Study Plan

School: School of Health and Human Development
Degree: Master
Course: Physical exercise and health (cód. 398)

1st Year - 1st Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
DES10220M	Exercise Physiology	Human Kinetics	3	Semester	78
DES10221M	Research Methods and Data Analysis in Health Sciences	Human Kinetics	9	Semester	234
DES10222M	Nutrition	Human Kinetics	3	Semester	78
DES10223M	Nutritional Supplements and Doping	Human Kinetics	3	Semester	78
DES10224M	Benefits of Physical Activity in Health	Human Kinetics	3	Semester	78
DES10225M	Training Methods and Short and Long-term Effects	Human Kinetics	3	Semester	78
DES10226M	The Labour Market and Legal Aspects in Physical Activity and Health	Juridical Sciences	3	Semester	78
DES10227M	Sports Medicine	Human Kinetics	3	Semester	78

1st Year - 2nd Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
DES10228M	Functional Assessment Protocols	Human Kinetics	6	Semester	156
DES10229M	Exercise Biomechanics	Human Kinetics	3	Semester	78
DES10230M	Fundamentals of Exercise Prescription	Human Kinetics	6	Semester	156
DES10231M	Physiology and Exercise Prescription for the Elderly	Human Kinetics	3	Semester	78
DES10232M	Physiology and Female Physical Activity Programmes	Human Kinetics	3	Semester	78
DES10233M	Physiopathology and Exercise Prescription for Patients with Central Nervous System Disorders	Human Kinetics	3	Semester	78
DES10234M	Physiopathology and Exercise Prescription for Patients with Cardiovascular Pathologies	Human Kinetics	3	Semester	78
DES10235M	Physiopathology and Exercise Prescription for Patients with Neuromuscular Diseases	Human Kinetics	3	Semester	78

2nd Year - 3rd Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
DES10236M	Physiopathology and Exercise Prescription for Patients with Osteoarticular Diseases	Human Kinetics	3	Semester	78
DES10237M	Physiopathology nd Exercise Prescription for Patients with Respiratory Diseases	Human Kinetics	3	Semester	78
DES10238M	Physiopathology and Exercise Prescription for Patients with Metabolic Diseases	Human Kinetics	3	Semester	78
DES10239M	Physiopathology and prescription of exercise in people with HIV and Cancer	Human Kinetics	3	Semester	78

2nd Year - 3rd Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
Mandatory alternatives					

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
Dissertation					
Project Work					
Report					

2nd Year - 4th Semester

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
Mandatory alternatives					

Component code	Name	Scientific Area Field	ECTS	Duration	Hours
Dissertation					
Project Work					
Report					

Conditions for obtaining the Degree:

*** TRANSLATE ME: Para aprovação na componente curricular deste Mestrado, é necessário a aprovação (através de avaliação ou creditação) das seguintes unidades curriculares:{\}newline

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1.º Semestre:{\}newline

- 8 UC Obrigatórias num total de 30 ECTS{\}newline

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2.º Semestre:{\}newline

- 8 UC Obrigatórias num total de 30 ECTS{\}newline

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3.º Semestre:{\}newline

- 4 UC Obrigatórias num total de 12 ECTS{\}newline

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Para obtenção do grau, é necessário também a aprovação em Dissertação/Relatório/Trabalho de Projecto, com o total de 48 ECTS, no 3.º e 4.º Semestre. ***

Program Contents

Back

Exercise Physiology (DES10220M)

1. Bioenergetics of muscle activity
2. Acute and chronic adaptations to exercise
2.1. Cardio-vascular
2.2. Respiratory
2.3. Hormonal
2.4. Skeletal muscle
2.5. Renal
3. Thermoregulation and metabolic
4. Exercise in different environments

Back

Research Methods and Data Analysis in Health Sciences (DES10221M)

Back

Nutrition (DES10222M)

Back

Nutritional Supplements and Doping (DES10223M)

1. Food supplements
2. Phosphocreatine, creatinina, protein, L-Carnitina etc.
3. Doping
3.1. Definition
3.2. Types of substances used and their effects
3.3. Doping as a biological or ethical problem?

Back

Benefits of Physical Activity in Health (DES10224M)

Back

Training Methods and Short and Long-term Effects (DES10225M)

1. Definition of training method
1.1. Components of training
1.2. Characteristics of training load
2. Cardiovascular training
3. Velocity training
4. Strength training
5. Training flexibility

Back

The Labour Market and Legal Aspects in Physical Activity and Health (DES10226M)

1. Legal aspects of health in sport
1.1. International, Europe, Spain and Portugal.
1.2. General powers and interdisciplinarity
1.3. Declarations of consent

2. Health models in sport: specific skills, interdisciplinary work and implications
2.1 Classic model: public and private
2.2. Model public health: public and private
2.3. Model Community: public and private
2.4. Leisure sports and health: public and private

Back

Sports Medicine (DES10227M)

1. Definition
2.1. The sports medical examination
2. Acute traumatic injuries caused in the practice of physical activity
2.1.1. Evaluation and diagnosis
2.1.2. Prevention and treatment
3. Chronic injuries of specific sports
4. Injuries caused by "over training"
5. Preventive and therapeutic role of exercise
6. First aid

Back

Functional Assessment Protocols (DES10228M)

1. How to develop a protocol
2. Testing and interpretation of the principles of the exercise
2.1. cardiopulmonary assessment
2.1.1. Cardiac Function
2.1.2. function Aerobics
2.1.3. Anaerobic function
2.2. Assessment of body composition
2.3. Assessment of the strength
2.4. Assessment of neuromuscular function
2.5. Evaluation of flexibility
3. Batteries fitness
3.1. AFISAL
3.2. Eurofit
3.3. other
4. The use of questionnaires

Back

Exercise Biomechanics (DES10229M)

Back

Fundamentals of Exercise Prescription (DES10230M)

1. The use of data obtained in functional assessment.
2. Energy calculations
3. The programming exercise programs
4. Exercise prescription in adults
5. Exercise prescription in young each.

Back

Physiology and Exercise Prescription for the Elderly (DES10231M)

Back

Physiology and Female Physical Activity Programmes (DES10232M)

1. Introduction to physiology in female subjects
1.1. Conceptual introduction
1.2. Description of metabolic and hormonal features trough lifespan (pre-menarche, menstrual cycle, pregnancy, menopause and older age)
1.3. Implications of the characteristics of women in the physiology of effort.
1.4. Changes of health that characterize women: indications and contraindications
1.5. Fitness and women
2. Specific psychosocial and cultural aspects
3. Some specific features of the prescription of physical exercise in female subjects
3.1. Exercise and age
3.2. Exercise and menstrual cycle
3.3. Classic exercise in women and community
3.4. Specific implications for labor

Back

Physiopathology and Exercise Prescription for Patients with Central Nervous System Disorders (DES10233M)

Back

Physiopathology and Exercise Prescription for Patients with Cardiovascular Pathologies (DES10234M)

1. Introduction to physiology in subjects with cardiovascular disease
1.1. Conceptual introduction and classifications
1.2. Physiopathology, treatment phases and major implications on the physical condition
1.3. Indications and contraindications of exercise
2. Prescribed exercise in people with cardiovascular disease
2.1. Brief summary of epidemiological determinants and types of prevention (primary, secondary and tertiary)
2.2. Exercise, types of prevention and health models
2.3. Specific implications for labor

Back

Physiopathology and Exercise Prescription for Patients with Neuromuscular Diseases (DES10235M)

Back

Physiopathology and Exercise Prescription for Patients with Osteoarticular Diseases (DES10236M)

1. Introduction to physiology in subjects with osteoarticular
1.1. Introduction and conceptual classifications
1.2. Physiopathology, treatment phases and major implications on the physical condition
1.3. Indications and contraindications of exercise
2. Prescribed exercise in people with osteoarticular changes
2.1. Brief summary of epidemiological determinants and types of prevention (primary, secondary and tertiary)
2.2. Exercise, types of prevention and health models
2.3. Specific implications for labor

Back

Physiopathology nd Exercise Prescription for Patients with Respiratory Diseases (DES10237M)

1. Introduction to physiology in subjects with respiratory
1.1. Introduction and conceptual classifications
1.2. Physiopathology, treatment phases and major implications on the physical condition
1.3. Indications and contraindications of exercise
2. Prescribed exercise in people with respiratory disorders
2.1. Brief summary of epidemiological determinants and types of prevention (primary, secondary and tertiary)
2.2. Exercise, types of prevention and health models
2.3. Specific implications for labor

Back

Physiopathology and Exercise Prescription for Patients with Metabolic Diseases (DES10238M)

Back

Physiopathology and prescription of exercise in people with HIV and Cancer (DES10239M)