

First degree Structure		
Year	First Semester	Second Semester
I	Biology Laboratory (1) General Biology (3) Chemistry Laboratory (1) General Chemistry (3) Mathematics I (3) Physics Laboratory (1) Mechanics, Oscillations and Waves (3) Engineering Graphics(2) Total Units: 17	Mathematics II (3) Workshop Practice (2) Computer Programming (4) Electrical Sciences (3) Technical Report Writing (2) Probability and Statistics (3) Thermodynamics (3) Total Units: 20
II	Mathematics III (3) Discipline Core Courses (12 to 15) Open /Humanities Electives (3) Total Units : 18 to 21	Principles of Economics/ Principles of Mgmt. (3) Discipline Core Courses (12 to 15) Open/Humanities Electives (3) Total Units: 18 to 21
Summer	PS-I	
III	Discipline Courses – Core/Elective (15 to 18) Open/ Humanities Electives (0 to 6) Total Units : 18 to 21	Discipline Courses – Core/elective (15 to 18) Open/Humanities Electives (0 to 6) Total Units : 18 to 21
IV	Electives (5 to 17) Total Units : 5 to 17	PS-II(20) OR Thesis(16) OR Thesis(9) AND Electives (6 to 9)

Pattern 1 Semester-wise Pattern for Students Admitted to M. E. Civil with specialization in Infrastructure Systems Programme in First Semester								
Year	First Semester			U	Second Semester			U
I	CE	G515	Fundamentals of Systems Engineering	4	BITS	G540	Research Practice	4
	CE	G523	Transportation Systems Planning and Management	4	CE	G520	Infrastructure Planning and Management Elective	4
	CE	G525	Water Resources Planning and Management	4			Elective	*
	CE	G619	Finite Element Analysis	5			Elective	*
				17				14
II			Elective	*	BITS	G629T	Dissertation or Practice School	16 or 20
			Elective	*	BITS	G639	Practice School	
			Elective	*				
			Elective	*				
								16/20

* Minimum 3 units

Note: This is a currently operative pattern as approved by the Senate-appointed committee, subject to change if the situation warrants.

Proposed list of electives courses (any six):

S. No.	Course No.	Course Title	L	P	U
1.	BITS C494	Environmental Impact Assessment	3	1	4
2.	BITS C469	Financing Infrastructure	3	0	3
3.	BITS C474	Rural Infrastructure Planning	3	0	3
4.	CE G512	Topics in Environmental Engineering	3	1	4
5.	CE G513	Advanced Computational Techniques	3	1	4
6.	CE G516	Multicriteria Analysis in Engineering	3	1	4
7.	CE G517	Waste Management Systems	3	1	4
8.	CE G522	Pavement Design, Maintenance and Management	3	2	5
9.	CE G524	Urban Mass Transit Planning, Operations and Management	3	1	4
10.	CE G526	Systems Approach to Water Resources Modelling	3	1	4
11.	CE G527	Construction Management	3	1	4
12.	CE G528	Selection of Construction Equipment and Modelling	3	1	4
13.	CE G530	Design of Construction Operation	3	1	4

14.	CE G531	Environmental Conservation	3	1	4
15.	CE G533	Advanced Composite Materials for Structures	3	1	4
16.	CE G542	Water Resources and Management	3	1	4
17.	CE G610	Computer Aided Analysis and Design in Civil Engineering	3	2	5
18.	CE G529	Construction Project Control Systems	3	1	4
19.	CE G616	Bridge Engineering	3	1	4
20.	CE G618	Design of Multi-storey Structures	3	1	4
21.	EA C442	Remote Sensing and Image Processing	3	0	3
22.	IS C472	Geographical Information System	3	0	3

Note: This is the total units and its break-up in terms of lectures and practicals/seminars/project may be announced from time to time through the timetable.

M.E. Civil with specialization in Structural Engineering

Pattern 1 Semester-wise Pattern for Students Admitted to M. E. Civil with specialization in Structural Engineering Programme in First Semester								
Year	First Semester			U	Second Semester			U
I	CE	G551	Dynamics of Structures	4	BITS CE	G540	Research Practice	4
	CE	G552	Advanced Structural Mechanics and Stability	4		G615	Earthquake Engineering	4
	CE	G617	Advanced Structural Analysis	4			Elective	*
	CE	G619	Finite Element Analysis	5			Elective	*
				17				14
II			Elective	*	BITS	G629T	Dissertation or Practice School	16 or 20
			Elective	*		G639		
			Elective	*				
			Elective	*				
				12				16/20

* Minimum 3 units

Note: This is a currently operative pattern as approved by the Senate-appointed committee, subject to change if the situation warrants.

Proposed list of electives courses (any six):

S. No.	Course No.	Course Title	L	P	U
1.	CE G511	Matrix Method in Civil Engineering	3	2	5
2.	CE G513	Advanced Computational Techniques	3	1	4
3.	CE G514	Structural Optimization	3	1	4

4.	CE G521	Topics in Structural Engineering	3	2	5
5.	CE G532	Advanced Soil Mechanics	3	1	4
6.	CE G533	Advanced Composite Materials for Structures	3	1	4
7.	CE G553	Theory of Plates and Shells	3	1	4
8.	CE G554	Advanced Structural Design	3	1	4
9.	CE G610	Computer Aided Analysis and Design in Civil Engineering	3	2	5
10.	CE G611	Computer Aided Analysis and Design	3	2	5
11.	CE G612	Advanced Steel Structures	3	1	4
12.	CE G613	Advanced Concrete Structures	3	1	4
13.	CE G614	Prestressed Concrete Structures	3	1	4
14.	CE G616	Bridge Engineering	3	1	4
15.	CE G618	Design of Multi-storey Structures	3	1	4
16.	CE G620	Advanced Foundation Engineering	3	1	4
17.	CE G621	Fluid Dynamics	3	2	5
18.	CE G622	Soil-Structure Interaction	3	1	4
19.	CE G623	Ground Improvement Techniques	3	1	4
20.	CE G631	Selected Topics in Soil Mechanics and Geotechnical Engineering	3	1	4
21.	CE G641	Theory of Elasticity and Plasticity	3	2	5

Note: This is the total units and its break-up in terms of lectures and practicals/seminars/project may be announced from time to time through the timetable.

M.E. Civil with specialization in Transportation Engineering

Pattern 1 Semester-wise Pattern for Students Admitted to M. E. Civil with specialization in Transportation Engineering Programme in First Semester								
Year	First Semester			U	Second Semester			U
	CE	G523	Transportation Systems Planning and Management	4	BITS	G540	Research Practice	4
	CE	G534	Pavement Material Characterization	4	CE	G518	Pavement Analysis and Design	4

I	CE	G535	Highway Geometric Design	4	CE	G524	Urban Mass Transit Planning Operations and Management Elective	4
	CE	G636	Traffic Engineering and Safety	4				*
				16				15
II	Elective			*	BITS	G629T	Dissertation or	16 or 20
	Elective			*	BITS	G639	Practice School	
	Elective			*				
				12				16/20

* Minimum 3 units

Note: This is a currently operative pattern as approved by the Senate-appointed committee, subject to change if the situation warrants.

Proposed list of electives courses (any five):

S. No.	Course No.	Course Title	L	P	U
1.	BITS C494	Environmental Impact Assessment	3	1	4
2.	CE G520	Infrastructure Planning and Management	3	1	4
3.	CE G528	Selection of Construction Equipment and Modeling	3	1	4
4.	CE G537	Transport Economics and Finance	3	1	4
5.	CE G543	Traffic Flow Theory	3	1	4
6.	CE G545	Airport Planning and Design	3	1	4
7.	CE G546	Highway Construction Practices	3	1	4
8.	CE G547	Pavement Failures, Evaluation and Rehabilitation	3	1	4
9.	CE G548	Pavement Management Systems	3	1	4
10.	CE G549	Rural Road Technology	3	1	4
11.	CE G616	Bridge Engineering	3	1	4
12.	CE G619	Finite Element Analysis	3	2	5

Note: This is the total units and its break-up in terms of lectures and practicals/seminars/project may be announced from time to time through the timetable.