1. BASIC INFORMATION

Course	Pathophysiology II: cancer, respiratory diseases, osteoarticular diseases, and less common diseases
Degree program	Bachelor in Sport Science
School	Medicine, Health and Sports
Year	4º
ECTS	6
Credit type	Optative
Language(s)	Spanish and English
Delivery mode	In person
Semester	S7/S8
Academic year	2027-2028
Coordinating professor	Lidia B. ALejo

2. PRESENTATION

According to data from the Spanish Society of Medical Oncology, 1 in 2 men and 1 in 3 women will have cancer throughout their lives. It is also known that respiratory diseases have greatly increased their incidence due to the COVID pandemic in recent years, being the third cause of death in Spain. It is also important to know that osteoarticular disorders such as arthritis or osteoporosis represent a very significant decrease in the quality of life of the increasingly aging population of our country.

This reality causes many people with these pathologies develops physical exercise, taking into account the benefits that it can achieve when used as an adjuvant to health treatments. This is why it is essential that future physical exercise professionals specifically know the pathophysiology of these diseases.

The subject “Pathophysiology II: Cancer, Respiratory, Osteoarticular and lower incidence diseases” is included in the Health-Oriented Physical Activity itinerary of the fourth degree course in Physical Activity and Sports Sciences Bachelor, in the second semester. It has a value of 6 ECTS and is an optional subject within the degree that is taught in Spanish and English. Taking into account the training profile that the student is expected to achieve, it provides the student with basic and specific knowledges on the pathophysiology of these diseases with the aim of laying the necessary foundations for the subsequent design of physical exercise programs in these profiles of population.

The ECTS for this subject include master classes, case analysis, problem-based learning, directed work, tutorials and hours of autonomous work and cooperative learning.

3. LEARNING OUTCOMES

Knowledge

KON1. Identifies Identify the anatomical structures and functions of the various systems of the human body and consider pathophysiology to determine its applicability and development through physical exercise.

- Defines concepts of the pathophysiology of cancer
- Defines concepts of the pathophysiology of osteoarticular diseases

Skills

AB01. Examines Examine the anatomy and the functions of the various systems or structures and consider the extent to which they, along with pathophysiology, influence responses to physical exercise.

- Understands Understand the epidemiological aspects of cancer
- Understands Understand the epidemiological aspects of osteoarticular diseases
- Understands Understand the epidemiological aspects of respiratory diseases
- Understands Understand the epidemiological aspects of less common diseases

Competences

- COMP15. Promote educational policies, strategies and programmes on aspects of public health, in relation to physical activity and sport (to prevent risk factors and diseases); and cooperate with other agents involved in such initiatives: in any area of professional activity within the sport and physical activity sector.
- COMP26. Adopt a rigorous and scientific approach to develop and draw on the justification needed to produce, support, defend and justify, in a consistent and professional manner, all acts, decisions, processes, procedures, initiatives, activities, tasks, conclusions, reports and professional performance.
- COMP29. Be aware of, develop and know how to apply ethical, deontological, structural, organisational and professional performance factors and standards of professional practice for Physical Activity and Sports Sciences Graduates, in any area of professional activity within the sport and physical activity sector (formal and informal physical education and sports instruction; physical and sports training; health-focused exercise; physical activity and sports management); and be able to carry out multidisciplinary work.
- COMP40. Teamwork. Cooperate with others in shared academic or professional objectives, participating actively, empathically and exercising active listening and respect for all members.
- COMP42. Resilience. Adapt to adverse, unexpected situations that cause stress, whether personal or professional, overcoming them and even turning them into opportunities for positive change.
- COMP43. Ethical-social competence. Show ethical behavior and social commitment in performance of professional activities, as well as sensitivity to inequality and diversity.

4. CONTENT

Topic 1. The epidemiological aspects of cancer

Topic 2. The pathophysiology and treatment of cancer

Topic 3. The epidemiological aspects of osteoarticular diseases

Topic 4. The pathophysiology and treatment of osteoarticular diseases

Topic 5. The epidemiological aspects, pathophysiology and treatment of respiratory diseases

Topic 6. The epidemiological aspects, pathophysiology and treatment of rare diseases

5. TEACHING-LEARNING METHODOLOGIES

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

- Lecture
- Case method
- Project-based learning

6. LEARNING ACTIVITIES

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

Campus-based mode:

Learning activity	Number of hours
Lecture	12
Practical application classes	18
Independent work	56
Debates and discussions	8
Tutorials	12
Knowledge tests	2
Case analysis	22
Design of strategies and intervention plans	20
TOTAL	**150**

7. ASSESSMENT

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

Campus-based mode:

Assessment system	Weight
In-person evaluation tests	40-50%
Case/problem	25-30%
Design work for strategies and intervention plans	15-30%

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

7.1. First exam period

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

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

7.2. Second exam period

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

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

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

8. SCHEDULE

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

Assessable activities	Deadline
Activity 1, 2, and 3. Search for clinical guidelines and treatments (MA: Data Driven)	Week 3, 7 and 11
Activity 4, 5, and 6. Practical case solution (MA: Data Driven)	Week 5, 9 and 13
Activity 7. PO cancer, respiratory diseases, osteoarticular diseases, and less common diseases	Week 15

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

9. BIBLIOGRAPHY

Books:

- Delgado, J. P., & de Casasola Sánchez, G. G. (Eds.). (2023). Fisiopatología y patología general básicas para ciencias de la salud. Elsevier Health Sciences.

Institutions:

- American Cancer Society. https://cancer.org/
- Spanish Oncology Society. https://seom.org/
- Spanish Sociology of Neumology and Thoracic Surgery. https://www.separ.es/
- European Respiratory Society. https://www.ersnet.org/
- Spanish Society of Rheumatology. https://ser.es/
- Eurobarometer. http://ec.europa.eu/spain/sobre-la-ue/euro-barometro/index_es.htm
- National Institute of Statistics. http://www.ine.es/
- World Health Organisation. http://www.who.int/es/

Additionally, in each class presentation, recommended scientific articles/clinical guidelines for students' reading will be indicated.

10. EDUCATIONAL GUIDANCE AND DIVERSITY UNIT

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

From this unit we offer to our students:

1. Accompaniment and follow-up by means of counselling and personalized plans for students who need to improve their academic performance.
2. In terms of attention to diversity, non-significant curricular adjustments are made in terms of methodology and assessment for those students with specific educational needs, pursuing an equal opportunities for all students.
3. We offer students different extracurricular resources to develop different competences that will encourage their personal and professional development.
4. Vocational guidance through the provision of tools and counselling to students with vocational doubts or who believe they have made a mistake in their choice of degree.

Students in need of educational support can write to us at:

orientacioneducativa@universidadeuropea.es

11. ONLINE SURVEYS

Your opinion matters!

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

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

Your assessment is necessary for us to improve.

Thank you very much for your participation.