ΕΛΛΗΝΙΚΗ ΔΗΜΟΚΡΑΤΙΑ
Α .Δ Ι .Π .
ΑΡΧΗ ΔΙΑΣΦΑΛΙΣΗΣ & ΠΙΣΤΟΠΟΙΗΣΗΣ
ΤΗΣ ΠΟΙΟΤΗΤΑΣ ΣΤΗΝ ΑΝΩΤΑΤΗ
ΕΚΠΑΙΔΕΥΣΗ

HELLENIC REPUBLIC
H .Q .A .
HELLENIC QUALITY ASSURANCE
AND ACCREDITATION AGENCY

ΤΕΧΝΟΛΟΓΙΚΟ ΕΚΠΑΙΔΕΥΤΙΚΟ ΙΔΡΥΜΑ ΑΝΑΤΟΛΙΚΗΣ ΜΑΚΕΔΟΝΙΑΣ ΚΑΙ ΘΡΑΚΗΣ
ΜΟΝΑΔΑ ΔΙΑΣΦΑΛΙΣΗΣ ΤΗΣ ΠΟΙΟΤΗΤΑΣ ΤΕΙ ΑΜΘ

Quality Assurance in Higher Education
Course Data Collection Form

ΤΕΧΝΟΛΟΓΙΚΟ ΕΚΠΑΙΔΕΥΤΙΚΟ ΙΔΡΥΜΑ
ΑΝΑΤΟΛΙΚΗΣ ΜΑΚΕΔΟΝΙΑΣ & ΘΡΑΚΗΣ
ΑΓΙΟΣ ΛΟΥΚΑΣ,
65404 ΚΑΒΑΛΑ

EASTERN MACEDONIA AND THRACE
INSTITUTE OF TECHNOLOGY
AGIOS LOUKAS
65404 KAVALA

COURSE OUTLINE

1. GENERAL

SCHOOL	School of Technological Applications		
ACADEMIC UNIT	Department of Electrical Engineering		
DEGREE LEVEL	Undergraduate		
COURSE CODE	AN2	**SEMESTER**	1st
COURSE TITLE	PHYSICS		

INDEPENDENT TEACHING ACTIVITIES *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*	**WEEKLY TEACHING HOURS**	**CREDITS**
Lectures	3	4,5
Add rows if necessary. The organization of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Base
Required passed courses:	-
TEACHING AND EXAMS LANGUAGE:	Greek
THE COURSE IS OFFERED TO ERASMUS STUDENTS:	No
COURSE WEBPAGE (URL)	http://eclass.teikav.edu.gr/ED209/

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*

- Upon successful completion of the course the students will have acquired the knowledge to apply the laws of physics in various sectors of physics for a more efficient understanding of the syllabus of their specialty courses while simultaneously they will be able to understand the function principles of modern techniques that they will use later.

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…
…….

- Research, analysis and synthesis of data and information with the usage of the necessary technology
- Autonomous work
- Teamwork
- Work in a scientific environment
- Apply criticism and self-criticism
- Production of free, creative and inductive thinking

3. COURSE CONTENT

1. Material point kinematic.
2. Material point dynamic.
3. Principle of energy retention.
4. Solid body dynamic.
5. Principle of momentum - torque retention.
6. Oscillations: Harmonic, decreasing, forced.
7. Mechanic waves: wave types, characteristics, wave intensity, attenuation.
8. Stationary waves, Doppler Effect.
9. Electromagnetic waves: energy, energy density, wave pressure.
10. Electromagnetic wave diffusion in the atmosphere (absorption - scatter).
11. Geometric perspective: Beam assumption, reflection and diffusion effects, light polarization, lens and mirror characteristics.
12. Laser: principle of function, features and types.

4. TEACHING AND LEARNING METHODS - ASSESSMENT

TEACHING METHOD *Face-to-face, Distance learning, etc.*	Room Lecture.
UTILISATIONS OF INFORMATION AND COMMUNICATION TECNOLOGIES *Use of ICT in teaching, laboratory education, communication with students*	Syllabus organization in PPT slides. Learning process support through e-class electronic. Contact via email.
The manner and methods of teaching are described in detail. *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.* *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*	

Acivity	***Semester workload***
Lectures	39
Writing of small courseworks	12
Self-contained coursework	62
Course Summary (25 workload per credit)	***113***

STUDENT ASSESSMENT *Description of the evaluation procedure* *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* *Specifically-defined evaluation criteria are given, and if and where they are accessible to students.*	Evaluation language: Greek. Writing of small courseworks (10%). Exams (90%) consisting of physical problems from various units of the course (Note usage is allowed)

5. RECCOMENDED READING

- Suggested bibliography:
- Related academic journals:

- Physics for Scientists and Engineers, Giancoli, Publications A. TZIOLA & SONS A.E., 2011
- SCHAUM'S UNIVERSITY PHYSICS, Frederick J. Bueche, Eugene Hecht, PUBLICATIONS KLIDARITHMOS EPE, 2010
- Physics, Halliday David, Resnick Robert, Walker Jearl, General Editor Papanikolas K., Coordination Tzamtzis G., Scientific Editor Karabarbounis A., Koen S., Spirakis P., Stiliaris E., Tzanetakis P., Publications Gutenberg (G. Dardanos – K. Dardanos O.E.), 2014
- University Physics with Modern Physics, Young H., Freedman R., Publication PAPAZISI AEBE, 2009

- Physics for Scientists and Engineers: Volume IB – Mechanics, Waves, Optics, Knight Randall D., MACEDONIAN PUBLICATIONS (S. PARIKOU & SIA EE), 2008