

## 26321 - Physical Activity and Specific Populations

### Syllabus Information

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**Academic Year:** 2020/21

**Subject:** 26321 - Physical Activity and Specific Populations

**Faculty / School:** 229 - Facultad de Ciencias de la Salud y del Deporte

**Degree:** 295 - Degree in Physical Activity and Sports Science

**ECTS:** 6.0

**Year:** 3

**Semester:** Second semester

**Subject Type:** Compulsory

**Module:** ---

## 1.General information

### 1.1.Aims of the course

As a general objective, this subject aims for the student to have a global vision of physical activity as means of improving health in specific populations.

As specific objectives:

1. To know the history of physical activity for health in specific populations, how it has evolved and what is most current in this field.
2. To study the special characteristics of some population groups whose evaluation, as well as the prescription of exercise for their health, have relevant peculiarities.
3. To learn the know-how in carrying out previous evaluations that inform us of the starting levels and that motivate the planning and prescription of exercise, whose results will have to be evaluated.

### 1.2.Context and importance of this course in the degree

The effect that exercise and physical activity has on the organism has been a very interesting and fruitful field of study for sport and physical activity sciences. The existing knowledge in this field at present allows us to affirm that the exercise, developed under an adequate supervision (planning, design, prescription ...), is an unbeatable determinant of health. One of the main professional activities carried out by Graduates in Physical Activity Sciences is the "hygienic or oriented to the improvement of health". The objective of this physical activity is to raise the health status of the population, helping to prevent the development of diseases and reducing the socioeconomic costs associated with illness. A good knowledge of the functioning of the human organism during the exercise, as well as the adaptations caused by the continuous practice, will facilitate, with a more scientific and professional character, the work of the Graduate in Physical Activity and Sports Sciences. Undoubtedly, the knowledge not only of the effect of exercise and physical activity in the general population, but in specific populations, such as people with pathologies or with different conditions, makes this subject a basic pillar in the formation of the Graduate in Science of Physical Activity and Sports.

### 1.3.Recommendations to take this course

Legal recommendations: do not exist.

Essential recommendations: basic knowledge of anatomy and physiology learned in the Degree as well as training planning are essential. To understand the procedures and results that will be discussed throughout the course, it is essential to have basic knowledge of descriptive statistics and scientific language.

Advisable recommendations: it is advisable to have previously passed the modules of Exercise Physiology, Biomechanics and Physical Activity and Health. It is also recommended to have computer skills and bibliographical searches, as well as some knowledge of English. It is recommended that students have the Unizar Google Apps account activated.

The students should consult the bibliography recommended by the teaching staff through the corresponding link, bearing in mind that the "basic bibliography" is considered a compulsory reference, and that the "complementary bibliography" is also important.

## 2.Learning goals

### 2.1.Competences

Upon passing the subject, the student will obtain the following:

? General competences: In this subject, as in the rest of the subjects of the Degree, all the general competences (instrumental, personal and interpersonal and systemic) that appear in the Degree Report will be attended.

? Specific competences (textual to the tab of the subject of the degree memory):

1. Design, develop and evaluate the intervention processes, related to physical activity and sports with attention to the individual and contextual characteristics of the people.
2. Promote and evaluate the formation of enduring and autonomous habits of healthy practice of physical activity and of sport.
3. To know the motor action as an object of fundamental study in the field of the sciences of physical activity and of sport.
4. Evaluate the conditions and characteristics of the subject relevant to the practice of physical-sporting activity.
5. Prescribe physical exercises oriented towards health.
6. Plan, develop and evaluate the realization of teaching-learning programs based on the practice of physical-sports activities.
7. Select and know how to use sports equipment and equipment, suitable for each type of activity.
8. Know the characteristics and potential of the spaces useful for the practice of physical-sporting activity and arrange their arrangement to optimize their use attending all types of populations.
9. Value, transmit and enhance the component of pleasure and enjoyment inherent to the practice of activities physical-sports, and the relational opportunities that this practice implies.

? Specific competences of the subject:

1. Know and understand the dependency of the human organism with the movement and the repercussions on the health of exercise and sedentary lifestyle.
2. Know the risks and benefits of practicing physical exercise, as well as the procedures necessary to guarantee a sport without risks.
3. Know the basic elements of evaluation to identify the strengths and weaknesses of the evaluated.
4. Design different programs of physical exercise for health depending on the populations to be treated.
5. Review the theoretical bases of the prescription of physical exercise for health and its adaptation in programs general actions.
6. Develop a critical spirit of the adherence of the population to healthy habits related to the subject.

Upon passing this subject, the general competences of the Degree will be improved by developing different instrumental competences, personal competences and interpersonal relationships and systemic competences.

## 2.2. Learning goals

The student, to overcome this subject, must demonstrate the following results:

1. Understand the importance of practicing physical activity for health, because it knows the health repercussions of a sedentary lifestyle and understands the needs and benefits of a practice of physical exercise without risks.
2. Understands the scientific literature regarding the subject of the subject, and is able to draw conclusions from different articles and reviews.
3. Identify the basic elements for assessing the level of physical activity and healthy physical condition specific to different population groups (eg children, adolescents, elderly people, people with disabilities, pregnant women).
4. Design evaluation protocols according to the physiological characteristics of the evaluated, interpret results and reports and then design procedures for the practice of healthy physical exercise.
5. Develops a critical spirit about multidisciplinary work in physical activity and health in population groups with specific characteristics.

## 2.3. Importance of learning goals

It will allow the student to know the health benefits of physical activity and the harms of his absence. In addition, it will provide tools for the performance of their work as a professional in the field of Physical Activity and Sports Sciences in their facet most related to health and quality of life in different specific populations.

## 3. Assessment (1st and 2nd call)

### 3.1. Assessment tasks (description of tasks, marking system and assessment criteria)

#### First call

The evaluation will be carried out according to the agreement of December 22, 2010, of the Governing Council, which approves the Regulation of Learning Assessment Standards of the University of Zaragoza.

There are two assessment options for the first call: **continuous assessment** and **global assessment** that students must choose before the date established by the teacher. The student who has not chosen the option on date, will be automatically assigned to the Global Assessment.

#### Continuous assessment

Each student must demonstrate that they have achieved the expected learning results by completing **four assignments** to

be delivered on certain dates, to be announced on the first day of class of the subject, and a **written test** not included in the official examination period of the University of Zaragoza, whose date will also be announced on the first day of class.

### **1. Assignments**

The assignments (4) will deal with different themes of the program, which will be explained at the beginning of the course, and the deadlines for the delivery of each one will also be given. These may be carried out individually or in groups (up to a maximum of 4 people), taking into account, by the teacher, the degree of development and preparation of the work with respect to the number of people involved. All the deliveries will be made through the Moodle platform, through the Tasks options or similar, not accepting another type of delivery.

Each assignment will score from 0 to 10 and will contribute 20% to the final grade for the course (80% in total).

The non-presentation of any of them supposes a 0 in that specific section of the final grade, not being necessary to pass each section to pass the course.

### **2. Written test (exam)**

The evaluation of the degree of acquisition and understanding of the contents of the module not included in the assignments of this evaluation mode, will be carried out by means of a written and individual examination, made up of 2 sections:

*Section A* - Multiple choice questions, in which 4 possible answers will be provided, selecting the correct one. Each incorrectly selected answer will subtract a third of the correct answer. Unanswered questions will not count as failures or hits. This section A will contribute 60% to the final grade of the exam.

*Section B* - Questions with short answers, which may include problem solving, graphic interpretation, protocol design or anything related to the content worked on in class. This section B will contribute 40% to the final grade of the exam.

The final mark of the exam will be obtained as the sum of the notes in sections A and B, giving a grade from 0 to 10. The completion of the exam will be mandatory and it will be necessary to obtain at least 4 points in the overall exam to pass the module. The exam will contribute 20% to the final grade for the module.

In summary, the final grade for the course will be calculated in a weighted manner with the marks for each assignment (4 assignments x 20% = 80%) and the mark for the written test (20%). To pass the course it will be necessary for the final grade to be higher than 5 points.

Likewise, students will have the possibility to improve their final grade, obtaining a maximum of 1 extra point, which in the best case will allow students who have passed the subject to improve their grade. The activity to be carried out, and its corresponding qualification, must be previously agreed upon with the teaching staff responsible for the subject, before carrying it out. An example of activity is attendance and participation in conferences or other events considered of interest for their content for the training of students in this subject.

### **Global evaluation**

Each student must demonstrate that they have achieved the expected learning results by taking a written test included within the official examination period of the University of Zaragoza.

#### **1. Written test (exam)**

The evaluation of the degree of acquisition and understanding of the contents of the module not included in the assignments of this evaluation mode, will be carried out by means of a written and individual examination, made up of 2 sections:

*Section A* - Multiple choice questions, in which 4 possible answers will be provided, selecting the correct one. Each incorrectly selected answer will subtract a third of the correct answer. Unanswered questions will not count as failures or hits. This section A will contribute 60% to the final grade of the exam.

*Section B* - Questions with short answers, which may include problem solving, graphic interpretation, protocol design or anything related to the content worked on in class. This section B will contribute 40% to the final grade of the exam.

The final mark of the exam will be obtained as the sum of the notes in sections A and B, giving a grade from 0 to 10. The completion of the exam will be mandatory and it will be necessary to obtain at least 5 points in the overall exam to pass the module. The exam qualification will be the final grade for the module.

Likewise, students will have the possibility to improve their final grade, obtaining a maximum of 1 extra point, which in the best case will allow students who have passed the subject to improve their grade. The activity to be carried out, and its corresponding qualification, must be previously agreed upon with the teaching staff responsible for the subject, before carrying it out. An example of activity is attendance and participation in conferences or other events considered of interest for their content for the training of students in this subject.

### **Second call of each academic year.**

According to article 10 of title II of the Evaluation Regulation mentioned above, the second evaluation call, to which all students who have not passed the subject will be entitled, will be carried out through a global test carried out in the period established at effect by the Governing Council on the academic calendar.

The global test will be a written exam, in the same format as the global evaluation exam of the first call, and the grade for said exam will be the final grade for the course.

### **Non-face to face adaptations**

If due to the exceptional circumstances that might arise due to the health crisis, it was not possible to carry out evaluation tests in person, the following adaptations would be made:

- For the first call in the continuous evaluation, the assignments would be delivered in the same way through Moodle, while the written test would be carried out, in this case, through a Questionnaire also on the Moodle platform. For the Global Assessment, the global test would be carried out using a Questionnaire on the Moodle platform.
- For the second call, the global test would be carried out through a Questionnaire on the Moodle platform.

## **4. Methodology, learning tasks, syllabus and resources**

### **4.1. Methodological overview**

The course Physical activity and specific populations is designed so that, based on essential theoretical knowledge, students acquire a practical and applied orientation to the course contents. To achieve this, lectures and practice sessions are combined to optimize the learning process, reducing the time that students spend acquiring theoretical knowledge. Furthermore, direct contact with different associations, foundations, and professionals of the physical activity in specific populations, will give the students a more realistic vision of working in the sector. Other learning and teaching tasks will consist on seminars, where the solving of practical problems and cases will give the students the opportunity to face situations that they might face in the professional sector (physical activity and health in specific populations).

## 4.2. Learning tasks

The course includes the following learning tasks:

- **Lectures** (15 hours). In them the students are given the basic theoretical knowledge of the course, which will deal with the syllabus. During the teacher's presentations, dialogue will be promoted through the posing of questions, the use of problem-based learning, etc. looking for an active methodology. The presentations will be supported with diagrams and illustrations through PowerPoint presentations.
- **Seminars** (22.5 hours) \*. They are small-group sessions that usually take place in the classroom. With this activity different topics related to the syllabus will be worked on critically and the active participation of the students will be required. There will be readings of articles, video viewing, etc. and later, key points of each resource will be searched.
- **Practice sessions** (22.5 hours) \*. They will also take place in small groups, in different facilities of the Faculty, biomedical laboratory, pavilion ... or in facilities outside the University, having real contact with people who work with specific populations.
- **Individual assignment** (at least 90 hours). It will seek to reinforce autonomous learning, through work and study. In the compulsory individual assignment and, when appropriate in the optional one, students must show sufficient capacity for autonomous work and must be agreed with the teacher.
- **Tutorials**. Optional. Time dedicated to solve doubts or provide specific bibliography of a specific topic in relation to the theoretical or practical contents of the course. Likewise, the student work will be monitored. Although the teacher can answer a specific question by telematic means, the tutorials will always be carried out in person and after consensus of the schedule with the teacher.
- **Events**. Optional. Given the scientific nature of the subject, attendance / participation in courses, congresses, seminars, etc. will be taken into account. of scientific subject, related to physical activity and health, being especially relevant if the activity is organized by the University of Zaragoza. Always consult with the professor of the subject to clarify if it is a scientific activity.

\* Both the schedule of seminars and practice sessions may be modified, always respecting the general schedule of the course, to go to external facilities or receive people from different associations.

### **Non - face to face adaptations**

Given the exceptional situation that may occur due to the health crisis, the way of carrying out the different learning activities is subject to the possibility of using physical spaces in the Center. Specifically, if face-to-face teaching is not possible, both the theory classes and the seminars will use the Google Meet platform, at the official schedule for the module. In the case of the theoretical classes, they will be taught to the group as a whole, and for the seminars, by groups according to the official schedule, in the same way as in face-to-face format. The practical classes that cannot be carried out in person at the Sports Center, will be done online (with adaptations, more theoretical) also through Google Meet, by groups of practices at the official time. All the links for the different classes will be published on the Moodle platform well in advance.

## 4.3. Syllabus

The course will address the following topics:

1. **Previous bases and generalisations**
  - a. Benefits and risks of physical activity
  - b. Screening of health prior to participation in exercise
  - c. Evaluation and interpretation of healthy physical condition
  - d. General principles of the prescription of physical exercise
2. **Exercise prescription for healthy populations with special considerations**
  - a. Children and adolescents
  - b. Old people
  - c. Pregnant
3. **Prescription of exercise for people with heart, cerebrovascular and pulmonary disease**
  - a. Heart disease
  - b. Stroke
  - c. Lung disease
4. **Exercise prescription for people with metabolic diseases and cardiovascular risk factors**
  - a. Mellitus diabetes
  - b. Dyslipidemia
  - c. Hypertension
  - d. Metabolic syndrome
  - e. Overweight and obesity

## 5. Evaluation and prescription of exercise for people with other chronic diseases and conditions

- a. Arthritis
- b. Cancer
- c. Cerebral palsy
- d. Fibromyalgia
- e. Intellectual disability
- f. Multiple sclerosis
- g. Osteoporosis
- h. Strategies for promoting and adhering to exercise in specific populations

### 4.4.Course planning and calendar

The planning for this course is 1 hour of lectures and 3 hours of seminars and practice sessions according to the scheduled established by the Faculty. However, to favor a more enriching learning, taking into account the academic calendar and the availability of the associations / professionals to visit, the final weekly planning will be agreed at the beginning of the course and communicated in class and Moodle.

In general, the weekly planning of the subject is as follows:

- Lectures \*, whole student group, explanation and discussion of the syllabus topics.
- Seminars \*, 3 groups, where different topics will be worked on, in relation to the syllabus, discussions, 'role playing', etc.
- Practice sessions \*, 4 groups, where the topics dealt with in lectures and seminars will be treated in an applied and practical way.
- The final exam date will be included in the official exam calendar that will be made public in due time. The specific dates of assignment submission will be determined at the beginning of the course and communicated in class and Moodle.

\* This schedule may be altered when an activity of a scientific nature (courses, congresses, seminars), which might be related to the course, is organized by the Faculty of Health Sciences and Sports, the University of Zaragoza or related centers. In addition, possible changes in practice sessions and seminars, etc. will be informed in due time and agreed with the students.

The final exam date will be defined in the official exam calendar that will be made public in due course. The specific delivery dates of the assignments will be determined at the beginning of the course and the students will be informed in class and through Moodle. In addition, possible changes in practice and seminar schedules, etc. They will be informed in due time and agreed with the students.

### 4.5.Bibliography and recommended resources

The updated bibliography of the course can be found in the following link:  
<http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=26321>