

## 60860 - Physical exercise and ageing

### Syllabus Information

**Academic Year:** 2019/20

**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

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

#### 1.3.Recommendations to take this course

### 2.Learning goals

#### 2.1.Competences

#### 2.2.Learning goals

#### 2.3.Importance of learning goals

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

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

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

#### 4.1.Methodological overview

The methodology followed in this course is oriented towards achievement of the learning objectives.

Students are expected to participate actively in the class throughout the semester.

Classroom materials will be available via Moodle. These include a repository of the lecture notes used in class, the course syllabus, as well as other course-specific learning materials, including a discussion forum.

#### 4.2.Learning tasks

The course (60 hours) includes the following learning tasks:

- Theory session
- Practice session
- Assignment

#### 4.3.Syllabus

The course will address the following topics:

- Topic 1. Introduction and key concepts
- Topic 2. Aging demography

- Topic 3. Physiology of aging. Musculoskeletal system. Cardiorespiratory system
- Topic 4. Physical exercise and aging. Scientific evidence. Benefits. Evidence level
- Topic 5. Physical fitness assessment. Direct evaluation. Functional physical fitness battery
- Topic 6. Physical activity assessment
  - - Accelerometry. Particularities
  - - Questionnaires. Validation and interpretation
- Topic 7. Health-related physical exercise program design
  - - Muscular strength program
  - - Aerobic endurance program
  - - Flexibility, coordination and balance program
- Topic 8. Planification and periodization of physical activity programs for elderly people
- Topic 9. Aging. Physical capacity and genetics. Physical activity and extrem longevity

#### **4.4.Course planning and calendar**

Classes are held in the Biomedical seminar II.

Further information concerning the timetable, classroom, assessment dates and other details regarding this course, will be provided on the first day of class or please refer to the Faculty website.

#### **4.5.Bibliography and recommended resources**

- American College of Sports Medicine. ACSM's Exercise for Older Adults. Lippincott Williams & Wilkins: Baltimore, 2013.
- Best-Martini E, Botenhagen-DiGenova KA. Exercise for frail elders. Champaign, Illinois: Human Kinetics, 2014.
- Garatachea Vallejo, Nuria. Actividad física y envejecimiento. Sevilla: Wanceulen, 2006.
- Nelson, ME, Rejeski WJ, Blair SN, et al. Physical activity and public health in older adults: recommendation from the American College of Sport Medicine and the American Hear Association. Circulation, 2007; 116(9):1094-1093
- Taylor, Albert W. Physiology of Exercise and Healthy Aging. Champaign, IL : Human Kinetics, 2008
- Norman, K. A. van . Exercise programming for older adults. . Champaign : Human Kinetics, 1995
- Rikli, Roberta E.. Senior fitness test manual / Roberta E. Rikli, C. Jessie Jones . Champaign, IL : Human Kinetics, cop. 2001