DESIGN OF SMALL EARTH DAMS

1	Course Title:	DESIGN OF SMALL EARTH DAMS
2	Course Code:	BSM4527-S
3	Type of Course:	Optional
4	Level of Course:	First Cycle
5	Year of Study:	4
6	Semester:	7
7	ECTS Credits Allocated:	3.00
8	Theoretical (hour/week):	1.00
9	Practice (hour/week):	2.00
10	Laboratory (hour/week):	0
11	Prerequisites:	None
12	Language:	Turkish
13	Mode of Delivery:	Face to face
14	Course Coordinator:	Doç.Dr. HAKAN BÜYÜKCANGAZ
15	Course Lecturers:	
16	Contact information of the Course Coordinator:	cangaz@uludag.edu.tr U.Ü. Ziraat Fakültesi Biyosistem Mühendisliği Bölümü 0.224.2941621
17	Website:	
18	Objective of the Course:	In this course, basic engineering topics in planning, design, and construction of small earth dams are given.
19	Contribution of the Course to Professional Development:	
20	Learning Outcomes:	

	1	decide the location of earth dams and to gain skill to interpret topographical maps
	2	understand the basic engineering principles for planning and design of earth dams
	3	design cut-off, embankments, emergency spillway and drop inlet spillway of earth dams
	4	realize the problems occurred in dam construction and develop measures for that problems
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21	Course Content:	
	Course Content:	
Week	Theoretical	Practice
1	Introduction	Introduction
2	Preliminary Surveys	Preliminary Surveys
3	Hydrological Surveys	Hydrological Surveys
4	Drawing of Volume-Area Graphic	Drawing of Volume-Area Graphic

5	The Definition of Watershed Sediment Yield and Dead Storage	The Definition of Watershed Sediment Yield and Dead Storage
6	Design of Cut-off with sand and gravel materials	Design of Cut-off with sand and gravel materials
7	Repeating courses and midterm exam	
8	Design of Cut-off with Silt, Clayey, and Organic Materials	Design of Cut-off with Silt, Clayey, and Organic Materials
9	Design of Embankments	Design of Embankments
10	Slope Protection in Earth fill dam embankments	Slope Protection in Earth fill dam embankments
11	Design of Emergency Spillway	Design of Emergency Spillway
12	Design of Drop inlet pipe spillways	Design of Drop inlet pipe spillways
13	Construction Technics of Small Earth Dams and O&M	Construction Technics of Small Earth Dams and O&M
14	Environmental Impacts of Earth Dams	Environmental Impacts of Earth Dams

22	Textbooks, References and/or Other Materials:	1. Kasap, R. 1988. Gölet Temel ve Gövdelerinin Projelendirilmesi, Köy Hizmetleri Genel Müdürlügü Yayınları, Ankara. 2. Özer, Z., 1990. Su Yapılarının Projelendirilmesinde Hidrolojik ve Hidrolik Esaslar (Teknik Rehber). Köy Hizmetleri Genel Müdürlügü Yayınları, Ankara. 3. Özer, Z., 1988. Göletlerde Derivasyon-Dip Savak Proje ve Hesapları. Köy Hizmetleri Genel Müdürlügü Yayınları, Ankara. 4. Venedik, R., 1987. Gölet Yapım Teknigi. Köy Hizmetleri

Activites	Number	Duration (hour)	Total Work Load (hour)
Theoretical	14	1.00	14.00
Practicals/Labs	14	2.00	28.00
Self study and preperation	2	4.00	8.00
Homeworks	1	9.00	9.00
Projects	0	0.00	0.00
Quiz	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	6.00	6.00
Final Exam	1	60.00	60.00
Others	5	3.00	15.00
Final Exams	1	10.00	10.00
Contribution of Term (Year) Learning Activities to			40.00
Total Work Load			96.00
Total work load / 30 hr			3.00
Contribution of Final Exam to Success Grade			60.00
ECTS Credit of the Course			3.00

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	

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	4	3	3	5	1	2	3	3	5	4	5	0	0	0	0
ÖK2	5	5	5	4	5	1	4	5	4	5	5	5	0	0	0	0
ÖK3	5	4	5	3	5	1	2	3	3	4	5	5	0	0	0	0

ÖK4	5	5	5	4	5	1	3	5	5	5	4	5	0	0	0	0

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