

IM421 SEDIMENT TRANSPORT IN RIVERS		CIVIL ENGINEERING	
Semester	Credit Structure		
	Lecture	Recitation	Laboratory
7	3.	0	0
Language	Turkish		
Compulsory / Elective	Elective		
Prerequisites	-		
Catalog Description	Characteristics of water and sediment. Dimensionless parameter in sediment transport and initiation of motion. Formation of river beds, bed load formation and flow, transport formulae of bed load. Suspended load transport, methods for determining of total load transport. Measurement techniques for sediment. Stable rivers and unlined rivers. General and local scour in rivers.		
Course Objectives	The effects of sediment on open channel hydraulics together with measurement techniques for sediment transport		
Course Outcomes	The effects of sediment on hydraulic structures on rivers		
Textbook and /or References	“Sediment in rivers” by Tülay Özbek, Çağlar Özcan and lecture notes prepared from international references		
Assessment Criteria		Quantity	Percentage
	Midterm Exams	2	40
	Quizzes	-	-
	Homeworks	5	10
	Projects	-	-
	Term Paper	-	-
	Laboratory Work	-	-
	Other	-	-
	Final Exam	1	50
Course Category by Content (%)	Mathematics and Basic Sciences	30	
	Engineering Science	60	
	Engineering Design	20	
	Social Sciences	-	
Instructors	Prof. Dr. Nevzat YILDIRIM		

COURSE PLAN	
Week	Topics
1	Characteristics of water and sediment
2	Dimensionless parameters of sediment motion and initiation of motion
3	Dimensionless parameters of sediment motion and initiation of motion
4	Formation of river beds, bed load formation and flow
5	Formation of river beds, bed load formation and flow
6	1. Midterm
7	Transport formulae of bed load
8	Transport formulae of bed load
9	Suspended load transport
10	Approaches for determination of total load transport
11	Stable rivers and unlined channels
12	Measurement techniques for sediment transport
13	General and local scour
14	2. Midterm

RELATIONSHIP BETWEEN THE COURSE AND DEPARTMENT CURRICULUM				
	Program Outcomes	1	2	3
1	An ability to apply knowledge of mathematics, science, and engineering			X
2	An ability to design and conduct experiments, as well as to analyze and interpret data			X
3	An ability to design a system, component, or process to meet desired needs			X
4	An ability to function on multi-disciplinary teams		X	
5	An ability to identify, formulate, and solve engineering problems			X
6	An understanding of professional and ethical responsibility		X	
7	An ability for effective written and oral communication in Turkish and English		X	
8	The broad education necessary to understand the impact of engineering solutions in a global and societal context	X		
9	A recognition of the need for, and ability to engage in life-long learning			X
10	A knowledge of contemporary issues		X	
11	An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice		X	
Contribution of the course : 1:None 2:Partially 3:Completely				