

## COURSE OUTLINE

### (1) GENERAL

<b>SCHOOL</b>	NATURAL SCIENCES		
<b>ACADEMIC UNIT</b>	BIOLOGY		
<b>LEVEL OF STUDIES</b>	UNDERGRADUATE		
<b>COURSE CODE</b>	BIO_AY06	<b>SEMESTER</b>	FIRST (1 <sup>st</sup> )
<b>COURSE TITLE</b>	<b>THE SCIENCE OF BIOLOGY</b>		
<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, seminars, and Multimedia displays		4	8
Εργαστηριακές Ασκήσεις			
Ασκήσεις Πεδίου			
<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>	BACKGROUND		
<b>PREREQUISITE COURSES:</b>	Typically, there are not prerequisite course.		
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>	Greek		
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>	Yes (in English)		
<b>COURSE WEBSITE (URL)</b>	<a href="https://eclass.upatras.gr/courses/BIO369/">https://eclass.upatras.gr/courses/BIO369/</a>		

### (2) LEARNING OUTCOMES

#### Learning outcomes

*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.*

*Consult Appendix A*

- *Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area*
- *Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B*
- *Guidelines for writing Learning Outcomes*

By the end of this course the student will be able to:

1. Understand the basic principles and processes of the Science of Biology
2. Comprehend the cell functioning and to gain basic knowledge in Genetics and Biotechnology
3. Comprehend the plant and animal organisms functioning
4. Gain basic knowledge on evolution and life diversity
5. Gain basic knowledge on ecology, biological communities and ecosystems, the biosphere and the biodiversity at multiple scales.

At the end of this course the student will have further developed the following skills/competences:

1. Ability to demonstrate knowledge and understanding of essential facts, concepts, principles and theories of the Science of Biology
2. Ability to apply such knowledge and understanding to the solution of biological issues
3. Ability to interact with others on biological multidisciplinary problems
4. Study skills needed for continuing professional development

#### 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>Team work</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>

Generally, by the end of this course the student will, furthermore, have develop the following general abilities (from the list above):

*Adaptation to new situations*  
*Decision making*  
*Autonomous (Independent) work*  
*Group work*  
*Work in multidisciplinary conditions*

### (3) SYLLABUS

- An Introduction to the Science of Biology
- How are the cells functioning? Elements on Genetics and Biotechnology
- How are the plant organisms functioning?
- How are the animal organisms functioning?
- Elements on Evolution and Diversity of Life
- Populations, Communities and Ecosystems – An introduction to Ecology Biodiversity and Biosphere

#### (4) TEACHING and LEARNING METHODS - EVALUATION

<p style="text-align: center;"><b>DELIVERY</b> <i>Face-to-face, Distance learning, etc.</i></p>	<p>Lectures, seminars (face to face).</p>	
<p style="text-align: center;"><b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b> <i>Use of ICT in teaching, laboratory education, communication with students</i></p>	<p>Use of Information and Communication Technologies (ICTs) (e.g. powerpoint, videos) in teaching.</p> <p>The lectures content of the course for each chapter are uploaded on the internet, in the form of a series of ppt files, where from the students can freely download them.</p>	
<p style="text-align: center;"><b>TEACHING METHODS</b> <i>The manner and methods of teaching are described in detail.</i></p> <p><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></p> <p><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></p>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	39
	Tutorials	12
	Autonomous study	99
	<b>150</b>	
<p style="text-align: center;"><b>STUDENT PERFORMANCE EVALUATION</b> <i>Description of the evaluation procedure</i></p> <p><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></p> <p><i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i></p>	<p><i>Written examination at the end of semester (100%)</i></p>	

#### (5) ATTACHED BIBLIOGRAPHY

- Suggested bibliography:

STARR CECIE, EVERS CHRISTINE, STARR LISA (2014). Βιολογία Βασικές Έννοιες και Αρχές. Utopia Publishing.

CAMPBELL NEIL A., REECE JANE B. (2015). ΒΙΟΛΟΓΙΑ, ΤΟΜΟΣ Ι Η χημεία της ζωής - Το κύτταρο - Γενετική (μετάφραση: Κοκκορόγιαννης Θόδωρος, Βακάκη Βασιλική). Πανεπιστημιακές Εκδόσεις Κρήτης.

ΗΛΕΚΤΡΟΝΙΚΑ ΜΑΘΗΜΑΤΑ Η ΕΠΙΣΤΗΜΗ ΤΗΣ ΒΙΟΛΟΓΙΑΣ– (BIO-AY06, eclass.upatras.gr)

- Related academic journals: