

60860 - Physical exercise and ageing

Syllabus Information

Academic Year: 2020/21

Subject: 60860 - Physical exercise and ageing

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

Degree: 549 - Master's in Evaluation and Physical Training for Health

ECTS: 3.0

Year: 1

Semester: Second semester

Subject Type: Optional

Module: ---

1.General information

1.1.Aims of the course

The subject and its expected results respond to the following approaches and objectives:

The fundamental aim of this subject is to train future researchers interested in physical exercise in older people.

Students will be able to know the demographic trends of the elderly population and the main physiological, psychological, and social changes of the aging process.

1.2.Context and importance of this course in the degree

Spain is one of the oldest countries in the world. In turn, Aragon occupies the top positions in the oldest Spanish regions. The learning results of this subject will allow students to generate new knowledge that is useful to achieve everything discussed above.

1.3.Recommendations to take this course

Legal recommendations: they do not exist.

Essential recommendations: Students are strongly recommended to read and consult basic and specific bibliography. Students must have elementary knowledge to perform bibliographic searches, interpretation of statistical analysis and scientific language.

Advisable recommendations: students are strongly recommended to have a participative and critical-constructive attitude in teaching activities. Also, students must have basic knowledge of English, statistics, and computers. Students must have the Unizar Google Apps account active. It is advisable to have basic knowledge of the online teaching platform, Moodle and Google Meet.

2.Learning goals

2.1.Competences

The student will be more competent to:

In addition to contributing to the development of the general competences described in the curriculum of the degree, this subject is related to the followings specific competences:

CG2 - To make a critical analysis of the development and presentation of new and complex ideas in the field of study of the assessment and recommendation of physical exercise for health by means of an argued assessment.

CG 4 - To apply knowledge related to Physical Activity Sciences using research methods adapted to changes arising from new trends in the professional field.

CG6 - To collaborate, through research, to broaden horizons in the field of study of physical activity for health, offering the discoveries found for possible publication referenced nationally and internationally.

CG9 - To work efficiently in multidisciplinary teams for the development of actions in the field of health-oriented physical activity.

CB6 - To understand the knowledge that provides a basis or opportunity to be original in the development and/or application of ideas, often in a research context.

CB7 - To solve problems in new or little-known settings within broader (or multidisciplinary) contexts related to their area of study.

CB8 - To integrate knowledge and face the complexity of formulating judgments based on information that, being incomplete or limited, includes reflections on the social and ethical responsibilities linked to the application of their knowledge and judgments.

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- To design intervention patterns in special populations linked to the assessment and prescription of physical exercise aimed at achieving healthy habits. Carriers of chronic pathologies, elderly, disabled, etc.
- To identify and interpret in scientific texts the most appropriate standards of action for the design of physical activity programs aimed at health in people with hypertension, metabolic, or osteoarticular problems.
- To interpret in the scientific literature the most important elements for prescribing health-oriented physical activity programs in children, youth, adults, the elderly, and/or with special needs.
- To design programs, in the field of physical activity oriented to health, that can embed and improve those already existing in the community where professional work is carried out.
- To employ strategies of excellence, ethics, and quality in research and professional practice in the field of Physical Activity for Health, following the recommendations of the Declaration of Helsinki and Law 14/2007 and subsequent updates of Biomedical Research.
- To control the different methodological alternatives that can be applied within the framework of physical activity oriented towards health.
- To use different research techniques and apply them appropriately to the field of knowledge of the assessment and recommendation of physical exercise for health in different population groups. depending on age, sex, chronic diseases, disability, etc.
- To identify and assess the health problems that affect different population groups, and in which physical exercise can positively affect their treatment and subsequent improvement.
- To extract and adequately analyze the information from scientific texts in the framework of Physical Activity Sciences, assessing their possible link to the field of Health.
- To evaluate the physiological, anatomical, biochemical changes that occur as a consequence of a health-oriented physical activity program
- To perform optimized bibliographic searches in the field of health-oriented physical activity, strategically selecting the most relevant information for the purpose of the research: the purpose of the intervention, population groups, intervention methodology.
- To analyze the variables of a psychosocial and physiological nature associated with physical activity oriented towards health, using the most appropriate scientific methodology.

2.2.Learning goals

To pass this subject the students must demonstrate the following results:

To know the demographic characteristics of the world's largest population and Spanish.

To describe the physiology of aging and to know the responses and adaptations to exercise.

To learn the scientific evidence on which the relevance of physical exercise in older people is based.

To assess the levels of physical fitness and activity in older people using specific instruments, as well as design physical exercise programs adapted to the characteristics of this population.

To know the relationship between functional capacity and the factors of the aging process.

2.3.Importance of learning goals

The learning results will allow students to know the benefits of physical exercise in the elderly. These results will be of great importance for students who want to guide their future towards the promising field of research in physical exercise and aging.

3.Assessment (1st and 2nd call)

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

Students must demonstrate that they have achieved learning outcomes provided through the following activities of evaluation.

Students enrolled in this subject will have the option of being assessed through a global assessment.

This global test will consist of 40 multiple-choice questions. The questions will be single-answer among five options, and for every four incorrect questions, one will be subtracted. Students will have 60 minutes to complete it. This test will be carried out on the date and in the place published by the Center in the calendars of each

degree in 1st and 2nd call. In a scenario of not attending due to health crisis, this test would be carried out, with the same characteristics (number of questions, time, etc.) on the Moodle platform, within the space enabled for the subject.

Students enrolled in this subject will have the option of being evaluated through continuous assessment.

The evaluation will consist of three parts:

? Written test (40%): 40 multiple-choice, single-answer questions among five options, and for every four incorrect questions, one correct will be subtracted. Students will have 60 minutes to complete it. This test will be carried out on the date and in the place published by the Center in the calendars of each degree in 1st and 2nd call. In a scenario of not attending due to health crisis, this test would be carried out, with the same characteristics (number of questions, time, etc.) on the Moodle platform, within the space enabled for the subject.

? Activities and tasks (30%): All activities carried out during the development of the lessons will be counted.

? Work (30%): Students will have to review a systematic review or meta-analysis individually. Teachers will enable activity in Moodle in which each student must: 1) Search for a systematic review or meta-analysis, indexed in a JCR journal, that has been published in the last 5 years on one of the following topics related to older people: frailty, functional capacity, body composition, multi-component, multi-modal program, concurrent training, hallmarks, physical activity, etc.; 2) upload the selected article to the activity created on the platform (deadline 2 weeks before the end of classes); 3) receive the teacher's approval; 4) upload the presentation to be made on the day of the exhibition (within 1 week before the end of classes).

? The presentation of this work will be compulsory to pass the subject. It will be scored from 0 to 10.

To pass the subject globally, it will be necessary to obtain a score equal to or greater than 5 in the evaluation of the written test, the activities and tasks, and in the work as a whole. The weighted global grade of the subject will be computed by weighing the grade obtained in each of the parts.

The second call of each academic year.

According to article 10 of title II of the Evaluation Regulation mentioned above, the second call will be carried out by means of a global assessment carried out in the period established for this purpose by the Governing Council in the academic calendar.

It will consist of a test based on 40 multiple-choice questions, with a single answer among five options, and for every four incorrect questions, a correct one will be subtracted. Students will have 60 minutes to complete it.

4.Methodology, learning tasks, syllabus and resources

4.1.Methodological overview

The learning process that has been designed for this subject is based on the following:

Physical exercise and aging are based on essential theoretical knowledge. Students acquire an eminently practical and applied orientation. Also, students acquire a critical reflection on the importance of physical exercise during old age, favoring debate, and active participation in it.

4.2.Learning tasks

The process designed for this subject is the following:

60% lecturers and 40% seminars, activities, and tasks.

Lecturers: the basic theoretical knowledge of the subject is presented to the students, which will be about the topics exposed in the program.

Seminars, activities, and tasks: students are presented with tools for evaluating various components related to older people and problem-solving, and cases that students must solve individually or in groups according to the nature of the task will be carried out.

Given the exceptional situation for the 2020/21 academic year, the way of carrying out the different learning activities will be subject to the availability of classrooms in the Center. Whenever possible, lecturers will be held at the places and spaces indicated by the center. In a scenario of not attending due to health crisis, the learning activities will be carried out on-line, synchronously, keeping on schedule, through Google Meet. All activities will be recorded and made available to students through a link that will be provided in each of the schemes provided through the Moodle platform by teachers.

Tutorials: Whenever necessary, students individually or in groups, will request via email the availability for tutoring electronically through the Google Meet platform.

Autonomous work: Students will work the contents of the subject autonomously and not face-to-face. The teaching staff will guide said autonomous work.

4.3.Syllabus

Introduction and key concepts.

Demographics of aging.

Physiology of aging: musculoskeletal and cardiorespiratory systems.

Fragility, assessment of the physical condition, and functional capacity.

Planning a physical exercise program for older people.

Design of exercise programs for the improvement of health (Programs for the improvement of muscular strength and endurance, aerobic resistance, flexibility, coordination, and balance).

4.4.Course planning and calendar

Calendar of sessions and presentation of work

Lecturers will be held according to the academic schedule of the master. In the official exam agenda, the dates for the tests corresponding to the first and second call will be communicated.

This subject has an optional character, teaching during the period between February and March. The final test of the course will take place in the official examination period established by the University of Zaragoza. The date of completion will be officially published on the website of the Faculty of Health Sciences and Sports.

Presentation of work: The deadline to upload the selected article to the Moodle platform is 2 weeks before the presentation. To upload the presentation is 1 week before the presentation. The presentation of the work will take place on the last day of class.

4.5.Bibliography and recommended resources

<http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=60860&Identificador=C70186>