COURSE OUTLINE

1. GENERAL

SCHOOL	Environment and Agricultural Engineering		
ACADEMIC UNIT	Natural Resources Management and Agricultural Engineering		
LEVEL OF STUDIES			
COURSE CODE	0013	**SEMESTER**	3rd
COURSE TITLE	AN INTRODUCTION TO TECHNICAL DRAWING USING AutoCAD		

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 and laboratory exercises	5	5
Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).		

COURSE TYPE *general background, special background, specialised general knowledge, skills development*	Specialised general knowledge
PREREQUISITE COURSES:	None
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek
IS THE COURSE OFFERED TO ERASMUS STUDENTS	YES (In English)
COURSE WEBSITE (URL)	

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 objective of the course is to impart the requisite knowledge of the trainees in the field of design, application and solution of complex geotechnical projects and illustrations through computer-aided design (CAD). In the current era of rapid technological advancement, computers have become an integral and cost-effective tool, not only in everyday activities, but also as a crucial instrument and aid in the resolution of complex problems across the spectrum of theoretical and scientific disciplines. One of the most essential and useful applications of computers, particularly in the engineering sciences, is computer-aided design (CAD). CAD systems represent a significant advance over traditional methods of drawing, as they incorporate the properties, physical characteristics and information of the objects being represented. This information is both useful and directly accessible to the user through the software of the program.

In this context, it is notable that the information is rendered promptly and that the dimensions and positions of objects in space are depicted with high accuracy and sharpness. Upon successful completion of the course, students will be able to:

- Use CAD programs to draw technical drawings accurately and according to specifications.
- Be able to draw 2D and 3D technical drawings.
- Comprehend the views and sections of the design and matching of these to the appropriate scale.
- Use the tools available in the software for an excellent reproduction of their design.
- Become proficient in computer-aided design, increasing their productivity.

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	*Project planning and management*
Adapting to new situations	*Respect for difference and multiculturalism*
Decision-making	*Respect for the natural environment*
Working independently	*Showing social, professional and ethical responsibility and sensitivity to gender issues*
Team work	*Criticism and self-criticism*
Working in an international environment	*Production of free, creative and inductive thinking*
Working in an interdisciplinary environment	*……*
Production of new research ideas	*Others…*
	…….

- Implementation of geotechnical studies and projects
- Project planning and management
- Analyze and process project information
- Ability to work independently and as part of a team
- Work in a multidisciplinary environment

3. SYLLABUS

Introduction - Applications of digital design in geotechnical sciences - Structure of CAD systems.- Software analysis - Basic concepts of digital drawing - Introduction to the drawing environment - Drawing Area - Command Line - Status Bar - Commands - Ways of executing commands - Coordinates - Drawing units - Drawing aids - Selection of objects - Drawing and modification commands and tools - Properties of objects – Creating layers - Organize the layers of the drawing (Layers) - Dimensioning- 3D drawing - Linear models - Surface models & Mesh - Solid models - Axes and angles into the space - UCS (User Coordinate System) - Universal Coordinate System - Drawing simple solid models - Commands to navigate in 3D space - Commands to create solid objects - Print scales (Layouts, Viewports, Paper and Model space, View factor & XP value)

4. TEACHING and LEARNING METHODS - EVALUATION

DELIVERY *Face-to-face, Distance learning, etc.*	The teaching methodology employed in the classroom involves active student participation through interactive question and answer sessions.
USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY *Use of ICT in teaching, laboratory education, communication with students*	Autocad Classic Software (Autodesk)
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.*	

Activity	*Semester workload*
Lectures	39
The exercises have been selected with the specific objective of focusing on the technical	39

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	applications of project management.		
	Autonomous Study	47	
	Course total	***125***	
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.*	Writing Final Exam in theory (50%) AutoCAD Final Assessment by a Practical design (50%)		

5. ATTACHED BIBLIOGRAPHY

- Computer Aided Design. Computer Aided Design (Summary Notes), 2017, ALEXANDRIS STAVROS
- INTRODUCTION TO AUTOCAD 2015, YIANNIS T. KAPPOS
- DESIGN WITH COMPUTER. AUTOCAD IN PRACTICE, 2014, DAVID KONSTANTINOS, ANTHYMIDES KONSTANTINOS
- WORK WITH AUTOCAD 2017, YIANNIS TH. KAPPOS