MECHANICAL DRAWING II

COURSE OUTLINE

Responsible: Konstantinos Kontaxakis

1. GENERAL			
SCHOOL	School of Engineering		
ACADEMIC UNIT	Department of Mechanical Engineering		
LEVEL OF STUDIES	Undergraduate		
COURSE CODE	0813.2.005.0	**SEMESTER**	2nd
COURSE TITLE	Mechanical Drawing II		

INDEPENDENT TEACHING ACTIVITIES if credits are awarded for separate components of the course	**WEEKLY TEACHING HOURS**	**CREDITS**
	3	5
Total	**3**	**5**

COURSE TYPE general background, special background, specialised general knowledge, skills development	Special Background
PREREQUISITE COURSES	None
LANGUAGE OF INSTRUCTION and EXAMINATIONS	English
OFFERED TO ERASMUS STUDENTS	Yes (in English) — Spring Semester
COURSE WEBSITE (URL)	https://eclass.hmu.gr/modules/document/index.php?course=MECH126

2. LEARNING OUTCOMES

Learning outcomes

The course Mechanical Drawing II - CAD aims to utilize and deepen the existing basic knowledge, standardizations and regulations, acquired in the Mechanical Drawing I and their applications in integrated Mechanical Drawings. The students will be invited to realize drawings of assemblies of mechanical devices.

The aim of the course of the Mechanical Drawing II - CAD is to offer to the students the opportunity to apply the rules of the Mechanical Drawing and the standardization of machine elements and parts, in order to acquire the ability and the skills:

- to know in depth the international regulations of standardization of the Mechanical Drawing,
- to understand complex mechanical drawings and assemblies, as a composition of the individual parts,
- to transform their thoughts, ideas and calculations into engineering drawings regardless of the degree of complexity
- to make the desired or necessary corrections, upgrades and modifications of complex mechanical devices
- to prepare complex mechanical drawings in appropriate design software.

In Engineering Drawing II - CAD, the students are trained in depth, in 2D computer aided design using the AutoCAD platform.

General Competences

Upon successful completion of the course, students will be able to apply successfully the rules of the Mechanical Drawing and the standardization of machine elements and parts, in order to acquire the ability and

the skills:

- to know in depth the international regulations of standardization of the Mechanical Drawing,
- to understand complex mechanical drawings and assemblies, as a composition of the individual parts,
- to transform their thoughts, ideas and calculations into engineering drawings regardless of the degree of complexity
- to make the desired or necessary corrections, upgrades and modifications of complex mechanical devices
- to prepare complex mechanical drawings in appropriate mechanical drawing software.

3. SYLLABUS

Preparation of 13 engineering drawings and assemblies for the implementation of all the following modules:

- Tolerances in the mechanical drawing.
- Welding and design of welded structures.
- Drawings of machine elements and parts of any kind.
- Search and use templates and machine component catalogs.
- Views, sections and half sections of assemblies.

Drawings of mechanical assemblies using normalized machine elements (threads, screws, shafts, bearings, gears, pulleys, springs, seals, piping, reducers, welds).

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY Face-to-face, Distance learning, etc.	Face to face
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY Use of ICT in teaching, laboratory education, communication with students	Presentation of electronic slides. Use of 2D computer aided design (AutoCAD platform).
TEACHING METHODS The manner and methods of teaching are described in detail.	
STUDENT PERFORMANCE EVALUATION Description of the evaluation procedure	The theory is taught in English, in the form of lectures using audiovisual teaching aids, while the laboratory is taught through demonstration, practical exercises, and the participation of students in the presentation of the course. The Mechanical drawing projects of typical mechanical engineering assemblies are prepared in the laboratory, under the supervision of professors.

Activity	**Semester workload**
Lectures	13
Practical Exercises	13
Laboratory Exercises	39
Independent Study	60
Course total	**125**

5. ATTACHED BIBLIOGRAPHY

Manual of Engineering Drawing: British and International Standards, Colin H. Simmons, Dennis E. Maguire, Neil Phelps.