

## 25429 - General and descriptive Physiology

### Syllabus Information

**Academic Year:** 2019/20

**Subject:** 25429 - General and descriptive Physiology

**Faculty / School:** 127 - Facultad de Ciencias de la Salud

275 - Escuela Universitaria de Enfermería de Huesca

375 - Escuela Universitaria de Enfermería de Teruel

**Degree:** 559 - Degree in Nursing

560 - Degree in Nursing

561 - Degree in Nursing

**ECTS:** 10.0

**Year:** 1

**Semester:** Annual

**Subject Type:** Basic Education

**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 the achievement of the learning objectives. It favors the acquisition of knowledge related to human physiology and human health. A wide range of teaching and learning tasks are implemented, such as lectures and practice sessions.

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.

Further information regarding the course will be provided on the first day of class.

#### 4.2.Learning tasks

This is a 10 ECTS course organized as follows:

- Lectures (8,5 ECTS): 85 hours.

- Practice sessions (1,5 ECTS): 15 hours.

### 4.3.Syllabus

The course will address the following topics:

#### **Section 1. CHEMICAL COMPOSITION OF HUMANS**

Topic 1. Enzymology

Topic 2. Carbohydrates metabolism

Topic 3. Lipid metabolism

Topic 4. Protein metabolism

#### **Section 2. BLOOD AND CARDIOVASCULAR PHYSIOLOGY**

Topic 1. Composition and function of human blood

Topic 2. Red bloods cells

Topic 3. Leukocytes. Inflammation. Immunity

Topic 4. Platelet. Hemostasis and Blood Coagulation.

Topic 5. Mechanical heart activity

Topic 6. Rhythmical Excitation of the Heart. The Normal Electrocardiogram

Topic 7. Vascular physiology

#### **Section 3. RESPIRATORY PHYSIOLOGY**

Topic 8. Pulmonary Ventilation

Topic 9. Exchange and transport of gases

#### **Section 4. THE BODY FLUIDS AND KIDNEYS**

Topic 10. Kidney. General functions

Topic 11. Urine Formation by the Kidneys

Topic 12. Body fluids. Regulation of Acid-Base Balance

#### **Section 5. GASTROINTESTINAL PHYSIOLOGY**

Topic 13. Secretory Functions, Digestion and Absorption in the Gastrointestinal Tract

#### **Section 6. ENDOCRINE PHYSIOLOGY**

Topic 14. Introduction to Endocrinology. Pituitary Hormones and Their Control by the Hypothalamus

Topic 15. Thyroid Metabolic Hormones

Topic 16. Calcium and Phosphate Metabolism

Topic 17. Pancreatic Hormones

Topic 18. Adrenal glands

Topic 19. Sex Hormones

#### **Section 7. NEUROPHYSIOLOGY**

Topic 20. General functions of the Nervous System.

Topic 21. Somatic and Autonomic Nervous System.

### 4.4.Course planning and calendar

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 "Facultad de Ciencias de la Salud" website (<https://fcs.unizar.es/>)

### 4.5.Bibliography and recommended resources

- Berne y Levy Fisiología. Editores, Bruce M. Koeppen, Bruce A. Stanton. 6ª ed. Barcelona, Elsevier, 2009
- Estructura y función del cuerpo humano. Bibiana Escuredo Rodríguez. 2ª ed. Madrid, McGraw Hill-Interamericana, 2002
- Pocock, Gillian: Fisiología humana : la base de la medicina. 2ª ed. Barcelona, Masson, 2005
- Raff, Hershel: Secretos de la fisiología. México, McGraw-Hill Interamericana, 2000
- Rhoades, Rodney A.: Fisiología médica. Barcelona, Masson, 1997
- Silbernagl, Stefan, Despopoulos, Agamemnon: Fisiología: texto y atlas. 7ª ed. Barcelona, Elsevier, 2009
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- Tortora, Gerard J., Derrickson, Bryan: Principios de anatomía y fisiología. 13ª ed. Buenos Aires, Editorial Médica

Panamericana, 2013

- Patton, Kevin T., Thibodeau, Gary A.: Anatomía y fisiología. 8ª ed. Barcelona, Elsevier, 2013
- Pastrana Delgado, Juan, García de Casasola Sánchez: Fisiopatología y patología general básicas para ciencias de la salud. Barcelona, Elsevier, 2013
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- Silverthorn, Dee Unglaub: Fisiología humana : un enfoque integrado. 6ª ed. Buenos Aires, Editorial Médica Panamericana, 2014
- Bioquímica : conceptos esenciales. Elena Feduchi Canosa [et al.] ; colaboradora, Carlota García-Hoz Jiménez. Madrid, Editorial Médica Panamericana, 2010
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- Koolman, Jan, Röhm, Klaus-Heinrich: Bioquímica : texto y atlas. 3ª ed., rev. y ampl. Madrid, Editorial Médica Panamericana, 2004
- Bioquímica y biología molecular : para ciencias de la salud. J. A. Lozano Teruel [et al.] 3ª ed. Madrid, McGraw-Hill Interamericana, 2005
- Nelson, David L., Cox, Michael M.: Lehninger Principios de bioquímica. 6ª ed. Barcelona, Omega, 2014
- Stryer, Lubert, Berg, Jeremy M., Tymoczko, John L.: Bioquímica : con aplicaciones clínicas. 7ª ed. Barcelona, Reverté, 2013
- Voet, Donald, Voet, Judith G.: Bioquímica. 3ª ed. Buenos Aires, Editorial Médica Panamericana, 2006