<table>
<tr><th colspan="2">COURSE DESCRIPTION FORM</th></tr>
<tr><td>Course Code and Title</td><td>CE478 WATER RESOURCES ENGINEERING II</td></tr>
<tr><td>Semester</td><td>8</td></tr>
<tr><td>Catalog description</td><td>Dam reservoirs and capacity determination, types of dams, dam control structures , water intake from dams, hydroelectric power, water supply and distribution, wastewater collection and removal, design of stable channels</td></tr>
<tr><td>Required reading</td><td>“Water resources engineering” Erkek and Ağıralioğlu and lecture notes prepared from various publications</td></tr>
<tr><td>Recommended reading</td><td>-</td></tr>
<tr><td>ECTS</td><td>5</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>Prerequisite Course: CE376 HYDROMECHANICS
Required attendance to lectures is at least 70% of total term hours.</td></tr>
<tr><td>Compulsory/Elective</td><td>Compulsory</td></tr>
<tr><td>Language of instruction</td><td>English</td></tr>
<tr><td>Aim of course</td><td>Basics principles of dams and water supply are taught</td></tr>
<tr><td>Learning outcomes of the course unit</td><td>1) Determination of dam reservoir capacity
2) Types, design criteria and stability analysis of dams
3) Dam control structures
4) Hydroelectric power
5) Water supply and distribution</td></tr>
<tr><td>Mode of delivery</td><td>The mode of delivery of this course is face to face.</td></tr>
<tr><td>Course content</td><td>1. Dam reservoirs and determination of reservoir capacity
2. Types of dams
3. Types of dams
4. Dam control structures
5. Dam control structures and water intake
6. Water Intake
7. 1. Midterm
8. Hydroelectric power plant
9. Hydroelectric power plant
10. Water supply and distribution
11. Water supply and distribution
12. Wastewater collection and removal
13. Stable channel design
14. 2. Midterm, Irrigation
15. Irrigation</td></tr>
<tr><td>Planned learning activities and teaching methods</td><td>3 lecture hours per week (3+0)
Web search and library use
Reading
Midterm exam and required works
Final exam and required works</td></tr>
<tr><td>Assessment methods and criteria</td><td>
<table>
<tr><th></th><th>Quantity</th><th>Percentage (%)</th></tr>
<tr><td>Mid-terms</td><td>2</td><td>60</td></tr>
<tr><td>Assignment</td><td>-</td><td>-</td></tr>
<tr><td>Exercises</td><td>-</td><td>-</td></tr>
<tr><td>Projects</td><td>-</td><td>-</td></tr>
<tr><td>Practice</td><td>-</td><td>-</td></tr>
<tr><td>Quiz</td><td>-</td><td>-</td></tr>
<tr><td>Contribution of In-term Studies to Overall Grade %</td><td></td><td>60</td></tr>
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Contribution of Final Examination to Overall Grade (%)		40
Attendance		

Workload

Work activity	Total Week Count	Weekly Duration (in hour)	Total Workload in Semester
Theoretical Study Hours of Course Per Week	14	3	42
Practicing Hours of Course Per Week	14	0	0
Reading	14	1	14
Searching in Internet and Library	14	2	28
Designing and Applying Materials	14	0	0
Preparing Reports	14	0	0
Preparing Presentation	14	0	0
Presentation	14	0	0
Mid-Term and Studying for Mid-Term	2	10	20
Final and Studying for Final	1	20	20
Other	0	0	0
Total Workload:			124
Total Workload / 25:			4.96
ECTS:			5

Course's contribution to program

No	Program Learning Outcomes	1	2	3	4	5
1	Adequate knowledge in mathematics, science and engineering subjects pertaining to the relevant discipline; ability to use theoretical and applied knowledge in these areas in complex engineering problems.				X	
2	Ability to identify, formulate, and solve complex civil engineering problems; ability to select and apply proper analysis and modeling methods for this purpose.				X	
3	Ability to design a complex system, process, device or product under realistic constraints and conditions, in such a way as to meet the desired result; ability to apply modern design methods for this purpose.			X		
4	Ability to devise, select, and use modern techniques and tools needed for analyzing and solving complex problems encountered in civil engineering practice; ability to employ information technologies and to use at least one computer programming language effectively.	X				
5	Ability to design and conduct experiments, gather data, analyze and interpret results for investigating complex civil engineering problems or discipline specific research questions.	X				
6	Ability to work efficiently in intra-disciplinary and multi-disciplinary teams.			X		
7	Ability to work individually.			X		
8	Ability to communicate effectively in Turkish, both orally and in writing; ability to write effective reports and comprehend written reports.	X				
9	Knowledge of English of B1 level according to Common European Framework of Reference.	X				
10	Prepare design and production reports, make effective presentations, and give and receive clear and intelligible instructions.	X				

	11	Recognition of the need for lifelong learning; ability to access information, to follow developments in science and technology, and to continue to educate him/herself.	X				
	12	Consciousness to behave according to ethical principles and professional and ethical responsibility.	X				
	13	Knowledge on standards used in civil engineering practice.				X	
	14	Knowledge about business life practices such as project management, risk management, and change management.	X				
	15	Awareness in entrepreneurship, innovation; knowledge about sustainable development.	X				
	16	Knowledge about the global and social effects of engineering practices on health, environment, and safety, and contemporary issues of the century reflected into the field of engineering.	X				
	17	Awareness of the legal consequences of engineering solutions.	X				
Name of lecturer(s) and contact information	Prof.Dr. Osman Nuri Özdemir, ozdemir@gazi.edu.tr Assoc. Prof. Dr. Nihat Eroğlu, enihat@gazi.edu.tr Assist. Prof. Dr. Müsteyde Baduna Koçyiğit,baduna@gazi.edu.tr						