ESOGU CIVIL ENGINEERING DEPARTMENT

COURSE INFORMATION FORM

Course Name	Course Code
WATER AND SEWER TECHNOLOGY	151416350

Semester	Number of Course Hours per Week		ECTS
	Theory	Practice	
6	3	0	4

Course Category (Credit)				
Basic Sciences	Engineering Sciences	Design	General Education	Social
1	2	1		

Course Language	Course Level	Course Type
Turkish	Undergraduate	Compulsory

Prerequisite(s) if any	
Objectives of the Course	Water supply of sources, transmission, drinking water distributions, waste water and storm water systems are the objectives of this course.
Short Course Content	Human, water and environment relationship, overview of current and historical process, municipal water requirements, flow characteristics, water supply systems and groundwater, distribution of water, pumped systems, accumulation of water, water tanks, design of transmission lines, wastewater systems and calculation of channel systems, calculation of storm water flow.

	Learning Outcomes of the Course	Contributed PO(s)	Teaching Methods *	Measuring Methods **
1	Explain the supply of water from underground and surface sources.	1, 2	1, 2, 5, 10	A
2	Use population estimation methods.	1, 2	1, 2, 5, 10	A
3	Make gravity and lifted transmission analyses.	1, 2	1, 2, 5, 10	A
4	Design wastewater and rainwater sewer systems.	1, 2, 3	1, 2, 5, 10	A
5	Apply the information gained from fluid mechanics and hydraulics courses to projects.	1, 2, 3	1, 2, 5, 10	A
6				
7				
8				

***Teaching Methods** **1:**Expression, 2**:**Discussion, **3:**Experiment, **4:**Simulation, **5:**Question-Answer, **6:**Tutorial, **7**:Observation, **8**:Case Study, **9:**Technical Visit, **10:**Trouble/Problem Solving, **11:**Induvidual Work, **12**:Team/Group Work, **13**:Brain Storm, **14:**Project Design / Management, **15:**Report Preparation and/or Presentation

****Measuring Methods** **A:**Exam, **B:**Quiz, **C:**Oral Exam, **D:**Homework, **E:**Report, **F:**Article Examination, **G:**Presentation, **I:**Experimental Skill, **J:**Project Observation, **K**:Class Attendance; **L**:Jury Exam

Main Textbook	Muslu, Y. (1998). Çözümlü Problemlerle Su Temini ve Çevre Sağlığı, Su Vakfı, İstanbul
Supporting References	Muslu, Y. (1998). Çözümlü Problemlerle Su Temini ve Çevre Sağlığı, Su Vakfı, İstanbul. Jerman, M. K.(1987). Water Resources and Water Management, Elsevier. Kuiper, E.(1965). Water Resources Development: Planning, Engineering and Economics, Batterworths
Necessary Course Material	

Course Schedule	
1	Human, water and environment relationship
2	Overview of current and historical process
3	Municipal water requirements
4	Flow characteristics
5	Supply of surface water and groundwater
6	Design of transmission lines
7	Design of gravity lines
8	Mid-Term Exam
9	Design of gravity lines
10	Design of pumped lines
11	Accumulation of water, design of water tanks
12	Drinking water distribution network
13	Wastewater systems
14	Design of channel systems
15	Design of storm water systems
16,17	Final Exam

Calculation of Course Workload			
Activities	**Number**	**Time (Hour)**	**Total Workload (Hour)**
Course Time (number of course hours per week)	14	3	42
Classroom Studying Time (review, reinforcing, prestudy,….)	14	3	42
Homework			
Quiz Exam			
Studying for Quiz Exam			
Oral exam			
Studying for Oral Exam			
Report (Preparation and presentation time included)			
Project (Preparation and presentation time included)			
Presentation (Preparation time included)			
Mid-Term Exam	1	2	2
Studying for Mid-Term Exam	1	12	12
Final Exam	1	2	2
Studying for Final Exam	1	15	15
		Total workload	**115**
		Total workload / 30	**3,83**
		Course ECTS Credit	**4**

Evaluation	
Activity Type	**%**
Mid-term	40
Quiz	
Homework	
Bir öğe seçin.	
Bir öğe seçin.	
Final Exam	60
Total	100

RELATIONSHIP BETWEEN THE COURSE LEARNING OUTCOMES AND THE PROGRAM OUTCOMES (PO) (5: Very high, 4: High, 3: Middle, 2: Low, 1: Very low)		
NO	**PROGRAM OUTCOME**	**Contribution**
1	Sufficient knowledge of engineering subjects related with mathematics, science and own branch; an ability to apply theoretical and practical knowledge on solving and modeling of engineering	4
2	Ability to determine, define, formulate and solve complex engineering problems; for that purpose an ability to select and use convenient analytical and experimental methods.	5
3	Ability to design a complex system, a component and/or an engineering process under real life constrains or conditions, defined by environmental, economical and political problems; for that	5
4	Ability to develop, select and use modern methods and tools required for engineering applications; ability to effective use of information technologies.	
5	In order to investigate engineering problems; ability to set up and conduct experiments and ability to analyze and interpretation of experimental results.	
6	Ability to work effectively in inner or multi-disciplinary teams; proficiency of interdependence.	
7	Ability to communicate in written and oral forms in Turkish/English; proficiency at least one foreign language.	
8	Awareness of life-long learning; ability to reach information; follow developments in science and technology and continuous self-improvement.	3
9	Understanding of professional and ethical issues and taking responsibility	
10	Awareness of project, risk and change management; awareness of entrepreneurship, innovativeness and sustainable development.	
11	Knowledge of actual problems and effects of engineering applications on health, environment and security in global and social scale; an awareness of juridical results of engineering solutions.	

LECTUTER(S)				
Prepared by	Prof. Dr. Ender DEMİREL			
Signature(s)				

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