

SOIL AND WATER RESOURCES ENGINEERING

1	Course Title:	SOIL AND WATER RESOURCES ENGINEERING	
2	Course Code:	BSM4531-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:	Prof. Dr. Ali Osman Demir	
15	Course Lecturers:		
16	Contact information of the Course Coordinator:	e-posta : aodemir@uludag.edu.tr Telefon: 0 224 2941616 Adres: Uludağ Üniversitesi, Ziraat Fakültesi, Biyosistem Mühendisliği Bölümü, Görükle Kampüsü, 16059, Nilüfer/BURSA	
17	Website:		
18	Objective of the Course:	Objective of the course is to perform the determination of upland nonpoint pollution (from agricultural sources), planning for vegetated waterways, design of terraces, planning of diversion channels and structures for soil-water conservation, project design of impoundments and embankments for water conservation, describing stream flow processes and lake dynamics.	
19	Contribution of the Course to Professional Development:		
20	Learning Outcomes:		
		1	determine loss of soil erosion by water using the revised universal soil loss equation (RUSLE)
		2	determine upland nonpoint pollution (from agricultural sources)
		3	perform the hydraulic design of open channels
		4	design vegetated waterways
		5	design terraces and diversion channels for soil-water conservation
		6	design water structures for soil-water conservation
		7	design impoundments and embankments for water conservation
		8	identify stream flow processes and lake dynamics
		9	
		10	
21	Course Content:		
		Course Content:	
Week	Theoretical	Practice	

1	Soil and water resources engineering opportunities	
2	Precipitation	Measurements and analyses of rainfall for soil and water conservation
3	Infiltration	Infiltration measurements and calculations in the field
4	Evapotranspiration	Evapotranspiration calculations
5	Runoff	Runoff calculations for soil and water conservation
6	Water erosion and soil loss	Calculation of soil loss using the revised universal soil loss equation (RUSLE)
7	Water quality and upland nonpoint pollution	Calculation of upland nonpoint pollution
8	Repeating courses and midterm exam	
9	Open channel hydraulics	Calculations for the design of open channel hydraulics
10	Vegetated waterways	Calculations for the design of vegetated waterways
11	Terraces and diversions	Design calculations for terraces and diversions
12	Water conservation structures	Design calculations for water conservation structures
13	Impoundments and embankments for soil and water conservation	Design of impoundments and embankments
14	Streamflow processes and lake dynamics	Identifying for stream flow processes and lake dynamics
22	Textbooks, References and/or Other Materials:	Ernest, W.T., "Natural Resources Engineering" Iowa State Pres, A Blackwell Publishing Company, ISBN 0-8138-1847-8, 1st edition, 2002, USA 2. Schwab, G.O., Fangmeier, D.D., Eliot, W.J. and Frevert, R.K., "Soil and Water Conservation Engineering", John Wiley & Sons, Inc., ISBN 0-471-57490-2, 4th edition, 1993, USA 3. Singh, G., Venkataramanan, C., Sastry, G. And Joshi, B.P., "Manual of Soil and Water Conservation Practices", Raju Primlani for Oxford & IBH Publishing Co. Pvt. Ltd., 66 Janpath, New Delhi, ISBN 81-204-0552-8, 2nd printing, 1991, India
23	Assesment	
TERM LEARNING ACTIVITIES		NUMBE R
		WEIGHT
Midterm Exam		1
Quiz		1
Home work-project		1
Final Exam		1
Total		4
Contribution of Term (Year) Learning Activities to Success Grade		40.00
Contribution of Final Exam to Success Grade		60.00
Total		100.00
Measurement and Evaluation Techniques Used in the Course		
24	ECTS / WORK LOAD TABLE	

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	13	2.00	26.00
Homeworks	1	2.00	2.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	1	6.00	6.00
Others	0	0.00	0.00
Final Exams	1	14.00	14.00
Total Work Load			96.00
Total work load/ 30 hr			3.00
ECTS Credit of the Course			3.00

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	4	4	4	4	4	3	2	3	3	3	5	3	0	0	0	0
ÖK2	3	3	4	5	4	4	4	3	4	4	4	4	0	0	0	0
ÖK3	5	4	5	4	5	3	3	3	3	3	4	4	0	0	0	0
ÖK4	4	4	5	4	5	3	3	3	3	3	4	4	0	0	0	0
ÖK5	4	3	5	4	5	3	3	3	3	3	4	4	0	0	0	0
ÖK6	4	4	4	4	5	4	3	3	3	3	4	4	0	0	0	0
ÖK7	4	4	4	4	5	3	3	3	3	3	4	4	0	0	0	0
ÖK8	3	4	4	4	4	4	3	3	3	3	4	4	0	0	0	0
LO: Learning Objectives PQ: Program Qualifications																
Contribution Level:	1 very low			2 low			3 Medium			4 High			5 Very High			