

DESIGN OF DUCTILE STEEL STRUCTURES

1	Course Title:	DESIGN OF DUCTILE STEEL STRUCTURES	
2	Course Code:	INS6039	
3	Type of Course:	Optional	
4	Level of Course:	Third Cycle	
5	Year of Study:	1	
6	Semester:	1	
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:		
12	Language:	Turkish	
13	Mode of Delivery:	Face to face	
14	Course Coordinator:	Prof. Dr. HAKAN TACETTİN TÜRKER	
15	Course Lecturers:	Hakan T Türker	
16	Contact information of the Course Coordinator:	hakantturker@uludag.edu.tr	
17	Website:		
18	Objective of the Course:	The aim of the course is to teach the fundamental concepts related to the ductile design of steel structures.	
19	Contribution of the Course to Professional Development:	This course provides to define the concept of ductile design, plastic analysis methods, ductile design of steel structural systems, capacity design method.	
20	Learning Outcomes:		
		1	To be able to define the concept of ductile design
		2	To learn plastic analysis methods.
		3	To learn the ductile design of steel structural systems
		4	To learn capacity design method
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21	Course Content:		
		Course Content:	
Week	Theoretical	Practice	
1	Structural steel		
2	Plastic behavior at the cross-section		
3	comprehend the ductile design concept		
4	upper bound lower bound and uniqueness theorems in plastic analysis		
5	Plastic analysis methods		
6	Plastic analysis methods		

7	Plastic analysis methods	
8	static pushover analysis	
9	Design of ductile moment-resisting frames	
10	Design of ductile moment-resisting frames	
11	Design of ductile braced frames	
12	Design of ductile braced frames	
13	capacity design concept	
14	Beam-column connections	

23	Assesment				
TERM LEARNING ACTIVITIES		NUMBER	WEIGHT		
Midterm Exam		1	40.00		
Quiz		0	0.00		
Activities		Number	Duration (hour)	Total Work Load (hour)	
Theoretical		2	100.00	3.00	42.00
Practicals/Labs		0	0.00	0.00	
Self study and preparation		0	0.00	0.00	
Homeworks		0	0.00	0.00	
Projects		1	0.00	0.00	
Field Studies		0	0.00	0.00	
Midterm exams		1	70.00	70.00	
Others		0	0.00	0.00	
Final Exams		1	70.00	70.00	
Total Work Load				252.00	
Total work load/ 30 hr				6.07	
ECTS Credit of the Course				6.00	

Contribution Level:	1 very low	2 low	3 Medium	4 High	5 Very High
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