors will not be graded.

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GENERAL INFORMATION

COURSE DETAILS

Course	APPLIED PHYSICS		
Code	200537	Academic year	2020-2021
ECTS credits	6	Course type	CORE SUBJECT
Year	1	Semester	1
Timetable	Available on the virtual campus for all students enrolled in this course		
Teaching language	CATALAN		

FACULTY DATA

- Course coordinator

Professor's name	Dr. EVA BRUALLA VILAS
e-mail	eva.brualla@eug.es
Tutorial Schedule	To be arranged

- Lecturers

Professor's name	Mr. LLUIS AUGUET CARBONELL.
e-mail	lluis.auguet@eug.es
Tutorial Schedule	To be arranged

ENTRY REQUIREMENTS

- There are no official prerequisites

CONTEXTUALIZATION OF THE COURSE

Course content: BIOPHYSICS

- This course aims at developing the knowledge and understanding of the laws of mechanics, statics and dynamics, and of classical physics in general, in order to apply them to the study of human movement and functioning, which will form the basis of biomechanics.
- The knowledge of biomechanics from a theoretical perspective and in its practical application is fundamental within the profile of the degree and the profession of physiotherapy.

COMPETENCIES AND LEARNING OUTCOMES

Specific Competencies

Competency	E2. Demonstrate knowledge of the science, models, techniques and instruments on which physiotherapy is based, articulated and developed.
Learning outcomes	<p>E2.8. Explain the principles and theories of physical agents and their applications in physiotherapy.</p> <p>Specific objectives:</p> <p>E2.8.1. Describe the basic notions of statics as a basis for the correct integral analysis of the structure of the body.</p> <p>E2.8.2. Define the physical basis of classical dynamics in order to then fully understand the specific aspects of biodynamics.</p> <p>E2.8.3. Describe the basic concepts of elasticity as a basis for its application in the understanding of internal stress states.</p> <p>E2.8.4. Define the basic concepts of electrodynamics, thermodynamics and wave motion by recognizing their main physical magnitudes (intensity, potential difference, resistivity, specific heat, heat transfer coefficient, frequency, period, etc.) in order to then understand the different therapies.</p> <p>E2.9. Explain the principles of biomechanics and electrophysiology, and their main applications in the field of physiotherapy.</p> <p>Specific objectives:</p> <p>E2.9.1. Describe the fundamentals of biomechanical applications commonly used in the clinical, sports and occupational settings.</p> <p>E2.9.2. Integrate the biomechanical behavior of the structures that make up the locomotor system and its application in clinical practice.</p> <p>E2.9.3. Recognize normality of movement and possible alterations.</p> <p>E2.9.4. Identify the elements involved in the movement of the body.</p> <p>E2.9.5. Describe the main motion analysis techniques, their characteristics and possible applications.</p> <p>E2.9.6. Define the principles of electrophysiology.</p>

Transversal Competencies

Competency	T1. Analyze and summarize.
Learning outcomes	<p>Specific objectives:</p> <p>T1.1. Ask the right questions</p> <p>T1.2. Observe and extract clinical data from the visual information from videos and photographs.</p>

Competency	T5. Problem solving.
Learning outcomes	<p>Specific objectives: T5.1. Identify what the problem(s) is/are in a given situation. T5.2. Determine goals to be achieved in relation to the problems identified.</p>

CONTENTS

<p><u>BASIC PRINCIPLES OF PHYSICS</u></p> <ol style="list-style-type: none"> 1. Fundamentals of vector mechanics: statics, kinematics and dynamics. <ol style="list-style-type: none"> 1.1. Physical magnitudes and their measure. Vectors. 1.2. Rectilinear, circular and parabolic motion. 1.3. Newton's laws. Gravity force. 2. Static balance. <ol style="list-style-type: none"> 2.1. Force and moment of force. Equilibrium conditions. 2.2. Levers. 2.3. The human body as a system of levers. 3. Mechanical stress and deformation. <ol style="list-style-type: none"> 3.1. Stress and strain. 3.2. Compression, traction, flexion and torsion. 3.3. Elasticity. Hooke's law. Young's modulus. 3.4. Mechanical properties of bone tissue. 4. Energy and thermodynamics. <ol style="list-style-type: none"> 4.1. Kinetic and potential energy. Conservation of mechanical energy. 4.2. Thermodynamics: Heat and specific heat capacity. 4.3. Heat transfer: conduction, convection, radiation. 5. Electricity and magnetism <ol style="list-style-type: none"> 5.1. Atom charges. Conductors and insulators. 5.2. Electric force: Coulomb's law. 5.3. Intensity, resistance, Ohm's law. 5.4. Magnetism. 6. Basic concepts of undulatory movements. <ol style="list-style-type: none"> 6.1. Mechanical and electromagnetic waves. 6.2. Properties of waves. 6.3. Electromagnetic spectrum. <p><u>BIOMECHANICS</u></p> <ol style="list-style-type: none"> 1. Introduction to Biomechanics General concepts 2. Biomechanics of bone

3. Biomechanics of cartilage
4. Biomechanics of muscle
5. Biomechanics of tendons and ligaments
6. Biomechanics of blood and nerve structures
7. Biomechanics of the joints in the upper limb
8. Biomechanics of the joints in the lower limb
9. Biomechanics of the spine
10. Biomechanics of walking

TEACHING METHOD AND TRAINING ACTIVITIES

TEACHER-LED ACTIVITIES:

- Lectures with ICT support will provide a theoretical basis with practical examples, both numerical and non-numerical.
Estimated hours: 45.

SUPERVISED ACTIVITIES:

- Problem solving in class: presentation of problems and clinical cases, with graphic and computer support, which will be resolved by the professor, or by the students themselves under the supervision of the professor.
Estimated hours: 7.5.

INDEPENDENT ACTIVITIES

- Research and processing of information to complement the lessons taught by the professor.
Estimated hours: 10.
- Problem solving that will later be discussed in class.
Estimated hours: 10.
- Preparation of assignments on proposed topics based on a literature search. Individually or in groups.
Estimated hours: 25.
- Study and implementation of outlines, concept maps and summaries.
Estimated hours: 50.5.

ACTIVITY TYPE	ACTIVITY	LEARNING OUTCOMES	STUDENT HOURS
Teacher-led activities	Lectures	E2.8, E2.9	45
Supervised activities	Problem solving in class	E2.8, E2.9, T5	7.5
Independent activities	Research and processing information	E2.8, E2.9, T1	10
	Problem solving	E2.8, E2.9, T5	10
	Written assignments	E2.8, E2.9, T1, T5	25
	Independent work	E2.8, E2.9	50.5
TOTAL HOURS			148

ASSESSMENT

The assessment criteria will include:

- Written tests assessing theoretical and practical knowledge. With an overall weight of 50% towards the final grade.
- The written assignments submitted. With an overall weight of 25% towards the final grade.
- Problem-solving. With an overall weight of 25% towards the final grade.

See Appendix I for further details of the assessment activities.

In order to pass the module, the following conditions must be met:

- Pass every unit of each section of the course, with a minimum grade of 5.
- Achieve an overall grade of 5 or higher for the course.

Final assessment period: from 02/01/2021 to 02/10/2021.

Re-sit examination period: from 02/12/2021 to 02/19/2021.

Procedure for reviewing grades: see the University's Assessment Guidelines.

A student shall be “non-assessable” if he/she has not taken the required assessment tasks or has not completed a compulsory training activity.

ASSESSMENT ACTIVITIES	PERCENTAGE FINAL GRADE	LEARNING OUTCOMES	STUDENT HOURS
Written tests	50%	E2.8, E2.9	2
Written assignments submitted.	25%	E2.8, E2.9, T1, T5	---
Problem solving	25%	E2.8, E2.9, T5	---
TOTAL HOURS			2

BIBLIOGRAPHY AND WEB LINKS / BASIC READING LIST

Books					
Author/s	Year	Title	Edition	City	Publisher
	1993	Biomecánica de la marcha humana normal y patológica		Valencia	Instituto de Biomecánica de Valencia.
Nuñez-Samper, M., Llanos, F. A. (Eds)	2007	Biomecánica, medicina y cirugía del pie	2nd	Barcelona	Masson
Comin, M., Prat, J. et al.	1995	Biomecánica del raquis y sistemas de reparación		Valencia	Instituto de Biomecánica de Valencia.
Hainaut, K.		Introducción a la Biomecánica		Barcelona	Jims
Kapandji, I. A.	2001	Cuadernos de fisiología articular. Tom 1: "Miembro superior"	5th	Barcelona	Masson
Kapandji, I. A.	2002	Cuadernos de fisiología articular. Tomo 2: Miembro Inferior	5th	Barcelona	Maloine – Editorial Médica Panamericana
Kapandji, I. A.	2001	Cuadernos de fisiología articular. Tomo 3: Tronco y Raquis	5th	Barcelona	Maloine – Editorial Médica Panamericana
Le Veau, Barney	1991	Biomecánica del movimiento humano de Williams y Lissner.		Mexico	Trillas
Miralles Marrero, R. C., Miralles Rull, I.	2005	Biomecánica clínica del aparato locomotor.		Barcelona	Masson
Miralles, R. M.	2000	Biomecánica del aparato locomotor		Barcelona	Masson
Nardi, J. V., Combalía, A. A. (Viladot, A. V. et al. (Eds))	2000	Biomecánica del tendón. En: Lecciones básicas de biomecánica del aparato locomotor.		Barcelona	Springer,
Nordin, M., Frankel, Victor H.	2004	Biomecánica básica del sistema músculoesquelético		Madrid	McGraw-Hill Interamericana
Proubasta, I., Gil, J. M., Planell, J. A.	1997	Fundamentos de Biomecánica y Biomateriales		Barcelona	Ed Ergón S. A.
Viladot, A. V. et al. (Eds).	2001	Lecciones básicas de biomecánica del aparato locomotor		Barcelona	Springer
Cromer, Alan H.	1994	Física para las ciencias de la vida.	2nd	Barcelona	Ed. Reverté
Jou Mirabent, D., Llebot Rabagliati, J.E., Pérez García, C.	1993	Física para las ciencias de la vida.		México	Ed. McGraw-Hill
Ortuño Ortín, M.	1996	Física para biología, medicina, veterinaria y farmacia		Barcelona	Crítica D.L.
Tipler, P.A.	2001	Física para la ciencia y la tecnología		Barcelona	Ed. Reverté
Zinke-Allmang, M., Sills, K. Nejat, R., Galiano-Riveros, E.	2013	Physics for the life sciences.		Toronto	Physics for the life sciences
Michel Dufour Michel Pillu	2006	Biomecánica Funcional	1st	Barcelona	Elsevier Masson

Articles

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Author	Title	Publication	Volume	Year	Pages	Description/ Comment
García-Eliás, M.:	Biomecánica del carpo y sus aplicaciones clínicas. Inestabilidades carpianas	Rehabilitación Física, 3: 19–28, 1992	3	1992	19–28	
		Revista de Biomecánica del Instituto de Biomecánica de Valencia (IBV)				

Web references			
Title	Description	URL	
	Website of the Institute of Biomechanics of Valencia.	http://www.ibv.org/	
	Website of the Iberian Society of Biomechanics and Biomaterials	http://www.prevencionintegral.com/sibb/	
	Website of the International Society of Sports Biomechanics.	http://www.isbs.org/ .	
	Website for the International Society of Biomechanics.	http://isbweb.org/	
FísicaLAB Coronado, G, Fernández, J.L.	Plataforma virtual de Física y Matemáticas	https://www.fiscalab.com/indice/avanzado	Conjunto de recursos estáticos e interactivos para el aprendizaje
Proyecto Educaplus.org Jesús Peñas	Laboratorio virtual de Física con diferentes simuladores	http://www.educaplus.org/games/fisica	Animaciones interactivas y actividades prácticas

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BIBLIOGRAPHY AND WEB LINKS / RECOMMENDED READING LIST

Books					
Author/s	Year	Title	Edition	City	Publisher
Marcos Gutiérrez Dávila	1998	Biomecánica Deportiva: bases para el análisis. (only chapters 2, 3, 4, 5, 6 and 7: "fundamentos físicos")	1st	Madrid	Sintesis
Steven Vogel	2000	Ancas y Palancas: Mecánica natural y mecánica humana	1st	Barcelona	Metatemas Tusquets Ed.
Gere, J.M., Goodno, B.J.	2009	Mecánica de materiales	7ª	México	Cengage Learning Ed.
Meriam, J. L., Kraige, L. G.	1999	Estática	3rd	Barcelona	Ed. Reverté
R. Magro Andrade, Laura Abad Toribio, Marta Serrano Pérez, A. I. Velasco Fernandez	2008	Fundamentos de mecánica	1st		Ed. Maroto
R. Magro Andrade, Laura Abad Toribio, Marta Serrano Pérez, A. I. Velasco Fernandez	2010	Fundamentos de Física I	3rd		Ed. Maroto

Web references			
Title	Description	URL	
Escuela Tecnica Superior de Arquitectura de Madrid. Depart. Estructuras de la edificacion	Online documents for the course "Solid Mechanics".	http://www.aq.upm.es/Departamentos/Estructuras/e96-290/doc/welcome.html	

Audio-visual material			
Title	Description		
El Universo Mecánico	Award-winning informative video series on Physics made by CalTech (California Institute of Technology) and dating back to 1985, based on Prof. David Goodstein's courses.	In Spanish: https://www.youtube.com/playlist?list=PLCt8AAwAodmqveeOXF5XtuQbTlpwBD_yj Original in english: https://www.youtube.com/playlist?list=PL8_xPU5epJddRABXqJ5h5G0dk-XGtA5cZ	Especially recommended are No. 2, 4, 5, 6, 8, 11, 13, 14, 18, 29, 30 and 31.

COURSE SYLLABUS

Available on the virtual campus for all students enrolled in this course

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APPENDIX I – ASSESSMENT DETAILS

THEORY TEST (50 %)

- Theory test with problem solving

At the end of the semester there will be re-sits. However, to re-sit an exam you must have already taken the ordinary exam.

PROBLEM SOLVING (25%)

PROBLEMS – Dr. EVA BRUALLA (50 %)

Description of the practice sessions:

The practice sessions within Basis of Physics consist in the resolution of some physics problems related to the contents covered in the theoretical sessions. More specifically, the students will have to apply the concepts of statics and dynamics through the resolution of some problems and questions.

The aim of these problems is to put the theory learnt in the course into practice so that the students can:

- Draw a simplified mechanical sketch (free body diagram) of a given anatomical segment in a specific posture.
- Identify all the acting forces.
- Determine the muscular force that maintains that posture as well as any articular reaction forces.
- Reflect on the results obtained in each case.

Students will work in groups of 5 to 6 and they must resolve all the problems and hand them in duly commented on.

The following will be assessed:

- Correct resolution of problems.
- Correct results.
- Detailed explanation of the resolution.
- Presentation.
- Team work.

Score criteria:

Each problem will get a mark over 10. Both, the result and the resolution process, will be taken into account:

- If the students understand the problem and pose and solve it correctly from a conceptual point of view but have some operational errors: 5 points.
- If the students develop the problem correctly but the result is not correct due to some minor operational error: 7 points.
- If the students develop the problem correctly and the result is correct: 10 points.

The problems must be solved during the practice sessions held for each group and must be submitted at the end of the session.

PROBLEMS – Mr. LLUIS AUGUET (50 %)

Description/outline of the test:

There will be two main tasks in these practical classes on biomechanics: postural and gait analysis.

- Postural analysis: students will work in groups of 5-6 members (mixed) and, among them, they will have to know how to assess posture at all levels, observing the different body parts, as well as knowing how to identify the factors that alter posture and their possible causes.
- Gait analysis: the gait cycle and the different phases of gait will be assessed, as well as the muscles involved and the possible alterations in gait and their causes.

Marking criteria:

Know how to identify the different asymmetric points and factors that can alter posture and gait: 5 points.

Causal factors: 5 points.

- E.g. causes of cranial rotation
- E.g. causes of winged scapula
- E.g. causes of abducted scapula
- E.g. causes of supination or pronation of gait
- E.g. causes of scoliosis

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WRITTEN ASSIGNMENTS (20%)

ASSIGNMENT – Dr. EVA BRUALLA (50 %)

Description/outline of the assignment:

The assignment on Basis of Physics consists in solving the problems, based on the contents covered in class, which are presented in a dossier.

Assignment information:

- Groups of 4 to 6 students. Only ONE assignment per group must be submitted (ONE member of the group must submit the assignment through Moodle):
- Aim: all the group members must understand the resolution of the problems.
- Assignment outline:
 1. Title page with:
 - ✓ Title
 - ✓ Date
 - ✓ Class group (A or B)
 - ✓ Surname and name (in this order) of ALL the group members.
 2. Summary of results: numbered list of the results (only the results) of all the exercises in the assignment.
 3. Resolution of all the exercises in the dossier, together with a clear and detailed explanation of the resolution process for each problem.

Scoring criteria:

The following will be assessed:

- Correct result of the exercises (1/3). This will be assessed through point 2 (Summary of results). The results that are not in the summary will not be taken into account.
- Development of the problem (1/3). Clear and detailed explanation of the resolution of the exercises. This will be assessed through point 3 (Resolution of the exercises).
- Presentation (1/3): the resolutions of the problems can be done by hand but their presentation must be impeccable.

The assignment must be submitted at the end of the semester on the date set by the teacher.

ASSIGNMENT – Mr. LLUIS AUGUET (50 %)

Description/outline of the assignment:

There will be two main tasks in these practical classes on biomechanics: postural and gait analysis.

- Postural analysis: students will work in groups of 5-6 members (mixed) and, among them, they will have to know how to assess posture at all levels, observing the different body parts, as well as knowing how to identify the factors that alter posture and their possible causes.
- Gait analysis: the gait cycle and the different phases of gait will be assessed, as well as the muscles involved and the possible alterations in gait and their causes.

At the end of the practical classes, there will be a presentation in which all the observations that the students have been able to make will be included. This presentation will be made in front of the rest of the classmates and the professor.

The assignments will be submitted online through the virtual campus of the course, and thus will be recorded.

The professor will give grades to a representative of each work group (chosen by the professor), based on the marking criteria (he or she will sign to acknowledge receipt).

The overall individual grade will be registered on the virtual campus of the course.

Marking criteria:

Criteria	Score
Presentation of the assignment	1
Introduction	1.5
Objectives	1.5
Content	2.5
Conclusions	2,5
Bibliography	1

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GENERAL INFORMATION

COURSE DETAILS

Course	BASIC PRINCIPLES OF PHYSIOTHERAPY		
Code	200540	Academic year	2020-2021
ECTS credits	6	Course type	COMPULSORY
Year	1	Semester	1
Timetable	Available on the virtual campus for all students enrolled in this course		
Teaching language	CATALAN		

FACULTY DATA

- Course coordinator

Professor's name	Ms. GEMMA PAMPALONA
e-mail	gemma.pampalona@eug.es
Tutorial Schedule	To be arranged

- Lecturers

Professor's name	Ms. NÚRIA SUBIRÀ ROCA
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Tutorial Schedule	To be arranged

Professor's name	Mr. DIEGO ALONSO
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Tutorial Schedule	To be arranged

Professor's name	Dr. MARC TERRADELLAS
e-mail	marc.terradellas@eug.es
Tutorial Schedule	To be arranged

ENTRY REQUIREMENTS

- There are no official prerequisites

CONTEXTUALIZATION OF THE COURSE

Course content: Basic principles of physiotherapy.

This course will show the student the theoretical basics and the development of the methods and procedures of care in physiotherapy.

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Knowing how to correctly take a medical history, make a physiotherapy diagnosis and understand the main treatment methods and techniques is fundamental to good professional practice.

COMPETENCIES AND LEARNING OUTCOMES

Specific Competencies

Competency	E2. Demonstrate knowledge of the sciences, models, techniques and instruments on which physiotherapy is based, articulated and developed.
Learning outcomes	<p>E2.17. Explain and apply the theoretical principles and development of physiotherapy methods and procedures.</p> <p>Specific objectives:</p> <p>E2.17.1 Describe the different methods and techniques used in physiotherapy.</p> <p>E2.18. Explain the concept, evolution and basic principles of physiotherapy in its scientific and professional aspects.</p> <p>Specific objectives:</p> <p>E2.18.1 Define the concepts of physiotherapy and rehabilitation within a scientific framework.</p> <p>E2.19. Explain the general theory of functioning, disability and health and its international classification, as well as the models of intervention in physiotherapy and its care practice.</p> <p>Specific objectives:</p> <p>E2.19.1. Explain the concept of disability and health and describe the different models of intervention in physiotherapy.</p> <p>E2.19.2. Define the concepts of impairment, activity limitations, participation restrictions and contextual factors.</p>
Competency	E6. Systematic preparation and completion of physiotherapy records.
Learning outcomes	<p>E6.1. List and describe the different elements that make up the typical physiotherapy records, as recorded in the medical history.</p> <p>Specific objectives:</p> <p>E6.1.1 Describe the different elements that make up a physiotherapy medical record.</p>
Competency	E8. Determine the physiotherapy diagnosis according to established standards and using internationally recognized validation instruments.
Learning outcomes	<p>E8.1. Describe assessment methods and procedures, both manual and with equipment, in physiotherapy.</p> <p>Specific objectives:</p> <p>E8.1.1 Describe the different methods used to perform the various assessments in physiotherapy – which are essential to achieve a diagnosis in physiotherapy.</p> <p>E8.2. Identify the methodology necessary for the determination of diagnosis in physiotherapy.</p> <p>Specific objectives:</p> <p>E8.2.1 Define the concept of diagnostic hypothesis.</p>

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Competency	E12. Prepare the physiotherapy discharge report once the proposed objectives have been reached.
Learning outcomes	E12.1. List and describe the elements that make up a high-quality physiotherapy report. Specific objectives: E12.1.1 Recognize and describe the elements that make up a physiotherapy report.

Competency	E15. Work in professional teams, cooperating effectively with the whole multidisciplinary team.
Learning outcomes	E15.4. Explain the different competencies of the professionals that form the multidisciplinary team in which a physiotherapist is integrated. Specific objectives: E15.4.1. Identify the different professionals that make up the multidisciplinary team and describe the competencies of each of them, in addition to defining the role of the physiotherapist within the team.

Transversal Competencies

Competency	T7. Teamwork.
Learning outcomes	Specific objectives: T7.1. Participate actively in the team's meetings, sharing knowledge, information and experiences.

Competency	T9. Critical thinking.
Learning outcomes	Specific objectives: T9.1. Make your own judgments and assessments. T9.2. Take into account the judgments of others.

CONTENTS

UNIT I:

- 1. Introduction and definitions of Physiotherapy**
 - 1.1 Etymology
 - 1.2 Definition of Physiotherapy today
 - 1.3 Implications for physiotherapy
- 2. Professional profile**
 - 2.1 The physiotherapist
 - 2.2 Professional duties
 - 2.3 Specialities and areas of intervention of Physiotherapy
 - 2.4 Quality of life vs. standard of living
- 3. Rehabilitation**
 - 3.1 Models of Health
 - 3.2 Healthcare Team
- 4. General theory of functioning, disability and health**
 - 4.1 Concept of impairment
 - 4.2 Concept of activity limitations
 - 4.3 Concept of participation restrictions
 - 4.4 Concept of contextual factors
 - 4.5 Method of intervention in physiotherapy
- 5. Introduction to physical agents**
 - 5.1 Definition.
 - 5.2 Classification according to primary effects
 - 5.3 Role of physical agents in physiotherapy.
 - 5.4 General contraindications and precautions.
- 6. Physiotherapy practice in the hospital setting**
 - 6.1 Medication
 - 6.2 Catheters
 - 6.3 Drainages
 - 6.4 Immobilization syndrome
- 7. Physical activity and exercise**
- 8. Mobilization and patient transfer techniques**
 - 8.1 Mobilization vs. transfer
 - 8.2 Basic principles
 - 8.3 Mobilization techniques
 - 8.4 Transfer techniques
- 9. Basic life support measures**
 - 9.1 Chain of survival
 - 9.2 Organization of the Medical Emergency System in Catalonia
 - 9.3 Basic Life Support (BLS)
 - 9.4 Automated External Defibrillation
 - 9.5 Foreign Body Airway Obstruction (FBAO)
 - 9.6 Immediate healthcare in the face of the most prevalent traumatic medical emergencies.
Cases

UNIT II:

- 1 Overview of joint mobility**

- 1.1. Introduction to joint anatomy
- 1.2. Normal joint mobility.
- 1.3. Pathological joint mobility
- 1.4. Joint misalignments and malpositions
2. **Physiotherapy techniques**
 - 2.1. Kinesiotherapy
 - 2.2. Traction
 - 2.3. Osteoarticular posture
 - 2.4. Muscle-tendon stretching
 - 2.5. Massage
3. **Posture**
 - 3.1. Posture and voluntary movement
 - 3.2. Posture while standing
 - 3.3. Tonic postural activity
 - 3.4. Dominant foot/non-dominant foot
 - 3.5. Dynamic postural assessment
 - 3.6. Types of posture
 - 3.7. Postural constraints
 - 3.8. Postural hygiene
4. **Muscle biomechanics**
 - 4.1. Types of muscle
 - 4.2. Concepts
 - 4.3. Muscle strengthening/toning
 - 4.4. Muscle alterations
 - 4.5. Muscle injuries
 - 4.6. Ultrasound for physiotherapists
5. **Physiotherapist-patient communication**
 - 5.1. Social skills
 - 5.2. Communication styles
 - 5.3. Assertiveness
 - 5.4. Non-verbal communication
 - 5.5. Effective communication
6. **Cultural competencies in the physiotherapist's curriculum**
 - 6.1. Knowledge of cultural diversity and its practices
 - 6.2. Development of cross-cultural competencies
 - 6.3. Case studies

UNIT III PRACTICAL CLASSES (attendance compulsory):

1. Emergency response systems for extrahospital emergencies
 - 1.1 Organization of response systems in Catalonia
2. Basic life support according to the latest ERC recommendations
 - 2.1 Chain of survival
 - 2.2 BLS + AED in adults
 - 2.3 BLS in children
3. Response to emergencies according to origin
 - 3.1 Response to medical emergencies (sudden illness)
 - 3.2 Response to traumatic emergencies
 - 3.3 Response to emergencies caused by physical agents
 - 3.4 Response to environmental emergencies

TEACHING METHOD AND TRAINING ACTIVITIES

TEACHER-LED ACTIVITIES

Lectures: the theoretical basis on which the functional assessment of the patient and the choice of the different treatment methods based on the physiotherapy diagnosis made will be provided. 52.5 hrs.

SUPERVISED ACTIVITIES

Seminars aimed at developing knowledge in practical situations and problem-solving based learning. 7.5 hours.

INDEPENDENT ACTIVITIES

Research and processing of information needed to complete assignments. 15 hrs.

Preparation of assignments based on a literature search.

Independent personal study assignment for exam preparation and organization of notes. 52.5 hrs.

ACTIVITY TYPE	ACTIVITY	LEARNING OUTCOMES	STUDENT HOURS
Teacher-led activities	Lectures	E2.17, E2.18, E2.19, E6, E8, E12, E15.4	52.5
Supervised activities	Seminars	T7, T9	7.5
Independent activities	Research and processing information	E2.17, E2.18, E2.19, E6, E8, E15.4	15
	Preparation of assignments based on a literature search.	E2.17, E2.18, E2.19, E6, E8, E15.4, T7, T9	20
	Independent work	E2.17, E2.18, E2.19, E6, E8, E12, E15.4	52.5
TOTAL HOURS			147.5

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ASSESSMENT

Assessment I: Theoretical knowledge assessed by means of written tests: 50% of the grade.

Assessment II: Activities on the course units: 50% of the grade.

See Appendix I for further details of the assessment activities.

In order to pass the module, the following conditions must be met:

- Pass each of the two parts of the assessment, with a minimum grade of 5.
- Have attended 100% of the practical classes. (If there is a well-founded reason, it is permissible to miss up to 20% of the practical classes).
- Achieve an overall grade of 5 or higher for the course.

Internal Practice Regulations:

Please, check the University's Internal Practice regulations regarding the minimum requirements demanded of the student in the development of the course's practical activities.

Final assessment period: from 02/01/2021 to 02/10/2021.

Re-sit examination period: from 02/12/2021 to 02/19/2021.

Procedure for reviewing grades: see the University's Assessment Guidelines.

A student shall be “non-assessable” if he/she has not taken the required assessment tasks or has not completed a compulsory training activity.

ASSESSMENT ACTIVITIES	PERCENTAGE FINAL GRADE	LEARNING OUTCOMES	STUDENT HOURS
Written tests	50%	E2.17, E2.18, E2.19, E6, E8, E12, E15.4	2
Activities on the course units.	50%	E2.17, E2.18, E2.19, E6, E8, E15.4, T7, T9	0.5
TOTAL HOURS			2.5

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BIBLIOGRAPHY AND WEB LINKS / BASIC READING LIST

Books					
Author/s	Year	Title	Edition	City	Publisher
Génot, Neiger, Leroy, Pierrot et al.	1987	Kinesiterapia. Evaluaciones. Técnicas pasivas y activas del aparato locomotor. Vol. I, II, III, IV		Buenos Aires	Panamericana
		Enciclopedia medicoquirúrgica: kinesiterapia y reeducación funcional		Paris	Techniques, SA
Calais Germain, B.	1995	Anatomía para el movimiento		Barcelona	Los libros de la Liebre de Marzo
Viel, E.	2001	Diagnóstico fisioterapéutico		Barcelona	Masson
Alcántara Bumbiedro, S.	2000	Fundamentos de Fisioterapia		Madrid	Síntesis
Gallego, T.	2007	Bases teóricas y fundamentos de La Fisioterapia		Madrid	Panamericana
Higgs, J.	2009	Contexto f physiotherapy practice		Australia	Churchill Livingstone – Elsevier
Crus Roja Española	2016	Manual de primeros auxilios	10	Madrid	Cinco Tintas

Articles						
Author	Title	Publication	Volume	Year	Pages	Description/ Comment
Monsieurs, K. G., Nolan, J. P., Bossaert, L. L., et al.	European Resuscitation Council Guidelines for Resuscitation 2015 Section1 Executive summary	Resuscitation.	95	2015	1–80	

Web references			
Title	Description	URL	
International Classification of Functioning, Disability and Health		http://whqlibdoc.who.int/publications/2001/9243545426.pdf	
World Confederation of Physical Therapy		http://www.wcpt.org	
Physiotherapy evidence database		http://www.pedro.org	
Consell Català de Ressuscitació.Recomanacions ERC 2015 Resum executiu Traducció Oficial del CCR.	Translation of the 2015 ERC recommendations into Catalan by the Catalan Resuscitation Council.	http://www.ccr.cat/Publicacions/Guies-i-documents	
Consejo de Resucitación Español Cardiopulmonar. Declaración del Consejo de Resucitacion Español Cardiopulmonar (CERCP) sobre las nuevas recomendaciones 2015 del Consejo Europeo de Resucitación (ERC).	Translation of the 2015 ERC recommendations into Catalan by the Spanish Cardiopulmonary Resuscitation Council.	http://www.cercp.org/quias-y-documentos/quias/quias-2015	

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BIBLIOGRAPHY AND WEB LINKS / RECOMMENDED READING LIST

Books					
Author/s	Year	Title	Edition	City	Publisher
Prentice, W. E.		Técnicas de rehabilitación en medicina deportiva			Paidotribo
Kapandji, I.	2001	Cuadernos de fisiología articular		Barcelona	Masson
Canamasas Ibañez, S.	1993	Técnicas manuales: masoterapia		Barcelona	Masson
Igual, C., Muñoz, E., Aramburu, C.		Fisioterapia general: cinesiterapia			Síntesis
French, S.	2006	Fisioterapia: un enfoque psicosocial		Madrid	McGraw-Hill Interamericana

Articles						
Author	Title	Publication	Volume	Year	Pages	Description/Comment
Cuesta Vargas, A. I.	Práctica clínica de fisioterapia basada en la evidencia: estrategia de búsqueda, lectura crítica e implementación asistencial	Cuest. Fisioter.	37(1)	2008	31-8	

Web references			
Title	Description	URL	
European Network of Physiotherapy in Higher Education		http://enphe.org	

COURSE SYLLABUS

Available on the virtual campus for all students enrolled in this course

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APPENDIX I – ASSESSMENT DETAILS

THEORY TEST (50 %)

- Theory test

At the end of the semester there will be re-sits. However, to re-sit an exam you must have already taken the ordinary exam.

ACTIVITIES ON THE COURSE UNITS (50%)

These activities are 100% compulsory. The average of the marks for the three units will be taken, and this grade will have to be equal to or higher than 5.

UNIT I ACTIVITIES (30%) (Ms. Núria Subirà)

Description/outline of the activities:

The theory classes will be assessed together with a test type exam with activities proposed by the professor which the students will have to complete and submit within the stipulated time. In these activities it will be necessary to demonstrate if the concepts developed during the classes have been fully understood.

The types of activities may include:

- Analysis of data from a clinical case according to the concepts of physiotherapy diagnosis
- Theory and practical exercise on the observation and analysis of posture
- Theory and practical exercise on the introduction to functional assessment scales
- Presentation in class of a group research project related to a disorder of the locomotor system

Marking criteria:

The weight of the grade for each activity will be the same.

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UNIT II ACTIVITIES (30%) (Ms. Gemma Pampalona)

Description/outline of the activities:

The theory classes will be assessed together with a test type exam with activities proposed by the professor which the students will have to complete and submit within the stipulated time. In these activities it will be necessary to demonstrate if the concepts developed during the classes have been fully understood.

The types of activities may include:

- Resolution of an exercise proposed in class
- Reading and assignment on an article
- Design and elaboration of individual and group therapy plans
- Resolution of situations proposed by the professor in class
- Design of promotion programs for healthy life habits
- Self-assessment of competencies

Marking criteria:

The weight of the grade for each activity will be the same.

UNIT III ACTIVITIES (40%) (Mr. Diego Alonso)

Description/outline of the activities:

The assessment will consist of two distinct parts:

The first, a practical exercise, in which the student will have to demonstrate the correct performance of the techniques related to Basic Life Support (BLS), specifically: cardiopulmonary resuscitation, the Recovery Position and the techniques for unblocking the airway of a foreign body (F.B.A.O.).

The second, a theory exercise, in which the student will have to demonstrate the acquisition of theoretical knowledge both in the area of Basic Life Support and automated defibrillation, as well as in the resolution of the most prevalent emergency situations which will be covered previously during class.

These assessment activities will be carried out during the scheduled practical classes, and are therefore 100% compulsory.

Marking criteria:

The weight of the grade for each activity will be:

- Practical assessment BLS: 50%
- Theory assessment BLS+AED: 20%
- Theory assessment on the resolution of emergency situations: 30%

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GENERAL INFORMATION

COURSE DETAILS

Course	BASIC PHYSIOTHERAPY OF THE LOCOMOTOR SYSTEM – I		
Code	200539	Academic year	2020-2021
ECTS credits	6	Course type	COMPULSORY
Year	1	Semester	1
Timetable	Available on the virtual campus for all students enrolled in this course		
Teaching language	CATALAN		

FACULTY DATA

- Course coordinator

Professor's name	Mr. AGUSTÍN LORENTE LAFUENTE
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Tutorial Schedule	To be arranged

- Lecturers

Professor's name	Ms. ESTHER BERGEL PETIT
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Tutorial Schedule	To be arranged

Professor's name	Ms. SÒNIA FERRÉS PUIGDEVALL
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Tutorial Schedule	To be arranged

Professor's name	Ms. LLUÏSA PORTE CARRERA
e-mail	lluïsa.porte@eug.es
Tutorial Schedule	To be arranged

ENTRY REQUIREMENTS

- There are no official prerequisites

CONTEXTUALIZATION OF THE COURSE

Course content: Physiotherapy of the locomotor system.

This course, together with the course "Basic Physiotherapy of the Locomotor System II", aims to lay the foundations for the assessment and treatment of pathologies related to the locomotor system, developing the student's manual skills and competence from the very beginning of the course.

At the level of the upper extremities, recognizing the different anatomical structures in a living subject through surface palpation, measuring muscle strength and joint mobility and acquiring the basics of passive manual therapy, as well as expressing oneself using formal language in anatomical descriptions, is essential within the profile of the degree and the physiotherapy profession. In addition, it will provide basic knowledge that will allow the student to start the practicums in the second year.

COMPETENCIES AND LEARNING OUTCOMES

Specific Competencies

Competency	E1. Demonstrate knowledge of the morphology, physiology, pathology and behavior of people, both healthy and sick, in their natural and social environments.
Learning outcomes	E1.20. Locate the different muscles through surface palpation. Specific objectives: E1.20.1. Identify and map the muscles related to the movements of the joints of the back, elbow, wrist and fingers, through palpation. E1.20.2. Identify by surface palpation the main bone structures of the upper limb. E1.20.3. Identify by surface palpation the main joint structures of the upper limb. E1.20.4. Identify by surface palpation the main vascular-nervous structures of the upper limb.
Competency	E3. Demonstrate sufficient knowledge of physiotherapy methods, procedures and actions, aimed at clinical therapy.
Learning outcomes	E3.3. Apply physiotherapy methods, procedures and interventions in the different clinical specialties that treat locomotor system disorders.

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	<p>Specific objectives:</p> <p>E3.3.1. Describe the general principles of applying basic passive joint mobilization techniques, active-assisted exercises and massage maneuvers.</p> <p>E3.3.2. Apply basic passive joint mobilization techniques to the back, elbow, wrist and finger joints.</p> <p>E3.3.3. Apply active-assisted exercises to the back, elbow, wrist and finger joints.</p> <p>E3.3.4. Apply basic massage maneuvers to the cervical, thoracic and lumbar region.</p> <p>E3.4. Apply specific physiotherapy intervention methods to promote healthy lifestyle habits, in relation to the locomotor system, through health education.</p> <p>Specific objectives:</p> <p>E3.4.1. Describe the main disorders related to the pelvic floor.</p> <p>E3.4.2. Have awareness of one's own pelvic floor in order to adopt preventive measures against disorders.</p> <p>E3.4.3. Have awareness of one's body through comprehensive ball work under the feet</p> <p>E3.4.4. Integrate the foot into one's own body assessment to prevent and to improve injuries to the locomotor system.</p> <p>E3.4.5. Feel new possibilities of movement inside oneself.</p>
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Competency	E7. Assess the patient's functional status, taking into account physical, psychological and social factors.
Learning outcomes	<p>E7.4. Describe and apply physiotherapy assessment procedures, with the aim of determining the degree of impact on the locomotor system and its possible functional repercussions.</p> <p>Specific objectives:</p> <p>E7.4.1. Describe the principles of applying joint movement.</p> <p>E7.4.2. Describe the principles of applying muscle movement using the Daniels MMT scale and a dynamometer.</p> <p>E7.4.3. Measure the strength of the muscles related to the movements of the back, elbow, forearm, wrist, and finger joints by applying the Daniels MMT scale.</p> <p>E7.4.4. Measure the joint amplitude of the back, elbow, forearm, wrist and finger joints, using different goniometers.</p> <p>E7.4.5. Measure the length and diameter of the various segments of the upper limb, using anthropometric principles.</p>

Transversal Competencies

Competency	T3. Express oneself fluently, coherently, and appropriately according to established rules, both orally and in writing.
Learning outcomes	<p>Specific objectives:</p> <p>T3.1. Write clear, coherent, and grammatically correct texts.</p> <p>T3.2. Express oneself fluently.</p> <p>T3.3. Express oneself using formal language in anatomical descriptions, as well as in descriptions of physiotherapy treatments.</p>

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General Competencies

Competency	G2. Develop independent learning strategies.
Learning outcomes	This competency is considered to be developed in this course by working on "T3. Express oneself fluently, coherently, and appropriately according to established rules, both orally and in writing".

CONTENTS

1. Introduction:
 - 1.1. Overview
 - 1.2. Introduction to physiology of the joints
 - 1.3. Introduction to joint movement
 - 1.4. Introduction to muscle movement
 - 1.5. Introduction to mobilizations
 - 1.6. Introduction to active-assisted exercises
2. The upper extremity:
 - 2.1. Functional assessment
 - 2.2. Measurements
3. The back
 - 3.1. Introduction
 - 3.2. Palpation
 - 3.3. Joint movement
 - 3.4. Muscle movement
 - 3.5. Mobilizations
 - 3.6. Active-assisted exercises
4. The elbow/forearm
 - 4.1. Introduction
 - 4.2. Palpation
 - 4.3. Joint movement
 - 4.4. Muscle movement
 - 4.5. Mobilizations
 - 4.6. Active-assisted exercises
5. The wrist
 - 5.1. Introduction
 - 5.2. Palpation
 - 5.3. Joint movement
 - 5.4. Muscle movement
 - 5.5. Mobilizations
 - 5.6. Active-assisted exercises
6. The thumb
 - 6.1. Introduction
 - 6.2. Joint movement
 - 6.3. Muscle movement
 - 6.4. Mobilizations
7. The four fingers
 - 7.1. Introduction
 - 7.2. Joint movement
 - 7.3. Muscle movement
 - 7.4. Mobilizations
8. Massage
 - 8.1. Cervical region
 - 8.2. Thoracic region
 - 8.3. Lumbar region
9. Awareness of the body through movement: ball work under the feet
10. Awareness of the pelvic floor of one's own body

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TEACHING METHOD AND TRAINING ACTIVITIES

TEACHER-LED ACTIVITIES

- **Theory classes** with graphic and computer support in which the theoretical basic principles on which the different treatments are based will be provided.
- **Practical classes** with graphic and computer support in which the professor will explain, on a model, how the various techniques are performed.

Estimated hours: 37.5.

SUPERVISED ACTIVITIES

- **Practical activity among students**, under the supervision of the professor, implementing the different techniques presented in class.
Estimated hours: 60.
- **Group work** preparing an image-based report from the practical classes:
 - ✓ Group members will take photos of palpation, measurements, joint mobility assessments, muscle movements, mobilizations and active-assisted exercises.
 - ✓ There will be periodic group tutorials on the assignment.

Estimated hours per student: 15.

INDEPENDENT ACTIVITIES

- **Research and processing** of information, consolidating the professor's teaching, for the preparation of an image-based report from the practical exercises.
Estimated hours: 7.5.
- **Independent personal study** for exam preparation, organization of notes and/or materials, and free tutorials: individual or in groups.

Estimated hours: 26.5

ACTIVITY TYPE	ACTIVITY	LEARNING OUTCOMES	STUDENT HOURS
Teacher-led activities	Theory classes	E3.3, E3.4, E7.4	3
	Practical classes	E1.20, E3.3, E3.4, E7.4	34.5
Supervised activities	Practical student activities	E1.20, E3.3, E3.4, E7.4, T3	60
	Group work preparing a report on images from the practical classes	E3.3, E3.4, E7.4	15
Independent activities	Research and processing information	E3.3, E3.4, E7.4, T3, G2	7.5
	Independent work	E1.20, E3.3, E3.4, E7.4	26.5
TOTAL HOURS			146.5

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ASSESSMENT

- **Continuous assessment of the course material**, on a set day, depending on the timetable of the course.
- **Assessment of the image-based report.**
- **A practical exam** at the end of the semester.
- **Self-assessment and co-assessment of the group assignment:**
 - On the last day of class, students will carry out a self-assessment and a co-assessment of the group members (anonymously). The results will be commented on individually.

See Appendix I for further details of the assessment activities.

In order to pass the course, the following conditions must be met:

- In the practical exam, a grade of 5 or more must be obtained. If two questions are marked "0", the exam will be classed as failed.
- The final grade of the course must be 6 or above.
- Have attended 100% of the practical classes. (If there is a well-founded reason, it is permissible to miss up to 20% of the practical classes).

Internal Practice Regulations:

Please, check the University's Internal Practice regulations regarding the minimum requirements demanded of the student in the development of the course's practical activities.

Final assessment period: from 02/01/2021 to 02/10/2021.

Re-sit examination period: from 02/12/2021 to 02/19/2021.

Procedure for reviewing grades: see the University's Assessment Guidelines.

A student shall be "non-assessable" if he/she has not taken the required assessment tasks or has not completed a compulsory training activity.

ASSESSMENT ACTIVITIES	PERCENTAGE FINAL GRADE	LEARNING OUTCOMES	STUDENT HOURS
Practical exam	50%	E1.20, E3.3, E3.4, E7.4, T3	3
Continuous assessment	25%	E1.20, E3.3, E3.4, E7.4	0.5
Image-based report	25%	E3.3, E3.4, E7.4, T3, G2	---
TOTAL HOURS			3.5

BIBLIOGRAPHY AND WEB LINKS / BASIC READING LIST

Books					
Author/s	Year	Title	Edition	City	Publisher
Bergel, E., Ferrés, S., Lorente, A., Porte, L. I.	2017	Manual de Fisioteràpia Bàsica de l'Aparell Locomotor – I	4th	Bellaterra	Servei de Publicacions UAB
Hislop, H. J., Montgomery, J.	2003	Daniels & Worthingham Técnicas de balance muscular	7th	Madrid	Saunders; Elsevier
Netter, F. H.	2015	Atlas de anatomía humana	6th	Barcelona	Masson
Norkin, C. C., White, D. J.	2006	Goniometría, evaluación de la movilidad articular		Madrid	Marbán
Tixa, S.	2014	Atlas de anatomía palpatoria del cuello, tronco y extremidad superior. Investigación manual de superficie	3rd	Barcelona	Masson

Web references			
Title	Description	URL	
ProgramaFball.pdf	Course Syllabus	Course Intranet	
AnnexeManualFball.pdf	Appendices to the Manual of Basic Physiotherapy of the Locomotor System I	Course Intranet	
NormesFbal.pdf	Rules for class attendance	Course Intranet	

BIBLIOGRAPHY AND WEB LINKS / RECOMMENDED READING LIST

Books					
Author/s	Year	Title	Edition	City	Publisher
Berryman Reese, N.	2011	Muscle and sensory testing	3rd	St. Louis-Missouri	Elsevier-Saunders
Berryman Reese, N. Bandy D. W.	2010	Joint Range of motion and muscle length testing		St. Louis-Missouri	Elsevier-Saunders
Biel, A.	2012	Guía Topográfica del cuerpo humano	2nd	Badalona	Paidotribo
Calais-Germaine, B.	2004	Anatomía para el movimiento	12th	Barcelona	La liebre de Marzo

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Canamasas Ibañez, S.	1993	Técnicas manuales: masoterapia		Barcelona	Masson/Salvat Medicina
Cassar, M. P.	2001	Manual de masaje terapéutico		Madrid	McGraw-Hill Interamericana
Daza, J.	2007	Evaluación clínico-funcional del movimiento corporal humano		Bogotá	Panamericana
Daza, J.	1996	Test de movilidad articular y examen muscular de las extremidades.		Barcelona	Panamericana
Daubler, W., Feneis H.	2014	Nomenclatura anatómica ilustrada	5th	Barcelona	Masson
Génot, C.	2005	Kinesioterapia. Tomos I y II	3rd	Buenos Aires	Médica Panamericana
Génot, C.	1996	Kinesioterapia. Tomos III y IV		Buenos Aires	Médica Panamericana
Hoppenfeld, S.	1979	Exploración física de la columna vertebral y las extremidades.	18th	Mexico	Manual Moderno
Kaltenborn, F. M.	2004	Fisioterapia manual: Extremidades	2nd	Madrid	McGraw-Hill Interamericana
Kapandji, I. A.	2006	Cuadernos de fisiología articular. Tomo 1: "Miembro superior"	6th	Madrid	Maloine Médica Panamericana
Miralles Marrero, R., Miralles Rull, I.	2005	Biomecánica clínica de los tejidos y las articulaciones del Aparato Locomotor.	2nd	Barcelona	Masson
Muscolino, J.	2017	Manual de Palpación Ósea y Muscular con Puntos Gatillo, Patrones de Referencia y Estiramientos	2nd	Barcelona	Panamericana
Nordin, M., Frankel, V.	2004	Biomecánica básica del sistema músculoesquelético	3rd	Madrid	McGraw-Hill Interamericana
Peterson Kendall, F., Kendall Mccreary, E., Geise Provence, P.	2016	Músculos, pruebas funcionales y dolor postural	5th	Madrid	Marban
Pleguezuelos Cobo, E., et al.	2008	Atlas de puntos clave musculares en la práctica clínica		Madrid	Médica Panamericana
Sobotta	2006	Atlas de anatomía humana Vol. I, II.	22nd	Barcelona	Panamericana

COURSE SYLLABUS

Available on the virtual campus for all students enrolled in this course

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APPENDIX I – ASSESSMENT DETAILS

PRACTICAL EXAM (50%)

This will be held at the end of the semester and will consist of the following questions:

- A question on palpation (2 points out of 10)
- A question on joint movement (2 points out of 10)
- A question on muscle movement (2 points out of 10)
- A question on mobilization (2 points out of 10)
- A question on muscle drawing (2 points out of 10)
- Assessment of verbal expression during the exam, in which it will be assessed, on the one hand, if the student uses formal language in the anatomical descriptions, as well as in the descriptions of the physiotherapy interventions; and, on the other hand, if the student expresses oneself fluently. This will be assessed according to the rubric in Appendix V. (Up to 1 point may be deducted out of 10).

If two questions are marked '0', the exam will be classed as failed.

See the activities calendar in the virtual campus of the course.

At the end of the semester there will be re-sits. However, to re-sit an exam you must have already taken the ordinary exam.

CONTINUOUS ASSESSMENT (25%)

There will be two tests during the development of the course. In each of them, two questions will be asked:

- A question on palpation (40%)
- A question on joint movement or muscle movement or mobilizations (60%)

See the activities calendar in the virtual campus of the course.

IMAGE-BASED REPORT (25 %)

- Group assignment.
- See Appendix II
- A tutorial will be held periodically with each group regarding the assignments (see the activity calendar on the virtual campus of the course). The professor will resolve any doubts.
- For the assessment:
 - It will be assessed following the rubric in Appendix III.
 - Except in some specific cases, the grade will be the same for all group members.
- The report will be submitted in two parts (see the activity calendar of in the virtual campus of the course):
 1. The back.
 2. The elbow, wrist and fingers.

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APPENDIX II – IMAGE-BASED REPORT

A PowerPoint presentation showing images of the following activities carried out in class to complement the explanations in the manual. This should contain:

- Palpation. For each structure you will have to make a slide with the following:
 - The name of the structure.
 - Image from an anatomy atlas, in which the structure is highlighted.
 - A photograph of the palpation on a classmate in which the palpation method is shown.
- Measurements. For each measurement you will have to make a slide with the following:
 - Name of the measurement.
 - A photograph of the measurement.
- Assessment of joint mobility. For each assessment, a slide should be made with the following:
 - Name of the assessment.
 - A photograph of the assessment (for goniometry assessments, a before and after photograph).
- Muscle movement. For each movement, you will have to make a slide with the following:
 - Name of the muscle movement.
 - A photograph for 3-4-5 and a photograph for 0-1-2.
- Introduction to joint mobilization. For each introduction you will have to make a slide with the following:
 - Title with the name of the joint.
 - Type of joint.
 - Anatomical image of the joint.
- Mobilizations. For each mobilization, you will have to make a slide with the following:
 - Name of the mobilization.
 - A photograph of the mobilization.
- Active-assisted exercises. From all the options of the same movement, choose one. For each exercise, you will have to make a slide with the following:
 - Name of the exercise.
 - Image of the exercise.

You should keep in mind that:

- ✓ Group members will take photographs of each other and you should make sure that each of member of the group appears in the photographs.
- ✓ Each image must be accompanied with a corresponding heading.
- ✓ An initial slide should be included, showing the name of the students and the group to which they belong.
- ✓ A tutorial will be held periodically (see calendar) with each working group. The professor will resolve any doubts.
- ✓ Photographs should be taken with the minimum resolution possible.
- ✓ The report will be submitted in PDF format, in digital copy, on the day set on the calendar.

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APPENDIX III

CRITERIA FOR ASSESSING THE IMAGE-BASED REPORT PRESENTATION			
Criteria	Level of quality		
	Good	Average	Poor
Content	No mistakes (6 points)		This is calculated on the basis of the number of errors according to Appendix IV (maximum 6 points)
Spelling, writing or typing errors	No mistakes or errors (2.5 points)		This is calculated on the basis of the number of errors according to Appendix IV (maximum 2.5 points)
Image quality	Images are clear, focused, well-lit and proportionate (0.5 points)	Some of the images lack clarity, focus, lighting or proportion (0.25 points)	Many of the images lack clarity, focus, lighting or proportion (0 points)
Quality of the text	The text on the slides is in one language only, the font and size is consistent with the text type (0.5 points)	The text on some of the slides is in different languages or the font is different, or the size of the text is inconsistent with the text type (0.25 points)	The text on several slides is in different languages or the font is different, or the size of the text is inconsistent with the text type (0 points)
Slide formatting	All the slides share a consistent format (Background, distribution of text and images) (0.5 points)	Some of the slides do not share a consistent format (0.25 points)	Many of the slides do not share a consistent format (0 points)

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APPENDIX IV

IMAGE-BASED REPORT			
SPELLING, WRITING OR TYPING ERRORS		CONTENT ERRORS (TEXT, PHOTOS, ANATOMICAL IMAGES)	
RANGE	POINTS	RANGE	POINTS
0 – 5	2.5	0 – 5	6
6 – 10	2.25	6 – 10	5.5
11 – 15	2	11 – 15	5
16 – 20	1.75	16 – 20	4.5
21 – 25	1.5	21 – 25	4
26 – 30	1.25	26 – 30	3.5
31 – 35	1	31 – 35	3
36 – 40	0.75	36 – 40	2.5
41 – 45	0.5	41 – 45	2
46 – 50	0.25	46 – 50	1.5
More than 50	0	51 – 55	1
		56 – 60	0.5
		More than 60	0

APPENDIX V

CRITERIA FOR THE ASSESSMENT OF FLUENCY IN LANGUAGE AND EXPRESSION USING FORMAL LANGUAGE			
Criteria	Level of quality		
	Good	Average	Poor
Expresses oneself fluently.	Expresses oneself naturally and with notable proficiency.	Expresses oneself with relative ease, but with limited fluency or organization. (Subtract 0.25 points)	Expresses oneself poorly or in a confused manner. (Subtract 0.5 points)
Expresses oneself using formal language in anatomical descriptions, as well as in descriptions of physiotherapy treatments.	All descriptions are expressed in formal language.	Some descriptions are expressed in non-formal language (poorly, in a confused manner). (Subtract 0.25 points)	Most descriptions do not use formal language (very poorly, in a very confused manner). (Subtract 0.5 points)

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GENERAL INFORMATION

COURSE DETAILS

Course	ANATOMY II		
Code	200541	Academic year	2020-2021
ECTS credits	6	Course type	CORE SUBJECT
Year	1	Semester	2
Timetable	Available on the virtual campus for all students enrolled in this course		
Teaching language	CATALAN/SPANISH		

FACULTY DATA

- Course coordinator

Professor's name	Dr. NEUS CIURANA I MAYNEGRE
e-mail	marianeus.ciurana@eug.es
Tutorial Schedule	To be arranged

ENTRY REQUIREMENTS

- There are no formal prerequisites

CONTEXTUALIZATION OF THE COURSE

Course content: Human anatomy.

This course aims to consolidate the morphological and functional bases of the locomotor system, organs and systems.

Knowledge of anatomy is fundamental within the profile of the degree and the profession as it lays the foundations for pathology and therapy.

COMPETENCIES AND LEARNING OUTCOMES

Specific Competencies

Competency	E1. Demonstrate knowledge of the morphology, physiology, pathology and behavior of people, both healthy and sick, in their natural and social environments.
Learning outcomes	<p>E1.2. Recognize the arrangement of anatomical structures in a living subject.</p> <p>Specific objectives:</p> <p>E1.2.1. Recognize the structure of the cardiorespiratory system. E1.2.2. Recognize the structure of the central nervous system. E1.2.3. Recognize the structure of the visual system. E1.2.4. Recognize the structure of the olfactory system. E1.2.5. Recognize the structure of the vestibular system. E1.2.6. Recognize the structure of the bones of the lower limb. E1.2.7. Recognize the structure of the joints of the lower limb. E1.2.8. Recognize the structure of the muscles of the lower limb. E1.2.9. Recognize the structure of the vessels and nerves of the lower limb.</p> <p>E1.3. Explain the function of these anatomical structures.</p> <p>Specific objectives:</p> <p>E1.3.1. Explain the function of the cardiorespiratory system. E1.3.2. Explain the function of the central nervous system. E1.3.3. Explain the function of the visual system. E1.3.4. Explain the function of the olfactory system. E1.3.5. Explain the function of the vestibular system. E1.3.6. Explain the function of the bones of the lower limb. E1.3.7. Explain the function of the joints of the lower limb. E1.3.8. Explain the function of the muscles of the lower limb. E1.3.9. Explain the function of the vessels and nerves of the lower limb.</p> <p>E1.4. Locate by surface palpation the different anatomical structures.</p> <p>Specific objectives:</p> <p>E1.4.1. Identify by surface palpation the main bone structures of the trunk and the lower limb. E1.4.2. Identify by surface palpation the main joint structures of the trunk and the lower limb.</p>

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Transversal Competencies

Competency	T1. Analyze and summarize.
Learning outcomes	T1.1. Observe and extract visual information data from anatomical images.

General Competencies

Competency	G2. Develop independent learning strategies.
Learning outcomes	This competency is considered to be developed in this course by working on "T1. Analyze and summarize".

CONTENTS

1. Cardiorespiratory system
 - 1.1. Nasal cavity
 - 1.2. Larynx
 - 1.3. Trachea
 - 1.4. Lungs
 - 1.5. Pleurae
 - 1.6. Mediastinum
 - 1.7. Heart
 - 1.8. Pericardium
2. Central nervous system
 - 2.1. General neuroanatomy
 - 2.2. Embryology of the central nervous system
 - 2.3. External morphology of the brain
 - 2.4. Cerebral cortex
 - 2.5. Gray nuclei of the brain
 - 2.6. Limbic system
 - 2.7. Morphology of the brainstem
 - 2.8. Reticular formation
 - 2.9. Somatic cranial nerves
 - 2.10. Branchiomic cranial nerves
 - 2.11. Cerebellum
 - 2.12. Spinal cord
 - 2.13. Spinal reflexes
 - 2.14. Spinal cord ascending pathways
 - 2.15. Spinal cord descending pathways
 - 2.16. Cerebral arteries
 - 2.17. Meninges
 - 2.18. Ventricular system
 - 2.19. Autonomic nervous system
3. Visual system
 - 3.1. The eyeball
 - 3.2. Conscious visual pathway
 - 3.3. Reflex visual pathways
4. Olfactory system
 - 4.1. The olfactory organ
 - 4.2. Conscious olfactory pathway
 - 4.3. Reflex olfactory pathway
5. Vestibular system
 - 5.1. Vestibulocochlear organ
 - 5.2. Conscious vestibular pathway
 - 5.3. Reflex vestibular pathway
 - 5.4. Conscious cochlear pathway
 - 5.5. Reflex cochlear pathway
6. Anatomy of the lower limb
 - 6.1. Bones of the lower limb
 - 6.2. The hip joint
 - 6.3. Muscles of the pelvic girdle
 - 6.4. Thigh muscles

- 6.5. The knee joint
- 6.6. Leg muscles
- 6.7. Ankle and foot joints
- 6.8. Foot muscles
- 6.9. Vessels of the lower limb
- 6.10. Nerves of the lower limb
- 6.11. Fascias of the lower limb

TEACHING METHOD AND TRAINING ACTIVITIES

TEACHER-LED ACTIVITIES

Theory classes in the form of lectures with graphic and computer support in which the main morphological, structural and functional aspects of specific anatomical regions will be discussed.
Estimated hours: 51.

Practical classes with graphic and computer support in which the professor will explain, on a model, how the various palpation techniques are performed.
Estimated hours: 1.5.

SUPERVISED ACTIVITIES

Analysis of images and anatomical parts
Estimated hours: 7.5.

INDEPENDENT ACTIVITIES

Research and processing of information to complement the lessons taught by the professor.
Estimated hours: 15.

Independent personal study for exam preparation, organization of notes and/or materials, and free tutorials: individual or in groups.
Estimated hours: 72.5.

ACTIVITY TYPE	ACTIVITY	LEARNING OUTCOMES	STUDENT HOURS
Teacher-led activities	Theory classes	E1.2, E1.3	51
	Practical classes	E1.2, E1.4	1.5
Supervised activities	Analysis of images and anatomical parts	E1.2, E1.4, T1, G2	7.5
Independent activities	Research and processing information	E1.2, E1.3, T1, G2	15
	Independent work	E1.2, E1.3	72.5
TOTAL HOURS			147.5

ASSESSMENT

- **Written tests to assess theoretical and practical knowledge.**
- **Continuous assessment on the observation of images, anatomical pieces and reports.**

See Appendix I for further details of the assessment activities.

In order to pass the module, the following conditions must be met:

- Pass every unit of each section of the course, with a minimum grade of 5.
- Have attended 100% of the practical classes. (If there is a well-founded reason, it is permissible to miss up to 20% of the practical classes).
- Achieve an overall grade of 5 or higher for the course.

Internal Practice Regulations:

Please, check the University's Internal Practice regulations regarding the minimum requirements demanded of the student in the development of the course's practical activities.

Final assessment period: from 06/14/2021 to 06/23/2021.

Re-sit examination period: from 06/25/2021 to 07/02/2021.

Procedure for reviewing grades: see the University's Assessment Guidelines.

A student shall be "non-assessable" if he/she has not taken the required assessment tasks or has not completed a compulsory training activity.

ASSESSMENT ACTIVITIES	PERCENTAGE FINAL GRADE	LEARNING OUTCOMES	STUDENT HOURS
Written theory and practical tests	50%	E1.2, E1.3	2
Continuous assessment on the observation of images and anatomical pieces	50%	E1.2, E1.4, T1, G2	0.5
TOTAL HOURS			2.5

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BIBLIOGRAPHY AND WEB LINKS / BASIC READING LIST

Books					
Author/s	Year	Title	Edition	City	Publisher
Rouvière-Delmas	2005	Anatomía humana descriptiva, topográfica y funcional		Barcelona	Masson
Drake-Vogl-Mitchell	2015	Gray. Anatomía para estudiantes.		Madrid	Elsevier.
Latarjet, M., Ruíz Liard, A.	2004	Anatomía humana		Buenos Aires	Editorial Médica Panamericana
Netter	2015	Atlas de anatomía humana		Barcelona	Masson
Nolte	2016	The human brain. An introduction to its functional anatomy	6th		Mosby
Orts Llorca	1988	Anatomía Humana		Barcelona	Editorial Científico-Médica
Platzer	2000	Atlas de anatomía para estudiantes y médicos		Barcelona	Ediciones Omega
Schünke-Schulte-Schumacher	2014	Prometheus. Texto y atlas de anatomía			Editorial Médica Panamericana
Sobotta-Staubesand	2012	Atlas de anatomía humana		Madrid	Editorial Médica Panamericana
Muscolino, J.	2017	Manual de Palpación Ósea y Muscular con Puntos Gatillo, Patrones de Referencia y Estiramientos	2nd	Barcelona	Panamericana
Netter	2016	Netter's Atlas of Neuroscience	3rd	Philadelphia	Elsevier

BIBLIOGRAPHY AND WEB LINKS / RECOMMENDED READING LIST

Books					
Author/s	Year	Title	Edition	City	Publisher
Biel, A.	2009	Guía Topográfica del cuerpo humano		Badalona	Paidotribo
Duane	2004	Neuroanatomy-Atlas of structures, section and systems	6th		Lippincot Williams & Wilkins
Feneis	2007	Nomenclatura anatómica ilustrada		Barcelona	Masson
Moore	2014	Anatomía con orientación clínica		Barcelona	Editorial Médica Panamericana
Purves	2004	Neuroscience	3rd		Sinauer Associates, Inc
Rohen-Yokochi	2015	Atlas fotográfico de anatomía humana		Barcelona	Ediciones Doyma
Snell	2001	Anatomía clínica para estudiantes de medicina		México DF	McGraw-Hill Interamericana
Testut-Latarjet	1996	Tratado de anatomía humana		Barcelona	Salvat Editores

COURSE SYLLABUS

Available on the virtual campus for all students enrolled in this course

APPENDIX I – ASSESSMENT DETAILS

WRITTEN THEORY AND PRACTICAL TESTS (50 %)

- Theory test

At the end of the semester there will be re-sits. However, to re-sit an exam you must have already taken the ordinary exam.

CONTINUOUS ASSESSMENT ON THE OBSERVATION OF IMAGES AND ANATOMICAL PIECES (50%)

The following image and anatomical piece observation exercises will be carried out:

1. Pairs of cranial nerves and the brainstem.
2. Cranial base, morphology of the brain, meninges, vascularization, ventricular system and medulla.
3. Cardio-respiratory system.
4. Osteology of the lower extremities
5. Muscles of the lower extremities

See the virtual campus for the dates and times of each group.

Before each practical lesson, a report of 100 questions on the subject of the practice must be submitted through the virtual campus. The questions will be found on the virtual campus of the course and will have to be submitted, once completed, the day before the practical class.

The submission of this report is optional, but at the end of the course students who have submitted it will be given a grade.

EXAM ON IMAGES

At the end of the practical classes 1, 2, 3 and 5, there will be an exam on the virtual campus of the course on the units: neurology, cardio-respiratory system and lower limb with the following methodology:

- Exam on neurological images
- Exam on images of the cardiorespiratory system
- Exam on images of bones and muscles of the lower limb
- Exam on the submitted reports

At the end of practical class 4, there will be an exam on the practical exercises presented during the class.

In the exams at the end of each practical class, all the material given during the course will be assessed, even if it corresponds to previous practical classes.

EXAM ON THE REPORTS

After the submission of each report, there will be an exam on the virtual campus with the following methodology:

- Exam on the report on pairs of cranial nerves and the brain stem.
- Exam on the report on the cranial base, morphology of the brain, meninges, vascularization, ventricular system and medulla.
- Exam on the report on the cardiorespiratory system
- Exam on the report on osteology of the lower extremities
- Exam on the report on the muscles of the lower extremities

These assessments will be carried out by the students outside of the practical class timetable, as a complementary and independent activity. The virtual campus will provide information on the timetables for these assessments.

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GENERAL INFORMATION

COURSE DETAILS

Course	PHYSIOLOGY – II		
Code	200544	Academic year	2020-2021
ECTS credits	6	Course type	CORE SUBJECT
Year	1	Semester	2
Timetable	Available on the virtual campus for all students enrolled in this course		
Teaching language	CATALAN/SPANISH/ENGLISH		

FACULTY DATA

- Course coordinator

Professor's name	Dr. ISHAR DALMAU
e-mail	ishar.dalmau@eug.es
Tutorial Schedule	To be arranged

- Lecturers

Professor's name	Dr. PAULA PIFARRÉ
e-mail	paula.pifarre@eug.es
Tutorial Schedule	To be arranged

ENTRY REQUIREMENTS

- There are no official prerequisites

CONTEXTUALIZATION OF THE COURSE

Course content: Physiology

This course aims to provide the basic knowledge of the functioning of the different organs and systems of the human body.

Physiology is the science that studies the human being in a state of health and thus enables the understanding of the pathophysiological situations that lead to disease.

Physiology provides basic and fundamental knowledge to students of health sciences as it introduces

them to the mechanisms that the body uses to maintain internal balance.

Understanding the human individual as a living being requires understanding of the local functioning of each of the organs and systems, but also an understanding of the different interrelationships and controls between them.

The study of physiology of the human body also requires the development of a basic knowledge of biochemistry in order to understand the function and structure of cells and tissues, as well as the body's metabolism. This knowledge has been acquired in the course of Physiology I.

Understanding the different tissues and their differential characteristics is essential for the work of the physiotherapist, taking into account that their actions are focused on one or more tissues.

All this knowledge of physiology and the knowledge of histology and biochemistry acquired in the subject of Physiology I is the foundation of the basic understanding of the human body, which is essential for physiotherapy studies.

The application of this knowledge to the understanding of the functioning of the body in conditions of health, injury or disease will be key to the professional development of the physiotherapist.

Furthermore, this course on physiology aims to stimulate a critical attitude towards science and its paradigms based on knowledge of the scientific method, as well as to develop the ability to synthesize and summarize information and express oneself in the appropriate register.

COMPETENCIES AND LEARNING OUTCOMES

Specific Competencies

Competency	E1. Demonstrate knowledge of the morphology, physiology, pathology and behavior of people, both healthy and sick, in their natural and social environments.
Learning outcomes	<p>E1.9. Explain the functioning of the human body in a healthy state and thus have a solid basis for understanding the processes that lead to disease.</p> <p>Specific objectives:</p> <p>Digestive system:</p> <p>E1.9.1. Identify the different organs of the digestive system and explain their functional structure.</p> <p>E1.9.2. Describe the motility of the organs of the digestive tract and the different movements that are involved.</p> <p>E1.9.3. Explain the secretion at different levels of the digestive tract.</p> <p>E1.9.4. Explain the processes of digestion and absorption of food.</p> <p>E1.9.5. Correlate the mechanisms of nervous and hormonal control of digestive functions.</p> <p>Structure and functions of the liver:</p> <p>E1.9.6. Describe the physiological anatomy of the liver</p>

- E1.9.7.** Explain the metabolic function of the liver on carbohydrates, lipids and proteins.
E1.9.8. Explain the liver as an organ that stores vitamins and other elements.
E1.9.9. Analyze the liver as a detoxifying organ.
E1.9.10. Describe the immunological functions of the liver.

Metabolism and nutrition:

- E1.9.11.** Describe the regulation of metabolism, body growth and energy balance.
E1.9.12. Explain the regulation of body temperature and the process of acclimatization of the body to heat and cold.
E1.9.13. Discuss the regulation of food intake, dietary balance, and the importance of a balanced diet.

Endocrine system

- E1.9.14.** Explain what the hormonal system is, its functions and its interrelationship with the nervous system.
E1.9.15. Describe the different endocrine glands, as well as the hormones they secrete and their functions in the body.
E1.9.16. Correlate the parts of the nervous system and endocrine system involved in the mechanism of neurosecretion.
E1.9.17. Describe thyroid hormones and their relationship to metabolism, as well as their functions in different organs and systems.
E1.9.18. Explain calcium metabolism and define the hormones and systems involved in its regulation.
E1.9.19. Have a comprehensive understanding of the endocrine pancreas and the regulation of blood glucose.
E1.9.20. Analyze the functions of the hormones of the renal cortex and renal medulla.
E1.9.21. Explain sex hormones and their relationship with external male and female characteristics, and their involvement in reproduction.

Excretory system

- E1.9.22.** Discuss the basic concepts involved in the regulation of body fluids and electrolytes.
E1.9.23. Describe the functional structure of the kidney.
E1.9.24. Explain glomerular function.
E1.9.25. Analyze the urine concentrating mechanisms.
E1.9.26. Explain the regulation of volume and osmolarity.
E1.9.27. Discuss the regulation of acid-base balance.

Cardiovascular system

- E1.9.28.** Describe the morphology and functions of the cardiovascular system.
E1.9.29. Explain the physiology of the heart muscle and the electrical activity of the heart.
E1.9.30. Explain and analyze with the help of diagrams all the events that occur in the heart during the cardiac cycle: volumes, pressures and sounds.
E1.9.31. Analyze the regulation of heart function.

- E1.9.32.** Explain the hemodynamics of the arterial and venous systems.
- E1.9.33.** Describe microcirculation and its functional regulation.
- E1.9.34.** Discuss the mechanisms of blood flow control.
- E1.9.35.** Explain the regulation of blood pressure.
- E1.9.36.** Describe the other circulations.

Respiratory system

- E1.9.37.** Explain the respiratory organs and muscles involved in breathing.
- E1.9.38.** Analyze the mechanics of breathing, lung pressures and volumes.
- E1.9.39.** Describe pulmonary circulation.
- E1.9.40.** Explain gas exchange in the lungs.
- E1.9.41.** Evaluate gas transport in the blood.
- E1.9.42.** Discuss the mechanisms of regulation of respiration.

E1.7. Identify the physiological and structural changes that may occur as a result of the injury and/or disease process in the various body systems.

Specific objectives:

- E1.7.1.** Apply histological knowledge of epithelial tissue to the changes observed in the respiratory epithelium of a smoker.
- E1.7.2.** Recognize disorders caused by dysfunctions in the secretion of thyroid hormones: hypothyroidism and hyperthyroidism.
- E1.7.3.** Identify disorders in hyperglycemic hormones and the onset of diabetes insipidus.
- E1.7.4.** Recognize diabetes, its different types and the measures to be taken.
- E1.7.5.** Discuss the different pathologies which condition an alteration in the secretion of sex hormones.
- E1.7.6.** Recognize acute respiratory failure.
- E1.7.7.** Identify a cardiac arrhythmia.
- E1.7.8.** Explain basic ECG alterations.
- E1.7.9.** Recognize heart failure.
- E1.7.10.** Identify kidney failure in laboratory parameters.

Digestive system:

- E1.7.11.** Analyze physiological, nervous and hormonal changes in the processes of gastrointestinal motility disorders and their repercussions on both digestion and absorption of food.
- E1.7.12.** Discuss the processes of malabsorption of nutrients as a consequence of structural alterations of the mucosa.
- E1.7.13.** Explain the metabolic processes induced for massive bowel resections. Short bowel syndrome.
- E1.7.14.** Analyze the different pathophysiological situations induced by the alteration of sphincter competence.

Metabolism and nutrition:

- E1.7.15.** Describe the alterations in thermoregulation: fever, hyperthermia and hypothermia and their casual mechanisms.
- E1.7.16.** Explain their alterations in the control of food intake, as well as the concepts of malnutrition and obesity.
- E1.7.17.** Apply metabolic biochemical knowledge in the context

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	<p>of physical exercise.</p> <p>E1.7.18. Apply biochemical and histological knowledge of adipose tissue in the context of obesity.</p> <p>E1.11. Identify life-threatening situations and know how to perform basic and advanced life support maneuvers.</p> <p>Specific objectives:</p> <p>E1.11.1. Identify a diabetic coma</p> <p>E1.11.2. Identify a hypoglycemic coma.</p> <p>E1.11.3. Describe the characteristics of a respiratory arrest and the different conditions that lead to it.</p> <p>E1.11.4. Explain the characteristics of a cardiac arrest and the different conditions that will lead to it.</p> <p>E1.11.5. Demonstrate the ability to act in any of the two situations mentioned above.</p> <p>E1.11.6. Know how to detect severe hypotension leading to tissue hypoperfusion.</p>
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Competency	E2. Demonstrate knowledge of the sciences, models, techniques and instruments on which physiotherapy is based, articulated and developed.
Learning outcomes	<p>E2.1. Explain the theories of cell biology through an understanding of the cell as a functional unit.</p> <p>Specific objectives:</p> <p>E2.1.1. Define hormones, main types of hormones and body activity.</p> <p>E2.1.2. Relate each hormone type to its mechanism of action.</p> <p>E2.2. Explain the biochemical foundations of the functioning of the human body.</p> <p>Specific objectives:</p> <p>E2.2.1. Describe the biochemical principles of the regulation of acid-base balance.</p>

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Transversal Competencies

Competency T1. Analyze and summarize.	
Learning outcomes	Specific objectives: T1.1. Gather information on the functioning of the human body and summarize it. T1.2. Prepare a report in relation to the information gathered on the functioning of the human body. T1.3. Recognize the main ideas of a text or a theoretical case. T1.4. Prepare a summary of a scientific article. T1.5. Draw conclusions from a scientific article. T1.6. Explain a concept through an oral presentation.

Competency T5. Problem solving	
Learning outcomes	Specific objectives: T5.1. Identify the main parameters that have been altered in a clinical analysis or in a clinical case. T5.2. Develop an action plan to identify the causal and associated factors in the alteration of the parameter. T5.3. Develop explanatory hypotheses. T5.4. Identify the concepts to be presented and discuss them in a working group. T5.5. Organize oneself in a working group to gather information. T5.6. Prepare a PowerPoint presentation. T5.7. Prepare and plan the oral presentation.

General Competencies

Competency G2. Develop independent learning strategies	
Learning outcomes	This competency is considered to be developed in this course by working on "T1. Analyze and summarize" and "T5. Problem solving".

CONTENTS

THEORY

1. Digestive system
 - 1.1. Functional structure. Motility of the digestive tract
 - 1.2. Food intake
 - 1.3. Gastric motility
 - 1.4. Intestinal motility
 - 1.5. Gastric secretion
 - 1.6. Intestinal secretions
 - 1.7. Food digestion and absorption
 - 1.8. Structure and functions of the liver
2. Metabolism and nutrition
 - 2.1. Energy and basal metabolism
 - 2.2. Regulation of body temperature
 - 2.3. Dietary balance. Regulation of food intake
3. Endocrine system
 - 3.1. Introduction. Hormones
 - 3.2. Hypothalamus. Neurohypophysis. Adenohypophysis
 - 3.3. Thyroid
 - 3.4. Regulation of calcium metabolism
 - 3.5. Endocrine pancreas
 - 3.6. Adrenal medulla
 - 3.7. Adrenal cortex
 - 3.8. Sex hormones
4. Excretory system
 - 4.1. Body fluids
 - 4.2. Structure and function of the kidney
 - 4.3. Glomerular function
 - 4.4. Urine-concentrating mechanism
 - 4.5. Regulation of volume and osmolarity
 - 4.6. Regulation of the acid-base balance
5. Cardiovascular system
 - 5.1. Introduction to the cardiovascular system
 - 5.2. Histology of the heart muscle: functions, characteristics and contraction
 - 5.3. Physiology of the myocardial muscle
 - 5.4. Electrical activity of the heart
 - 5.5. Cardiac cycle
 - 5.6. Regulation of heart function
 - 5.7. Hemodynamics of the arterial system
 - 5.8. Hemodynamics of the venous system
 - 5.9. Microcirculation. Capillary and lymphatic systems
 - 5.10. Control mechanisms of blood flow
 - 5.11. Regulation of blood pressure
 - 5.12. Other circulations
6. Respiratory system
 - 6.1. Introduction to respiratory physiology
 - 6.2. Mechanics of breathing
 - 6.3. Lung ventilation
 - 6.4. Lung circulation

- 6.5. Gas exchange in the lungs
- 6.6. Transport of respiratory gases in the blood
- 6.7. Regulation of breathing

PRACTICAL CLASSES:

1. Problem-based learning based (PBL) on the physiology of the body systems (practical exercises in class).

TEACHING METHOD AND TRAINING ACTIVITIES

TEACHER-LED ACTIVITIES

- **Theory classes** with graphic and computer support providing the theoretical basis on biochemistry, cell biology, histology and physiology.
Estimated hours: 47.
- **Practical classes** with graphic and computer support in which the professor will explain the objective and the procedure to be used during the exercise. These will always be related to key themes and procedures in physiology.
Estimated hours: 1.5.

SUPERVISED ACTIVITIES

- **Practical activity among students**, under the supervision of the professor, implementing the different techniques presented in class.
Estimated hours: 7.5.

INDEPENDENT ACTIVITIES

- **Research and processing of information** in different formats that will serve both to consolidate the teaching of the professors and to carry out the assignments and practical exercises.
Estimated hours: 15.
- **Written assignments:**
 - Assignment on the problem-based learning (PBL) report.
Estimated hours: 15.
- **Independent personal study** for exam preparation, organization of notes and/or materials, and free tutorials: individual or in groups.
Estimated hours: 59.5.

ACTIVITY TYPE	ACTIVITY	LEARNING OUTCOMES	STUDENT HOURS
Teacher-led activities	Lectures	E1.7, E1.9, E1.11., E2.1, E2.2	47
	Practical classes	E1.9, E1.11, E2.1, E2.2	1.5
Supervised activities	Practical student activities	E1.9, E1.11, E2.1., E2.2 T5	7.5
Independent activities	Research and processing information	E1.7, E1.9, E2.1, E2.2, T1, G2	15
	Written assignments	E1.7, E1.9, E2.1, E2.2, T1, T5	15
	Independent work	E1.7, E1.9, E1.11, E2.1, E2.2	59.5
TOTAL HOURS			145.5

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ASSESSMENT

The assessment criteria will include:

- Written tests will assess the knowledge acquired in class. With an overall weight of 50% towards the final grade.
- Practical activities, on the problem-based learning (PBL), with a overall weight of 20% towards the final grade.
- Assignment on the problem-based learning (PBL) report. With an overall weight of 30% towards the final grade.

See Appendix I for further details of the assessment activities.

In order to pass the module, the following conditions must be met:

- Pass every unit of each section of the course, with a minimum grade of 5.
- Have attended 100% of the practical classes. (If there is a well-founded reason, it is permissible to miss up to 20% of the practical classes).
- Achieve an overall grade of 5 or higher for the course.

Internal Practice Regulations:

Please, check the University's Internal Practice regulations regarding the minimum requirements demanded of the student in the development of the course's practical activities.

Final assessment period: from 06/14/2021 to 06/23/2021.

Re-sit examination period: from 06/25/2021 to 07/02/2021.

Procedure for reviewing grades: see the University's Assessment Guidelines.

A student shall be “non-assessable” if he/she has not taken the required assessment tasks or has not completed a compulsory training activity.

ASSESSMENT ACTIVITIES	PERCENTAGE FINAL GRADE	LEARNING OUTCOMES	STUDENT HOURS
Written tests	50%	E1.7, E1.9, E1.11., E2.1, E2.2	2
Practical tests on PBL	20%	E1.9, E1.11, E2.1., E2.2 T5	2
PBL report	30%	E1.7, E1.9, E2.1, E2.2, T1, T5, G2	0.5
TOTAL HOURS			4.5

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BIBLIOGRAPHY AND WEB LINKS / BASIC READING LIST

Books					
Author/s	Year	Title	Edition	City	Publisher
Tortora, G., Derrickson, B.	2013	Principios de Anatomía y Fisiología	13th	Madrid	Médica Panamericana
Gartner, L., Hiatt, J.	2002	Texto y atlas de histología	2nd	Mexico	McGraw-Hill
Tresguerres, J.	2010	Fisiología Humana	4th		McGraw-Hill
Guyton & Hall	2016	Textbook of Medical Physiology	13th	Philadelphia	Elsevier

Web references			
Title	Description	URL	
Cells alive	Information on cell components	http://www.cellsalive.com/toc_cellbio.htm	
Biomoleculas 3D	Structure of different biomolecules	http://www.xtec.cat/~mmulet/Bmols/	
Blue Histology	Images of different tissues	http://www.lab.anhb.uwa.edu.au/mb140/	
Histology	Images of different tissues	https://histo.life.illinois.edu/histo/atlas/slides.php	
Histology at Southern Illinois University School of Medicine	Images of different tissues	http://www.siumed.edu/~dking2/index.htm	

BIBLIOGRAPHY AND WEB LINKS / RECOMMENDED READING LIST

Books					
Author/s	Year	Title	Edition	City	Publisher
Fox Stuart	2008	Fisiología Humana	7th	Madrid	McGraw-Hill
Albers et al.	1996	Biología molecular de la célula	3rd	Barcelona	Omega
Junqueira, J. L., Carneiro, J.	2005	Histología básica	6th	Barcelona	Masson
Wheater, P. R., Burkitt, H. G., Stevens, A., Lowe, J. S	2003	Histopatología básica	4th	Barcelona	Elsevier
Nordin, M., Frankel, V.	2004	Biomecánica básica del sistema músculoesquelético	4th	Madrid	McGraw-Hill Interamericana
McKee, T., McKee, J. R.	2003	Bioquímica. La base molecular de la vida.	3rd	Madrid	McGraw-Hill Interamericana
Pilat, A.	2003	Terapias miofasciales: inducción miofascial	1st	Madrid	McGraw-Hill Interamericana
Koeppen	2009	Berne y Levi. Fisiología	6th		Elsevier
Silverthorn	2008	Fisiología Humana. Un enfoque integrado.	4th		Panamericana
Gal, B.	2007	Bases de la Fisiología	1st		Tebar Flores
Barret, K.	2010	Fisiología Gastrointestinal	23rd		Interamericana
Pocock, G.	2010	Fisiología Humana. La base de	2nd		Masson

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		la Medicina			
Thibodeau	2009	Anatomía y Fisiología	4th		Elsevier
Yong, B., Heath, J. W.	2002	Histología funcional: texto y atlas en color	4th	Madrid	Elsevier Science
Kierszenbaum, A. L.	2008	Histología y biología celular. Introducción a la anatomía patológica.	2nd	Barcelona	Elsevier Mosby
Stevens, A., Lowe, J.	1993	Histología humana	3rd	Madrid	Elsevier Mosby
Lehninger, Nelson, Cox	1995	Principios de Bioquímica	2nd	Barcelona	Omega
Ganong, William F.	2009	Fisiología Médica	18th		Manual Moderno

Web references			
Title	Description	URL	
La cèl·lula	Main cellular components	http://www.xtec.cat/~jgurrera/index.htm	
The Jay Doc Histo Web	Images of different tissues	http://www.kumc.edu/instruction/medicine/anatomy/histoweb/index.htm	
University of Wisconsin Medical School Histology home page	Images of different tissues	http://histologyatlas.wisc.edu/uw/histo.htm	
Histology tutorial	Images of different tissues	http://medinfo.ufl.edu/year1/histo/	

COURSE SYLLABUS

Available on the virtual campus for all students enrolled in this course

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APPENDIX I – ASSESSMENT DETAILS

THEORY TEST (50 %)

Theory test

At the end of the semester there will be re-sits. However, to re-sit an exam you must have already taken the ordinary exam.

PRACTICAL TESTS (20%)

PRACTICAL CLASSES ON THE PROBLEM-BASED LEARNING (PBL) – Dr. Paula Pifarré

Description/outline of the practical class:

Problem-based learning (PBL) with teacher-led activity: practical class in the form of specialized seminars on physiology:

In groups, practical problems related to the main theoretical contents of the curriculum on physiology will be resolved. The aim of the practical problem-based learning will be one body system and the dysfunctions and diseases in which physiotherapy is a treatment of choice.

In the 1st practical PBL session, the group work dynamics of the PBL sessions and the assessment criteria rubric will be explained. The work groups will then be decided, and each group will complete a form setting out the members of their group. Each member of the group will read their case (problem) individually, then carry out a brainstorming session (identify the most important aspects that need to be known to resolve the situation described, draw up a list of the knowledge areas related to the case and prepare the research question), describe the sources of information where research will be carried out and draw up a work plan in relation to the knowledge areas identified. In the 2nd and 3rd practical PBL sessions, the information that each member has gathered and worked on in the general feedback sessions will be shared with their group: the information must be scientifically supported and, before sharing it, it must be selected, analysed and synthesised individually. In groups, you will discuss and prioritise the information gathered, identify areas of knowledge where further research is needed and specify new research questions. In the 4th session, the research strategy and two articles (at least one of them must be found in a database) related to the case (problem) must be submitted individually; the conceptual principles of the concept map will need to be identified and the outline of the concept map will be prepared, including basic concepts and the relationships between them. In the 5th session, each group will give an oral presentation with PowerPoint (ICT support) defending the results obtained from their group's conclusions regarding the case (problem) and from the concept map. The duration of the oral presentation will be 10 minutes for each group.

The groups will be made up of 4-5 people.

The practical problem-based learning classes consist of five 2-hour sessions in a theory class (Classroom practice): 10 hours

Marking criteria:

The grade for the PBL practical classes will be based on the following criteria: motivation and commitment, self-learning skills, knowledge acquisition, teamwork and written communication.

The practical PBL grade will be the same for all members of the group. However, 1 point will be deducted in the case of group members who show – during the oral presentation defence of the results obtained from the group's conclusions regarding the case (problem) – a lack of basic knowledge on body systems. In addition, a penalty of 1 point will also be applied in the case of those who demonstrate a lack of active participation and a poor attitude throughout the practical PBL sessions.

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ASSIGNMENTS (30%)

PROBLEM-BASED LEARNING (PBL) REPORT (Dr. Paula Pifarré)

Description/outline of the assignment:

The PBL report will consist of two assignments:

- In the 4th practice session, the research strategy (according to the assessment rubric published in the subject's Moodle classroom) and two articles (at least one of which must be found in a database) related to the case (problem) must be submitted individually. The research strategy should summarize the main ideas of the literature in your own words; the bibliographic references should be prepared according to the Vancouver style, and the presentation and style guide should be carefully followed. It is not necessary to bring the printed document; you need only submit what is requested in the rubric. The individual assignment has a value of 50% towards the final grade of the report.

- In the 5th practical session, each group will submit the concept map (PowerPoint document of the presentation and also printed in PDF format) that will include the basic concepts behind the research and the relationships between them. The group assignment has a value of 50% towards the final grade of the report.

Marking criteria:

The final grade of the report will be calculated by averaging the grades obtained in the individual and group assignments.

Assignments that do not follow the instructions specified by the professors will not be graded.

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GENERAL INFORMATION

COURSE DETAILS

Course	APPLIED PSYCHOSOCIAL SCIENCES		
Code	200543	Academic year	2020-2021
ECTS credits	6	Course type	CORE SUBJECT
Year	1	Semester	2
Timetable	Available on the virtual campus for all students enrolled in this course		
Teaching language	CATALAN		

FACULTY DATA

- Course coordinator

Professor's name	Mr. EDUARD TÀPIAS SANGLAS
e-mail	eduard.tapias@eug.es
Tutorial Schedule	To be arranged

- Lecturers

Professor's name	Ms. ROSANA LUBELZA ROCA
e-mail	rosana.lubelza@eug.es
Tutorial Schedule	To be arranged

ENTRY REQUIREMENTS

- There are no official prerequisites

CONTEXTUALIZATION OF THE COURSE

Course content: Psychology.

- This course aims to lay the foundations for understanding the human psyche in its social environment, especially in situations of mental, physical and psychosomatic illness, establishing guidelines for a favorable physiotherapist-patient relationship.
- Knowledge of human subjectivity and psychopathology is essential to the profile of the degree of this profession, taking into account the high prevalence of mental suffering and mental disorders both in the general population and in cases involving users of rehabilitation services.

- This course aims to lay the foundations for the diagnosis and treatment of common psychiatric pathologies in general clinical practice.

COMPETENCIES AND LEARNING OUTCOMES

Specific Competencies

Competency	E1. Demonstrate knowledge of the morphology, physiology, pathology and behavior of people, both healthy and sick, in their natural and social environments.
Learning outcomes	<p>E1.12. Explain the basic principles of evolutionary psychology and the foundations of psychosocial development.</p> <p>Specific objectives:</p> <p>E1.12.1. Describe the different constitutive moments of human subjectivity.</p> <p>E1.12.2. Define the most important features of the life cycles: birth, adolescence, adulthood, old age and death.</p> <p>E1.12.3. Describe the different psychological factors that play a role in human motivation and behavior.</p> <p>E1.12.1. Identify the concept of normality and mental health within a given social environment.</p> <p>E1.14. Explain the theories of learning to be applied in health education and in the process of lifelong learning itself.</p> <p>Specific objectives:</p> <p>E1.14.1. Identify the principles of learning and the desire to learn.</p> <p>E1.15. Identify psychological and physical problems derived from gender-based violence.</p> <p>Specific objectives:</p> <p>E1.15.1. Distinguish the signs of psychological and physical abuse.</p> <p>E1.15.2. Ask appropriately about situations of violence.</p> <p>E1.38 Explain the basic psychopathological processes.</p> <p>Specific objectives:</p> <p>E1.38.1. Define the main concepts of clinical structures in psychopathology.</p> <p>E1.38.2. Identify the psychopathological concepts in the patient's medical history and examination.</p> <p>E1.38.3. Formulate a diagnostic approach in the field of psychopathology.</p> <p>E1.38.4. Distinguish between psychotic and neurotic, organic or functional pathology.</p> <p>E1.38.5. Diagnose clinical compatibility with: dementia, mental retardation, autism, schizophrenia, paranoid disorder, depression,</p>

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	<p>anxiety disorders, somatoform disorders, eating disorders, sleep disorders, personality disorders, sexuality disorders, and substance abuse disorders.</p> <p>E1.38.6. Recognize the different psychopharmacological, psychological and other useful treatments in psychiatry.</p>
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Competency	E7. Assess the patient's functional status, taking into account physical, psychological and social factors.
Learning outcomes	<p>E7.1. Explain the psychological and social factors that influence the health/disease status of the individual, family and community.</p> <p>Specific objectives:</p> <p>E7.1.2. Relate the different variables that come into play in mental stability.</p> <p>E7.1.3. Describe the functions and roles in the family group and their role in situations of illness.</p> <p>E7.1.4. Identify community resources that facilitate social bonding.</p>

Competency	E13. Provide effective physiotherapy care, giving patients comprehensive assistance.
Learning outcomes	<p>E13.1. Identify the psychological impact of patients' trauma and physical illness.</p> <p>Specific objectives:</p> <p>E13.1.1. Identify the different moments of the psychological process in physical rehabilitation.</p> <p>E13.1.2. Relate the most appropriate therapeutic attitude to each moment of the process.</p> <p>E13.1.3. Describe how to deal with mourning and its complications.</p> <p>E13.1.4. Detect mental illnesses in patients with traumatological, rheumatological or degenerative diseases.</p> <p>E13.2. Explain the psychological aspects of the physiotherapist-patient relationship.</p> <p>Specific objectives:</p> <p>E13.2.1. Define the basic concepts for establishing a relationship of trust.</p> <p>E13.2.2. Define the most appropriate therapeutic approaches according to the patient's psychopathology, problems and attitude.</p> <p>E13.2.3. Recognize the main aspects of transference phenomena.</p> <p>E13.3. Explain the psychological determinants affecting the biological organism in patients with psychosomatic disorders.</p> <p>Specific objectives:</p> <p>E13.3.1. Identify the psychopathological signs in the patient's medical history and examination.</p> <p>E13.3.2. Define the guidelines to be followed in the physiotherapeutic treatment of the psychosomatic patient including the relevant psychosocial aspects.</p>

Competency	E15. Work in professional teams, cooperating effectively with the whole multidisciplinary team.
Learning outcomes	<p>E15.1. Identify the factors that determine group dynamics.</p> <p>Specific objectives:</p>

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	<p>E15.1.1. Differentiate between group, team and institution.</p> <p>E15.1.2. Develop appropriate conditions for teamwork.</p> <p>E15.1.3. Differentiate between the therapeutic and iatrogenic team.</p> <p>E15.1.4. Identify the teams' defence mechanisms.</p> <p>E15.1.5. Identify the leader's role in team dynamics.</p>
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Competency	E21. Communicate effectively and clearly, both orally and in writing, with all health system users, as well as with other professionals.
Learning outcomes	<p>E21.1. Determine and explain the psychological aspects of the physiotherapist-patient relationship.</p> <p>Specific objectives:</p> <p>E21.1.1. Recognize the most important aspects of one's listening attitude.</p> <p>E21.1.2. Recognize the most important aspects of one's attitude of presence.</p> <p>E21.1.3. Recognize the most important aspects of one's attitude of setting limits.</p> <p>E21.1.4. Identify the most important aspects of conflict resolution.</p> <p>E21.1.5. Develop an appropriate professional-patient relationship.</p> <p>E21.1.6. Establish a climate of trust during the clinical examination of the patient.</p> <p>E21.1.7. Develop empathic skills.</p> <p>E21.1.8. Use basic guidelines for relationships with psychiatric patients.</p> <p>E21.1.9. Identify the role of a physiotherapist in a psychiatric clinic.</p> <p>E21.2. Explain and apply the theories of communication and interpersonal relationships.</p> <p>Specific objectives:</p> <p>E21.2.1 Identify the basic aspects of verbal and body language.</p>

Transversal Competencies

Competency	T3. Express oneself fluently, coherently, and appropriately according to established rules, both orally and in writing.
Learning outcomes	<p>Specific objectives:</p> <p>T3.1. Communicate effectively, appropriately and comprehensibly with the patient/user, his/her family and the rest of the members of the interdisciplinary team.</p>

Competency	T7. Teamwork
Learning outcomes	<p>Specific objectives:</p> <p>T7.1. Differentiate between group, team and institution.</p> <p>T7.2. Develop appropriate conditions for teamwork.</p> <p>T7.3. Differentiate between the therapeutic and iatrogenic team.</p> <p>T7.4. Identify the teams' defence mechanisms.</p>

	T7.5. Take into account other people' points of view.
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Competency	T8. Have interpersonal relationship skills.
Learning outcomes	Specific objectives: T8.1. Recognize the most important aspects of one's listening attitude. T8.2. Recognize the most important aspects of one's attitude of setting limits. T8.3. Identify the most important aspects of conflict resolution. T8.4. Develop empathic skills.

Competency	T9. Critical thinking.
Learning outcomes	Specific objectives: T9.1. Participate actively in discussions.

General Competencies

Competency	G3. Respect the diversity and plurality of ideas, people, and situations.
Learning outcomes	Specific objectives: G3.1. Acknowledge the implicit diversity of the human condition by recognizing one's own prejudices.

CONTENTS

PSYCHOLOGY

1. The human psyche. Basic concepts
2. The constitution of the individual. Developmental psychology and vital cycles
3. Individual and family in modern society
4. Different orientations and treatments in the clinical field
5. Clinical structures in psychopathology. The physiotherapist-patient relationship
6. Psychosomatics: disorders and methods of intervention
7. Physical trauma and disability: psychological and social consequences
8. Case assessment and orientation

PSYCHIATRY

1. GENERAL INTRODUCTION
 - 1.1. History of current psychiatry
 - 1.2. Psychopathology
2. BASIC PSYCHIATRIC CLINICAL PRACTICE
 - 2.1. Organic mental disorders: dementias. Mental deficiencies. Head injuries
 - 2.2. Psychotic disorders: schizophrenia. Others
 - 2.3. Child and adolescent disorders
 - 2.4. Anxiety disorders
 - 2.5. Mood disorders
 - 2.6. Sleep disorders
 - 2.7. Sexuality disorders
 - 2.8. Eating disorders
 - 2.9. Personality disorders
 - 2.10. Substance use disorders
3. THERAPEUTIC ACTION AND TEAM DYNAMICS
 - 3.1. Treatments in psychiatry: psychopharmacology, other biological treatments
 - 3.2. Case guidance: detection, referral
 - 3.3. Health and social care network operations
 - 3.4. Team: dynamics and protection

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TEACHING METHOD AND TRAINING ACTIVITIES

TEACHER-LED ACTIVITIES

- **Theory classes** with visual and computer-based support.

Estimated hours: 45.

SUPERVISED ACTIVITIES

- **Individual work** on clinical cases:
 - Proposed by the teacher
 - Assessment and in-depth analysis of a group patient-interview in relation to a fictional character. (Film, book...)
- **Group work in relation to:**
 - Cine-forum projections: presentation of the theoretical material, debate and group exercises.
 - Psychosocial interview with a patient from the health services, team assessment and presentation in class.

Estimated hours: 15.

INDEPENDENT ACTIVITIES

- Comprehensive reading that complements or builds on the theory classes.
Estimated hours: 10.
- Research and preparation of case studies for the practical classes. Work in small groups. Face-to-face or virtual tutorials. Teamwork. Face-to-face or virtual project.
Estimated hours: 20.
- Independent personal study assignment for exam preparation and organization of notes.
Estimated hours: 57.75.

ACTIVITY TYPE	ACTIVITY	LEARNING OUTCOMES	STUDENT HOURS
Teacher-led activities	Lectures	E1.12, E1.38, E1.14, E1.15, E7, E13, E15.1, E21	45
Supervised activities	Resolution of clinical cases	E1.12, E1.38, E1.15, E7, E13, E21, T7, T8, T9, G3	15
Independent activities	Written assignments on proposed topics	E1.12, E1.38, E1.14, E1.15, E7, E13, E21, T3	20
	Comprehensive reading	E1.12, E1.38, E1.14, E1.15, E7, E13, E21	10
	Independent work	E1.12, E1.38, E1.14, E1.15, E7, E13.1, E13.2, E13.3, E15.1, E21	57.75
TOTAL HOURS			147.75

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ASSESSMENT

The assessment criteria will include:

- Written tests assessing the theoretical knowledge acquired in class. With an overall weight of 50% towards the final grade.
- Clinical evaluation. With an overall weight of 25% towards the final grade.
- Group assignment. With an overall weight of 25% towards the final grade.

See Appendix I for further details of the assessment activities.

In order to pass the module, the following conditions must be met:

- Pass every unit of each section of the course, with a minimum grade of 5.
- Achieve an overall grade of 5 or higher for the course.

Final assessment period: from 06/14/2021 to 06/23/2021.

Re-sit examination period: from 06/25/2021 to 07/02/2021.

Procedure for reviewing grades: see the University's Assessment Guidelines.

A student shall be “non-assessable” if he/she has not taken the required assessment tasks or has not completed a compulsory training activity.

ASSESSMENT ACTIVITIES	PERCENTAGE FINAL GRADE	LEARNING OUTCOMES	STUDENT HOURS
Written tests	50%	E1.12, E1.38, E1.14, E1.15, E7, E13, E15.1, E21	2
Clinical evaluation	25%	E1.12, E1.38, E1.15, E7, E13, E21, T7, T8, T9, G3	0
Group work	25%	E1.12, E1.38, E1.14, E1.15, E7, E13, E21, T3	0.25
TOTAL HOURS			2.25

BIBLIOGRAPHY AND WEB LINKS / BASIC READING LIST

Books					
Author/s	Year	Title	Edition	City	Publisher
Harold I. Kalan	2005	Sinopsis de Psiquiatria	9th	Barcelona	Waverly Hispànica
Luban-Plozza, B., et al.	2009	El enfermo psicossomàtic en la pràctica	3rd	Barcelona	Herder
Arranz Freijo, E.	2008	Modelos del desarrollo psicològic humano	3rd	Guipuzkoa	Servicio editorial Universidad del Pais Vasco
Luque, R., Villagran, J. M.	2000	Psicopatología Descriptiva: Nuevas tendencias	1	Madrid	Trota

Audio-visual material			
Title:	Description		
EL HOMBRE QUE MIRABA AL SUDESTE	Fiction about psychiatry		
UNA ALTRA MANERA DE CURAR	Documentary on ethnopsychiatry		
EL PERDÓN	Documentary on a case of mental illness		
LA OSA MAYOR MENOS 2	Documentary about hospitalized patients with psychiatric disorders		
XTREMS	Fictional documentary about addictive disorders		
SHINE	Fiction about mental illness and artistic creation		
EL HIJO DE LA NOVIA	Fiction about Alzheimer's		
ELTRUCO DEL MANCO	Fiction about psychopathy and addiction		

Others			
Title	Description		
UNA CIERTA VERDAD	DOCUMENTARY ON PATIENTS IN PSYCHIATRIC CENTER PARC TAULÍ. SABADELL	Abel Garcia Roura	Spain 2008
PENSANT EN ELS ALTRES	DOCUMENTARY ABOUT THE EMOTIONAL BOND WITH PRIMARY SCHOOL CHILDREN IN JAPAN	Toshiro Kanamori. School in Kanazawa.	Japan 2003

BIBLIOGRAPHY AND WEB LINKS / RECOMMENDED READING LIST

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Books					
Author/s	Year	Title	Edition	City	Publisher
Mardarás, E.	1990	<u>Psicoprofilaxis quirúrgica</u>		Barcelona	Rol
Beck-Gemheim, E.	2003	<u>La reinvençió de la família</u>	1st		Paidós
Sinelnikoff, N.	2009	<u>Las psicoterapias. Inventario crítico</u>	2nd		Herder
Pàmies, Teresa	2002	<u>L'aventura d'envellir</u>	5th		Empuries
Jamis, Rauda	1998	<u>Frida Kahlo</u>			Circe
Regàs, Rosa	2010	La hora de la verdad	1st	Barcelona	Now Books
Moya, Josep	2004	La intervenció professional en joves amb trastorns mentals	1st	Barcelona	Centre d'Estudis Jurídics. Generalitat de Catalunya
Castilla del Pino, Carlos	2011	Introducción a la Psiquiatría 1	1st	Córdoba	<u>UNIVERSIDAD DE CORDOBA.</u>
Millieri, R	2003	<u>La aventura de ser niño</u>	1st	Barcelona	Biblioteca Nueva
Frame, Janet	1991	Un ángel en mi mesa		Barcelona	Seix Barral
Greenberg, Michael	2009	Hacia el amanecer,		Barcelona	Seix Barral
Oller, Narcís	2006	La Bogeria		Barcelona	Clàssics Catalans Biblioteca Hermes
Rubinfeld, Jed	2007	La Interpretación de un asesinato,		Barcelona	Anagrama
Soler, Jordi		La última hora de l'últim dia			La Magrana
Haddon, Mark	2006	El curios incident del gos a mitjanit.		Barcelona	La Magrana
Yalom, Irvin D.	2008	El día que Nietzsche lloró		Barcelona	Destino

COURSE SYLLABUS

Available on the virtual campus for all students enrolled in this course

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APPENDIX I – ASSESSMENT DETAILS

THEORY TEST (50 %)

- Theory test

At the end of the semester there will be re-sits. However, to re-sit an exam you must have already taken the ordinary exam.

CLINICAL EVALUATION (25 %)

EVALUATION – Mr. EDUARD TÀPIAS (50%)

Description/outline of the evaluation:

Assessment and in-depth evaluation of the personal advantages or difficulties when treating patients with the psychological profile of a group interviewed patient. Relate the patient to a fictional character (film, book...)

Personal reflection on the interviewed case.

Assessment of how the student would interact if he/she were the physiotherapist, which aspects would be more favorable and which would be more difficult, taking into account his/her motivations, character and circumstances.

Include and comment on the reference of a film, a book or a news item from the press associated with the case interviewed.

Presentation:

Maximum length of 1 A4 page, Arial font, size 12. In PDF.

Marking criteria:

The grade is based on a global or comprehensive rubric in relation to the following aspects:

- Capacity for personal reflection on the case: 0–3 points
- Ability to assess your professional role with the interviewed patient: 0–3 points
- Contribution of cultural references from fiction or the press: 0–3 points
- Presentation and development of the text: 0–1 point

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EVALUATION – Ms. ROSANA LUBELZA (50%)

Description/outline of the evaluation:

Analysis of the clinical case with a class presentation and subsequent submission of the written assignment. The analysis of the clinical case, provided by the professor in the teaching material, must answer all the questions indicated in the questionnaire. Each assignment will be assessed according to the accuracy of the answers and the bibliographical references provided. During the class presentation, errors will be corrected, and improvements will be recommended before the written assignment is submitted. The assignment can be submitted by e-mail (preferably) or on paper, the length is unrestricted.

Marking criteria:

Correction of answers from 0 to 5 points, research of complementary information from 0 to 5 points.

GROUP WORK (25 %)

PSYCHOSOCIAL INTERVIEW (50 %) (Mr. Eduard Tàpias)

Description/outline of the assignment:

Psychosocial interview with a patient from the health services, team assessment through written work and a class presentation with the aid of a poster prepared in groups. The professor will resolve any doubts by e-mail, in class or in the tutorials. Maximum length of 3 A4 pages, font type Arial, size 12, in PDF.

Marking criteria:

The grade is based on a global or comprehensive rubric on:

- Ability to listen and observe according to the parameters provided in class: 0–3 points
- Summary and conclusions on the case and teamwork: 0–3 points
- Oral presentation in class: 0–3 points
- Quality of presentations: 0–1 point

COMMENTARY AND CRITICAL ANALYSIS OF FILMS (50 %) (Ms. Rosana Lubelza)

Description/outline of the assignment:

Commentary and clinical analysis on one or two films viewed in class. The questions indicated in the teaching material, provided by the teacher, must be answered, however, the depth and originality of the analysis made by the group, both psychopathological and psychosocial of the film's plot, will also be assessed.

Marking criteria:

Basic analysis of the film material: 0 to 5 points

Further analysis of the material viewed, originality in the preparation, literature search, from 0 to 5 points.

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GENERAL INFORMATION

COURSE DETAILS

Course	BIostatistics AND Methodology		
Code	200542	Academic year	2020-2021
ECTS credits	6	Course type	CORE SUBJECT
Year	1	Semester	2
Timetable	Available on the virtual campus for all students enrolled in this course		
Teaching language	CATALAN/SPANISH		

FACULTY DATA

- Course coordinator

Professor's name	Dr. JOSEP SÁNCHEZ ALDEGUER
e-mail	metodologia@eug.es
Tutorial Schedule	To be confirmed

- Lecturers

Professor's name	Dr. FRANCESC BOIXADER ESTEVEZ
e-mail	francesc.boixader@eug.es
Tutorial Schedule	To be arranged

Professor's name	Dr. CLARA FLORENSA
e-mail	clara.florensa@eug.es
Tutorial Schedule	To be arranged

Professor's name	Ms. RAQUEL AZORIN
e-mail	raquel.azorin@eug.es
Tutorial Schedule	To be arranged

ENTRY REQUIREMENTS

- There are no official prerequisites

CONTEXTUALIZATION OF THE COURSE

- Course content: Statistics.
- Knowledge of the scientific method is basic for research, for the professional practice and for the development of physiotherapists today and in the future. This course unit aims to introduce students to the scientific method currently used in the biological sciences. Through this course students will acquire the reasoning and practical methodology of Evidence Based Physiotherapy.
- Students will learn the basic concepts of Evidence-Based Medicine and Epidemiology applied to Physiotherapy, the basic notions of the types of scientific studies and the possibilities and importance of epidemiological studies in the field of Physiotherapy.
- Students will be introduced to the aspects and basic tools to search for information and carry out research work. They will learn to carry out working hypotheses and to develop objectives, research projects, literature searches and understand the structure of the parts of scientific work.
- A fundamental part of the current scientific method is made up of the statistical analysis of data. Therefore, knowledge of basic mathematical and conceptual techniques for the analysis of statistical data is essential for the basic training and continuous education of physiotherapists in the 21st century. Basic knowledge of descriptive statistics and statistical inference is therefore essential for the student in order to be able to:
 - understand how to read scientific articles and publications critically
 - understand the statistical information used in specialist journals and books
 - summarize, encapsulate, interpret and represent statistical one- or two-variable series
 - manage probability calculus and its application in diagnostic tests
 - understand and use certain probability distributions as well as their different approximations
 - understand and apply estimation techniques, hypothesis and linear regression and correlation contrasts
 - organize and present the results of a statistical study

COMPETENCIES AND LEARNING OUTCOMES

Specific Competencies

Competency	E2. Demonstrate knowledge of the sciences, models, techniques and instruments on which physiotherapy is based, articulated and developed.
Learning outcomes	<p>E2.12. Use correctly the data found in reliable information sources, in the field of health sciences.</p> <p>Specific objectives:</p> <p>E2.12.1 Understand the importance of a theoretical framework in research on health sciences.</p> <p>E2.12.2 Carry out a literature search on the most relevant sources in the field of health sciences.</p>

- E2.12.3** Revise the existing literature in health sciences.
E2.12.4 Find in the literature all the information relevant for the particular goals in question.
E2.12.5 Review the texts gathered during a literature search in different health sciences databases, following the methods of critical reading.

E2.13. Apply statistical techniques to professional work in order to better understand the results obtained in everyday practice.

Specific objectives:

- E2.13.1** Define the fundamental concepts of statistics.
E2.13.2 Identify the different types of variables used in statistics, build and define the statistical variables starting from given observations.
E2.13.3 Identify and interpret the basic measures of central tendency, dispersion and form.
E2.13.4 Carry out a simple statistical study using data previously gathered, ordered and synthesized.
E2.13.5 Solve simple probability problems.
E2.13.6 Understand the properties of normal distribution and apply binomial, Poisson and standard normal tables.
E2.13.7 Interpret contingency tables and the relationship between two variables and find a linear function between them.
E2.13.8 Predict the results of a variable in a subject, by knowing the value of another variable linearly related in the same subject.
E2.13.9 Interpret the main types of graphs of statistical representation.
E2.13.10 Interpret the most common probability functions.
E2.13.11 Judge causal relations between variables.
E2.13.12 Distinguish the different types of statistical hypothesis, analyze confidence intervals and the validity of the hypotheses through a statistical hypothesis test.

E2.14. Identify and use the principles and methods to carry out investigation work in the field of physiotherapy.

Specific objectives:

- E2.14.1** Understand that current physiotherapy is based on scientific evidence.
E2.14.2 Find and revise physiotherapy-specific scientific bibliographical sources.
E2.14.3 Analyze documents found in physiotherapy-specific bibliographical sources.
E2.14.4 Read material from physiotherapy-specific literature research critically.
E2.14.5 Elaborate the theoretical framework from the results obtained in the literature search.
E2.14.6 Set out the objectives of scientific research on a physiotherapy-related topic.
E2.14.7 Choose the most appropriate type of scientific research according to the set objectives.
E2.14.8 Consider the process necessary to reach the set objectives in scientific research.
E2.14.9 Design, in groups of 3 to 5 students, a scientific research

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	protocol project on a physiotherapy-related topic.
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Transversal Competencies

Competency	T1. Analyze and summarize.
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Learning outcomes	<p>Specific objectives:</p> <p>T1.1 Analyze material from a literature search.</p> <p>T1.2 Outline the basic elements in a text.</p> <p>T1.3 Observe and identify data from a scientific publication.</p> <p>T1.4 Write the abstract of a scientific article.</p> <p>T1.1 Summarize the material from a literature search.</p> <p>T1.6 Write bibliography cards.</p> <p>T1.7 Establish the appropriate research questions.</p> <p>T1.8 Elaborate the theoretical framework of a protocol project.</p>
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Competency	T2. Organize and plan.
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Learning outcomes	<p>Specific objectives:</p> <p>T2.1 Define the type of scientific research according to the set goals.</p> <p>T2.2 Order ideas, actions, topics, etc. logically and relate them to each other.</p> <p>T2.3 Design how to integrate processes and procedures with the means available, and plan their duration.</p> <p>T2.4 Plan the process to be followed in order to reach the goals set in scientific research. T2.5 Logically plan how to adapt one's own means and time to priorities.</p> <p>T2.6 Design a scientific study protocol project on a physiotherapy-related topic.</p> <p>T2.7 Meet deadlines.</p>
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Competency	T3. Express oneself fluently, coherently, and appropriately according to established rules, both orally and in writing.
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Learning outcomes	<p>Specific objectives:</p> <p>T3.1 Write clear, coherent, and grammatically correct texts.</p> <p>T3.2 Use specific health sciences terminology correctly.</p> <p>T3.3 Control your nerves well enough to express yourself in public.</p> <p>T3.4 Give an oral presentation on the main lines of the research project proposed, based on the materials of the literature search and the scientific method applied to physiotherapy.</p> <p>T3.5 Present the research protocol project in writing using appropriate scientific language, both in structure and vocabulary.</p>
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Competency	T4. Manage information systems.
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Learning outcomes	<p>Specific objectives:</p> <p>T4.1 Access information and documentation sources in the field of health sciences.</p> <p>T4.2 Use relevant health science databases efficiently.</p> <p>T4.3 Use ICTs efficiently and effectively.</p>
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	T4.2 Find useful information for the set goals in scientific databases.
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Competency T13. Have a strategic and flexible learning attitude.	
Learning outcomes	Specific objectives: T13.1 Put into practice the approaches, methods, and experiences proposed by the professor. T13.2 Share and assume the learning goals proposed by the professor. T13.3 Ask questions in order to learn and clarify doubts. T13.4 Acknowledge the relevance of other ways of thinking different from one's own. T13.5 Propose appropriate alternative scientific studies for each of the set goals.

General Competencies

Competency G4. Produce innovative and competitive proposals in research and professional activity.	
Learning outcomes	Specific objectives: G4.1 Choose objectives that have not been thoroughly evaluated in physiotherapy-based literature as the main goal of the research protocol project to be submitted. G4.2 Recognize the limitations and weak points in the existing theoretical framework of the published scientific literature. G4.3 Consider new ways of doing things in physiotherapy in cases where there are weak points in knowledge. G4.3 Look for new methods and procedures for doing things in Physiotherapy in cases where there are weak points in knowledge.

CONTENTS

Module I: Module I: Introduction to Medical Science Research

1. The scientific method
 - 1.1. Sources of knowledge
 - 1.2. The experimental scientific method
 - 1.3. Clinical research
2. Types of research studies in medical sciences
 - 2.1. Observational studies
 - 2.2. Analytical studies
 - 2.3. Systematic reviews
 - 2.4. Meta-analysis
3. Introduction to evidence-based medicine
 - 3.1. Theoretical principles and methodology
 - 3.2. Evidence-based physiotherapy
 - 3.3. Critical reading of scientific papers

Module II: Sources of documentation and terminology

1. Medical documentation
 - 1.1. Information on medical science
 - 1.2. Structure, function and location of medical documents
 - 1.3. Medical history
2. Bibliography
 - 2.1. Bibliographic information retrieval systems
 - 2.2. Directories and databases
 - 2.3. The literature review
3. Bibliographic analysis
 - 3.1. Critical reading of information
 - 3.2. Content cards
4. Scientific language
 - 4.1. Scientific language: scientific terminology and text typology
 - 4.2. Rules for carrying out written work: fundamental aspects
 - 4.3. Types of presentation: poster, oral communication, original article

Module III: Introduction to Biostatistics

1. Probability
 - 1.1. Probabilities
 - 1.2. Conditional probability
 - 1.3. Bayes' theorem, diagnostic tests and predictive values
2. Basic statistical measures
 - 2.1. Measures of central tendency: mean, median and mode
 - 2.2. Measures of dispersion: variance and standard deviation, percentiles and quartiles
 - 2.3. Comparison of samples: coefficient of variation and amplitude
 - 2.4. Measures of shape: skew and kurtosis
3. Distributions
 - 3.1. Theoretical probability distributions

- 3.2. Distributions of qualitative variables: binomial and Poisson distributions
- 3.3. Distributions of quantitative variables: Normal, Chi-square and Student's T
- 3.4. Normal distribution classification: interpretation of the area under the normal, Chi-square and Student's T-curve
- 3.5. Relationship between qualitative variables: chi-square and phi correlation coefficient
- 3.6. Relationship between quantitative variables: scatter plot, Pearson's correlation coefficient, coefficient of determination, equation and calculation of the regression line
- 4. Statistical inference
 - 4.1. Introduction to statistical inference
 - 4.2. Parameter estimation: central limit theorem, sampling distribution of sample means, point and interval estimation, estimation of population means and variances, importance of sample size
 - 4.3. Confidence intervals
 - 4.4. Hypothesis testing: null and alternative hypothesis, critical region and acceptance region, type I and type II errors, main hypothesis testing on normal models: independent data and paired data, contingency tables, non-parametric testing

TEACHING METHOD AND TRAINING ACTIVITIES

Teacher-led activities

- ITC-supported lectures that will provide the student with the theoretical basis on which the theoretical knowledge of the course is based.
Estimated hours: 47.5.
- ITC-supported presentations by the professor on statistical problems, as well as exercises on hypothesis formulation and literature search.
Estimated hours: 5.

Supervised activities

- Problem solving in class: statistical problems, as well as exercises on hypothesis formulation and literature search. Individual or group work under the professor's supervision.
Estimated hours: 15.

Independent activities

- Problem solving that will later be discussed in class.
Estimated hours: 10.
- Writing a paper on a physiotherapy-related topic that will incorporate all the knowledge acquired.
Estimated hours: 30.
- Study and implementation of outlines, concept maps and summaries.
Estimated hours: 40.5.

ACTIVITY TYPE	ACTIVITY	LEARNING OUTCOMES	STUDENT HOURS
Teacher-led activities	Theory classes	E2.12, E2.13, E2.14	47.5
	Presentations on statistical problems, exercises on hypothesis formulation and literature search.	E2.12, E2.13, E2.14	5
Supervised activities	Problem solving in class	E2.12, E2.13, E2.14, T1, T4	15
Independent activities	Problem solving	E2.12, E2.13, E2.14	10
	A brief research assignment	E2.12, E2.13, E2.14, T1, T2, T3, T4, T13, G4	30
	Independent work	E2.12, E2.13, E2.14	40.5
TOTAL HOURS			148

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ASSESSMENT

The assessment criteria will include:

1. **Written tests:**
Written tests representing 50% of the total final grade will be used to assess theoretical and practical knowledge.
2. The final assignment of the course will represent 25% towards the total of the final grade. The assignment must be submitted at least two weeks before the exam date.
3. Continuous assessment exercises, oral presentations and class work will count for 25% towards the total grade of the course.

See Appendix I for further details of the assessment activities.

In order to pass the module, the following conditions must be met:

- Pass every unit of each section of the course, with a minimum grade of 5.
- Have attended 100% of the practical classes. (If there is a well-founded reason, it is permissible to miss up to 20% of the practical classes).
- Achieve an overall grade of 5 or higher for the course.

Internal Practice Regulations:

Please, check the University's Internal Practice regulations regarding the minimum requirements demanded of the student in the development of the course's practical activities.

Final assessment period: from 06/14/2021 to 06/23/2021.

Re-sit examination period: from 06/25/2021 to 07/02/2021.

Procedure for reviewing grades: see the University's Assessment Guidelines.

A student shall be “non-assessable” if he/she has not taken the required assessment tasks or has not completed a compulsory training activity.

ASSESSMENT ACTIVITIES	PERCENTAGE FINAL GRADE	LEARNING OUTCOMES	STUDENT HOURS
Written tests	50%	E2.12, E2.13, E2.14	2
A brief research assignment	25%	E2.12, E2.13, E2.14, T1, T2, T3, T4, T13, G4	---
Continuous assessment exercises	25%	E2.12, E2.13, E2.14	---
TOTAL HOURS			2

BIBLIOGRAPHY AND WEB LINKS / BASIC READING LIST

Books					
Author/s	Year	Title	Edition	City	Publisher
León, O. G., Montero, I.	1993	Diseño de investigaciones. Introducción a la lógica de la investigación en psicología y educación.		Madrid	McGraw-Hill
Álvarez Cáceres, R.	1995	El método científico en las ciencias de la salud		Madrid	Díaz de Santos
Sánchez Aldeguer, J., Frutos Martínez, F.	2000	Aspectos generales de la investigación para médicos de residencias. En Reuss, J. M. Medicina Geriátrica en residencias		Madrid	Edimsa
Carreras Panchón, A.	1994	Guía práctica para la elaboración de un trabajo científico		Bilbao	Publicaciones y Documentación Cita DL
Schwartz, D.	1985	Métodos estadísticos para médicos y biólogos.		Barcelona	Herder
Hulley, S. B., Cummings, S.	1993	Diseño de la investigación clínica		Barcelona	Doyma
Desantes-Guanter, J. M, López Yepes, J.	1996	Teoría y técnica de la investigación científica		Madrid	Síntesis
Departamento de Medicina y Psiquiatría (Universidad de Alicante)	1995	Tratado de epidemiología clínica		Madrid	Du Phont Pharma
Rebagliato, M., Ruiz, I., Arranz, M.	1996	Metodología de la investigación en epidemiología		Barcelona	Díaz de Santos
Bakke, O. M., Carné, X., García Alonso, F.	1994	Ensayos clínicos con medicamentos		Barcelona	Doyma
Ahlbom, A., Norell, S.	1992	Fundamentos de epidemiología. 3rd ed.		Madrid	Siglo Veintiuno
Álvarez Cáceres, R.	1995	El método científico en las ciencias de la salud		Madrid	Díaz de Santos
Matthews, D. E., Farewell, V. T.	1990	Estadística médica. Aplicación e interpretación. 2nd ed.		Barcelona	Salvat
Sánchez Aldeguer, J., Frutos Martínez, F.	2000	Aspectos generales de la investigación para médicos de residencias. En Reuss, J. M. Medicina Geriátrica en residencias		Madrid	Edimsa
Daniel, W. W.	2002	Bioestadística. Base para el análisis de las ciencias de la salud. 4th ed.		Mexico	Limusa Wiley
Milton, J. S.	2007	Estadística para biología y ciencias de la salud. 3rd ed. expanded		Madrid	Interamericana McGraw-Hill
Sentis, J., Pardell, H., Cobo, E., Canela, J.	2003	Manual de bioestadística. 3rd ed.		Barcelona	Masson
Armitage, P., Berry, G.	1997	Estadística para la investigación biomédica		Madrid	Harcourt Brace
Viedma, J. A.	1976	Bioestadística: Métodos estadísticos en medicina y biología			Self-published
Remington y Schork.	1979	Estadística Biométrica y Sanitaria		Madrid	Prentice/Hall International
Sentis, J., Canela, J.	1994	Bioestadística		Barcelona	Salvat Colección Licenciatura

	PHYSIOTHERAPY DEGREE COURSE GUIDE	EUIF GIMBERNAT Physiotherapy
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Articles						
Author	Title	Publication	Volume	Year	Pages	Description/Comment
Cabezali Sánchez, J. M., Sánchez Aldeguer, J.	El cuestionario: bases metodológicas y su utilización en Fisioterapia, para lograr una mayor calidad asistencial.	Fisioterapia	19(2)	1997	97-103	

Web references			
Title	Description	URL	
Azzimonti Renzo, J. C.	Biostatistics applied to Biochemistry and Pharmacy	http://www.biometria.freesevers.com/texto.htm	
HyperStat Online	An Introductory Statistics Book and Online Tutorial for Help in Statistics Courses	http://davidmlane.com/hyperstat/	
Fundación Faustino Orbeagozo Eizaguirre	Curves and Growth Charts	http://www.aepap.org/pdf/f_orbeagozo_04.pdf	
	Research Methodology	http://www.fisterra.com/mbe/investiga/index.asp	
	Statistical programs for data analysis on the Internet	http://www.fisterra.com/mbe/investiga/program_internet/program_internet.asp	
Universidad de Málaga	Biostatistics: methods and applications	http://ftp.medprev.uma.es/libro/referencia.htm	
Ramón y Cajal	Teaching material of the Clinical Biostatistics Unit	http://www.hrc.es/bioest/M_docente.html	
Páginas sobre bioestadística (SEH-LELHA)		http://www.seh-lelha.org/stat1.htm	
A New View of Statistics		http://www.sportsci.org/resource/stats/index.html	
The Little Handbook of Statistical Practice		http://www.tufts.edu/~gdallal/LHSP.HTM	
Statistical Books, Manuals and Journals		http://statpages.org/javasta3.html	

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BIBLIOGRAPHY AND WEB LINKS / RECOMMENDED READING LIST

Books					
Author/s	Year	Title	Edition	City	Publisher
Frutos, J., Arroyo, M. A.	2006	Salud Pública y Epidemiología.		Madrid	Díaz de Santos
Piédrola, Gil G. et al.	2002	Medicina Preventiva y Salud Pública. 10th ed.		Barcelona	Masson
Laporte, J. R.	1993	Principios básicos de investigación clínica		Madrid	Zéneca

COURSE SYLLABUS

Available on the virtual campus for all students enrolled in this course

APPENDIX I – ASSESSMENT DETAILS

THEORY TEST (50 %)

- Theory test

At the end of the semester there will be re-sits. However, to re-sit an exam you must have already taken the ordinary exam.

BRIEF RESEARCH ASSIGNMENT (25%)

Description/outline of the assignment:

The assignment will be done individually.

Marking criteria:

The following will be assessed:

- Suitability of the title of the work (5%)
- Table of contents (5%)
- Summary and keywords (5%)
- Introduction (5%)
- Material and methods (10%)
- Description (25%)
- Discussion (5%)
- Conclusions (10%)
- Bibliography (15%)
- Content cards (15%)

CONTINUOUS ASSESSMENT EXERCISES (25%)

BIOSTATISTICS (33%) (Dr. Francesc Boixader)

1. Exercises on descriptive statistics (0%)

Description/outline of the assignment:

This will involve a total of eight exercises on descriptive statistics, based on three independent publications. The completion of these exercises is optional. Answers should be posted on "moodle" on the set date.

Marking criteria:

Completing the proposed exercises will be positively taken into account in cases where the final grade of the course unit is borderline (between a "Fail" and a "Pass", between a "Pass" and "Good", and between "Good" and "Merit").

2. Practical classes with R (100%)

Description/outline of the assignment:

This involves collecting information/data related to a particular aspect of health and obtaining the main statistical descriptors through the use of R software. Answers should be posted on "moodle" on the set date.

Marking criteria:

The following will be assessed:

Item assessed	% of the total
Title, table of contents, references	10
Data handling	15
Exercises on descriptive Statistics	20
Graphic representations	15
Bivariate statistics. Regression line	20
Probability distribution exercises	20

You must pass this assignment in order to take the theory exam.

DOCUMENTATION AND METHODOLOGY (34%) (Dr. Josep Sánchez)

1. Template 3 (Formato 3) (25%)

Description/outline of the assignment:

Prepare Template 3 (Formato 3), which presents the basic outline of what the work will be. Submit the final Template 3 (Formato 3) with the methodology of the literature search to be followed. This should be posted on "moodle" on the set date.

Marking criteria:

The template (Formato 3) will be assessed as follows:

- Appropriateness of the provisional title of the paper and the definition of the general research topic (25%)

- Research objectives (25%)
- Specific materials (25%)
- Temporary provisions (25%)

2. Bibliography of the Theoretical Framework (25%)

Description/outline of the test:

Literature search of the necessary materials in order to create the Theoretical Framework for the final paper.

The research results should be published on "moodle" on the set date Scoring Criteria

Marking criteria:

The template (Formato 3b) will be assessed as follows:

- Appropriateness of the provisional title of the paper and the definition of the general research topic (10%)
- In relation to the research, the preparation of the search profile is will be assessed (30%):
 - Choice of keywords and their translation into the language of the database to be used.
 - Transposition of the key words to the existing health sciences descriptors in MeSH and DeCS.
 - Use of search equations with Boolean language and filters that define the search profile.
 - Search engines used: number and suitability.
- The search results will be marked according to the list of results retrieved from the search, included in the form of a list according to the Vancouver (ANSI) standards (10%).
- Analysis and selection of the bibliography gathered, according to its suitability for the chosen topic (10%)
- Location of the documents finally selected (10%)
- Final analysis of the selected documents (20%)
- Research conclusions (10%)

3. Draft of the Theoretical Framework (25%)

Description/outline of the test:

Students will prepare a draft in class, with the professor, of the different parts of the theoretical framework.

(Title, Table of Contents, Summary, Keywords, Introduction, Material and Methods, Description, Conclusions, Bibliography and Content Cards).

Marking criteria:

Template 5 (Formato 5) will be assessed as follows:

- Suitability of the title of the work (5%)
- Table of contents (5%)
- Summary and keywords (5%)
- Introduction (5%)
- Material and methods (10%)
- Description (25%)
- Discussion (5%)
- Conclusions (10%)
- Bibliography (15%)
- Content cards (15%)

4. Oral Presentation of the Theoretical Framework (25%)

Description/outline of the test:

Oral presentation of the final work. Each student will defend their work orally in front of

the professor and four classmates.

Marking criteria:

Template 5b (Formato 5b) will be assessed as follows:

- Educational quality (25%)
- Use of images (25%)
- Answers (25%)
- Presentation (25%)

TERMINOLOGY AND METHODOLOGY (33%) (Dr. Clara Florensa)

The study of medical terminology focuses on knowing the medical terms in order to be able to interpret the manuals and/or publications of any specialist in the field of medical sciences, as well as the terms used in medical records, hospitalization or outpatient reports and in the different documents used in practice and research in the Health Sciences.

Description/outline of the test:

Practical exercise 1.- Understanding the structure of clinical terms: theoretical basis and practical focus

The practice of medical terminology is intended to:

- Help, in a practical way, in acquiring the relevant knowledge in the formation and composition of different medical vocabulary.
- Understand and break down the meaning and origin of different medical terms.

Practical exercise 2.- Clinical focus: Introduction to clinical strategies: practical exercise based on broadening knowledge of terminology in different clinical situations

- Groups of 3 students will be formed.
- A specific medical topic will be chosen to represent a clinical situation with the most appropriate terminology.
- Each group will present in front of the class the terminology used for the chosen clinical situation for 10 minutes.
- The work carried out will include a minimum of 15 original medical terms, which are new to the student, with their definition and the names of each student. This will be given to the professor during the same practical class, suitably worded and presented.
- This will also be posted onto moodle.

Marking criteria: 1 – 10

The following will be assessed in particular:

- Terminology used and degree of difficulty: 2 points
- Originality of the terms used by each member: 2 points
- Type of presentation in class: 4 points
- Presentation of the written, printed work, stating a minimum of 15 terms with their definition and the name of each student: 2 points
- You must pass the practical terminology exercises in order to take the theory exam

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GENERAL INFORMATION

COURSE DETAILS

Course	BASIC PHYSIOTHERAPY OF THE LOCOMOTOR SYSTEM – II		
Code	200545	Academic year	2020-2021
ECTS credits	6	Course type	COMPULSORY
Year	1	Semester	2
Timetable	Available on the virtual campus for all students enrolled in this course		
Teaching language	CATALAN		

FACULTY DATA

- Course coordinator

Professor's name	Mr. AGUSTÍN LORENTE LAFUENTE
e-mail	agustin.lorente@eug.es
Tutorial Schedule	To be arranged

- Lecturers

Professor's name	Ms. SÒNIA FERRÉS PUIGDEVALL
e-mail	sonia.ferres@eug.es
Tutorial Schedule	To be arranged

Professor's name	Ms. NÚRIA PASTALLÉ BURRULL
e-mail	nuria.pastalle@eug.es
Tutorial Schedule	To be arranged

Professor's name	Ms. LLUÏSA PORTE CARRERA
e-mail	lluïsa.porte@eug.es
Tutorial Schedule	To be arranged

ENTRY REQUIREMENTS

- There are no official prerequisites

CONTEXTUALIZATION OF THE COURSE

Course content: Physiotherapy of the locomotor system.

This course, together with the course "Basic Physiotherapy of the Locomotor System I", aims to lay the foundations for the assessment and treatment of pathologies related to the locomotor system, developing the student's manual skills and competence from the very beginning of the course.

When examining the spine, the trunk, and lower limbs, muscle palpation of a living individual, measuring muscle strength and joint mobility and learning the principles of passive manual therapy, as well as being able to communicate using formal language when giving anatomical descriptions are essential aspects within the profile of this degree and the physiotherapy profession. This course will also provide the students with the basic knowledge that will allow them to take part in the training (practicum) in the second year.

COMPETENCIES AND LEARNING OUTCOMES

Specific Competencies

Competency	E1. Demonstrate knowledge of the morphology, physiology, pathology and behavior of people, both healthy and sick, in their natural and social environments.
Learning outcomes	E1.20. Locate the different muscles through surface palpation. Specific objectives: E1.20.1. Identify and draw the muscles related to the movements of the spine and trunk, and articulations of the hip, knee, ankle, and foot by means of palpation. E1.20.2. Identify the location of facial muscles through observation. E1.20.3. Identify by surface palpation the main bone structures of the skull, trunk, pelvis and lower limb. E1.20.4. Identify by surface palpation the main joint structures of the skull, trunk, pelvis and lower limb. E1.20.5. Identify by surface palpation the main vascular-nervous structures of the neck and lower limb.

Competency	E3. Demonstrate sufficient knowledge of physiotherapy methods, procedures and actions, aimed at clinical therapy.
Learning outcomes	E3.3. Apply physiotherapy methods, procedures and interventions in the different clinical specialties that treat locomotor system disorders. Specific objectives: E3.3.1. Apply the basic passive mobilization techniques to the joints of the spine, trunk, hip, knee, ankle, and foot. E3.3.2. Apply active-assisted exercises to the joints of the hip and knee. E3.3.2. Apply basic massage maneuvers to the upper and lower limbs. E3.4. Apply specific physiotherapy intervention methods to promote healthy lifestyle habits, in relation to the locomotor system, through health education. Specific objectives: E3.4.1. Be aware of one's own body at the level of the pelvis as the center of our structure and function.

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	<p>E3.4.2. Integrate the pelvis into one's own body awareness to prevent injuries to the locomotor system.</p> <p>E3.4.3. Feel new possibilities of movement inside oneself.</p> <p>E3.4.4. Apply basic weight transfer maneuvers on the patient, work on safe postures and movements both for the carer and the patient, following the principles of postural hygiene and ergonomics.</p>
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Competency	E7. Assess the patient's functional status, taking into account physical, psychological and social factors.
Learning outcomes	<p>E7.4. Describe and apply physiotherapy assessment procedures, with the aim of determining the degree of impact on the locomotor system and its possible functional repercussions.</p> <p>Specific objectives:</p> <p>E7.4.1. Measure strength of the muscles related to the movements of the spine and trunk, joints of the hip, knee, ankle, and foot using the Daniels MMT scale.</p> <p>E7.4.2. Measure range of motion of the spine and joints of the hip, knee, ankle, and foot using different goniometers.</p> <p>E7.4.3. Measure the length and diameter of the various segments of the lower limb, using anthropometric principles.</p> <p>E7.4.4. Assess the function of facial muscles by observing the symmetry of facial expressions.</p>

Transversal Competencies

Competency	T3. Express oneself fluently, coherently, and appropriately according to established rules, both orally and in writing.
Learning outcomes	<p>Specific objectives:</p> <p>T3.1. Write clear, coherent, and grammatically correct texts.</p> <p>T3.2. Express oneself fluently.</p> <p>T3.3. Express oneself using formal language in anatomical descriptions, as well as in descriptions of physiotherapy treatments.</p>

General Competencies

Competency	G2. Develop independent learning strategies.
Learning outcomes	This competency is considered to be developed in this course by working on "T3. Express oneself fluently, coherently, and appropriately according to established rules, both orally and in writing".

CONTENTS

1. Cervical spine and neck
 - 1.1. Introduction
 - 1.2. Palpation
 - 1.3. Joint movement
 - 1.4. Muscle movement
 - 1.5. Mobilizations
2. Thoracic spine and trunk
 - 2.1. Introduction
 - 2.2. Palpation
 - 2.3. Joint movement
 - 2.4. Muscle movement
 - 2.5. Mobilizations
3. Lumbar spine
 - 3.1. Introduction
 - 3.2. Palpation
 - 3.3. Joint movement
 - 3.4. Mobilizations
4. Muscles of the lower limbs
5. The hip and pelvis
 - 5.1. Introduction
 - 5.2. Palpation
 - 5.3. Joint movement
 - 5.4. Muscle movement
 - 5.5. Mobilizations
 - 5.6. Active-assisted exercises
6. The knee
 - 6.1. Introduction
 - 6.2. Palpation
 - 6.3. Joint movement
 - 6.4. Muscle movement
 - 6.5. Mobilizations
 - 6.6. Active-assisted exercises
7. The ankle and foot
 - 7.1. Introduction
 - 7.2. Palpation
 - 7.3. Joint movement
 - 7.4. Muscle movement
 - 7.5. Mobilizations
8. Facial muscles: anatomical location and function
9. Massage of the upper and lower limbs
10. Basic maneuvers for transferring the patient's weight
11. Awareness of one's body movements: pelvis work

TEACHING METHOD AND TRAINING ACTIVITIES

TEACHER-LED ACTIVITIES

- **Theory classes** with graphic and computer support in which the theoretical basic principles on which the different treatments are based will be provided.
- **Practical classes** with graphic and computer support in which the professor will explain, on a model, how the various techniques are performed.

Estimated hours: 37.

SUPERVISED ACTIVITIES

- **Practical activity among students**, under the supervision of the teacher, in order to apply the different techniques presented.
Estimated hours: 60.
- **Group work** for the preparation of an image-based report on the practical sessions:
 - ✓ Group members will take photos of the measurements, joint mobility assessments, muscle movements, mobilizations and active-assisted exercises. Each image must be accompanied with a corresponding heading.
 - ✓ There will be periodic group tutorials on the assignment.

Estimated hours per student: 15

INDEPENDENT ACTIVITIES

- **Research and processing of information**, consolidating the professor's teaching, for the preparation of an image-based report.

Estimated hours: 7.5.

- **Independent personal study** for exam preparation, organization of notes and/or materials, and free tutorials: individual or in groups.

Estimated hours: 27.

ACTIVITY TYPE	ACTIVITY	LEARNING OUTCOMES	STUDENT HOURS
Teacher-led activities	Theory classes	E3.3, E3.4, E7.4	2.5
	Practical classes	E1.20, E3.3, E3.4, E7.4	34.5
Supervised activities	Practical student activities	E1.20, E3.3, E3.4, E7.4, T3	60
	Group work	E3.3, E3.4, E7.4	15
Independent activities	Research and processing information	E3.3, E3.4, E7.4, T3, G2	7.5
	Independent work	E1.20, E3.3, E3.4, E7.4	27
TOTAL HOURS			146.5

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ASSESSMENT

- **Continuous assessment** of the course material, on a set day, depending on the timetable of the course.
- **Assessment of the image-based report.**
- **A practical exam** at the end of the semester.
- **Self-assessment and co-assessment of the group assignment:**
 - On the last day of class, students will carry out a self-assessment and a co-assessment of the group members (anonymously). The results will be commented on individually.

See Appendix I for further details of the assessment activities.

In order to pass the course, the following conditions must be met:

- In the practical exam, a grade of 5 or more must be obtained. If two questions are marked "0", the exam will be classed as failed.
- The final grade of the course must be 5 or above.
- Have attended 100% of the practical classes. (If there is a well-founded reason, it is permissible to miss up to 20% of the practical classes).

Internal Practice Regulations:

Please, check the University's Internal Practice regulations regarding the minimum requirements demanded of the student in the development of the course's practical activities.

Final assessment period: from 06/14/2021 to 06/23/2021.

Re-sit examination period: from 06/25/2021 to 07/02/2021.

Procedure for reviewing grades: see the University's Assessment Guidelines.

A student shall be "non-assessable" if he/she has not taken the required assessment tasks or has not completed a compulsory training activity.

ASSESSMENT ACTIVITIES	PERCENTAGE FINAL GRADE	LEARNING OUTCOMES	STUDENT HOURS
Practical exam	50%	E1.20, E3.3, E3.4, E7.4, T3	3
Continuous assessment	25%	E1.20, E3.3, E3.4, E7.4	0.5
Image-based report	25%	E3.3, E3.4, E7.4, T3, G2	---
TOTAL HOURS			3.5

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BIBLIOGRAPHY AND WEB LINKS / BASIC READING LIST

Books					
Author/s	Year	Title	Edition	City	Publisher
Ferrés, S., Lorente, A., Porte, L. I.	2018	Manual de fisioteràpia bàsica de l'aparell locomotor – II		Bellaterra	Servei de Publicacions UAB
Hislop, H. J., Montgomery, J.	2003	Daniels & Worthingham. Técnicas de balance muscular.	7th	Madrid	Saunders; Elsevier
Netter, F. H.	2015	Atlas de anatomía humana	6th	Barcelona	Masson
Norkin, C. C., White, D. J.	2006	Goniometría, evaluación de la movilidad articular		Madrid	Marbán
Tixa, S.	2014	Atlas de anatomía palpatoria de la extremidad inferior. Investigación manual de superficie	4th	Barcelona	Masson
Tixa, S.	2014	Atlas de anatomía palpatoria del cuello, tronco y extremidad superior. Investigación manual de superficie	3rd	Barcelona	Masson

Web references			
Title	Description	URL	
ProgramaFballl.pdf	Programa de l'assignatura	Course Intranet	
AnnexeManualFballl.pdf	Annexes al Manual de Fisioteràpia bàsica de l'aparell locomotor I	Course Intranet	
NormesFbal.pdf	Normes per a l'assistència a les classes	Course Intranet	

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BIBLIOGRAPHY AND WEB LINKS / RECOMMENDED READING LIST

Books					
Author/s	Year	Title	Edition	City	Publisher
Berryman Reese, N.	2011	Muscle and sensory testing	3rd	St. Louis-Missouri	Elsevier-Saunders
Berryman Reese, N. Bandy D. W.	2010	Joint Range of motion and muscle length testing	2nd	St. Louis-Missouri	Elsevier-Saunders
Biel, A.	2012	Guía Topográfica del cuerpo humano	2nd	Badalona	Paidotribo
Calais-Germaine, B.	1995	Anatomía para el movimiento	3rd	Barcelona	La liebre de Marzo
Canamasas Ibañez, S.	1993	Técnicas manuales: masoterapia		Barcelona	Masson/Salvat Medicina
Cassar, M. P.	2001	Manual de masaje terapéutico		Madrid	MC Graw-Hill Interamericana
Daza, J.	2007	Evaluación clínico-funcional del movimiento corporal humano		Bogotá	Panamericana
Daza, J.	1996	Test de movilidad articular y examen muscular de las extremidades.		Barcelona	Panamericana
Dotte, P.	2010	Método de movilización de los pacientes : ergomotricidad en el ámbito asistencial	8th	Barcelona	Masson
Daubler, W; Feneis H.	2014	Nomenclatura anatómica ilustrada	5th	Barcelona	Masson
Génot, C.	2005	Kinesioterapia. Tomos I y II	3rd	Buenos Aires	Médica Panamericana
Génot, C.	1996	Kinesioterapia. Tomos III y IV		Buenos Aires	Médica Panamericana
Hoppenfeld, S.	1979	Exploración física de la columna vertebral y las extremidades.	18th impresión	Mexico	Manual Moderno
Kaltenborn, F. M.	2004	Fisioterapia manual: Extremidades	2nd	Madrid	McGraw-Hill Interamericana
Kaltenborn, F. M.	2004	Fisioterapia manual: Columna		Madrid	McGraw-Hill Interamericana
Kapandji, I. A.	2010	Cuadernos de fisiología articular. Tomo 2: Miembro Inferior	6th	Madrid	Maloine – Editorial Médica Panamericana
Kapandji, I. A.	2007	Cuadernos de fisiología articular. Tomo 3: Tronco y Raquis	6th	Madrid	Maloine – Editorial Médica Panamericana
Kendall, F. P., Kendall McCreary, E., Geise, P.	2005	Músculos: Pruebas y funciones	4th	Madrid	Marban
Muscolino, J.	2017	Manual de Palpación	2nd	Barcelona	Panamericana

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		Ósea y Muscular con Puntos Gatillo, Patrones de Referencia y Estiramientos			
Pleguezuelos Cobo, E., et al.	2008	Atlas de puntos clave musculares en la práctica clínica.		Madrid	Médica Panamericana
Sobotta	2006	Atlas de anatomía humana Vol. I, II.	22nd	Barcelona	Panamericana

COURSE SYLLABUS

Available on the virtual campus for all students enrolled in this course

APPENDIX I – ASSESSMENT DETAILS

PRACTICAL EXAM (50%)

This will be held at the end of the semester and will consist of the following questions:

- A question on palpation (2 points out of 10)
- A question on joint movement (2 points out of 10)
- A question on muscle movement (2 points out of 10)
- A question on mobilization (2 points out of 10)
- A question on muscle drawing (2 points out of 10)
- Assessment of verbal expression during the exam, in which it will be assessed, on the one hand, if the student uses formal language in the anatomical descriptions, as well as in the descriptions of the physiotherapy interventions; and, on the other hand, if the student expresses oneself fluently. This will be assessed according to the rubric in Appendix V. (Up to 1 point may be deducted out of 10).

If two questions are marked '0', the exam will be classed as failed.

See the activities calendar in the virtual campus of the course.

At the end of the semester there will be re-sits. However, to re-sit an exam you must have already taken the ordinary exam.

CONTINUOUS ASSESSMENT (25%)

There will be two tests during the development of the course. In each of them, two questions will be asked:

- A question on palpation (40%)
- A question on joint movement or muscle movement or mobilizations (60%)

See the activities calendar in the virtual campus of the course.

IMAGE-BASED REPORT (25 %)

- Group assignment.
- See Appendix II
- A tutorial will be held periodically with each group regarding the assignments (see the activity calendar on the virtual campus of the course). The professor will resolve any doubts.
- For the assessment:
 - It will be assessed following the rubric in Appendix III.
 - Except in some specific cases, the grade will be the same for all group members.
- The report will be submitted in two parts (see the activity calendar of in the virtual campus of the course):
 3. The back.
 4. The elbow, wrist and fingers.

APPENDIX II – IMAGE-BASED REPORT

A PowerPoint presentation showing images of the following activities carried out in class to complement the explanations in the manual. This should contain:

- Palpation. For each structure you will have to make a slide with the following:
 - The name of the structure.
 - Image from an anatomy atlas, in which the structure is highlighted.
 - A photograph of the palpation on a classmate in which the palpation method is shown.
- Measurements. For each measurement you will have to make a slide with the following:
 - Name of the measurement.
 - A photograph of the measurement.
- Assessment of joint mobility. For each assessment, a slide should be made with the following:
 - Name of the assessment.
 - A photograph of the assessment.
- Muscle movement. For each movement, you will have to make a slide with the following:
 - Name of the muscle movement.
 - A photograph for 3-4-5 and a photograph for 0-1-2.
- Introduction to joint mobilization. For each introduction you will have to make a slide with the following:
 - Title with the name of the joint.
 - Type of joint.
 - Anatomical image of the joint.
- Mobilizations. For each mobilization, you will have to make a slide with the following:
 - Name of the mobilization.
 - A photograph of the mobilization.
- Active-assisted exercises. From all the options of the same movement, choose one. For each exercise, you will have to make a slide with the following:
 - Name of the exercise.
 - Image of the exercise.
- Transfer. For each transfer you will have to make a slide with the following:
 - Name of the transfer
 - A photograph or video of the transfer.

You should keep in mind that:

- ✓ Group members will take photographs of each other and you should make sure that each of member of the group appears in the photographs.
- ✓ Each image must be accompanied with a corresponding heading.
- ✓ An initial slide should be included, showing the name of the students and the group to which they belong.
- ✓ A tutorial will be held periodically (see calendar) with each working group. The professor will resolve any doubts.
- ✓ Photographs should be taken with the minimum resolution possible.
- ✓ The report will be submitted in PDF format, in digital copy, on the day set on the calendar.

APPENDIX III

CRITERIA FOR ASSESSING THE IMAGE-BASED REPORT PRESENTATION			
Criteria	Level of quality		
	Good	Average	Poor
Content	No mistakes (6 points)		This is calculated on the basis of the number of errors according to Appendix IV (maximum 6 points)
Spelling, writing or typing errors	No mistakes or errors (2.5 points)		This is calculated on the basis of the number of errors according to Appendix IV (maximum 2.5 points)
Image quality	Images are clear, focused, well-lit and proportionate (0.5 points)	Some of the images lack clarity, focus, lighting or proportion (0.25 points)	Many of the images lack clarity, focus, lighting or proportion (0 points)
Quality of the text	The text on the slides is in one language only, the font and size is consistent with the text type (0.5 points)	The text on some of the slides is in different languages or the font is different, or the size of the text is inconsistent with the text type (0.25 points)	The text on several slides is in different languages or the font is different, or the size of the text is inconsistent with the text type (0 points)
Slide formatting	All the slides share a consistent format (Background, distribution of text and images) (0.5 points)	Some of the slides do not share a consistent format (0.25 points)	Many of the slides do not share a consistent format (0 points)

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APPENDIX IV

IMAGE-BASED REPORT			
SPELLING, WRITING OR TYPING ERRORS		CONTENT ERRORS (TEXT, PHOTOS, ANATOMICAL IMAGES)	
RANGE	POINTS	RANGE	POINTS
0 – 5	2.5	0 – 5	6
6 – 10	2.25	6 – 10	5.5
11 – 15	2	11 – 15	5
16 – 20	1.75	16 – 20	4.5
21 – 25	1.5	21 – 25	4
26 – 30	1.25	26 – 30	3–5
31 – 35	1	31 – 35	3
36 – 40	0.75	36 – 40	2.5
41 – 45	0.5	41 – 45	2
46 – 50	0.25	46 – 50	1.5
More than 50	0	51 – 55	1
		56 – 60	0.5
		More than 60	0

APPENDIX V

CRITERIA FOR THE ASSESSMENT OF FLUENCY IN LANGUAGE AND EXPRESSION USING FORMAL LANGUAGE			
Criteria	Level of quality		
	Good	Average	Poor
Expresses oneself fluently.	Expresses oneself naturally and with notable proficiency.	Expresses oneself with relative ease, but with limited fluency or organization. (Subtract 0.25 points)	Expresses oneself poorly or in a confused manner. (Subtract 0.5 points)
Expresses oneself using formal language in anatomical descriptions, as well as in descriptions of physiotherapy treatments.	All descriptions are expressed in formal language.	Some descriptions are expressed in non-formal language (poorly, in a confused manner). (Subtract 0.25 points)	Most descriptions do not use formal language (very poorly, in a very confused manner). (Subtract 0.5 points)