PLANNING AND DESIGN OF DAMS

1	Course Title:	PLANNING AND DESIGN OF DAMS
2	Course Code:	INS5066
3	Type of Course:	Optional
4	Level of Course:	Second Cycle
5	Year of Study:	1
6	Semester:	2
7	ECTS Credits Allocated:	6.00
8	Theoretical (hour/week):	3.00
9	Practice (hour/week):	0.00
10	Laboratory (hour/week):	0
11	Prerequisites:	None
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Doç. Dr. MURAT KANKAL
15	Course Lecturers:	yok
16	Contact information of the Course Coordinator:	mkankal@uludag.edu.tr
17	Website:	
18	Objective of the Course:	Estimation the benefits and costs of dam construction. Determining the environmental effects of dams. Performing flood study for the dams. Calculation of reservoir capacity and determination of dam height. Understanding the importance of dam geology and dam foundation. Design of the dam embankment. Design of spillway and energy dissipater. Design of headworks and outlet works. Derivation structures.
19	Contribution of the Course to Professional Development:	They will have gained experience in dams that enable efficient planning and use of water resources, which are increasingly important today, and potential environmental impacts of dams.
20	Learning Outcomes:	
	1	Be able to learn the planning principles of dams
	2	Be able to learn the environmental effects of dams
	3	Be able to learn information about planning and designing of various building parts of storage structures,
	4	Be able to acquire knowledge and skills that can plan and design these structures.
	5	
	6	
	7	
	8	
	9	
	10	
21	Course Content:	

Course Content:

Week	Theoretical	Practice
1	Introduction to storage structures	
2	Principles of planning	

3	Environmental effects of dams	
4	Flood hydrology of dam	
5	Sediment transport in dams	
6	Dam reservoirs	
7	Geology and foundations of dams	
8	Fill dams	
9	Concrete dams	
10	Arc dams	
11	Rolled compacted concrete dams	
12	Spillways and energy dissipaters	
13	Spillways and energy dissipaters	
14	Derivation structures	

22	Textbooks, References and/or Other Materials:	MEHMET BERKÜN, 2007 SU YAPILARI, BİRSEN YAYINEVİ AĞIRALIOĞLU, N., 2007, BARAJ PLANLAMA VE TASARIMI (BARAJ PLANLAMA ESASLARI), CILT 1, 2. BASKI, SU VAKFI. AĞIRALIOĞLU, N., 2005, BARAJ PLANLAMA VE TASARIMI (BARAJ GÖVDE TASARIMI), CILT 2, SU VAKFI. AĞIRALIOĞLU, N., 2007, BARAJ PLANLAMA VE TASARIMI (DİĞER HİDROLİK YAPILARIN TASARIMI), CILT 3, SU VAKFI.

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	3.00	42.00
Practicals/Labs	0	0.00	0.00
Self study and preperation	14	5.00	70.00
Homeworks	4	15.00	60.00
Projects	0	0.00	0.00
Quiz	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	2.00	2.00
Final Exam	1	60.00	2.00
Others	0	0.00	0.00
Final Exams	1	2.00	2.00
Contribution of Term (Year) Learning Activities to	40.00		
Total Work Load			176.00
Total work load / 30 hr			5.87
Contribution of Final Exam to Success Grade	60.00		
ECTS Credit of the Course			6.00

TERM LEARNING ACTIVITIES	NUMBER	WEIGHT
Quiz	0	0.00
Midterm exams	1	60.00
Final Exams	1	40.00

Measurement and Evaluation Techniques Used in the Course	written exam

24 ECTS / WORK LOAD TABLE

25 CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS

	PQ1	PQ2	PQ3	PQ4	PQ5	PQ6	PQ7	PQ8	PQ9	PQ10	PQ11	PQ12	PQ13	PQ14	PQ15	PQ16
ÖK1	5	5	5	5	0	4	0	0	0	1	0	1	0	0	0	0
ÖK2	0	0	2	2	0	3	0	0	0	4	5	4	0	0	0	0
ÖK3	5	5	5	4	0	4	0	0	0	0	0	0	0	0	0	0

ÖK4	5	5	5	4	0	4	0	0	0	0	0	0	0	0	0	0

LO: Learning Objectives PQ: Program Qualifications					
Contribution Level:	**1 very low**	**2 low**	**3 Medium**	**4 High**	**5 Very High**