

# HYDROLOGY OF RIVER CATCHMENTS AND FLOOD-DROUGHT MODELLING

1	Course Title:	HYDROLOGY OF RIVER CATCHMENTS AND FLOOD-DROUGHT MODELLING	
2	Course Code:	CEV5310	
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. Aslıhan KATİP	
15	Course Lecturers:		
16	Contact information of the Course Coordinator:	Doç. Dr. Aslıhan KATİP E-posta: aballi@uludag.edu.tr Tel: +90 224 29 40 918 Adres: Bursa Uludağ Üniversitesi, Mühendislik Fakültesi, Çevre Mühendisliği Bölümü, 16059,Görükle /BURSA	
17	Website:		
18	Objective of the Course:	To teach the hydrological, hydraulic and topographic properties of the river catchments. To teach the rainfall-runoff relationship in the catchments. To teach the processes that affects the cross section and flow rate. To teach flood generation and forecasting of flood by deterministic and probabilistic methods and models. Flood postpone in riverbed and dam reservoirs. To teach the basic principles about the flood control preventions and economical analysis of the floods. In addition, To inform the knowledge about drought management and to teach drought periods and regional drought analyzing.	
19	Contribution of the Course to Professional Development:	Students will be informed about taking precautions against flood and drought problems that may occur within the scope of climate change, which will have more effects in the coming years.	
20	Learning Outcomes:		
		1	Know the description of river catchments and their topographical, hydrological and hydraulic properties.
		2	Learn the processes that affect the cross section and flow rate.
		3	Calculate the floods with deterministic and probabilistic models and can run software.
		4	Know the basic principles about the flood control preventions.
		5	Have information about drought analyzing and management.
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21	Course Content:		
	Course Content:		
Week	Theoretical	Practice	
1	River catchment description and topographical, hydrological and hydraulic properties		
2	Runoff, infiltration and groundwater,		
3	The processes that affects the cross section and flow rate,		
4	Flood generation and forecasting of flood by deterministic and probabilistic methods,		
5	Flood postpone in riverbed and dam reservoirs, Quizzes		
6	The basic principles about the flood control preventions and economical analysis of the floods,		
7	Drought periods and regional drought analyzing,		
8	Drought management		
9	General description and examples about basin hydrology, flood and drought models		
10	General description and examples about basin hydrology, flood and drought models		
Activites		Number	Duration (hour)
			Total Work Load (hour)
13	Software package - 3		
14	Homework presentation	14	3.00
Practicals/Labs		0	0.00
22	Self study, Textbook, References and/or Other	22	16.00
Homeworks		1	17.00
Projects		1	8.00
Field Studies		0	0.00
Midterm exams		1	10.00
Others		1	7.00
Final Exams		1	20.00
Total Work Load			180.00
23	Assessment		6.00
ECTS Credit of the Course			6.00
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Midterm Exam		1	20.00
Quiz		1	10.00
Home work-project		1	10.00
Final Exam		1	60.00
Total		4	100.00
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		Midterm, quiz, homework and final 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	0	5	0	0	0	0	0	0	0	0	0	0	0	0
ÖK2	5	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0
ÖK3	5	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0
ÖK4	5	5	0	5	0	0	0	0	0	0	0	0	0	0	0	0
ÖK5	5	5	0	5	0	0	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				