



HASAN KALYONCU UNIVERSITY
Faculty of Engineering
Course Description Form

COURSE: Water Resources Engineering					
CODE: CE471		SEMESTER: FALL			
LANGUAGE: ENGLISH		TYPE: COMPULSORY			
PRE-REQUISITES: - CO-REQUISITES: -		THEORY	PRACTICAL	CREDIT	ECTS
WEEKLY HOURS: 3		3	0	3	5

CONTENT OF THE COURSE:

Methodology for water resources development, management and conservation is introduced from the engineering viewpoint. Main topics are distribution of water resource on the earth, grasp and prediction of water demand, planning and design of water resources systems, estimation and prediction of river flow, policy and water rights, and operation of reservoirs.

OBJECTIVE OF THE COURSE:

The goal is to understand the basic theory and methodology for water demand prediction, water resources systems design, river flow estimation, water resources policy and reservoir operation.

WEEKLY SCHEDULE AND PRE-STUDY PAGES

Week	Topics
1	Course Description
2	Introduction to Water Resources Engineering
3	Reservoirs I
4	Reservoirs II
5	Dams I
6	Dams II
7	Dams III
8	Mid term Exam
9	Spillways I
10	Spillways II
11	Sediment Transportation
12	Diversion Weirs I
13	Diversion Weirs II
14	General Evaluation

TEXTBOOK:

- A.Melih Yanmaz (2013) Applied Water Resources Engineering 4th Edition
Publisher: Metu Press

EVALUATION SYSTEM:		
IN-TERM STUDIES	QUANTITY	PERCENTAGE (%)
Midterm Exam	1	40
Homework	4	10
Laboratory works		
Quiz		
Final Exam	1	50
TOTAL		
CONTRIBUTION OF INTERM STUDIES TO OVERALL GRADE		
CONTRIBUTION OF FINAL EXAMINATION TO OVERALL GRADE		
TOTAL	6	100

COURSE CATEGORY:	PERCENTAGE (%)
Mathematics and Basic Sciences	
Engineering	50
Engineering Design	50
Social Sciences	

TABLE OF ECTS / WORKLOAD:			
Activities	QUANTITY	Duration (Hour)	Total Workload
Course Duration	13	3	39
Hours for off-the-classroom study (Pre-study, practice)	14	5	70
Laboratory works			
Mid-term	1	2	2
Final examination	1	2	2
Homework	4	4	16
Quiz			
Total Work Load			129
Total Work Load / 30			4,3
ECTS Credit of the Course			5

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11
LO1	2	2	0	0	0	0	0	0	0	0	0
LO2	2	2	0	0	0	0	0	0	0	0	0
LO3	2	2	0	0	0	0	0	0	0	0	0
LO4	2	2	0	0	0	0	0	0	0	0	0
	PO: Program Outcomes LO: Learning Outcomes Values: 0: None 1: Low 2: Medium 3: High										

INSTRUCTOR(S):	Asst.Prof.Dr. H.Çağan Kılınc
FORM PREPARATION DATE:	22.05.2019

LEARNING OUTCOMES OF THE COURSE:	PROGRAM OUTCOMES:
<p>LO1: Students gain necessary knowledge on water resources projects.</p> <p>LO2: Students diagnose and solve the problems on water resources.</p> <p>LO3: Students learn data collection methods and analyzing methods.</p> <p>LO4: Students design water structures.</p>	<p>PO1: 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.</p> <p>PO2: Ability to identify, formulate, and solve complex engineering problems; ability to select and apply proper analysis and modeling methods for this purpose.</p> <p>PO3: 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.</p> <p>PO4: Ability to devise, select, and use modern techniques and tools needed for analyzing and solving complex problems encountered in engineering practice; ability to employ information technologies effectively.</p> <p>PO5: Ability to design and conduct experiments, gather data, analyze and interpret results for investigating complex engineering problems or discipline specific research questions.</p> <p>PO6: Ability to work efficiently in intra-disciplinary and multi-disciplinary teams; ability to work individually.</p> <p>PO7: Ability to communicate effectively in Turkish, both orally and in writing; knowledge of a minimum of one foreign language; ability to write effective reports and comprehend written reports, prepare design and production reports, make effective presentations, and give and receive clear and intelligible instructions.</p> <p>PO8: 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.</p> <p>PO9: Consciousness to behave according to ethical principles and professional and ethical responsibility; knowledge on standards used in engineering practice.</p> <p>PO10: Knowledge about business life practices such as project management, risk management, and change management; awareness in entrepreneurship, innovation; knowledge about sustainable development.</p> <p>PO11: 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; awareness of the legal consequences of engineering solutions.</p>