ADVANCED HYDROLOGY

1	Course Title:	ADVANCED HYDROLOGY	
2	Course Code:	BSM6004	
3	Type of Course:	Optional	
4	Level of Course:	Third Cycle	
5	Year of Study:	1	
6	Semester:	2	
7	ECTS Credits Allocated:	5.00	
8	Theoretical (hour/week):	3.00	
9	Practice (hour/week):	0.00	
10	Laboratory (hour/week):	0	
11	Prerequisites:		
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:		
17	Website:		
18	Objective of the Course:		
19	Contribution of the Course to Professional Development:		
20	Learning Outcomes:		
		1	To understand the hydrological cycle models;
		2	To understand basic climate parameters in term of irrigation;
		3	To understand the events in the atmospherer which causes rainfall;
		4	To explain the formation, volumetric exchange and use of the groundwater;
		5	To explain the issues of surface water resources, surface storage, runoff and the terms of use of these resources;
		6	To explain the tools and methods used in hydrological data measurements;
		7	To understand and use of unit hydrograph;
		8	To apply the statistical methods in hydrology;
		9	
		10	
21	Course Content:		

Course Content:

Week	Theoretical	Practice
1	Basic hydrological pocesses	
2	Atmospheric water	
3	Ground water, aquifer, and ground water flow processes	
4	Surface water, river flow, lake and surface water flow processes and models	

5	Measurements of hydrological data, using of some tolls for measurements	
6	Preperation of unit hydrograph	
7	Using of time series in water flow	
8	Using of finite elements methods in hydrology	
9	Dynamic wave	
10	Hydrological statistic	
11	The frequency analysis	
12	Probability in hydrology	
13	Using of hydrology in design	
14	Analysis of extreme hydrological events for water reservoir	

22	Textbooks, References and/or Other Materials:	1. Chow V.T., Maidment D.R. and Mays L.W. 1988. Applied Hydrology. McGraw Hill Book Company, USA.
23	Assesment	

TERM LEARNING ACTIVITIES	**NUMBER**	**WEIGHT**
Midterm Exam	0	0.00
Quiz	0	0.00
Home work-project	2	40.00
Final Exam	1	60.00
Contribution of Final Exam to Success Grade	1	60.00
Measurement and Evaluation Techniques Used in the Course		

24 ECTS / WORK LOAD TABLE

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	10	4.00	40.00
Homeworks	2	20.00	40.00
Projects	0	0.00	0.00
Field Studies	0	0.00	0.00
Midterm exams	0	0.00	0.00
Others	0	0.00	0.00
Final Exams	1	33.00	33.00
Total Work Load			155.00
Total work load/ 30 hr			5.17
ECTS Credit of the Course			5.00

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	5	5	4	5	0	4	5	4	0	5	4	4	0	0	0	0
ÖK2	4	5	5	5	0	4	5	4	0	4	5	5	0	0	0	0
ÖK3	5	5	0	4	4	4	5	4	4	4	5	5	0	0	0	0
ÖK4	4	4	5	5	4	4	5	4	4	5	4	5	0	0	0	0

ÖK5	4	5	5	5	4	4	5	4	4	5	4	5	0	0	0	0
ÖK6	5	5	5	5	4	4	4	4	4	4	4	0	0	0	0	0
ÖK7	4	5	5	5	0	4	4	4	0	5	4	4	0	0	0	0
ÖK8	5	5	5	5	0	4	5	5	4	5	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**