ETY208 - Engineering Drawing

COURSE OUTLINE

(1) GENERAL

SCHOOL	SCHOOL OF ENGINEERING		
ACADEMIC UNIT	DEPARTMENT OF MATERIALS SCIENCE AND ENGINEERING		
LEVEL OF STUDIES	UNDERGRADUATE		
COURSE CODE	ETY208	**SEMESTER**	2
COURSE TITLE	ENGINEERING DRAWING		

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 (Lab exhibitions & Tutorials are also included)	4	4
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*	General background
PREREQUISITE COURSES:	NO
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	GREEK
IS THE COURSE OFFERED TO ERASMUS STUDENTS	YES
COURSE WEBSITE (URL)	NO

(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 learning outcomes of this course are the introduction of the students to the field of engineering drawing, as well as the orthographic projection methods for mechanical parts. The course focuses on decoding the orthographic and perspective projections, be it the different views, sections and the axonometric and perspectival representations of objects.. This fund of knowledge is absolutely necessary for a Materials Engineer in order to be able to design objects and mechanical parts, which are then employed for experiments and laboratory tests.

Teaching engineering drawing aims at acquiring knowledge of the representational techniques used in production and in quality control as they are globally applied nowadays (European and American Standards). All types of projections are presented and the course comprehensively

covers the entire spectrum of drawing applications, as well as the symbols for material treatment, screws and rivets and windings. These topics attract great attention because they

also provide interesting options for a promising and successful career after graduation, since they apply to the global scale of drawing methods and equip the students with new skills and promising fields of studies.
The course is deliberately included in the course series of the second semester of the curriculum, because it provides the students with all the necessary theoretical and practical background in order to be able to read and produce plans.
The knowledge acquired in this course helps the students (when they graduate with the Diploma of Materials Science and Engineering) to be absolutely prepared for facing any scientific, technical and technological challenge in their career in the research laboratory, in the industry, or in the quality control.

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…
…….

Working independently
Team work
Production of new research ideas
Production of free, creative and inductive thinking

(3) SYLLABUS

Engineering Drawing, General Standards, Views in Mechanical Drawing, Dimensions, Sections, Screws-Rivets-Windings, Toothings, Seamings, Booleans, Material Processing, Tolerances, 3d Drawing, CAD Design

(4) TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	Face-to-face teaching in the classroom
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*	

Activity	*Semester workload*
Lectures	26
Laboratory exhibitions/exercises	26
Project assignment (non-directed study for surveying the	32

the ECTS	literature, including selection of articles and thorough study of them, which will be presented in the classroom by the student)	
	Non-directed study for final exams preparation	16
	Course total (25 working hours per ECTS)	100
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: Final written examination Project (optional; it counts for 40% of the final mark)	

(5) ATTACHED BIBLIOGRAPHY

-Suggested bibliography (in Greek):

- A. Antoniades, Engineering Drawing, Editions Tziola, 2007
- G. Sarantoglou, Engineering Drawing for Chemical Engineers, Univeristy of Patras Editions, 1994

-Related academic journals:

- Teaching Engineering Drawing and Geometry, T.R. Harris, 1960
- The Modern Education Mode for Engineering Drawing, Zongyi Zuo, Kaiping Feng, Bing Chen, 2003