

GTU Civil Engineering Undergraduate Courses

First Semester							
Code	Course Name	ECTS	C	T	U	L	Type
CE 101	Introduction to Civil Engineering and Career Planning	2	1	1	0	0	MT
CHEM 101	General Chemistry I	5	3	3	0	0	TB
CHEM 113	General Chemistry Laboratory I	1	1	0	0	2	TB
ENGL 111	Business English	2	2	2	0	0	SOS
MATH 101	Calculus I	7	5	4	2	0	TB
PHYS 121	Physics I	6	4	4	0	0	TB
PHYS 151	Physics Laboratory I	1	1	0	0	2	TB
HIS 101	Principles of Atatürk and the History of Turkish Revolut	2	2	2	0	0	SOS
TUR 101	Turkish I	2	2	2	0	0	SOS
Total credit per semester		28	21	18	2	4	

Third Semester							
Code	Course Name	ECTS	C	T	U	L	Type
CE 201	Probability, Statistics, Risk and Reliability for Civil Engin	5	3	3	0	0	TM
CE 205	Strength of Materials I	5	3	2	2	0	TM
CE 221	Geology for Civil Engineers	3	2	2	0	0	TM
CE 231	Materials Science for Civil Engineers	4	3	3	0	0	TM
CE 281	Introduction to Building Science and Design	5	3	2	2	0	MT
MATH 215	Differential Equations	5	3	2	2	0	TB
	Non-Technical Elective Course I	3	3	3	0	0	SOS
Total credit per semester		30	20	17	6	0	

Fifth Semester							
Code	Course Name	ECTS	C	T	U	L	Type
MATH 214	Numerical Methods	5	3	3	0	0	TB
CE 311	Theory of Structures I	5	3	2	2	0	MT
CE 321	Soil Mechanics	5	3	2	1	1	TM
CE 351	Transportation and Railway Engineering	5	3	2	2	0	MT
CE 361	Hydraulics	5	3	2	1	1	MT
CE XXX	Department Elective Courses	4	3	3	0	0	MT
ENG 300	Summer Practice I	1	0	0	0	0	MT
ENG 401	Occupational Health and Safety I	1	1	1	0	0	SOS
Total credit per semester		31	19	15	6	2	

Seventh Semester							
Code	Course Name	ECTS	C	T	U	L	Type
CE 441	Construction Management	5	3	3	0	0	MT
CE 491	Graduation Project I	6	3	0	6	0	MT
CE XXX	Department Elective Courses	5	3	2	2	0	MT
CE XXX	Department Elective Courses	5	3	2	2	0	MT
CE XXX	Department Elective Courses	4	3	3	0	0	MT
XXX	Technical Elective	4	3	3	0	0	MT
ENG 400	Summer Practice II	1	0	0	0	0	MT
Total credit per semester		30	18	13	10	0	

Second Semester							
Code	Course Name	ECTS	C	T	U	L	Type
CE 102	Technical Drawing for Civil Engineers	3	2	1	0	2	TM
CE 105	Engineering Mechanics	5	4	3	2	0	TM
ENGL 112	Academic English	2	2	2	0	0	SOS
CE 103	Introduction to Computers and Programming for Civil E	4	3	2	0	2	TB
MATH 102	Calculus II	7	5	4	2	0	TB
PHYS 122	Physics II	6	4	4	0	0	TB
PHYS 152	Physics Laboratory II	1	1	0	0	2	TB
HIS 102	Principles of Atatürk and the History of Turkish Revolut	2	2	2	0	0	SOS
TUR 102	Turkish II	2	2	2	0	0	SOS
Total credit per semester		32	25	20	4	6	

Fourth Semester							
Code	Course Name	ECTS	C	T	U	L	Type
CE 202	Topography	3	2	1	2	0	TM
CE 206	Strength of Materials II	5	3	2	1	1	TM
CE 232	Construction Materials	5	3	2	1	1	MT
CE 241	Engineering Economics for Civil Engineers	4	3	3	0	0	TM
CE 261	Fluid Mechanics	5	3	2	1	1	TM
MATH 116	Linear Algebra	5	3	3	0	0	TB
	Non-Technical Elective Course II	3	3	3	0	0	SOS
Total credit per semester		30	20	16	5	3	

Sixth Semester							
Code	Course Name	ECTS	C	T	U	L	Type
CE 312	Theory of Structures II	5	3	2	2	0	MT
CE 313	Reinforced Concrete Structures	5	3	2	2	0	MT
CE 322	Foundation Engineering	5	3	2	2	0	MT
CE 362	Water Resources Engineering	5	3	2	2	0	MT
CE XXX	Department Elective Courses	4	3	3	0	0	MT
CE 411	Steel Structures	4	3	2	2	0	MT
ENG 402	Occupational Health and Safety II	1	1	1	0	0	SOS
Total credit per semester		29	19	14	10	0	

Eighth Semester							
Code	Course Name	ECTS	C	T	U	L	Type
CE 492	Graduation Project II	6	3	0	6	0	MT
CE XXX	Department Elective Courses	6	4	3	2	0	MT
CE XXX	Department Elective Courses	6	4	3	2	0	MT
CE XXX	Department Elective Courses	6	4	3	2	0	MT
CE XXX	Department Elective Courses	6	4	3	2	0	MT
Total credit per semester		30	19	12	14	0	

or

Eighth Semester							
Code	Course Name	ECTS	C	T	U	L	Type
CE 492	Graduation Project II	6	3	0	6	0	MT
ENG 498	Industrial Applications	24	16	0	32	0	MT
Total credit per semester		30	19	0	38	0	

Department Elective Courses								
Code	Course Name	ECTS	C	T	U/L	Type		
CE 302	Advanced Programming Techniques for Engineers	4	3	2	2	2	MT	
CE 323	Natural Hazards and Disasters	4	3	3	0	0	MT	
CE 324	Geoenvironmental Engineering	4	3	3	0	0	MT	
CE 331	Concrete Technology	4	3	3	0	0	MT	
CE 332	Durability of Concrete	4	3	3	0	0	MT	
CE 342	Construction Law and Engineering Ethics	4	3	3	0	0	MT	
CE 352	Traffic Engineering	4	3	3	0	0	MT	
CE 363	Introduction to Coastal Engineering	4	3	3	0	0	MT	
CE 364	Hydrology	4	3	3	0	0	MT	
CE 405	Finite Element Method and Applications	5	3	2	2	2	MT	
CE 415	Dynamics of Structures	5	3	2	2	2	MT	
CE 416	Performance-Based Design	5	3	2	2	2	MT	
CE 418	Computer-Aided Structural Analyses	5	3	2	2	2	MT	
CE 419	Pre-stressed Concrete	5	3	2	2	2	MT	
CE 423	Modern Techniques in Foundation Engineering	5	3	2	2	2	MT	
CE 424	Soil Improvement	5	3	2	2	2	MT	
CE 425	In-situ Tests in Geotechnical Engineering	5	3	2	2	2	MT	
CE 426	Design of Reinforced Soil Structures	5	3	2	2	2	MT	
CE 446	Construction Planning and Scheduling	5	3	2	2	2	MT	
CE 444	Entrepreneurship	5	3	2	2	2	MT	
CE 445	Construction Health and Safety	5	3	2	2	2	MT	
CE 464	Dams	5	3	2	2	2	MT	
CE 465	Highway Drainage and Hydraulics	5	3	2	2	2	MT	
CE 466	Marine Hazards and Tsunamis	5	3	2	2	2	MT	
CE 412	Design of Reinforced Concrete Structures	6	4	3	2	2	MT	
CE 413	Earthquake-Resistant Design of Steel Structures	6	4	3	2	2	MT	
CE 417	Earthquake-Resistant Design of Reinforced Concrete Structures	6	4	3	2	2	MT	
CE 422	Design of Foundations, Retaining Structures and Slopes	6	4	3	2	2	MT	
CE 442	Civil Engineering system analysis and Design	6	4	3	2	2	MT	
CE 443	Introduction to Geotechnical Earthquake Engineering	6	4	3	2	2	MT	
CE 451	Highway Engineering Design	6	4	3	2	2	MT	
CE 461	Water Supply and Waste Water Disposal Design	6	4	3	2	2	MT	
CE 462	Coastal and Harbor Structures Design	6	4	3	2	2	MT	
CE 414	Bridge Design	6	4	3	2	2	MT	
CE 421	Design and Construction of Underground Structures	6	4	3	2	2	MT	
CE 463	Marine Structures Design	6	4	3	2	2	MT	

Prerequisites		
Code	Course Name	Prerequisite/s
MATH 102	Calculus II	MATH 101
MATH 215	Differential Equations	MATH 102
CE 201	Probability, Statistics, Risk and Reliability for Civil Engineers	CE 103
CE 206	Strength of Materials II	CE 205
CE 261	Fluid Mechanics	MATH 215, CE 105
CE 281	Introduction to Building Science and Design	CE 101, CE 102
CE 311	Theory of Structures I	CE 105
CE 312	Theory of Structures II	CE 311
CE 313	Reinforced Concrete Structures	CE 232, CE 205
CE 321	Soil Mechanics	CE 221, CE 205
CE 322	Foundation Engineering	CE 321
CE 361	Hydraulics	CE 261
CE 362	Water Resources Engineering	CE 361
CE 363	Introduction to Coastal Engineering	CE 261
CE 364	Hydrology	CE 261, CE 361
CE 411	Steel Structures	CE 205, CE 232
CE 412	Design of Reinforced Concrete Structures	CE 206, CE 313
CE 492	Graduation Project II	CE 491
CE422	Design of Foundations, Retaining Structures and Slopes	CE322
CE413	Earthquake-Resistant Design of Steel Structures	CE411
CE415	Dynamics of Structures	CE312
CE417	Earthquake-Resistant Design of Reinforced Concrete Structures	CE412
CE443	Introduction to Geotechnical Earthquake Engineering	CE321, CE322
CE 465	Highway Drainage and Hydraulics	CE361