



## Information about the subject

**Degree:** Bachelor of Sciences of Physical Activity and Sport

**Faculty:** Faculty of Physical Activity and Sport Sciences

**Code:** 281001 **Name:** Human Anatomy

**Credits:** 6,00 **ECTS Year:** 1 **Semester:** 1

**Module:** 1) Common Basic Training Module.

**Subject Matter:** Human Anatomy **Type:** Basic Formation

**Field of knowledge:** Basic Sciences

**Department:** Basic Sciences and Cross-disciplinary Subjects

**Type of learning:** Classroom-based learning

**Languages in which it is taught:** Spanish

**Lecturer/-s:**



## Module organization

### 1) Common Basic Training Module.

| Subject Matter               | ECTS  | Subject                      | ECTS | Year/semester |
|------------------------------|-------|------------------------------|------|---------------|
| Psychology                   | 12,00 | Basic Psychology             | 6,00 | 1/1           |
|                              |       | Sports Psychology            | 6,00 | 2/1           |
| Human Anatomy                | 6,00  | Human Anatomy                | 6,00 | 1/1           |
| Biochemistry                 | 6,00  | Biochemistry                 | 6,00 | 1/1           |
| Human Physiology             | 6,00  | Human Physiology             | 6,00 | 1/2           |
| Statistics                   | 6,00  | Statistics                   | 6,00 | 1/2           |
| Sociology                    | 6,00  | Sociology. Sports Sociology  | 6,00 | 2/2           |
| History of physical activity | 6,00  | History of Physical Activity | 6,00 | 2/2           |



## Learning outcomes

At the end of the course, the student must be able to prove that he/she has acquired the following learning outcomes:

- R1        Demonstrate understanding and be able to relate the basic contents of the subject taught.
- R2        Effectively perform the tasks assigned as a member of a working group.
- R3        Adequately convey the knowledge gained through written and oral expression.
- R4        Assess own professional growth by taking responsibility for learning and improving.
- R5        Accurately answer questions relating to the subject taught.



## Competencies

Depending on the learning outcomes, the competencies to which the subject contributes are (please score from 1 to 4, being 4 the highest score):

| GENERAL                                                                                                                                          | Weighting |   |   |   |
|--------------------------------------------------------------------------------------------------------------------------------------------------|-----------|---|---|---|
|                                                                                                                                                  | 1         | 2 | 3 | 4 |
| CG2 Ability to apply information technology and communication (ICT)                                                                              |           |   | X |   |
| CG3 Develop skills to solve problems through decision-making                                                                                     |           |   | X |   |
| CG4 Transmit any information regarding the contents of body expression both in writing and orally                                                |           |   |   | X |
| CG5 Plan and organize any activity efficiently                                                                                                   |           |   |   | X |
| CG6 Develop interpersonal skills and teamwork, both international and domestic contexts and in interdisciplinary teams and non-interdisciplinary |           |   | X |   |
| CG7 Be capable of critical reasoning using the knowledge gained                                                                                  |           |   |   | X |
| CG9 Knowing and complying with the professional ethics necessary to work                                                                         |           |   | X |   |
| CG10 Develop skills to adapt to new situations and autonomous learning                                                                           |           |   |   | X |
| CG11 Develop skills for creativity, initiative and entrepreneurship                                                                              |           |   | X |   |
| CG13 Being able to apply theoretical knowledge in practice                                                                                       |           |   |   | X |
| CG14 Use Internet well as communication and as a source of information                                                                           |           |   |   | X |
| CG15 Conveying the acquired knowledge both to specialists in the subject and to people who are not experts on it                                 |           |   | X |   |
| CG18 Being able to assess themselves                                                                                                             |           |   | X |   |
| CG19 Developing habits aiming at obtaining excellence and quality at work                                                                        |           |   | X |   |



| SPECIFIC                                                                                                                                                                                                                                                                                             | Weighting |   |   |   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|---|---|---|
|                                                                                                                                                                                                                                                                                                      | 1         | 2 | 3 | 4 |
| CE1 Knowing and understanding the contents within the scope of Physical Activity and Sports Science                                                                                                                                                                                                  |           |   |   | X |
| CE2 Acquiring the basic scientific knowledge to different areas of Physical Activity and Sports and understanding literature in the field of physical Activity sports in English and in the other important languages widely used in the scientific field achieving a good management of information |           |   |   | X |

## Assessment system for the acquisition of competencies and grading system

| Assessed learning outcomes | Granted percentage | Assessment method                                            |
|----------------------------|--------------------|--------------------------------------------------------------|
| R1, R3, R5                 | 40,00%             | Written/oral and/or practical tests.                         |
| R1, R2, R3, R4, R5         | 15,00%             | Completion of a project.                                     |
| R1, R2, R3, R4, R5         | 20,00%             | Exam or practical questionnaires.                            |
| R1, R2, R3, R4, R5         | 5,00%              | Attendance at interviews, seminars and practical activities. |
| R1, R2, R3, R4, R5         | 5,00%              | Oral exhibition of individual and / or group works.          |
| R1                         | 15,00%             | Autonomous work.                                             |

### Observations



## Learning activities

The following methodologies will be used so that the students can achieve the learning outcomes of the subject:

- M1      Exhibition of contents by the teacher.
- M2      Dynamics and group activities.
- M5      Discussion in small groups.
- M6      Practical lesson.



## IN-CLASS LEARNING ACTIVITIES

|                                                                                                                                                                                                                                                                        | LEARNING OUTCOMES  | HOURS        | ECTS        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------|-------------|
| PRACTICAL /SEMINAR CLASS: Dynamics and group activities. Resolution of problems and cases. Laboratory practices. Data search in a computer room, library... Meaningful construction of knowledge through the interaction and activity of the student<br>M1, M2, M5, M6 | R1, R2, R3, R4, R5 | 9,00         | 0,36        |
| TUTORY: Learning supervision, evolution. Discussion in small groups. Resolution of problems and cases. Presentation of results before the teacher. Presentation of schemes and indexes of the proposed works.<br>M1                                                    | R1, R2, R4         | 3,00         | 0,12        |
| EVALUATION: Set of oral and / or written tests used in the evaluation of the student, including the oral presentation of the final project.<br>M1                                                                                                                      | R1, R3, R5         | 6,00         | 0,24        |
| THEORETICAL CLASS: Presentation of content by the teacher. Competency analysis. Demonstration of skills, abilities and knowledge in the classroom.<br>M1                                                                                                               | R1                 | 39,00        | 1,56        |
| <b>TOTAL</b>                                                                                                                                                                                                                                                           |                    | <b>57,00</b> | <b>2,28</b> |



## LEARNING ACTIVITIES OF AUTONOMOUS WORK

|                                                                                                                                                                                         | LEARNING OUTCOMES | HOURS        | ECTS        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------|-------------|
| GROUP WORK: Problem solving. Preparation of exercises, works, memories, to exhibit or deliver in classes and / or in tutoring.<br>M2, M5                                                | R1, R2, R3, R4    | 4,50         | 0,18        |
| AUTONOMOUS WORK: Study, Individual preparation of exercises, works, memories, to exhibit or deliver in classes and / or in tutoring. Platform activities or other virtual spaces.<br>M5 | R1, R3, R4, R5    | 88,50        | 3,54        |
| <b>TOTAL</b>                                                                                                                                                                            |                   | <b>93,00</b> | <b>3,72</b> |



## Description of the contents

Description of the necessary contents to acquire the learning outcomes.

### Theoretical contents:

| Content block                                                                          | Contents                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| DIDACTIC UNIT II. APPARATUS AND SYSTEMS OF LIFE OF RELATIONSHIP AND PHYSICAL ACTIVITY. | 2.1. Locomotor apparatus 2.1.1. Skeletal system: general considerations.- Distribution of the bones of the human body. 2.1.2. Joints: general considerations.- Types and range of motion of the joints. 2.1.3. Muscular system: general considerations.- Muscles of the human body and their involvement in movement 2.2. Nervous system.- Types of cells: neurons, nerve fibers and neuroglia cells.- Central nervous system: brain, spinal cord, sensory and motor pathways.- Peripheral nervous system: cranial and spinal nerves.- Autonomic nervous system: sympathetic and parasympathetic system . |
| DIDACTIC UNIT I. ANATOMY: BASIC CONCEPTS OF BIOLOGY.                                   | 1.1. Anatomy: concept, types and history. 1.2. Composition of the human body and levels of organization: chemical level, cellular level, tissue level and organic level                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| DIDACTIC UNIT III. VEGETATIVE LIFE SYSTEMS.                                            | 3.1. Cardiorespiratory system- Blood, heart and blood vessels.- Upper respiratory tract: nose, pharynx and larynx.- Lower respiratory tract: trachea, bronchi and alveoli, lungs and chest 3.2. Lymphatic system.- Lymph and interstitial fluid. Vessels and lymph nodes. Tonsils, thymus and spleen 3.4. Digestive system.- Gastrointestinal tract: mouth, pharynx, esophagus, stomach, small and large intestine.- Accessory organs: vermiform appendix, liver, gallbladder and pancreas. 3.5. Urinary system.- Kidneys. Urinary tract: ureter, urine bladder and urethra.                              |



## Temporary organization of learning:

| Block of content                                                                       | Number of sessions | Hours |
|----------------------------------------------------------------------------------------|--------------------|-------|
| DIDACTIC UNIT II. APPARATUS AND SYSTEMS OF LIFE OF RELATIONSHIP AND PHYSICAL ACTIVITY. | 15,00              | 30,00 |
| DIDACTIC UNIT I. ANATOMY: BASIC CONCEPTS OF BIOLOGY.                                   | 6,00               | 12,00 |
| DIDACTIC UNIT III. VEGETATIVE LIFE SYSTEMS.                                            | 7,50               | 15,00 |



## References

### BASIC BIBLIOGRAPHY:

Calais-Germain, B. (2002). Anatomía para el movimiento. Girona: Curvet y Marqués. Drake, R., Vogl, W., and Mitchell, A. Gray. Anatomía Básica. (2ª ed.). Madrid: Elsevier. Hansen, J.T. (2015). Netter. Cuaderno de Anatomía para colorear. (2ª ed.). Madrid: Elsevier. Kahle, W; Leonhart, H y Platzer, W. (1993). Atlas de Anatomía Tomo I: Aparato locomotor. Barcelona: Omega. Kamina, P, (2003). Anatomía general. (2ª ed.). Madrid: Médica Panamericana. Latarjet, M y Ruiz-Liard, A. (2008). Anatomía humana. Tomo I y II. Madrid: Médica Panamericana Lloret, M. (2003). Anatomía aplicada a la actividad física deportiva. Madrid: Médica Panamericana Netter, F.H. (2015). Atlas de Anatomía Humana. (6ª ed.). Madrid: Elsevier. Palastanga, N; Field, D. y Soanes, R. (2000). Anatomía y movimiento humano. (3ed.) Barcelona: Paidotribo. Rouvière, H y Delmas, A. (2005). Anatomía humana. Tomo I, II, III y IV. Barcelona: Masson. Schünke, M; Schulte, E y Schumacher, U. (2010). Prometheus. Texto y atlas de Anatomía. Vol I. Anatomía general y Aparato locomotor. Madrid: Médica Panamericana. Schünke, M; Schulte, E y Schumacher, U. (2010). Prometheus. Texto y atlas de Anatomía. Vol II. Órganos internos. Madrid: Médica Panamericana. Schünke, M; Schulte, E y Schumacher, U. (2010). Prometheus. Texto y atlas de Anatomía. Vol III. Cabeza, cuello y Neuroanatomía. Madrid: Médica Panamericana. Sobotta, J. (Paulsen, I y Waschcke, J.) (2012). SOBOTTA-Atlas de Anatomía humana. Tomo I: anatomía general y aparato locomotor (23ª ed.) Madrid: Elsevier Sobotta, J. (Paulsen, I y Waschcke, J.) (2012). SOBOTTA-Atlas de Anatomía humana. Tomo II: órganos internos. (23ª ed.) Madrid: Elsevier Sobotta, J. (Paulsen, I y Waschcke, J.) (2012). SOBOTTA-Atlas de Anatomía humana. Tomo III: cabeza, cuello y neuroanatomía (23ª ed.) Madrid: Elsevier Spalteholz, W. (1984). Atlas de Anatomía humana. Tomo I: huesos, articulaciones y ligamentos. Barcelona: Labor. Suárez, J., Iturrieta, I., Rodríguez, A.I. y García, F.J. (2017). Anatomía humana para estudiantes de Ciencias de la Salud. Madrid: Elsevier Thibodeau, G.A. y Patton, K.T. (2013). Anatomía y Fisiología. (8ª ed.). Madrid: Elsevier Tortora, G y Derrickson, D. (2013). Principios de Anatomía y Fisiología. Buenos Aires: Médica Panamericana.

### COMPLEMENTARY BIBLIOGRAPHY:

Fucci, S; Benigni, M. y Fornasari, V. (2003) Biomecánica del aparato locomotor aplicada al acondicionamiento muscular. Madrid: Elsevier. Rasch, P. (1991) Kinesiología y Anatomía aplicada. Buenos Aires: Ateneo