

COURSE OUTLINE

1. GENERAL

SCHOOL	AGRICULTURAL SCIENCES		
DEPARTMENT	FOOD SCIENCE AND TECHNOLOGY		
LEVEL OF COURSE	UNDERGRADUATE		
COURSE CODE	FST_103	SEMESTER OF STUDIES	1 st
COURSE TITLE	PHYSICS		
INDEPENDENT TEACHING ACTIVITIES <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>	WEEKLY TEACHING HOURS	ECTS CREDITS	
Lectures	3		
Total	3	5	
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>			
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	<i>Compulsory general background</i>		
PREREQUISITE COURSES:	No.		
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek.		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	No.		
COURSE WEBPAGE (URL)	https://eclass.upatras.gr/		

2. LEARNING OUTCOMES

<p>Learning outcomes</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"> • <i>Description of the level of learning outcomes for each qualifications cycle, according to the Qualifications Framework of the European Higher Education Area</i> • <i>Descriptors for Levels 6, 7 & 8 of the European Qualifications Framework for Lifelong Learning and Appendix B</i> • <i>Guidelines for writing Learning Outcomes</i> <p>The purpose of this course is to provide students with the basic knowledge of Physics in order to assist them in understanding the various processes related to food science. Upon completion of this course, students will be able to:</p> <ol style="list-style-type: none"> 1. Understand the basic principles of Physics, such as applied Thermodynamics and Atomic Physics 2. Process and analyze experimental data, using this basic knowledge in the fundamental principles of Physics 3. Understand and interpret the physical laws on which the processes that govern food science are based (e.g. issues of mass and energy balances, Engineering, Processing, Spectroscopy, etc.)
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General Competences	
<i>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>	
<i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i>	<i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i>
<i>Adapting to new situations</i>	<i>Adapting to new situations</i>
<i>Decision-making</i>	<i>Decision-making</i>
<i>Working independently</i>	<i>Working independently</i>
<i>Team work</i>	<i>Team work</i>
<i>Working in an international environment</i>	<i>Working in an international environment</i>
<i>Working in an interdisciplinary environment</i>	<i>Working in an interdisciplinary environment</i>
<i>Production of new research ideas</i>	<i>Production of new research ideas</i>
<ul style="list-style-type: none"> • <i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i> • <i>Decision-making</i> • <i>Working independently</i> • <i>Team work</i> • <i>Production of new research ideas</i> 	

3. SYLLABUS

<p>The content of the course includes the following: Introductory concepts, kinematics – material dynamics, work, energy, power momentum, angular momentum, dynamics of solid materials, properties of materials, heat, principles of thermodynamics, optics, principles of optic instruments operation. Basic concepts of electricity, magnetism, modern physics (quantum physics, atomic physics, etc.)</p>

4. TEACHING AND LEARNING METHODS - EVALUATION

<p>DELIVERY <i>Face-to-face, Distance learning, etc.</i></p>	Face-to-face												
<p>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i></p>	<p>Use of Information and Communication Technologies (ICTs) (e.g. powerpoint) in teaching. Communication with students: through e-mail, department's website and platform e-class. The lectures content of the course for each chapter are uploaded on the internet, in the form of a series of .pdf files, where students can freely download them from the platform e-class.upatras.gr</p>												
<p>TEACHING METHODS <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>	<table border="1"> <thead> <tr> <th><i>Activities</i></th> <th><i>Work Load per semester</i></th> </tr> </thead> <tbody> <tr> <td>Lectures (3 hours per week x 13 weeks)</td> <td>39</td> </tr> <tr> <td>Literature study and analysis</td> <td>37</td> </tr> <tr> <td>Final examination (3 hours)</td> <td>3</td> </tr> <tr> <td>Non-guided study</td> <td>46</td> </tr> <tr> <td>Total number of hours for the Course (25 hours of work-load per ECTS credit)</td> <td>125</td> </tr> </tbody> </table>	<i>Activities</i>	<i>Work Load per semester</i>	Lectures (3 hours per week x 13 weeks)	39	Literature study and analysis	37	Final examination (3 hours)	3	Non-guided study	46	Total number of hours for the Course (25 hours of work-load per ECTS credit)	125
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Total number of hours for the Course (25 hours of work-load per ECTS credit)	125												
<p>STUDENT PERFORMANCE EVALUATION</p>	<p>Written examination after the end of the semester (100%) including:</p> <ul style="list-style-type: none"> • Multiple-choice questions 												

<p><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>	<ul style="list-style-type: none"> ● Benchmarking theory elements <p>Grading scale: 1 to 10. Minimum passing grade: 5. Examination time: 3 hours.</p>
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5. ATTACHED BIBLIOGRAPHY

1. D. Halliday, R. Resnick, «Φυσική» (Ενιαίος τόμος), Γενική Επιμέλεια Παπανικόλας Κ. (in Greek).
2. H. Paul, «Οι έννοιες της Φυσικής» (in Greek).
3. A. Αναγνωστόπουλος, Θ. Καρακώστας, Ε. Δόνη, Φ. Κομνηνού, «Κεφάλαια Φυσικής» (in Greek).