

COURSE OUTLINE

1. GENERAL

SCHOOL	SCHOOL OF ENVIRONMENT AND AGRICULTURAL ENGINEERING		
ACADEMIC UNIT	DEPARTMENT OF NATURAL RESOURCES DEVELOPMENT AND AGRICULTURAL ENGINEERING		
LEVEL OF STUDIES	postgraduate		
COURSE CODE	630034	SEMESTER	2o
COURSE TITLE	Special topics of Land reclamation Works		
INDEPENDENT TEACHING ACTIVITIES <i>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</i>		WEEKLY TEACHING HOURS	CREDITS
Lectures and Practical Exercises		2	5
<i>Add rows if necessary. The organisation of teaching and the teaching methods used are described in detail at (d).</i>			
COURSE TYPE <i>general background, special background, specialised general knowledge, skills development</i>	General knowledge, Scientific Area, Skills development		
PREREQUISITE COURSES:			
LANGUAGE OF INSTRUCTION and EXAMINATIONS:	Greek		
IS THE COURSE OFFERED TO ERASMUS STUDENTS	Yes (in English)		
COURSE WEBSITE (URL)	https://oeclass.aua.gr/eclass/courses/5957/		

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 purpose of the course is for the students to become familiar with the calculation methodologies of a collective irrigation network (flow rate design, optimal diameters, head system optimization). Also, the students will become familiar with methods of analyzing the behavior of the network both at the general level of the pipeline system and the head supply system, as well as at the level of hydrants. through a list of theoretical analysis and practical laboratory exercises.

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?

<i>Search for, analysis and synthesis of data and information, with the use of the necessary technology</i>	<i>Project planning and management</i>
<i>Adapting to new situations</i>	<i>Respect for difference and multiculturalism</i>
<i>Decision-making</i>	<i>Respect for the natural environment</i>
<i>Working independently</i>	<i>Showing social, professional and ethical responsibility and sensitivity to gender issues</i>
<i>Team work</i>	<i>Criticism and self-criticism</i>
<i>Working in an international environment</i>	<i>Production of free, creative and inductive thinking</i>
<i>Working in an interdisciplinary environment</i>	<i>.....</i>
<i>Production of new research ideas</i>	<i>Others...</i>
	<i>.....</i>

1. Search, Analysis and Synthesis of Data and Information, using the Necessary Technologies
2. Adapting to New Situations
3. Decision-making
4. Autonomous Work
5. Teamwork
6. Project planning and management
7. Respect for the natural environment

3. SYLLABUS

Calculation of flow rate design in irrigation networks. Economic optimization of pressure collective irrigation networks. Analysis of the operation of irrigation networks using mathematical models (evaluation of the overall operation of the network and identification of problematic hydrants). Reinforcement of networks. Regulation of canals in irrigation networks.

4. TEACHING and LEARNING METHODS - EVALUATION

<p style="text-align: center;">DELIVERY <i>Face-to-face, Distance learning, etc.</i></p>	In classroom	
<p style="text-align: center;">USE OF INFORMATION AND COMMUNICATIONS TECHNOLOGY <i>Use of ICT in teaching, laboratory education, communication with students</i></p>	<p>Specialized Software in Laboratory Education.</p> <p>Support Learning process through organized digital lessons and data suitable for the study cases</p>	
<p style="text-align: center;">TEACHING METHODS</p> <p><i>The manner and methods of teaching are described in detail.</i></p> <p><i>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.</i></p> <p><i>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</i></p>	Activity	Semester workload
	Lectures	24 hours
	Case Studies collective irrigation network design and operation analysis	75 hours
	Exercises and presentations	26 hours
Course total	125	
<p style="text-align: center;">STUDENT PERFORMANCE EVALUATION</p> <p><i>Description of the evaluation procedure</i></p> <p><i>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</i></p> <p><i>Specifically-defined evaluation criteria are given, and if and where they are accessible to students.</i></p>	<p>Two written laboratory exercises (20%) of study cases Design and dimensioning of a collective irrigation network (case study) with an oral examination on how to deal with and implement the study cases that each student (or group of students) faced. (80%).</p>	

5. ATTACHED BIBLIOGRAPHY

Proposed literature:

1. Tsakiris G. (Editor in charge). Hydraulic Works (Volume II Land reclamation Works). Symmetria Publications (in Greek)
2. Lamaddalena N., Sagardoy J.A., Performance analysis of on-demand pressurized irrigation systems, FAO, Irrigation and Drainage, paper 59, ISBN 92-5-104437-6