

COURSE OUTLINE

1. GENERAL

SCHOOL			
DEPARTMENT	DEPARTMENT OF PHYSICS UNDEGRADUATE STUDY PROGRAM: PHYSICS		
LEVEL OF STUDIES	ISCED level 6 – Bachelor's or equivalent level		
COURSE CODE	Y703-2023	SEMESTER	7th Semester
COURSE TITLE	Astronomy - Astrophysics		
TEACHING ACTIVITIES If the ECTS Credits are distributed in distinct parts of the course e.g. lectures, labs etc. If the ECTS Credits are awarded to the whole course, then please indicate the teaching hours per week and the corresponding ECTS Credits.		TEACHING HOURS PER WEEK	ECTS CREDITS
		4	7.0
COURSE TYPE Background, General Knowledge, Scientific Area, Skill Development	Background		
PREREQUISITES	None		
TEACHING & EXAMINATION LANGUAGE:	Greek		
COURSE OFFERED TO ERASMUS STUDENTS:	NO		
COURSE URL:	https://eclass.emt.duth.gr/courses/PHYSICS253/		

2. LEARNING OUTCOMES

Learning Outcomes Please describe the learning outcomes of the course: Knowledge, skills and abilities acquired after the successful completion of the course.
The course aims at learning basic concepts in Astronomy, which is an important field of Physics. Students should be able to understand the basic laws and rules that govern the scientific subject of Astronomy-Astrophysics, understand and explain basic concepts in the Solar System (structure and phenomena in it), the Sun, galaxies (ours and others), as well as the concept of cosmology. They will also learn thoroughly the types and the evolution process of stars and galaxies. Finally, they will be able to solve basic Astronomy problems. By completing the course, students will have the ability to judge phenomena they see in the night sky, explain the evolution of our own and other star systems, and have knowledge of the evolution of the universe.

General Skills

Name the desirable general skills upon successful completion of the module

Search, analysis and synthesis of data and information,
ICT Use, Adaptation to new situations,
Decision making,
Autonomous work,
Teamwork,
Working in an international environment,
Working in an interdisciplinary environment, Production of new research ideas

Project design and management
Equity and Inclusion
Respect for the natural environment
Sustainability
Demonstration of social, professional and moral responsibility and sensitivity to gender issues
Critical thinking
Promoting free, creative and inductive reasoning

Adaptation to new situations
Decision making
Promoting free, creative and inductive reasoning

3. COURSE CONTENT

Basic astronomy concepts
Coordinate Systems and Time
Ecliptic
Planetary Movements
Kepler's laws
Satellites and Comets
Star distances
Stellar magnitudes
Star temperature
Formation and intensity of spectral lines
Spectra and spectral classification of stars
Sun
Basic concepts of stellar evolution and the final stages of stars
Double stars
Variable stars
Evolution of galaxies
Cosmology

4. LEARNING & TEACHING METHODS - EVALUATION

TEACHING METHOD Face to face, Distance learning, etc.	Face to face
USE OF INFORMATION & COMMUNICATIONS TECHNOLOGY (ICT) Use of ICT in Teaching, in Laboratory Education, in Communication with students	Use of ICT in Teaching Use of ICT in Communication with students

TEACHING ORGANIZATION

The ways and methods of teaching are described in detail. Lectures, Seminars, Laboratory Exercise, Field Exercise, Bibliographic research & analysis, Tutoring, Internship (Placement), Clinical Exercise, Art Workshop, Interactive learning, Study visits, Study / creation, project, creation, project. Etc.

The supervised and unsupervised workload per activity is indicated here, so that total workload per semester complies to ECTS standards

Activity	Workload/semester
Lectures	52
Bibliographic research & analysis	140
Total	192

STUDENT EVALUATION

Description of the evaluation process

Assessment Language, Assessment Methods, Formative or Concluding, Multiple Choice Test, Short Answer Questions, Essay Development Questions, Problem Solving, Written Assignment, Essay / Report, Oral Exam, Presentation in audience, Laboratory Report, Clinical examination of a patient, Artistic interpretation, Other/Others

Please indicate all relevant information about the course assessment and how students are informed

Student evaluation languages

Greek

Method (Formative or Concluding)

Summative

Student evaluation methods

Written exam with multiple choice test
Written Exam with Short Answer Questions
Written Exam with Essay Development Questions

Rate

30
30
40

5. Suggested Bibliography

Του Ευδόξου

Eudoxus

Εισαγωγή στη σύγχρονη αστρονομία, Χ.Βάρβογλης, Ι.Σειραδάκης

Εισαγωγή στη Σύγχρονη Αστροφυσική, Bradley W Carroll, Dale A. Ostlie επιμ.Καζαντζίδης Στυλιανός, Παππάς Γεώργιος

ΑΣΤΡΟΦΥΣΙΚΗ ΤΟΜΟΣ Ι, SHU FRANK

ΑΣΤΡΟΦΥΣΙΚΗ ΤΟΜΟΣ ΙΙ, SHU FRANK