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Teaching Guide 2017 / 2018

Human Anatomy

Degree in the Science of Physical Activity and Sport

On-site Teaching Methods

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Human Anatomy

Human Anatomy

Module: **Basic sciences.**

Subject: **Biological Sciences.**

Character: **Basic Training.**

Number of credits: **6 ECTS.**

Timing unit: **First semester - four months.**

Professor/responsible for the subject: **Linda H. Chung.**

E-mail: **lhchung@ucam.edu**

Student accessible office hours: **Thursdays at 17:00-19:00h (with prior email notification)**

Coordinating Professor of module, subject or course: **Linda H. Chung.**

Brief description of the subject

Human Anatomy is part of the 60 ECTS of basic training content in the basic sciences module. It covers the fundamentals for a better understanding of the rest of the materials related to physical activity and sport in its different manifestations. These basics allow for the integration of knowledge of students in the face of a continuation with specific subjects of the degree. The student acquires a skill for analysis and reasoning to know and understand the structure and function of the different manifestations of human mobility, as well as the effects of the practice of physical exercise on the structure and function of the human body.

Brief Description

Human Anatomy is part of the 60 ECTS basic training module contained in the Basic Sciences. It covers the basics for better understanding of other subjects related to physical activity and sport in its various forms. These basic skills enable the integration of knowledge of students in the face of continuing with specific areas of the degree. The student acquires the capacity for analysis and reasoning to know and understand the structure and function of the different manifestations of human motricity, as well as the effects of the practice of physical exercise on the structure and function of the human body.

Prerequisites

No prerequisites.

Objectives of the course

1. Study human anatomy from a structural functional point of view.
2. Know and understand the structure and function of the different manifestations of human mobility.
3. Know and understand the effects of the practice of physical exercise on the structure and function of the human body.

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4. Know and understand the physiological and biomechanical factors that condition the practice of physical activity and sport.
5. Acquire the basic scientific training applied to physical activity and sport in its different manifestations.
6. Apply the knowledge acquired to one's work in a professional manner and possess the necessary skills for the preparation and defence of arguments and problem solving within the area of the Sciences of Physical Activity and Sport.

Skills and results of learning

TRANSFERABLE SKILLS

- (CT1) Capacity for analysis and synthesis.
- (CT2) Organization and planning skills.
- (CT3) Oral and written communication in a native language.
- (CT4) Knowledge of a foreign language.
- (CT6) Information management capacity.
- (CT7) Problem solving.
- (CT9) Teamwork.
- (CT15) Autonomous learning.
- (CT16) Adaptation to new situations.
- (CT20) Initiative and entrepreneurial spirit.
- (CT21) Motivation for quality.

Specific skills

- (CES1). Recognize, understand and know how to adapt physical activity to the structure, functions, and control of the physical-biological systems of the human body.
- (CES2). Apply the anatomical, physiological, and biomechanical principles to different fields of physical activity and sport.
- (CES3). Recognize, understand and know how to adapt physical activity to the evolutionary development of practitioners of the physical activity and sport on a physical-biological level.
- (CES7). Know and apply the scientific method in the field of the Sciences of Physical Activity and Sport.
- (CES9). Know and apply the protocols of measurement and instrumentation most common in the field of the Sciences of Physical Activity and Sport.
- (CES10). Apply Information and Communication Technologies (ICT) to the field of the Sciences of Physical Activity and Sport.

Learning outcomes

(RA) Distinguish and relate the implications that the structure, functions, and control of physical-biological systems have on the practice of physical activity and sport. Design motor-physical activities that take into account the structure, functions, and control of the physical-biological systems of the human body.

(RA) Distinguish and relate activities in which the anatomical, physiological, and biomechanical principles are applied in different fields of sport and physical activity. Design activities in which the anatomical, physiological, and biomechanical principles are applied in different fields of sport and physical activity.

(RA) Distinguish and learn to relate the evolutionary development by practitioners of physical activity and sport on a physical level and the adaptations in physical activity. Design motor-physical activities adapted to the evolutionary development of the practitioners of physical activity and sport on a physical level.

(RA) Understand and distinguish the characteristics of scientific information and how to interpret it. Interpret and use scientific literature specific to physical activity and sport for the performance of formative and professional activities. Design and use research designs in physical activity and sport for the performance of their formative and professional activities.

(RA) Understand and distinguish the possibilities that different information and communication technologies have on physical activity and sport. Use information and communication technologies (ICT) for the performance of formative and professional activities.

(RA) Understand, reason, and synthesize content from various fields of knowledge.

(RA) Manage and organize the information acquired during the learning process.

(RA) Express oneself correctly orally and in writing in a native language. Likewise the student will be able to express oneself correctly in the same way in at least one foreign language.

(RA) Organize and know how to use information taken from different contexts.

(RA) Acquire the skills necessary for the problem solving.

(RA) Decide between different options in an integral and critical way.

(RA) Pro-actively manage the learning process.

(RA) Adjust one's behavior to the changes and demands posed by new situations.

(RA) Plan and develop innovative actions both in everyday and in one's field of knowledge.

(RA) Promote actions related to innovation and proposals for improvement in the field of knowledge.

(RA) Evaluate the importance of the adequate realization of one's work.

(RA) Collaborate with other professionals, recognizing the different contributions made by other fields of knowledge to professional exercise.

(RA) Take action to encourage interest and motivation to do research.

Methodology

Methodology	Hours	Hours of required attendance	Hours of non-required attendance
Presentation of theory and practical work	42	60 hours (40%)	
Tutorials	3		
Practical lessons in the laboratory	12		
Evaluation	3		
Autonomous work	70		90 hours (60%)
Applied work	20		
Total	150	60	90

Theoretical and practical presentation

In the classroom, presentation of the theoretical and practical content will be given by the Professor through audiovisual means. Presentations and/or support materials for study will be available to students via the virtual campus.

Follow-up Tutorials

During the semester, three hours of tutoring in the classroom will be allocated, specifically to clarify doubts or problems arising in the learning process around the subject. In addition this will guide the student's, facing the evaluation of theoretical materials, through questions that the students themselves will be encouraged to resolve.

Lab Practice

For one's own development, a special classroom will be made available where on-site learning of human anatomy will be explained by theoretical presentation, using human bone matter and anatomical models.

Self study

This comprises the time the student dedicates to personal theoretical study.

Applied work

This includes the time the student dedicates to personal practical study.

Syllabus

Program of Theoretical Teaching

Teaching Unit I: Overview

- Topic 1. Terminology, language and nominal anatomy.
- Topic 2. Anatomical configuration. Anatomical planes and axes.
- Topic 3. Terms of relationship and movement.
- Topic 4. An overview of connective tissue and cartilage.
- Topic 5. An overview of the bones, joints and muscles.
- Topic 6. An overview of the nervous tissue.

Teaching Unit II: Functional anatomy of the musculoskeletal system.

- Topic 7. Spinal, thoracic and pelvic girdle skeleton.
- Topic 8. Joints of the vertebral column, thoracic cage and pelvic girdle.
- Topic 9. Neck muscles: anterolateral muscles.
- Topic 10. Muscles of the torso and neck: muscles of the spine, the abdominal wall and thorax.
- Topic 11. Lower limb skeleton.
- Topic 12. Joints of the lower limb: Hip, knee, ankle and foot.
- TOPIC 13. Muscles of the lower limb: muscles of the buttock, thigh, leg, and foot.
- Topic 14. Skeleton scapular girdle and upper limb.
- TOPIC 15. Joints of upper limb: complex joint of the shoulder, elbow, wrist and hand.
- TOPIC 16. Muscles of the upper limb: muscles of the shoulder, arm, forearm and hand.

Teaching Unit III: Functional anatomy of the major corporal systems.

- TOPIC 17. Thoracic cavity. Mediastinum, limits, and content. Set of viscera: Heart AND pericardium; lungs and pleura; bronchial tree.
- Topic 18. Abdominal Cavity. Digestive tract: abdominal oesophagus, stomach, small intestine and large intestine. Pancreas. Liver and biliary tract. Spleen. Retroperitoneal viscera.
- Topic 19. Pelvic viscera: urinary bladder, rectum, male and female genital apparatus. Pelvic floor.
- Topic 20. Neck of the viscera: Larynx and pharynx.
- Topic 21. Cranium skeleton. Paranasal sinuses. Dental system. Musculature of the head.
- Topic 22. Mouth cavity. Limits and contents. Salivary glands.

Teaching Unit IV: Neuroanatomy.

- Topic 23. Descriptive and functional anatomy of the central nervous system.
- Topic 24. Descriptive and functional anatomy of the peripheral nervous system.

Program of practical teaching

- Practical 1. Study of the Osteology of the vertebral column and thoracic cage.
- Practical 2. Study of the arthrology of the thoracic cage and the vertebral column.
- Practical 3. Study of the muscles of the neck and back.
- Practical 4. Study of the muscles of the thoracic wall and abdominal wall.

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Practical 5. Study of the Osteology of the lower extremity.

Practical 6. Study of the arthrology of the lower extremity.

Practical 7. Study of the muscles of the buttock, posterior region of thigh, posterior region of the leg and sole of the foot.

Practical 8. Study of the hip muscles, anterior region of the thigh, the anterior region of the leg and back of the foot.

Practical 9. Study of the Osteology of the upper extremity.

Practical 10. Study of arthrology of the upper extremity.

Practical 11. Study of the posterior region of the shoulder, arm, and forearm muscles.

Practical 12. Study of the muscles of the anterior region of the shoulder, arm, forearm and hand.

Relationship to other subjects

Human anatomy is directly related to the subjects belonging to the module of Basic Sciences in the field of life sciences (Physiology and biomechanics of sport). It also relates to all those subjects that involve the knowledge of the human body in a comprehensive manner integral to the full development of these (fundamentals of sports, sport training, sport and quality of life).

Evaluation system

Call for February / June / September:

- Theoretical part: 70% of the total of the qualification.
- Practical part: 30% of the total of the qualification.

Requirements:

The student will pass the subject when the weighted average is equal to or greater than 5 points in all the parts that make up the evaluation system that imply 20% of the final grade.

If the student has less than a 5 in any of the parts whose weighting is equal to or greater than 20%, the subject will be failed and must recover that part (s) in the next call within the same academic year. Past part (s) in official calls (February / June) will be saved for the successive convocations held in the same academic year.

In case the subject is not passed in the September Call, the approved parts will not be taken into account for successive academic courses.

The grading system (RD 1.125 / 2003, of September 5) will be as follows:

0-4,9 Fail (F or "suspense")

5,0-6,9 Pass (C or "aprobado")

7.0-8.9 Outstanding (B or "notable")

9,0-10 Excellent (A or "sobresaliente")

The mention "with honors" may be granted to students who have obtained a mark equal to or greater than 9.0. Their number may not exceed 5% of the students enrolled in a subject in the

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corresponding academic year, except that the number of students enrolled is less than 20, in which case it can be granted a single distinction.

Bibliography and sources of reference

BASIC BIBLIOGRAPHY

- Drake, R. L., Adam, M., Wayne dart, V. (2013). *Gray's Basic anatomy*, Elsevier.
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Additional BIBLIOGRAPHY

- Netter, F. H. (2011). *Atlas of human anatomy* (5th ed.). Elsevier.
- Ove Paulsen., J. (2012). Sobotta. *Atlas de HUMAN ANATOMY* (232nd ed.). Elsevier.
- Rouvière, H., Delmas, to. (2005). *Descriptive human anatomy, topographic and functional* (11th ed.).
- Weineck, J. (2007). *Sports Anatomy* (5th ed.).
- Paulsen F., Waschke J., Hombach-Klonisch S., Klonisch T. *Sobotta Atlas of Human Anatomy, Package*, 15th ed., English/Latin: mMusculoskeletal system, internal organs, head, neck, neuroanatomy - with online access to e-sobotta.com

Related Websites

Sobotta Anatomy Atlas App (Google Play)

Study Suggestions

The study of human anatomy requires two essential things: hours of study and that they are regular throughout the course. It is very advisable to attend classes and participate in them in an active way. In addition to a fully functional anatomy, it is essential that knowledge be acquired not so much through the memorization of concepts as by compression of this, since this will lead to a more enjoyable and fully applicable study to other subjects of the Degree and to one's future profession. It is strongly recommended that the Professor be consulted with any doubts by any of the means put at the service of the student (tutorials, virtual campus or e-mail), as well as the use of the recommended bibliography, especially the atlas of anatomy that they will be useful for the understanding of the subject.

Teaching materials

- The development of the practical workshops uses human bone material collected in the ossuaries of different cemeteries in the province of Murcia. In addition there are visceral anatomical models and the locomotor apparatus of torso, upper extremity, lower extremity, and

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skull of the Somso Modelle brand since 1876. All this material is available in the classroom designed for this purpose.

- The development of theoretical presentations will be presented using PowerPoint. Computer and audio visual equipment necessary for this is available in the classroom.

Tutorials

Academic tutorials

Tutorials aim to guide on the contents of the program of the course, training activities and teaching methodologies and assessment systems. Likewise the bibliographic sources and documentaries aim to facilitate the production of works and contents of the program of the course. Advise further on how to deal with the activities in the workshops. Finally, to plan and keep track of the teaching-learning process aimed at the acquisition of skills.

Personal tutoring

The University has a special body of tutors who give personal tuition to students enrolled on the degree. The personal tutor accompanies students during all the University stage. You can consult the following link:

<http://www.ucam.edu/servicios/tutorias/preguntas-frecuentes/que-es-tutoria>