

## COURSE OUTLINE

### 1. GENERAL

<b>SCHOOL</b>	FOOD AND NUTRITIONAL SCIENCES		
<b>ACADEMIC UNIT</b>	FOOD SCIENCE AND HUMAN NUTRITION		
<b>LEVEL OF STUDIES</b>	Undergraduate		
<b>COURSE CODE</b>	289	<b>SEMESTER</b>	5th
<b>COURSE TITLE</b>	PRINCIPLES OF HUMAN ANATOMY AND PHYSIOLOGY		
<b>INDEPENDENT TEACHING ACTIVITIES</b> <i>if credits are awarded for separate components of the course, e.g. lectures, laboratory exercises, etc. If the credits are awarded for the whole of the course, give the weekly teaching hours and the total credits</i>		<b>WEEKLY TEACHING HOURS</b>	<b>CREDITS</b>
Lectures		5	5
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>			
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Special background		
<b>PREREQUISITE COURSES:</b>	NO		
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>	Greek		
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>	YES (English)		
<b>COURSE WEBSITE (URL)</b>	<a href="https://w1.aua.gr/etda/courses">https://w1.aua.gr/etda/courses</a>		

### 2. LEARNING OUTCOMES

<p><b>Learning outcomes</b> The course learning outcomes, specific knowledge, skills and competences of an appropriate level, which the students will acquire with the successful completion of the course are described.</p> <p>Consult Appendix A</p> <ul style="list-style-type: none"> <li>• Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</li> <li>• Descriptors for Levels 6, 7 &amp; 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</li> <li>• Guidelines for writing Learning Outcomes</li> </ul> <p>In the course Principles of Human Anatomy and Physiology, the fundamental knowledge of human anatomy is presented, the organs and tissues of the human body are described, the structure of the physiological organization of human functional system is examined, and the basic principles of human physiology are analysed.</p> <p>The aim of the course is to familiarize students with the functional organization of the human body and to enhance their understanding of its main functions.</p> <p><b>Learning Outcomes</b> Upon successful completion of the course, the student will be able to:</p> <ul style="list-style-type: none"> <li>• Demonstrate the necessary knowledge of basic human anatomy and describe the organs and tissues of the human body</li> <li>• Apply anatomical knowledge to achieve a better understanding of courses in which knowledge of anatomy is required</li> <li>• Understand the role and function of human body organs and use this knowledge to interpret and evaluate the occurrence of chronic and non-chronic diseases based on anatomical principles</li> </ul>
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- Describe the structure and physiological organization of the human body into functional systems and explain their organization and function
- Interpret the main physiological mechanisms of the human body and the principles governing the organization and function of individual systems as an integrated physiological whole
- Recognize the role of homeostatic mechanisms in the normal functioning of human body systems and identify the significance of factors related to system dysfunction and disease manifestation
- Demonstrate basic knowledge of key physiological functions related to human nutrition, such as metabolism and the function of the digestive system

### General Competences

*Taking into consideration the general competences that the degree-holder must acquire (as these appear in the Diploma Supplement and appear below), at which of the following does the course aim?*

<i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i>	<i>Project planning and management</i>
<i>Adapting to new situations</i>	<i>Respect for difference and multiculturalism</i>
<i>Decision-making</i>	<i>Respect for the natural environment</i>
<i>Working independently</i>	<i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i>
<i>Teamwork</i>	<i>Criticism and self-criticism</i>
<i>Working in an international environment</i>	<i>Production of free, creative and inductive thinking</i>
<i>Working in an interdisciplinary environment</i>	<i>... ..</i>
<i>Production of new research ideas</i>	<i>Others...</i>
	<i>... ..</i>

The course aims to develop the following general competences:

- Search for, analysis, and synthesis of data and information, using appropriate technologies
- Independent work
- Adapting to new situations
- Promotion of free, creative, and inductive thinking
- Production of new research ideas
- Showing social, professional and ethical responsibility and sensitivity to gender issues
- Respect for natural environment

### 3. SYLLABUS

- Fundamental principles and concepts of human anatomy and physiology; homeostasis and physiological organization of human functional systems; compartmentalization of body fluids and transport of fluids/molecules across cellular membranes
- Head, neck, trunk, back, thorax, diaphragm, pelvis, pelvic walls; intercellular communication and homeostatic mechanisms; homeostasis and regulation of cellular function
- Musculoskeletal system
- Nervous system: structure of the nervous system, neuronal function, bioelectrical potentials, synapses and neurotransmitters, transmission of nerve signals, sensory organs
- Hematopoietic system: composition and function of the hematopoietic system and blood; hemostasis and blood coagulation; basic principles of immunology
- Cardiovascular system: structure of the cardiovascular system; heart and regulation of cardiovascular function; vascular system; systemic and pulmonary circulation; regulation of arterial blood pressure; lymphatic system
- Respiratory system: structure of the respiratory system; ventilation and lung mechanics; gas exchange and transport
- Urinary system: structure of the urinary system; kidney functions; regulation of water and electrolyte balance
- Gastrointestinal system: structure of the digestive system; regulation of gastrointestinal and secretory functions; digestion and absorption of food in the gastrointestinal tract

- Endocrine system: endocrine glands and hormones; regulation of growth and development; metabolism and regulation of metabolic processes and body temperature
- Male and female reproductive systems; pregnancy and lactation

#### 4. TEACHING and LEARNING METHODS - EVALUATION

<b>DELIVERY</b> <i>Face-to-face, Distance learning, etc.</i>	Face-to-face										
<b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b> <i>Use of ICT in teaching, laboratory education, communication with students</i>	Lecture presentations provided in digital format Support of the learning process through the e-class electronic learning platform Provision of educational material and relevant bibliography										
<b>TEACHING METHODS</b> <i>The manner and methods of teaching are described in detail.</i> <i>Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography, tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.</i>  <i>The student's study hours for each learning activity are given as well as the hours of non-directed study according to the principles of the ECTS</i>	<table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th style="text-align: left;">Activity</th> <th style="text-align: left;">Semester workload</th> </tr> </thead> <tbody> <tr> <td>Lectures</td> <td>50</td> </tr> <tr> <td>Independent Study</td> <td>40</td> </tr> <tr> <td>Preparation of individual or group assignment</td> <td>35</td> </tr> <tr> <td>Course total</td> <td><b>125</b></td> </tr> </tbody> </table>	Activity	Semester workload	Lectures	50	Independent Study	40	Preparation of individual or group assignment	35	Course total	<b>125</b>
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Course total	<b>125</b>										
<b>STUDENT PERFORMANCE EVALUATION</b> <i>Description of the evaluation procedure</i>  <i>Language of evaluation, methods of evaluation, summative or conclusive, multiple-choice questionnaires, short-answer questions, open-ended questions, problem solving, written work, essay/report, oral examination, public presentation, laboratory work, clinical examination of patient, art interpretation, other</i>  <i>Specifically defined evaluation criteria are given, and if and where they are accessible to students.</i>	Written final examination (100%), which includes multiple-choice questions										

#### 5. ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

- Atlas of Human Anatomy, 7e (Netter Basic Science), 2018, ISBN-10: 0323393225, Publisher: Elsevier.
- Gray's Anatomy for Students, by Richard Drake PhD FRCR (Author), A. Wayne Vogl PhD FRCR (Author), Adam W. M. Mitchell MB BS FRCR FRCR (Author); 4th edition (11 April 2019), ISBN-10: 03233930472019, Publisher: Elsevier.
  - Netter Frank H., 2003, "Άτλας βασικών ιατρικών επιστημών I: Ανατομία", Εκδόσεις Πασχαλίδης, Αθήνα.
  - Snell RS. 1998, «Κλινική Ανατομική», Εκδόσεις Λίτσας, Αθήνα.
  - Drake R., Vogl W., Mitchell M. A. 2006, GRAY'S Ανατομία, Εκδόσεις Πασχαλίδης, Αθήνα.
  - Kahle «Εγχειρίδιο Ανατομικής με Έγχρωμο Άτλαντα» (3 τόμοι), Εκδόσεις Λίτσας, 1996.
  - Sobotta Clinical Atlas of Human Anatomy, one volume, 1st Edition, Editors: Sabine Hombach-Klonisch Thomas Klonisch Jason Peeler, ISBN: 9780702052736, Publisher: Urban & Fischer.

- Guyton and Hall Textbook of Medical Physiology / Edition 14 by John E. Hall PhD, Michael E. Hall MD, MSc. ISBN-10: 0323597122, Publisher: Elsevier Health Sciences.
- Guyton A.C., Hall J.E. Ιατρική Φυσιολογία (12<sup>η</sup> έκδοση/2013), ISBN: 978-960-394-929-9, Διαθέτης/Εκδότης: Επιστημονικές εκδόσεις Παρισιάνου, Αθήνα.
- Physiology 6th Edition (May 22, 2017) by Linda S. Costanzo, ISBN-10: 0323478816, Publisher: Elsevier.
- Costanzo L.S. Φυσιολογία (1<sup>η</sup> έκδοση/2012). ISBN: 978-960-7875-75-4. Διαθέτης/Εκδότης: Επιστημονικές εκδόσεις Λαγός Δημήτριος, Αθήνα.
- Berne & Levy Physiology, 7e by Bruce Koeppen MD PhD, ISBN-10: 0323393942, Publisher: Elsevier.
- Koeppen & Stanton. Berne & Levy Φυσιολογία (6<sup>η</sup> έκδοση/2012). ISBN: 978-960-394-894-0. Διαθέτης/Εκδότης: Επιστημονικές εκδόσεις Παρισιάνου, Αθήνα.
- Mulroney S. Myers A. Netter's βασικές αρχές φυσιολογίας του ανθρώπου (1<sup>η</sup> έκδοση/2010). ISBN: 978-960-7890-69-9. Διαθέτης/Εκδότης: BROKEN HILL PUBLISHERS LTD.
- Fox S.I. Φυσιολογία του ανθρώπου (1<sup>η</sup> έκδοση/2010), ISBN: 978-960-3947-05-9, Διαθέτης/Εκδότης: Επιστημονικές εκδόσεις Παρισιάνου, Αθήνα.
- Widmaier E., Raff H., Strang K. Vander's Φυσιολογία του Ανθρώπου (2<sup>η</sup> έκδοση/2016), ISBN: 978-996-327-403-1, Διαθέτης/Εκδότης: BROKEN HILL PUBLISHERS LTD.
- Vander A., Sherman J., Luciano D., Τσακόπουλος Μ. Φυσιολογία του Ανθρώπου - Μηχανισμοί της λειτουργίας του οργανισμού (1<sup>η</sup> έκδοση/2011), ISBN: 9789604892259, Διαθέτης/Εκδότης: BROKEN HILL PUBLISHERS LTD.
- Sherwood L. Εισαγωγή στη Φυσιολογία του Ανθρώπου (8<sup>η</sup> έκδοση/2016), ISBN 978-618-5153-02-7, Διαθέτης/Εκδότης: Ακαδημαϊκές εκδόσεις Ι. Μπάσδρα & ΣΙΑ Ο.Ε.