

Asignatura Optativa de GRADO (CURSO 2023-2024)

COURSE: PHYSICAL ACTIVITY AND SPORTS FOR HEALTH

Code: 805451

Type: Complementary education

Faculty: FACULTY OF NURSING, PHYSIOTHERAPY AND PODIATRY

Credits: 3

Number of places: 100

	Total (32%)	Theory	Practice	Others
Teaching hours	24	12	12	

Teaching dates:

Teaching dates: September 20, 2023- December 13, 2023

Hours: Wednesday from 12:30 p.m. to 1:30 p.m. (groups 1 and 2). Wednesday from 1:30 p.m. to 2:30 p.m. (groups 3 and 4)

Place: Classroom 1. School of Medicine of Physical Education and Sports

REQUIREMENTS

Undergraduate students in Nursing, Physiotherapy and Podiatry from 2nd to 4th year

BREVE DESCRIPTOR

This course is about teaching the future health professionals the principles of physical activity and sport as a mean to improve health and prevent disease, as well as the contribution of the different health professions to the world of sport. Therefore, we will talk about the physiology of effort, exercise prescription for health and functional assessment tests.

OBJECTIVES

1. GENERAL OBJECTIVE

- Provide students in the Nursing, Physiotherapy and Podiatry degrees with basic knowledge of the benefits of physical exercise and Sport for health, so that in the future they can count on the application of exercise as a very useful tool in the promotion of health, and the prevention and treatment of disease.

2. SPECIFIC OBJECTIVES

- Know the responses and physiological adaptations to exercise.
- Know the basic principles of the biological preparation of the athlete (medical-sports examination, functional assessment methods).

- Know the basic principles of sports nutrition and hydration.
- Know the basic principles of exercise prescription in a healthy population.
- Know the basic principles of exercise prescription in the most prevalent pathologies in our environment.
- Knowledge of specific aspects of physical activity and sport in growth, aging, women and physical disabilities.
- Knowledge of the main sports injuries and their prevention mechanisms.
- Know the role of the different health professions in the sports environment.

COMPETENCIES

They are those corresponding to the Module and Subject to which this subject belongs.

NURSING:

(According to competencies described in Order CIN/2134/2008, of the Ministry of Science and Innovation)

9. Promote healthy lifestyles, self-care, supporting the maintenance of preventive and therapeutic behaviors.
10. Protect the health and well-being of people, family or groups attended, guaranteeing their safety.
11. Establish effective communication with patients, family, social groups, guaranteeing their safety

PHYSIOTHERAPY

GENERIC:

Instrumentals:

- C.T.1 Capacity for analysis and synthesis.
- C.T.7 Troubleshooting
- C.T.8 Decision making

Personal:

- C.T.9 Teamwork
- C.T.10 Work in an interdisciplinary team
- C.T.14 Critical Thinking

Systemic:

- C.T.16 Autonomous learning
- C.T.18 Creativity

SPECIFICS:

C.F.14. Understand ergonomic principles and anthropometric. Analyze, program and apply movement as a therapeutic measure, promoting the participation of the patient/user in the process.

C.F.15. Understand the fundamental concepts of health and the function performed by the physiotherapist in the health system. Promote healthy lifestyle habits through health education.

Understand the factors related to health and the problems related to Physiotherapy in the areas of Primary Care, Specialized Care and Occupational Health. Know the Spanish Health System and aspects related to the management of health services.

Health, fundamentally those in which Physiotherapy intervenes. Know and analyze the management processes of a Physiotherapy service or unit. Know and apply the mechanisms of quality in the practice of Physiotherapy, adjusting to the criteria, indicators and quality standards recognized and validated for the adequate

professional exercise. Know the ethical and legal bases of the profession in a social context.

PODIATRY

(According to competencies described in Order CIN/728/2009, of the Ministry of Science and Innovation)

C.G.9. Acquire the concept of health and disease. Know the determinants of health in the population. Develop the factors that influence the health-disease phenomenon. Design of prevention protocols and their practical application. Public health. Concept, method and use of epidemiology.

C.G.10. Acquire teamwork skills as a unit in which professionals and other personnel related to prevention, diagnostic evaluation and podiatric treatment are structured in a uni or multidisciplinary and interdisciplinary manner.

C.G.14. Know the fundamentals of biomechanics and kinesiology. Supporting theories.

The human walk. Structural alterations of the foot. Postural alterations of the musculoskeletal system with repercussions on the foot and vice versa. Analysis Instruments Biomechanical.

LEARNING OUTCOMES

COMPETENCES: NURSING CG9 and CG10, PHYSIOTHERAPY C.F.15 and PODIATRY CG9:

Learning Outcomes:

He knows the fundamentals of physical exercise and sports to improve the quality of life of his patients.

Prescribes the appropriate physical exercise and sport for each patient according to their physical condition and/or underlying prevalent pathologies.

You can develop physical activity and sports programs for patients with the same pathology and in your age group.

It calculates the cardiovascular risk profile based on certain anthropometric averages and its general nutritional recommendations.

Employs the critical spirit in the practical situations raised regarding clinical assessment sport oriented.

COMPETENCES PHYSIOTHERAPY C.F.14 and PODIATRY C.G.14:

Learning Outcomes:

He knows the injury mechanisms of sport so he can carry out health education to prevention of musculoskeletal injuries.

COMPETENCES PODIATRY C.G.10:

Learning Outcomes:

Ability to interact with other health professionals for better sports prescription in health promotion and disease control.

SUMMARY

THEORETICAL CLASSES

- -Physiological responses and adaptations to exercise.
- -Nutrition and exercise. Hydration.
- -Medical-sports examination. Functional assessment. Biomechanical analysis.
- -Prescription of exercise in healthy population.
- -Prescription of exercise in more prevalent pathologies.
- -Sports injuries. Classification. Basic concepts of management and prevention.

PRACTICAL CLASSES

- Functional assessment tests
 - o Aerobic and anaerobic tests
 - o Strength and flexibility
- Kinanthropometry and nutritional assessment of the athlete
- Biomechanical analysis of walking and running
- Introduction to ultrasound of the musculoskeletal system.

SEMINARS

- Prescription of exercise in healthy population
- Prescription of exercise in sick population

CLINICAL PRACTICES (Voluntary)

In the School of Medicine of Physical Education and Sports of the Complutense University

- Carrying out stress tests (anaerobic and aerobic, direct and indirect)
- Biomechanics consultations and gait analysis
- Nutrition consultations, diet prescription and anthropometric assessment.
- Use of Ultrasound in the diagnosis of soft tissue sports injuries.
- Voluntary visits to sports medicine centers and medical services of sports clubs in the Community of Madrid. Voluntary assistance to congresses of the specialty.

THEMATIC CONTENT

- Physiological adaptations to exercise.
- Sport Nutrition.
- Medical-sports examination.
- Functional assessment of the athlete. Field and laboratory test. biomechanical analysis
- Prescription of exercise in healthy and sick populations.
- Sports injuries

EVALUATION CRITERIA

- The evaluation will take into account all the activities of the subject:
- Theoretical part: multiple choice written exam on the theoretical topics of the subject.
The exam will consist of 30 questions with four alternatives and one correct answer. You can get a maximum score of 5 (minimum 2.5) out of 10.
 - Practical part: The student must attend the practices carried out in the laboratories. The student will be able to obtain a maximum score of 2 points (minimum of 1) out of 10, based on attendance and participation in the practices.
 - Seminars: During the seminars, the student must complete a theoretical-practical course that applies the knowledge acquired). The student can obtain a maximum score of 2 points (minimum of 1) out of 10
 - Voluntary activity: congresses, visits... You can obtain a maximum score of 1 point (minimum of 0) out of 10

BIBLIOGRAPHY / WEBSITES

Basic bibliography

- Benardot, D. (2013), Nutrición Deportiva Avanzada, Madrid, Ediciones Tutor. (trad)
 - Boron WF, Boulpaep EL (2017). Fisiología Médica. Ed Elsevier. 3ª ed. (trad)
 - Calderón FJ (2018). Fisiología humana aplicada a la actividad física. Madrid, Panamericana.
 - Colegio Americano de Medicina del Deporte (2019). Manual ACSM para la valoración y prescripción del ejercicio. Barcelona, Paidotribo.
 - European Society of cardiology (ESC). (2020) ESC Guidelines on sports cardiology and exercise in patients with cardiovascular disease. European Heart Journal 2020:1-80
 - Kenney, W.L.; Wilmore, J.H.; Costill, D.L. (2017), Fisiología del Deporte y el Ejercicio. Madrid, Panamericana. (trad)
 - Lara Hernández MT; Del Castillo Campos MJ; Ramos Álvarez JJ (2015). Ejercicio físico y salud: pautas de actuación. Conserjería de Educación, Juventud y Deporte. Madrid.
 - Petersen BK, Saltin B (2006). Evidence for prescribing exercise in chronic disease. Scand J Med Sci Sports: 16: 3-63
 - Rocha Piedade S., Neyret P., Espregueira-Mendes J et al. (2021). Specific Sports-Related Injuries. ISAKOS. Cham, Switzerland: Springer Nature
 - Jeukendrup A., Gleeson M. (2019). Nutrición deportiva. Madrid. Ed Tutor. (trad)
 - Segovia, J.C.; López Silvarrey, F.J.; Legido, J.C. (2007), Manual de Valoración Funcional. Aspectos Clínicos y Fisiológicos, Madrid, Elsevier.
 - Viel, E. (2002). La marcha humana, la carrera y el salto, Barcelona, Ed Masson.
- Sports medicine and science journals (JCR 2021)
- British Journal of Sports Medicine (1/87)
 - Journal of Sport and Health Science (2/87)
 - Sports Medicine (3/87)
 - International journal of medicine and science of physical activity and sport (Spain) (77/87)

websites

- American College of Sport Medicine. Position Stands (2023). Disponible online: <http://www.acsm.org/acsm-positions-policy/official-positions/position-stands>
- Physical Activity, Fitness, Cognitive Function and Academic Achievement in Children: A Systematic Review
 - Quantity and Quality of Exercise for Developing and Maintaining Cardiorespiratory, Musculoskeletal, and Neuromotor Fitness in Apparently Healthy Adults: Guidance for Prescribing Exercise
 - Exercise and Type 2 Diabetes: American College of Sports Medicine and the American Diabetes Association: Joint Position Statement
 - Exercise and Physical Activity for Older Adults

- Nutrition and Athletic Performance
- Progression Models in Resistance Training for Healthy Adults
- Appropriate Physical Activity Intervention Strategies for Weight Loss and Prevention of Weight Regain for Adults
- The Female Athlete Triad
- Exercise and Acute Cardiovascular Events: Placing the Risks into Perspective
- Exertional Heat Illness during Training and Competition
- Exercise and Fluid Replacement
- Prevention of Cold Injuries during Exercise
- Physical Activity and Bone Health
- Exercise and Hypertension
- Joint Position Statement: Automated External Defibrillators (AEDs) in Health/Fitness Facilities
- AHA/ACSM Joint Position Statement: Recommendations for Cardiovascular Screening, Staffing, and Emergency Policies at Health/Fitness Facilities
- Weight Loss in Wrestlers
- Exercise for Patients with Coronary Artery Disease
- The Use of Anabolic-Androgenic Steroids in Sports

World Anti-Doping Agency (2023). The World Anti-Doping Code. Available online: www.wada-ama.org

Del Castillo Campos MJ; Ramos Álvarez JJ; Polo Portes C. (2017). Lesiones músculo-tendinosas en el medio deportivo. Conserjería de Educación, Juventud y Deporte. Madrid. Available online: <http://www.madrid.org/bvirtual/BVCM016321.pdf>

Del Castillo Campos MJ; Ramos Álvarez JJ; Polo Portes C. (2018). Actividad física en relación con la obesidad y el sobrepeso en adolescentes. Conserjería de Educación, Juventud y Deporte. Madrid. Available online: <http://www.madrid.org/bvirtual/BVCM019633.pdf>

TEACHERS

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