

Course Title-Course Code: CE 536 RIVER HYDRAULICS							Name of the Programme: CIVIL ENGINEERING		
Semester	Teaching Methods							Credits	
	Lecture	Recite	Lab.	Field Study	H W	Other	Total	Credit	ECTS Credit
1-2	42	0	0	0	70	76	188	3	7.5
Language	Turkish								
Compulsory / Elective	Elective								
Prerequisites	-								
Course Contents	Introduction to River Engineering, River Morphology (Classification of rivers, properties of river basement, sediment effect, river bed effect, analyse of longitudinal profile), Basic Equations Used in River Hydraulics (steady flow, approaches for the velocity profiles, smooth and rough beds and friction coefficients), Determination of Discharge in Single Channels (Logarithmic velocity profile with Chezy coefficient, Universal equation with Darcy-Weisbach coefficient, sectional shape factor, Keulugan equation), Single Channels with Various Roughnesses (Einstein/Horton approach, Pavlovskii approach), Compound Channels with No Vegetative Cover (Single channel method, divided channel method, definition of separate area, fictive interaction methods), Compound Channels with Vegetative Cover (Definition of vegetation and its friction coefficient, definition of separate area, Mertens, Pasche and Nuding approaches), Studies on Unsteady Flows								
Course Objectives	To gain idea on advanced river hydraulics.								
Learning Outcomes and Competences	To find practical solutions for the complex river beds.								
Textbook and /or References	Chow V. T., Open Channel Hydraulics , Mc Graw Hill, 1959. DVWK, Hydraulisch-sedimentologische Berechnungen naturnah gestalteter Fließgewässer , Berechnungsverfahren für die Ingenieurpraxis, Mittlungen 25, 1994. Henderson F. M., Open Channel Flow , Macmillan Comp., 1971. Jansen, P. H., Van Den Berg, J., De Vries, M., Zanen A., Principles of River Engineering , Naudascher E., Hydraulik der Gerinne und Gerinnebauwerke , Springer Verlag, 1987. (in German) Nuding, A. Fliesswiderstandsverhalten in Gerinnen mit Ufergebüsch , TU-Darmstadt, Inst. f. Wasserbau Konstruktiver Wasserbau u. Wasserwirtschaft, Wasserbau Mitteilungen, Nr. 35, 1991. (in German) Schröder R. C. M., Technische Hydraulik , SpringerVerlag, 1994. (in German)								
Assessment Criteria								<i>If any, mark as (X)</i>	Percent (%)
	Midterm Exams							X	30
	Quizzes								
	Homeworks							X	10
	Projects								
	Term Paper								
	Laboratory Work								
	Other								
Final Exam							X	60	
Instructors	Prof. Dr. Tülay ÖZBEK								

