ETY701 - Materials Lab III

COURSE OUTLINE

(1) GENERAL

SCHOOL	SCHOOL OF ENGINEERING		
ACADEMIC UNIT	DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING		
LEVEL OF STUDIES	UNDERGRADUATE		
COURSE CODE	ETY701	**SEMESTER**	7
COURSE TITLE	Materials Lab III		

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 / Tutorials	5	6
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, specialized general knowledge, skills development*	Special background
PREREQUISITE COURSES:	NO
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	GREEK
IS THE COURSE OFFERED TO ERASMUS STUDENTS	NO
COURSE WEBSITE (URL)	http://users.uoi.gr/ipanagio/courses.html

(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 students through simple exercises in which the operating principles are clear are introduced with the basic phenomena that characterize electronic, magnetic materials and their optical properties. Understanding the basic concepts and phenomena through experimental observation. The students acquire skills related to conducting research and development and evaluation in various types of electronic, photovoltaics, opticand magnetic materials that form the basis of today's technological applications.

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
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

Working in an interdisciplinary environment *Production of new research ideas*	*……* *Others…* *…….*

Search for, analysis and synthesis of data and information, with the use of the required technology
Decision-making
Working independently
Team work
Working in an interdisciplinary environment

(3) SYLLABUS

Hall effect, Solar cells, measurement of the dielectric constant, ferroelectric hysteresis, photoconductivity, superconductivity, optical reflectivity, ferromagnetic hysteresis.

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Laboratory practice, lectures
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	
TEACHING METHODS *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*	
STUDENT PERFORMANCE EVALUATION *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.*	LANGUAGE OF EVALUATION: Greek METHOD OF EVALUATION: Weekly tests and oral examination during the execution of the lab exercises (34%) Final written examination (66%)

Activity	*Semester workload*
Teaching	26
Laboratory practice	39
Group-study	13
Self-study	72
Course total	150

(5) ATTACHED BIBLIOGRAPHY

-Suggested bibliography:

- Class notes
- "ΑΡΧΕΣ ΗΛΕΚΤΡΟΝΙΚΩΝ ΥΛΙΚΩΝ ΚΑΙ ΔΙΑΤΑΞΕΩΝ" S. O. KASAP960-7530-56-12004, ΕΚΔΟΣΕΙΣ ΠΑΠΑΣΩΤΗΡΙΟΥ

-Related academic journals: