ECTS

Course information in english

General course information:

Course title:	Water supply & sewage systems	**Course code:**	CE07_H02
Credits:	5	**Work load (hours):**	150
Course level:	Undergraduate ☒	Graduate ☐	
Course type:	Mandatory ☒	Selective ☐	
Course category:	Basic ☒	Orientation ☐	
Semester:	7o	**Hours per week:**	4
Course objectives (capabilities pursued and learning results):			
Students learn the design and hydraulic resolution of modern water supply systems in settlements (internal – external aqueducts)			
Prerequisites:			
Hydraulics			

Instructor's data:

Name:	Nikitas Mylopoulos
Level:	Professor
Office:	114
Tel. – email:	24210 74162 nikitas@uth.gr
Other tutors:	

Specific course information:

Week No.	Course contents	Hours	
		Course attendance	**Preparation**
1	The problem of water supply – the water resources crisis. Basic principles and parameters for municipal water supply systems.	**4**	
2	Water Intake Projects: Spring waters, surface and groundwater.	**4**	**2**
3	Design and analysis of exterior water pipe network.	**4**	**2**
4	Design and analysis of water pipe network – Hydraulic principles. Hydraulic Calculation of	**4**	**4**

	branched networks.		
5	Hydraulic Calculation of loop networks – The Hardy-Cross method.	**4**	**4**
6	Hydraulic Calculation of loop networks – Applications	**4**	**4**
7	Water supply reservoirs. Required altitude – Calculation.	**4**	**4**
8	Special issues of water supply projects. Additional works and plannings. Computer aided calculation models of water supply networks – Presentation	**4**	**4**
9	The problem of sewerage – Sewer projects as a part of Water Resources Management in a watershed level. Basic principles and parameters of designing urban wastewater network systems.	**4**	**4**
10	Wastewater network types. Sewerage and stormwater runoff networks. Combined networks. Assessement of sewage and stormwater flowrates – Hydrology principles.	**4**	**4**
11	Hydraulic calculation of free surface pipes - Applications.	**4**	**4**
12	Design and hydraulic calculation of sewerage networks.	**4**	
13	Design and hydraulic calculation of stormwater runoff networks.	**4**	
14	Manholes of sewerage and stormwater network systems. Calculation and design. Computer aided calculation models of water supply networks – Presentation.	**4**	

Additional hours for:			
Class project	**Examinations**	**Preparation for examinations**	**Educational visit**
40	4	8	6

Suggested literature:
1. N. Mylopoulos, "Water supply projects", University of Thessaly
2. G. Tsakiris, "Urban Hydraulic projects", National Technical University of Athens
3. Martz, "Water supply systems"

Teaching method *(select and describe if necessary -* **weight***):*		
Teaching	☒ Lectures covering the theoretical part of the course	50%
Seminars	☐	..........%
Demonstrations	☐	..........%
Laboratory	☐	..........%
Exercises	☒ Solving of exercises – practical applications	45%
Visits at facilities	☒ Municipal water authorities – Reservoirs – Work site of pipe placing	5 %
Other *(describe):* Students solve a project regarding calculation – design of a water supply system in a settlement. Lecturer corrects the project giving advice concerning the proper way of designing (beyond teaching hours).	☒	beyond teaching hours
Total		100%

Evaluation method *(select)-* **weight:**				
	written	*%*	*Oral*	*%*
Homework	☐		☐	
Class project	☒	20	☐	
Interim examination	☐		☐	
Final examinations	☒	80	☐	
Other *(describe):*	☐		☐	