a) General			
School	ENGINEERING		
Academic unit	MECHANICAL ENGINEERING		
Level of studies	Undergraduate		
Course code	MM001Y03	*Semester*	1
Course title	**Computer Aided mechanical Design I (CAD I)**		

Independent teaching activities	*Weekly teaching hours*	*ECTS*
Lectures	0	3.0
Laboratory exercises	3	

Course type	Special background
Course category	Compulsory
Prerequisite courses	-
Language of instruction and examinations	Greek / English
Is the course offered to Erasmus students	No
Course website (url)	https://moodle.uniwa.gr/course/view.php?id=454/

b) Learning outcomes and general competences

b1. Learning outcomes

Upon successful completion of this course, the student will be able to:

- Work in a 2D Computer-Aided Design (CAD) software.
- Be introduced to mechanical design specifications and the conceptual aspects of mechanical design.
- Develop an understanding of basic and fundamental principles of 2D CAD modelers
- Have an understanding of the technical specifics of mechanical drawings (parts and assemblies)
- Apply mechanical drawings specifications in order to produce sketches and 2d CAD drawings.
- Evaluate the manufacturing cost of a technical drawing.
- Analyze in form of drawing the technical specifications of a part - mechanism
- Compose parts that consist on completing a project or a mechanism at the stage of manufacturing

b2. General competences

- Research, analysis and synthesis of data and information with the use of the innovative technologies of Computer Aided Design.
- Working independently: Individual projects, supervised by faculty mentors.
- enrollment in group-based project
- Team work

c) Syllabus

Mechanical drawings specifications, machine elements in Mechanical Drawings, Technical drawings compatible with standards, creating sketches, introduction to Computer Aided Design, Basic principles and techniques used in Computer Aided Design, Composition of simple geometric forms aiming to create views and sections, creating, modifying and Dimensioning geometric forms, creating parts numbering and parts list, define tolerances type – Assemblies, Machine elements standardization used in CAD systems.

d) Teaching and learning methods - Evaluation

Delivery	Face to face & Distance learning

Use of information and communications technology	- Commercial software and free open source software - Multimedia applications - MS Teams & Moodle	
Teaching methods	*Activity*	*Semester workload*
	Lectures	0
	Tutorials	13
	Laboratory exercises	26
	Computational exercises	0
	Individual work	65
	Course total	105
Student performance evaluation	- Final exam based on laboratory exercises - Assessment of individual projects and group based projects	

e) Suggested bibliography

1. Αντωνιάδης, Α. (2014). *Μηχανολογικό Σχέδιο.* Εκδόσεις ΤΖΙΟΛΑ.
2. Βούλγαρης, Μ. *Μηχανολογικό Σχέδιο*. Β' έκδοση. Σύγχρονη Εκδοτική.
3. Μπουζάκης, Κ., Διονύσιος, Ε. *Κανονισμοί μηχανολογικού σχεδίου*. Εκδόσεις Ζήτη Πελαγία & Σια Ι.Κ.Ε.
4. Fuller A., Ramirez, A., Smith, D. (2017). *Technical Drawing 101 with AutoCAD 2018*. SDC Publications.