

Course Code	Course Name	Course Type	Weekly Course Hours			Credits	ECTS	Campus / Weekly Time & Classroom Schedule
			T	A	L			
ENVE-205	Environmental Engineering Hydrology	Compulsory	2	2	0	3	5	Wednesday 09:00-10:50, Friday 10:00-11:50
Prerequisite	Prerequisite to							
Course Lecturer	Assoc. Prof. Dr. S. Sinan Keskin					Office Hours Schedule		Monday 13:00-14:00, Wednesday 14:00-15:00
E-mail	sinankeskin@marmara.edu.tr							
Phone	(0216) 348 0292 / 268 (office) - 610 (laboratory)					Office / Room No	MB552	
Teaching Assistant(s)						Phone		
E-mail						Office / Room No		
Course Objectives	This course covers the fundamental processes in the water cycle, including precipitation, infiltration, runoff, and develops quantitative approaches for answering questions in engineering hydrology.							
Learning outcomes	<ul style="list-style-type: none">• Explain basic processes in the hydrologic cycle and precipitation formation (PO3, PO4, PO12).• Describe various precipitation measurements methods (PO5, PO6).• Calculate average precipitation, evapotranspiration, and infiltration on a watershed (PO2, PO3).• Obtain unit hydrographs from streamflow data (PO2, PO5).• List basic processes in groundwater formation and flow (PO4, PO12).							
Textbooks and/or References	1.	Hydrology-Water Quantity and Quality Control, 2nd Ed., M. Wanielista, R. Kersten, R. Eaglin, John Wiley&Sons, 1997						
	2.	Introduction to Hydrology, 5th Ed., M. W. Viessman, Jr., G. L. Lewis, Pearson Education, Inc., 2003.						
Teaching methods	White board, Overhead projector.							
WEEK	Date	TOPICS						Reference No - Section
Week 1	21.09.2011	Hydrologic Cycle, Water Budget and Mass Balance						1-1.2, 1.3, 1.4
Week 2	28.09.2011	Meteorology, Weather Systems, Precipitation Concepts						1-3.1, 3.2, 3.3
Week 3	05.10.2011	Measurement of Precipitation, Interpretation and Quantification of Precipitation Data						1-3.4, 3.5
Week 4	12.10.2011	Average Watershed Precipitation						1-3.6, 2- 4
Week 5	19.10.2011	Extrapolation of Point Measurements of Watersheds, Intensity-Duration-Frequency Curves						1-3.7, 3.8
Week 6	26.10.2011	Evaporation from Water, Transpiration and Evapotranspiration						1- 4.1, 4.2
Week 7	02.11.2011	General Characteristics of Watersheds, Time of Concentration						1- 5.1, 5.2
Week 8	16.11.2011	Midterm Week						
Week 9	23.11.2011	Infiltration, Soil and Hydrologic Classification, Green-Ampt Method						1- 5.3.1, 5.3.2, 5.3.3
Week 10	30.11.2011	NRCS Curve Number Method, Horton Equations, Water Budget,Water Quality						1- 5.3.4, 5.3.5, 5.3.6
Week 11	07.12.2011	Water Quality, Hydrograph Properties, Hydrograph Shape						1- 5.5, 6.1, 6.2
Week 12	14.12.2011	Unit Hydrograph for Streamflow Data						1- 6.3, 2- 9
Week 13	21.12.2011	Synthetic Hydrographs						1- 6.4, 2- 9
Week 14	28.12.2011	The Occurrence of Groundwater, Aquifers and Springs						1. 9.1, 9.2
Week 15	04.01.2012	Movement of Groundwaters, Flow in Confined and Unconfined Aquifers						1- 9.3, 9.4, 9.5
Week 16	11.01.2012	Studying						
Week 17	18.01.2012	Final Week						
Evaluation Tools	Evaluation Tool		Quantity	Date		Weight in Total (%)	Weight in Semester Evaluation (%)	
	Final Exam		1	20.01.2012		40	0	
	Final Make-up Exam (if exists)		1			40	0	
	Semester Evaluation					60	100	
	Midterm(s)		1	13.11.2011		36	60.0	
	Quiz(zes)							
	Project(s)							
	Homework(s)		10			24	40.0	
	Laboratory							
	Other							
*** Lifelong Learning Programme (LLP) ***						Language of Instruction:	English	
Evaluation Tool	Quantity	Student Workload Hours		Evaluation Tool	Quantity	Student Workload Hours		
Theoretical	14	28.0		Applied Hours	14	28.0		
Midterm	1	10.0		Final	1	10.0		
Quiz				Project				
Laboratory				Homework	10	25.0		
Atelier				Seminar				
Field Study				Presentation				
Other				Self Study	14	21.0		
TOTAL :					54	122.0		
Recommended ECTS Credit (Total Hours / 25) : 5								