

## COURSE OUTLINE

### (1) GENERAL

<b>SCHOOL</b>	School of Science		
<b>ACADEMIC UNIT</b>	Physics		
<b>LEVEL OF STUDIES</b>	Undergraduate		
<b>COURSE CODE</b>	<b>10YK303</b>	<b>SEMESTER</b>	<b>8</b>
<b>COURSE TITLE</b>	<b>Environmental Physics Laboratory</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>	
Laboratory practice	4	6	
<b>COURSE TYPE</b> <i>general background, special background, specialised general knowledge, skills development</i>	Specialised Knowledge		
<b>PREREQUISITE COURSES:</b>	No		
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>	Greek		
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>	No		
<b>COURSE WEBSITE (URL)</b>	Eclass URL: <a href="https://eclass.uoa.gr/courses/PHYS249/">https://eclass.uoa.gr/courses/PHYS249/</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

The laboratory provides the student with the necessary knowledge to understand the processes occurring in the troposphere. In addition, the student applies various methods to calculate certain atmospheric parameters under different conditions.

With the completion of the course the student is able to

Evaluate and determine different atmospheric conditions and their corresponding parameters

Explain and analyze atmospheric conditions in case studies.

Analyze relative atmospheric conditions. Combine mathematical formulas in order to calculate various parameters. Evaluate the results and suggest solutions in case studies.

### 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

.....

Others...

.....

The course aims at the following general competences

Search, analyze and synthesize data and information, using the necessary technologies

Autonomous work

Teamwork

Respect for the natural environment

Promote free, creative and inductive thinking

Analytical and synthetic thinking

Critical Thinking

Problem solving

### **(3) SYLLABUS**

- Meteorological charts analysis.
- Vertical wind distribution.
- Remote sensing in environmental studies.
- Mixing height calculation.
- Air pollution.

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

<p><b>DELIVERY</b> <i>Face-to-face, Distance learning, etc.</i></p>	Face-to-face													
<p><b>USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY</b> <i>Use of ICT in teaching, laboratory education, communication with students</i></p>	<p>Yes</p> <p>Electronic communication with the students using ICT (Information and Communications Technology) Computer-aided lectures, use of Overhead Projectors, eclass platform</p>													
<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>	<table border="1"> <thead> <tr> <th data-bbox="676 562 1015 622">Activity</th> <th data-bbox="1019 562 1337 622">Semester workload</th> </tr> </thead> <tbody> <tr> <td data-bbox="676 629 1015 725">Individual Study/ Study and Analysis of bibliography / Preparation</td> <td data-bbox="1019 629 1337 725">50</td> </tr> <tr> <td data-bbox="676 732 1015 763">Laboratory practice</td> <td data-bbox="1019 732 1337 763">52</td> </tr> <tr> <td data-bbox="676 770 1015 801">Writing reports/ essays</td> <td data-bbox="1019 770 1337 801">48</td> </tr> <tr> <td data-bbox="676 808 1015 840"></td> <td data-bbox="1019 808 1337 840"></td> </tr> <tr> <td data-bbox="676 846 1015 869"><b>Course Total</b></td> <td data-bbox="1019 846 1337 869"><b>150</b></td> </tr> </tbody> </table>		Activity	Semester workload	Individual Study/ Study and Analysis of bibliography / Preparation	50	Laboratory practice	52	Writing reports/ essays	48			<b>Course Total</b>	<b>150</b>
	Activity	Semester workload												
	Individual Study/ Study and Analysis of bibliography / Preparation	50												
	Laboratory practice	52												
	Writing reports/ essays	48												
<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>	<p>Open-ended questions and problem-solving questions. Written examination during each laboratory exercise. Homework. Laboratory report.</p>													

**(5) ATTACHED BIBLIOGRAPHY**

- *Suggested bibliography*

Laboratory Guide