

Academic Year/course: 2021/22

60855 - Physical fitness and energy expenditure assessment

Syllabus Information

Academic Year: 2021/22

Subject: 60855 - Physical fitness and energy expenditure assessment

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

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

ECTS: 6.0

Year: 1

Semester: First semester

Subject Type: Compulsory

Module:

1. General information

1.1. Aims of the course

The main aim of this module is that students know how to choose, execute, interpret and report the tests or physical condition tests that are most appropriate for the chosen population groups, assessing the risks and needs of that population group.

These approaches and objectives are aligned with the following Sustainable Development Goals (SDGs) of the United Nations 2030 Agenda (<https://www.un.org/sustainabledevelopment/es/>), in such a way that the acquisition of the results of Subject learning provides training and competence to contribute to some extent to its achievement.

? Goal 3: Health and well-being

? Goal 4: Quality education

? Goal 5: Gender equality

1.2. Context and importance of this course in the degree

It is a compulsory module, placed in the first semester and with a curricular load of 6 ECTS.

It is within the "Physical condition and energy expenditure" module.

1.3. Recommendations to take this course

LEGAL: they do not exist.

ESSENTIALS: basic knowledge of anatomy and physiology as well as elementary notions of training planning and human nutrition are essential.

ADVISABLE: you can easily follow the course if you have knowledge of Physiology, Exercise Physiology, Training, Nutrition and Physical Activity and Health. It is recommended to have knowledge of computer science and bibliographic search, as well as a basic knowledge of English.

2. Learning goals

2.1. Competences

By passing the subject, the student will be more competent to ...

General competences:

In this subject, as in the rest of the Master's subjects, all the general competencies (instrumental, personal and interpersonal and systemic relationships) that appear in the Master's Report will be addressed.

In addition to the basic and general skills that are detailed in the Master's report, students will acquire the following specific skills:

CE2 - Employ strategies of excellence, ethics and quality in research work 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 on Biomedical Research.

CE3 - Control the different methodological alternatives that can be applied within the framework of health-oriented physical activity.

CE4 - 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 pathologies, disability, etc.

CE5 - Identify and assess the health problems that affect different population groups, and in which physical exercise can positively influence their treatment and subsequent improvement.

CE6 - Extract and properly analyze the information from scientific texts within the framework of Physical Activity Sciences, assessing their possible link to the field of Health.

CE7 - Evaluate the physiological, anatomical, and biochemical changes that occur because of a health-oriented physical activity program.

CE12 - Assign 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.

CE16 - Find and properly interpret the scientific literature such as the most important elements for the prescription of health-oriented physical activity programs in children, youth, adults, the elderly and / or people with special needs.

CE17 - Know how to distinguish and assess gender differences in relation to pathologies that can be intervened from physical activity.

2.2. Learning goals

To pass this subject, the student must demonstrate the following results:

To adequately assess the health status of the subject using the tools provided for this purpose. Identify and correctly analyze the lifestyle and personal habits of the subject.

To conveniently select the different possibilities of fitness evaluation based on the characteristics of the individual.

To apply in a pertinent way the most appropriate tests and assessment protocols for the physical condition for each case.

2.3. Importance of learning goals

They will allow those who pass this subject to carry out an assessment of the components of physical condition related to health and energy expenditure at rest and in different activities, in safety conditions and with methodological guarantees. The learning outcomes would be related to:

Adequately assess the subject's state of health using the tools provided for this purpose. Identify and correctly analyze the lifestyle and personal habits of the subject.

Conveniently select the different fitness assessment possibilities based on the individual's characteristics.

Apply in a pertinent way the most appropriate tests and assessment protocols for the physical condition for each case.

3. Assessment (1st and 2nd call)

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

There are two evaluation options: continuous or global

For **continuous evaluation**, the following sections will be considered:

Written test: (30% of the grade): an exam that will include all the contents of the subject and will contain several of the following: true / false, multiple-choice, correspondence or item matching questions, short-answer questions. It will be valued from 0 to 10.

Application of knowledge (40% of the qualification): Carrying out the tasks proposed by the teaching staff of the subject, mainly in the seminars. Each task will be assessed from 0 to 10 and the average will be considered.

Student attendance and participation during practices. (30% of the grade). Works will be carried out in small groups on proposed practical cases. It will be valued from 0 to 10, with respect to the total of the practices.

The final grade will be weighted with the three previous sections, if all three have been passed. The grade will be made between 0 and 10. To pass each section the grade will be equal to or greater than 5 points.

For the **overall evaluation**, only the qualification of the written test will be considered, this being the final grade for the subject.

Non-face-to-face adaptations

Given the exceptional circumstance in which we are, due to the health crisis, if it could not be done in person, the written test would be through the Moodle platform, at the same time established in the official calendar. The knowledge application tasks would be carried out in the same way, also through Moodle, and the percentage of the grade assigned to attendance and participation would be considered as long as practices could have been carried out; otherwise, it would be distributed among the other 2 percentages.

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

This course has a theoretical and practical orientation so that students will be able to apply the theoretical and practical knowledge they acquire during the course.

4.2. Learning tasks

The course includes the following learning tasks:

- **Lectures.** The methodology is appropriate to adapt the general cognitive level of the course contents to the level of the students. During lectures, dialogue will be promoted by asking questions, the use of problem-based learning, etc., looking for an active methodology. Lectures will be supported by diagrams and illustrations on PowerPoint presentations. This material will be available via the virtual platform Moodle. Revision of materials is recommended before attending different lectures. Moreover, in certain topics additional material will be provided, and finding different written materials will be encouraged to achieve deeper learning.
- **Seminars.** In addition to lectures, small seminars will be held, in the form of practical workshops taught by the teacher or guest speakers to deepen into topics of particular interest and relevance.
- **Practice sessions.** They consist of a series of activities that combine individual work and cooperative work. Depending on the proposed activities, they will take place in different spaces (sports hall, fitness room, laboratory, etc.).
- **Essay.** It will seek to reinforce independent learning, by conducting case studies (group or individual). Group work will include search and literature review, written technique and oral presentation in class, encouraging reflection and discussion, of one or more essays previously supervised in tutorials by the teacher. Mandatory individual essay will be based on the proposal for physical fitness evaluation of a specific population group, previously agreed with the teacher.
- **Tutorials.** They aim to answer questions or provide specific bibliography of a specific topic in relation to lectures and practice sessions. In addition, monitoring of assignments will be done. Tutorials will take place both in the teacher's office, and via email or Moodle.

Non-face to face adaptations

Given the exceptional situation due to possible restrictions for health reasons, for this academic year 2020/21, the way of carrying out the different learning activities is subject to the availability of physical spaces in the Center. Specifically, both the theoretical classes and the seminars will use the Google Meet platform, at the official time of the subject. In both cases, a meeting (link) will be created for the entire group as a whole. The practical classes that can be carried out in person in the sports center or in the GENUD laboratory, will be done in this way, while those that cannot, will be adapted, online, also through Google Meet

4.3. Syllabus

The course will address the following topics:

Topic 1. Health status assessment

- - Medical History Questionnaire
- - Analysis of coronary risk factors
- - Physical examination
- - Laboratory tests
- - Physician report
- - Informed consent

Topic 2. Lifestyle and personal habits assessment

Topic 3. Cardiorespiratory fitness assessment

- - Resting test
- - Maximal and submaximal testing and protocols

- - Field tests

Topic 4. Assessment of muscle strength and endurance

- - Devices for measuring muscle strength and endurance
- - Tests of strength and endurance
- - Issues associated with muscular fitness tests

Topic 5. Flexibility programs assessment

Topic 6. Stress and neuromuscular tension assessment

4.4. Course planning and calendar

The activities will usually take place in the afternoons at the Río Isuela sports center (Huesca) according to the official Master's schedule, published on the Faculty website. There will also be some practical sessions in the biomedical lab, gym and pavilion court, and there is a possibility to hold some practical in the laboratory of the GENUD research group in Zaragoza; In these cases, it will be notified in advance. Notwithstanding all this, as previously discussed, it is at the expense of possible closings/restrictions due to the exceptional situation of the Covid-19.

This subject is compulsory and semester, teaching during the period between September and January. The final tests of the subject (February and June) will be carried out in the official exam periods established by the University of Zaragoza. The dates of completion will be officially published on the website of the Faculty of Health and Sports Sciences.

4.5. Bibliography and recommended resources

Bibliography can be consulted in the following link:

<http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=60855&Codcentro=229>