



COURSE INFORMATION FORM

Course Name	Course Code
STEEL STRUCTURE PROJECT	151417647

Semester	Number of Course Hours per Week		ECTS
	Theory	Practice	
7	3	0	5

Course Category (Credit)				
Basic Sciences	Engineering Sciences	Design	General Education	Social
	2	3		

Course Language	Course Level	Course Type
Turkish	Undergraduate	Elective

Prerequisite(s) if any	-
Objectives of the Course	To design a steel structure by using the calculation and design principles covered in the “Steel Structures” course.
Short Course Content	To perform static analysis of a steel structure under dead, live, snow, wind and earthquake loads; to design sections and connections; to ensure the stability of the structure and to draw detail drawings.

Learning Outcomes of the Course	Contributed PO(s)	Teaching Methods *	Measuring Methods **
1 An ability to calculate design loads (dead, live, snow, wind, earthquake, etc.) on a steel structure.	3, 9	1, 11, 14	J
2 Having knowledge about vertical and lateral load-resisting systems.	3, 9	1, 11, 14	J
3 Having knowledge about computer-aided analysis and design of steel structures.	3, 9	1, 11, 14	J
4 Ability to design steel structure elements, connection elements and connections using the codes in force.	3, 9	1, 11, 14	J
5 Ability to draw steel structure details.	3, 9	1, 11, 14	J
6 Ability to comprehend up-to-date analysis and design methods perceiving importance of current design codes.	8, 9, 11	1, 11, 14	J
7			
8			

*Teaching Methods 1:Expression, 2:Discussion, 3:Experiment, 4:Simulation, 5:Question-Answer, 6:Tutorial, 7:Observation, 8:Case Study, 9:Technical Visit, 10:Trouble/Problem Solving, 11:Individual Work, 12:Team/Group Work, 13:Brain Storm, 14:Project Design / Management, 15:Report Preparation and/or Presentation

**Measuring Methods A:Exam, B:Quiz, C:Oral Exam, D:Homework, E:Report, F:Article Examination, G:Presentation, I:Experimental Skill, J:Project Observation, K:Class Attendance; L:Jury Exam

Main Textbook	Lecture notes. Çelik Yapıların Tasarım, Hesap ve Yapımına Dair Esaslar, Çevre ve Şehircilik Bakanlığı, 2018. Türkiye Bina Deprem Yönetmeliği, Afet ve Acil Durum Yönetimi Başkanlığı, 2018. TSE 498, Yapı Elemanlarının Boyutlandırılmasında Alınacak Yüklerin Hesap Değerleri, Türk Standardları Enstitüsü, 2021.
Supporting References	Aydın M.R., Günaydın A., Çelik Yapılar Tasarım Kuralları ve Uygulama Örnekleri, Birsen Yayınevi, 2023. Aghayere A., Vigil J., Çevirenler: Akbaş B., Eğilmez O.Ö., Çelik Yapı Tasarımı-Uygulamaya Yönelik Bir Yaklaşım, Nobel Akademik Yayıncılık, 2021.
Necessary Course Material	Calculator, ruler, pencil, notebook, eraser

Course Schedule	
1	Building Modeling with General Information and Definitions
2	Preliminary Design for Structural Members
3	Defining and Modeling Snow Loads
4	Defining and Modeling Wind Loads
5	Defining and Modeling Earthquake Loads
6	Defining Load combinations
7	Analyzing the structural system
8	Mid-Term Exam
9	Performing irregularity checks and calculating relative story drifts
10	Seismic Design (Strong Column/Weak Beam, High Ductile Moment Frame)
11	Seismic Design (Concentrically Braced Frame)
12	Connections (Moment Frame, Beam to column connection)
13	Connections (Braced Frame)
14	Drawings
15	Drawings
16,17	Final Exam

Calculation of Course Workload			
Activities	Number	Time (Hour)	Total Workload (Hour)
Course Time (number of course hours per week)	14	3	42
Classroom Studying Time (review, reinforcing, prestudy,...)	14	3	42
Homework			
Quiz Exam			
Studying for Quiz Exam			
Oral exam			
Studying for Oral Exam			
Report (Preparation and presentation time included)			
Project (Preparation and presentation time included)	1	60	60
Presentation (Preparation time included)			
Mid-Term Exam			
Studying for Mid-Term Exam			
Final Exam			
Studying for Final Exam			
Total workload			144
Total workload / 30			4.8
Course ECTS Credit			5

Evaluation	
Activity Type	%
Mid-term	-
Project Observation	100
Final Exam	-
Total	100

RELATIONSHIP BETWEEN THE COURSE LEARNING OUTCOMES AND THE PROGRAM OUTCOMES (PO) (5: Very high, 4: High, 3: Middle, 2: Low, 1: Very low)		
NO	PROGRAM OUTCOME	Contribution
1	Sufficient knowledge of engineering subjects related with mathematics, science and own branch; an ability to apply theoretical and practical knowledge on solving and modeling of engineering problems.	
2	Ability to determine, define, formulate and solve complex engineering problems; for that purpose an ability to select and use convenient analytical and experimental methods.	
3	Ability to design a complex system, a component and/or an engineering process under real life constrains or conditions, defined by environmental, economical and political problems; for that purpose an ability to apply modern design methods.	5
4	Ability to develop, select and use modern methods and tools required for engineering applications; ability to effective use of information technologies.	
5	In order to investigate engineering problems; ability to set up and conduct experiments and ability to analyze and interpretation of experimental results.	
6	Ability to work effectively in inner or multi-disciplinary teams; proficiency of interdependence.	
7	Ability to communicate in written and oral forms in Turkish/English; proficiency at least one foreign language.	
8	Awareness of life-long learning; ability to reach information; follow developments in science and technology and continuous self-improvement.	4
9	Understanding of professional and ethical issues and taking responsibility	
10	Awareness of project, risk and change management; awareness of entrepreneurship, innovativeness and sustainable development.	
11	Knowledge of actual problems and effects of engineering applications on health, environment and security in global and social scale; an awareness of juridical results of engineering solutions.	4

LECTUTER(S)				
Prepared by	Assist. Prof. Dr. Ayten Günaydın			
Signature(s)				

Date:06.06.2024