COURSE DESCRIPTION FORM	
Course Code and Title	CE383 STRUCTURAL ANALYSIS I
Semester	5
Catalog description	Classification of structures, Idealizingstructures, Loads, Supports, Equations of equilibrium, Internalloads, Determinacy. Analysis of staticallydeterminatetrusses, Simple trusses, Compoundtrusses, Analysis of staticallydeterminatebeams, Internalloadingsdeveloed in structuralmembers, Beams, Analysis of staticallydeterminateframes,Analysis of staticallydeterminatearches, Method of virtualwork: Trusses, Method of virtualwork: Beams. Influencelines, Influencelinesforbeams.
Required reading	K. Girgin, M. G. Aksoylu, Y. Durgunve K. Darılmaz, "YapıStatiği (İzostatik Sistemler) ÇözümlüProblemler", BirsenYayınevi, İkinciBaskı, İstanbul, 2014.
Recommended reading	1. R. C. Hibbeler , "Structural Analysis", Prentice Hall Int., Eighth Edition in SI Units, Singapore, 2011. 2. R. C. Hibbeler ,Çevirenler: K. Soyluk, T. Gültop, "YapıStatiği ", Palme Yayıncılık, DokuzuncuBaskıdanÇeviri, Ankara, 2017. 3. F. Karadoğan, S. Pala, E. Yükselve Y. Durgun, "YapıMühendisliğineGirişYapısalÇözümlemeCilt I", BirsenYayınevi, İstanbul, 2011.
ECTS	5
Prerequisites and co-requisites	No prerequisite Required attendance to lectures is at least 70%
Compulsory/Elective	Technical course
Language of instruction	English
Aim of course	To give the basic principles of determinate structural systems.
Learning outcomes of the course unit	**1.** Classification of structures, equations of equilibrium, loadtypes, recognizingdeterminatesystems **2.** Learning theanalysisprinciples of determinatetrusses. **3.** Learning theanalysisprinciples of determinateframes. **4.** Learning how toplottheinternalloaddiagrams (M, N, V) **5.** Learning how tocalculatethedeformations of determinatesystems
Mode of delivery	The mode of delivery of this course is face to face.
Course content	1. Classification of structures, Idealizing structures, Loads, Supports, Equations of equilibrium, Internal loads, Determinacy 2. Analysis of statically determinate trusses, Simple trusses 3. Compound trusses 4. Analysis of statically determinatebeams 5. Internal loadings develoed in structural members 6. Beams 7. Analysis of statically determinate frames 8. Analysis of three-hingedframes 9. Analysis of three-hingedframes and Midterm 1 10. Analysis of statically determinatearches

	11. Method of virtualwork: Trusses
	12. Method of virtualwork: Beams
	13. Midterm 2
	14. Influence lines
	15. Influencelinesfor beams

Planned learning activities and teaching methods	3 lecture hours per week (3+0) Web search and library work Midterm exam and required works Final exam and required works

Assessment methods and criteria

	Quantity	Percentage (%)
Mid-terms	2	60
Assignment	-	-
Exercises	-	-
Projects	-	-
Practice	-	-
Quiz	-	-
Contribution of In-term Studies to Overall Grade %		60
Contribution of Final Examination to Overall Grade (%)		40
Attendance		

Workload

Efficiency	Total Week Count	Weekly Duration (in hour)	Total Workload in Semester
Theoretical Study Hours of Course Per Week	14	3	42
Practicing Hours of Course Per Week	14	0	0
Reading	14	0	0
Searching in Internet and Library	14	2	28
Designing and Applying Materials	14	0	0
Preparing Reports	7	2	14
Preparing Presentation	14	0	0
Presentation	14	0	0
Mid-Term and Studying for Mid-Term	2	10	20
Final and Studying for Final	1	15	15
Other	0	0	0
Total Workload:			119
Total Workload / 25:			4,76
ECTS:			5

Course's contribution to program

No	Program Learning Outcomes	1	2	3	4	5
1	Adequate knowledge in mathematics, science and engineering subjects pertaining to the relevant discipline; ability to use theoretical and applied knowledge in these areas in complex engineering problems.					X
2	Ability to identify, formulate, and solve complex civil engineering problems; ability to select and apply proper analysis and modeling methods for this purpose.				X	
3	Ability to design a complex system, process, device or product under realistic constraints					

		1	2	3	4	5
	and conditions, in such a way as to meet the desired result; ability to apply modern design methods for this purpose.		X			
4	Ability to devise, select, and use modern techniques and tools needed for analyzing and solving complex problems encountered in civil engineering practice; ability to employ information technologies and to use at least one computer programming language effectively.					
5	Ability to design and conduct experiments, gather data, analyze and interpret results for investigating complex civil engineering problems or discipline specific research questions.					
6	Ability to work efficiently in intra-disciplinary and multi-disciplinary teams.					
7	Ability to work individually.		X			
8	Ability to communicate effectively in Turkish, both orally and in writing; ability to write effective reports and comprehend written reports.	X				
9	Knowledge of English of B1 level according to Common European Framework of Reference.		X			
10	Prepare design and production reports, make effective presentations, and give and receive clear and intelligible instructions.					
11	Recognition of the need for lifelong learning; ability to access information, to follow developments in science and technology, and to continue to educate him/herself.	X				
12	Consciousness to behave according to ethical principles and professional and ethical responsibility.		X			
13	Knowledge on standards used in civil engineering practice.					
14	Knowledge about business life practices such as project management, risk management, and change management.	X				
15	Awareness in entrepreneurship, innovation; knowledge about sustainable development.	X				
16	Knowledge about the global and social effects of engineering practices on health, environment, and safety, and contemporary issues of the century reflected into the field of engineering.	X				
17	Awareness of the legal consequences of engineering solutions.					

Name of lecturer(s) and contact information	Prof. Dr. Sinan ALTIN, saltin@gazi.edu.tr
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