

BSc CE Curriculum Plan (Semester)

	Course Title	Course Code	Credit
1	University Requirements	Compulsory	20
2	Faculty of Engineering Requirements	Compulsory	62
3	Civil Engineering Department Requirements	Compulsory	73
		Elective	12
Total			167

The civil engineering program curriculum allows the student to choose four elective courses (12 credit hours) from the following tracks:

- A. Structural and Geotechnical Engineering Track.
- B. Construction Engineering and Management Track.
- C. Transportation and Highway Engineering Track.
- D. Water Resources and Environmental Engineering Track

University Requirements

The university requirements in the UT consist of 20 credits covering a wide spectrum of subject areas including communication skills, computer skills, learning and thinking skills, Arabic language, Islamic studies, English language, basic sciences, biology, and mathematics. The table below shows the set of courses in the university requirements.

	Course Title	Course Code	Contact Hours			Credit	Prerequisites
			Lecture	Lab	Tutorial		
1	Communication Skills	COMM001	2	0	0	2	
2	Computer Skills	CSC001	4	0	0	3	
3	Learning, Thinking, & Research Skills	LTS001	4	0	0	3	
4	Language Skills	ARAB101	2	0	0	2	ARAB101
5	Writing Skills	ARA201	2	0	0	2	
6	Islamic Culture I	ISLS101	2	0	0	2	ISLS101
7	Islamic Culture II	ISLS201	2	0	0	2	ISLS201
8	Islamic Culture III	ISLS301	2	0	0	2	ISLS301
9	Islamic Culture IV	ISLS401	2	0	0	2	
Total			22	0	0	20	

Faculty Requirements

The Faculty of Engineering requirements consist of 62 credits. The tables below show the set of courses in the faculty requirements.

A. Faculty requirements (Preparatory Year)

	Course Title	Course Code	Contact Hours			Credit	Prerequisites
			Lecture	Lab	Tutorial		
1	English Language I	ELS001	15	0	0	5	
2	English Language II	ELS002	15	0	0	5	ELS001
3	Mathematics I	MATH100	3	0	0	3	
4	Mathematics II	MATH101	3	0	0	3	MATH100
5	General Physics	PHYS101	3	0	0	3	
6	General Biology	BIO101	3	0	0	3	
7	General Chemistry	CHEM101	3	0	0	3	
Total			45	0	0	25	

B. Faculty requirements (Additional Courses)

	Course Title	Course Code	Contact Hours			Credit	Prerequisites
			Lecture	Lab	Tutorial		
8	Mathematical Geometry	MATH284	3	0	1	3	MATH101
9	Statistics & Probability	MATH325	3	0	1	3	MATH284
10	Differential Equations	MATH383	3	0	1	3	MATH284
11	Linear Algebra	MATH241	3	0	1	3	MATH284
12	Physics	PHYS205	3	2	0	4	PHYS101
13	General Physics Lab	PHYS281	0	2	0	1	PHYS101
14	General Chemistry Lab	CHEM203	0	2	0	1	CHEM101
15	Engineering Drawing and Graphics	ENG201	1	4	0	3	
16	Production Tech. and Workshops	ENG202	1	4	0	3	ENG201
17	Engineering Mechanics I	ENG203	2	0	1	2	PHYS101

18	Engineering Mechanics II	ENG204	2	0	1	2	ENG203
19	Engineering Design I	ENG205	3	3	0	3	ELS002-MATH101
20	Engineering Design II	ENG213	2	2	0	2	ENG205
21	Engineering Economy	ENG214	2	0	0	2	ENG213
22	Engineering Management	ENG215	2	0	0	2	ENG214-MATH325
Total			75	19	6	37	

Departmental Course Requirements (Compulsory)

The table below shows the set of compulsory courses in the civil engineering department.

	Course Title	Course Code	Contact Hours			Credit	Prerequisites
			Lecture	Lab	Tutorial		
1	Structural Analysis I	CE 302	3	0	1	3	ENG 203
2	Structural Analysis II	CE 303	3	0	1	3	CE 302
3	Steel Structures	CE 405	3	0	1	3	CE 303
4	Earthquake Engineering	CE 406	3	0	1	2	CE 303
5	Surveying	CE 311	3	2	1	3	MATH 383
6	Construction Materials	CE 323	3	2	1	4	ME 213
7	Geotechnical Engineering I	CE 331	3	2	1	4	ME 213
8	Geotechnical Engineering II	CE 432	2	2	1	3	CE 331
9	Foundation Engineering	CE 433	3	0	1	3	CE 432- CE 451
10	Transportation Engineering	CE 441	3	0	1	3	CE 311
11	Highway Design and Construction	CE 442	2	2	1	3	CE 441
12	Reinforced Concrete I	CE 451	3	0	1	3	CE 323- CE 303
13	Reinforced Concrete II	CE 452	3	0	1	3	CE 451
14	Environmental Engineering I	CE 461	3	0	1	3	CE 371; BIO 101
15	Water and Wastewater Engineering	CE 462	3	2	1	4	CE 472- CHEM 203

16	Fluid Mechanics	CE 371	2	2	1	3	PHYS 281- ENG 204
17	Hydraulics	CE 472	2	2	1	3	CE 371
18	Construction Management	CE 482	3	0	1	3	ENG 215
19	Civil Eng. Drawing	CE 391	1	4	0	3	ENG 201
20	Computer Application for CE	CE 494	2	2	1	3	MATH 241- CE 303
21	Field training	CE 499	0	4	0	2	Department approval
21	Mechanics of Materials	ME 213	2	2	1	3	ENG 205
23	Electromechanical Engineering	CE 492	2	0	1	2	CE 323
24	Graduation Project I	CE 495	1	2	1	2	
25	Graduation Project II	CE 496	1	3	0	2	CE 495
Total						73	

Departmental Course Requirements (Elective Courses)

The students have to choose four courses (12 credit hrs.). The name of these courses depends on the specialty area as follows:

Structural and Geotechnical Engineering

	Course Title	Course Code	Contact Hours			Credit	Prerequisites
			Lecture	Lab	Tutorial		
1	Advanced Structural Analysis	CE 407	3	0	1	3	CE 303
2	Improvement of soil properties	CE 435	3	0	1	3	CE 432
3	Advanced Steel Structures	CE 408	3	0	1	3	CE 405
4	Advanced Reinforced Concrete	CE 453	3	0	1	3	CE 452
5	Introduction to rock mechanics	CE 434	3	0	1	3	CE 432
6	Foundations on Problematic soils	CE 436	3	0	1	3	CE 432-CE 433
7	Special topics in Structural and Geotechnical Engineering	CE 437	3	0	1	3	CE 452-CE 433
Total						12	

Construction Engineering and Management

	Course Title	Course Code	Contact Hours			Credit	Prerequisites
			Lecture	Lab	Tutorial		
1	Advanced Materials of Construction	CE 423	3	0	1	3	CE 322
2	Advanced Concrete Technology	CE 424	3	0	1	3	CE 322
3	Advanced Methods of Construction	CE 483	3	0	1	3	CE 451
4	Construction Contracts	CE 484	3	0	1	3	CE 482
5	Construction Planning	CE 485	3	0	1	3	CE 482
6	Estimating Construction Costs	CE 486	3	0	1	3	CE 323-CE 482

7	Special topics in Construction Engineering and Management	CE 487	3	0	1	3	CE 482
Total of 4 courses						12	

Transportation and Highways Engineering

	Course Title	Course Code	Contact Hours			Credit	Prerequisites
			Lecture	Lab	Tutorial		
1	Advanced surveying	CE 412	3	0	1	3	CE 311
2	Traffic Engineering	CE 445	3	0	1	3	CE 441
3	Advanced Design of Pavements	CE 444	3	0	1	3	CE 442
4	Transportation Economics	CE 446	3	0	1	3	CE 441
5	Airports Planning and Design	CE 447	3	0	1	3	CE 442
6	Railway Engineering	CE 448	3	0	1	3	CE 441
7	Special topics in Transportation Engineering and Highways Engineering	CE 449	3	0	1	3	CE 442
Total of 4 courses						12	

Water Resources and Environmental Engineering

	Course Title	Course Code	Contact Hours			Credit	Prerequisites
			Lecture	Lab	Tutorial		
1	Advanced surveying	CE 412	3	0	1	3	CE 311
2	Hydrology and Groundwater	CE 474	3	0	1	3	CE 472
3	Hydraulic Structures	CE 473	3	0	1	3	CE 472-CE 452
4	Water resources	CE 463	3	0	1	3	CE 472
5	Environmental Engineering II	CE 464	3	0	1	3	CE 461-CE 462

6	Wastewater Reclamation and Reuse	CE 465	3	0	1	3	CE 462
7	Solid and Hazard Wastes	CE 466	3	0	1	3	CE 462
Total of 4 courses						12	

Civil Engineering Program Study Plan

Preparatory Year/First Year

The preparatory year aims at enhancing the skills of the students through intense English courses and courses that improve their communication and computer skills. It also provides foundation courses in IT, mathematics, and basic sciences. The tables below illustrate the modules studied during the preparatory year.

1. 1st Level/ Preparatory Year

	Course Title	Course Code	Contact Hours			Credit	Prerequisites
			Lecture	Lab	Tutorial		
1	English Language Skills I	ELS001	15	0	0	5	
2	Mathematics I	MATH100	3	0	2	3	
3	Communication Skills	COMM001	2	0	0	2	
4	Computer Skills & Applications	CSC001	4	0	0	3	
5	General Physics	PHYS101	3	0	0	3	
Total			27	0	2	16	

2. 2nd Level/ Preparatory Year

	Course Title	Course Code	Contact Hours			Credit	Prerequisites
			Lecture	Lab	Tutorial		
1	English Language Skills (2)	ELS002	15	0	0	5	
2	Mathematics II	MATH101	3	0	2	3	
3	Learning & Thinking Skills	LTS001	3	0	0	3	
4	Chemistry	CHEM101	3	0	0	3	
5	General Biology	BIO101	3	0	0	3	
Total			27	0	2	17	

Degree Curriculum

1. 3rd Level / Second Year

	Course Title	Course Code	Contact Hours			Credit	Prerequisites
			Theoretical	Practical (Lab)	Tutorial		
1	Engineering Drawing and Graphics	ENG 201	1	4	0	3	-
2	Engineering Mechanics (1)	ENG 203	2	0	1	2	PHYS 101
3	Introduction to Engineering Design (1)	ENG 205	2	2	0	3	MATH 101 ELS 002
4	Islamic Culture I	ISLS 101	2	0	0	2	-
5	Mathematical Geometry (3)	MATH 284	3	0	1	3	MATH 101
6	Physics	PHYS 205	3	2	0	4	PHYS 101
7	General Physics Lab	PHYS 281	0	2	0	1	PHYS 101
Total						18	

2. 4th Level / Second Year

	Course Title	Course Code	Contact Hours			Credit	Prerequisites
			Lecture	Lab	Tutorial		
1	General Chemistry Lab	CHEM 203	0	2	0	1	CHEM 101
2	Introduction to Engineering Design (2)	ENG 213	2	2	0	2	ENG 205
3	Linear Algebra	MATH 241	3	0	1	3	MATH 284
4	Language Skills	ARB 101	2	0	0	2	-
5	Production Technology and Workshops	ENG 202	1	4	0	3	ENG 201
6	Engineering Mechanics (2)	ENG 204	2	0	1	2	ENG 203
7	Islamic Culture (2)	ISLS 201	2	0	0	2	ISLS 101
8	Differential Equations	MATH 383	3	0	1	3	MATH 284
Total						18	

3. 5th Level / Third Year

			Contact Hours		
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	Course Title	Course Code	Lecture	Lab	Tutorial	Credit	Prerequisites
1	Mechanics of Materials	ME 213	2	2	1	3	ENG 205
2	Structural Analysis (1)	CE 302	3	0	1	3	ENG 203
3	Fluid Mechanics	CE 371	2	2	1	3	PHYS 281- ENG 204
4	Civil Drawing	CE 391	1	4	0	3	ENG 201
5	Islamic Culture (3)	ISLS 301	2	0	0	2	ISLS 201
6	Statistics & Probabilities	MATH 325	3	0	1	3	MATH 284
Total						17	

4. 6th Level / 3rd Year

	Course Title	Course Code	Contact Hours			Credit	Prerequisites
			Lecture	Lab	Tutorial		
1	Construction Materials	CE 323	3	2	1	4	ME 213
2	Writing Skills	ARB 201	2	0	0	2	ARB 101
3	Structural Analysis (2)	CE 303	3	0	1	3	CE 302
4	Surveying	CE 311	2	2	1	3	MATH 383
5	Geotechnical Engineering (1)	CE 331	3	2	1	4	ME 213
6	Islamic Culture (4)	ISLS 401	2	0	0	2	ISLS 301
Total						18	

5. 7th Level / 4th Year

	Course Title	Course Code	Contact Hours			Credit	Prerequisites
			Lecture	Lab	Tutorial		
1	Geotechnical Engineering (2)	CE 432	2	2	1	3	CE 331
2	Transportation Engineering	CE 441	3	0	1	3	CE 311
3	Reinforced Concrete I	CE 451	3	0	1	3	CE 303 - CE 323
4	Environmental Engineering (1)	CE 461	3	0	1	3	CE 371- BIO101
5	Hydraulics	CE 472	2	2	1	3	CE 371
6	Engineering Economy	ENG 214	2	0	0	2	ENG 213

Total					17
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6. 8th Level / 4th Year

	Course Title	Course Code	Contact Hours			Credit	Prerequisites
			Lecture	Lab	Tutorial		
1	Computer Applications for Civil Engineering	CE 494	2	2	1	3	MATH 241-CE 303
2	Highway Design and Construction	CE 442	2	2	1	3	CE 441
3	Reinforced Concrete II	CE 452	3	0	1	3	CE 451
4	Water and Wastewater Engineering	CE 462	3	2	1	4	CE 472-CHEM 203
5	Engineering Management	ENG 215	2	0	0	2	MATH 325 ENG 214
6	Elective Course	CE XXX	3	0	0	3	
Total						18	

7. Field Training / Fourth Year

	Course Title	Course Code	Contact Hours			Credit	Prerequisites
			Lecture	Lab	Tutorial		
1	Field Training	CE 499	0	4	0	2	Department approval
Total						2	

8. 9th Level / 5th Year

	Course Title	Course Code	Contact Hours			Credit	Prerequisites
			Lecture	Lab	Tutorial		
1	Foundation Engineering	CE 433	3	0	1	3	CE 451-CE 432
2	Construction Management	CE 482	3	0	1	3	ENG 215
3	Graduation Project (1)	CE 495	1	2	0	2	CE 432or CE 452or CE 462or CE 442
4	Elective Course	CE XXX	3	0	0	3	-

5	Elective Course	CE XXX	3	0	0	3	-
Total						14	

9. 10th Level / 5th Year

	Course Title	Course Code	Contact Hours			Credit	Prerequisites
			Lecture	Lab	Tutorial		
1	Electromechanical Engineering	CE 492	2	0	1	2	CE 323
2	Steel Structures	CE 405	3	0	1	3	CE 303
3	Earthquake Engineering	CE 406	2	0	0	2	CE 303
4	Graduation Project (2)	CE 496	1	2	0	2	CE 495
5	Elective Course	CE XXX	3	0	0	3	-
Total						12	