

## COURSE OUTLINE

### (1) GENERAL

<b>SCHOOL</b>	School of Sciences		
<b>ACADEMIC UNIT</b>	Biology		
<b>LEVEL OF STUDIES</b>	Undergraduate		
<b>COURSE CODE</b>	BIO_ΓΥ06	<b>SEMESTER</b>	3
<b>COURSE TITLE</b>	PLANT BIOLOGY I		
<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		3	3
Laboratory exercises		3	3
Total		6	6
<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 course		
<b>PREREQUISITE COURSES:</b>	Not required from the studies programme but the knowledge of General Biology is recommended		
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>	Greek		
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>	No		
<b>COURSE WEBSITE (URL)</b>	<a href="https://eclass.upatras.gr/courses/BIO328/">https://eclass.upatras.gr/courses/BIO328/</a>		

### (2) LEARNING OUTCOMES

<p><b>Learning outcomes</b></p> <p><i>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.</i></p> <p><i>Consult Appendix A</i></p> <ul style="list-style-type: none"> <li>• <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i></li> <li>• <i>Descriptors for Levels 6, 7 &amp; 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i></li> <li>• <i>Guidelines for writing Learning Outcomes</i></li> </ul>
<p>At the end of the course the student should be able to: understand basic principles of plant biology, understand the role of plants within an ecosystem and have the ability to work with plant samples using light microscope and also has the ability to connect elements of plant biology with plant physiology. The student also is introduced to the principles of plant taxonomy.</p>

### 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?

Search for, analysis and synthesis of data and information, with the use of the necessary technology

Adapting to new situations

Decision-making

Working independently

Team work

Working in an international environment

Working in an interdisciplinary environment

Production of new research ideas

Project planning and management

Respect for difference and multiculturalism

Respect for the natural environment

Showing social, professional and ethical responsibility and sensitivity to gender issues

Criticism and self-criticism

Production of free, creative and inductive thinking

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Others...

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Retrieve, analyse and synthesise data and information, with the use of all necessary technologies.

Work autonomously.

Work in teams.

Advance free, creative and causative thinking.

### (3) SYLLABUS

Introduction to Botanical Science: History and evolution of botanical science, Origin and diversity of plant organisms, the role of plants in the ecosystem, Plants and man, Plant cell organization: The chemical foundations of plants, cellular organelles and cellular structures, the plant cell cycle, division of the nucleus, mitosis, meiosis, polyploidy, biological cycles and reproduction in the plant world. Organization of the plant body: from the single cell to the multi-cellular organization level, unicellular,/multi-cellular plant organisms, plant tissue characteristics / adaptation to terrestrial living. Morphology / Anatomy of higher terrestrial plants: Types and characteristics of plant tissues, morphology, anatomy of basic plant organs (root, stem, leaf, flower, etc.). Main characteristics and taxonomic study of basic plant categories: Algae.

Methodology and Implementation of the teaching and pedagogical approach in Plant Biology.

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

<p><b>DELIVERY</b> <i>Face-to-face, Distance learning, etc.</i></p>	Face to face lectures in classroom.	
<p><b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b> <i>Use of ICT in teaching, laboratory education, communication with students</i></p>	Use of Information Technologies both in the course lectures as well as in laboratory exercises in order to challenge dialogue with students and stimulate their critical thinking. Also use of specialized project management software and learning process support through the e-class platform.	
<p><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></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
	Laboratory exercises	39
	Study of course theory	47
	Study of laboratory exercises	25
<b>Course total</b>	<b>150</b>	
<p><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>	Students are evaluated (language of assessment is Greek) by means of short answer tests during the laboratory exercises throughout the semester, and the final evaluation at the end of the semester is done through laboratory examinations which include written short answer questions and identification and design of plant structures under the microscope (30%) and written examinations of the course theory (70%).	

#### (5) ATTACHED BIBLIOGRAPHY

<p><i>- Suggested bibliography:</i></p> <ol style="list-style-type: none"> <li>1. Raven Peter H., Evert Ray Franklin, Eichhorn Susan E. (Translated in Greek): Biology of Plants. UTOPIA Publications, 2014, ISBN 618-80647-4-4. EUDOXUS Code: 978-618-80647-4-4.</li> <li>2. B. Galatis, K. Katsaros, P. Apostolakis: Introduction to Botany. Stamouli Editions S.A., Athens 1998, ISBN 960-351-049-1. EUDOXUS Code: 22743.</li> <li>3. I. Tsekos, Botany: Functional structure and Plant Biology. Kyriakides Bros Editions S.A. Thessaloniki 2000, ISBN 960-343-576-7.</li> </ol> <p><i>- Related academic journals:</i></p>
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