

# 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:	2
6	Semester:	3
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:	
	<b>Course Content:</b>	
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	

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

23	Assesment
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Activities	Number	Duration (hour)	Total Work Load (hour)
Theoretical	2	100.00	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

**LO: Learning Objectives**      **PQ: Program Qualifications**

<b>Contribution Level:</b>	<b>1 very low</b>	<b>2 low</b>	<b>3 Medium</b>	<b>4 High</b>	<b>5 Very High</b>
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