

## COURSE OUTLINE

### (1) GENERAL

<b>SCHOOL</b>	School of Sciences		
<b>ACADEMIC UNIT</b>	Physics		
<b>LEVEL OF STUDIES</b>	Undergraduate		
<b>COURSE CODE</b>	<b>411</b>	<b>SEMESTER</b>	<b>6,8</b>
<b>COURSE TITLE</b>	OBSERVATIONAL ASTROPHYSICS		
<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>	
	4	4	
<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, general background		
<b>PREREQUISITE COURSES:</b>			
<b>LANGUAGE OF INSTRUCTION and EXAMINATIONS:</b>	Greek		
<b>IS THE COURSE OFFERED TO ERASMUS STUDENTS</b>	Yes (Greek)		
<b>COURSE WEBSITE (URL)</b>			

### (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>The course is an Introduction to Observational Astrophysics. After successful completion of the course the students should be able to:</p> <ul style="list-style-type: none"> <li>● understand the basic underlying physical phenomena and processes associated with the astrophysical observation;</li> <li>● determine the optimal observational mode (e.g., choice of telescope, detector) for a given astrophysical problem and the influence of the employed techniques to the observations.</li> </ul>

**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...  
.....*

Decision-making, Production of free, creative and inductive thinking

**(3) SYLLABUS**

Introduction. The influence of Earth's atmosphere and its correction. Aperture theory. Collection of radiation and image formation. Telescopes. Radiation detectors. Spectroscopic analysis. Polarimetric measurements of radiation. Neutron and gravitational radiation detectors. Practical work.

**(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>		
<b>TEACHING METHODS</b> <i>The manner and methods of teaching are described in detail. Lectures, seminars, laboratory practice, fieldwork, study and analysis of bibliography,</i>	<b>Activity</b>	<b>Semester workload</b>
	Lectures	70
	Study and analysis of bibliography	26

<p>tutorials, placements, clinical practice, art workshop, interactive teaching, educational visits, project, essay writing, artistic creativity, etc.</p> <p>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</p>	Exams	4
	Course total	100
<p align="center"><b>STUDENT PERFORMANCE EVALUATION</b></p> <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>	Written work	

**(5) ATTACHED BIBLIOGRAPHY**

- Suggested bibliography (in Greek):
- Related academic journals:

Παρατηρησιακή Αστροφυσική, Σημειώσεις από Πανεπιστημιακές Παραδόσεις,  
Κ. Α. Αλυσσανδράκης, Α. Νίντος, Πανεπιστήμιο Ιωαννίνων