

Intake:		2020 onwards		Specialization:		Civil Engineering					
Details of the Curriculum				Stream:		Transportation Engineering					
Module Code	Module Name	Category C/E/O	Time allocation [Hours/Week]		Credits offered		Norm		Evaluation %		
			Lecture	Lab / Tute	GPA	NGPA	GPA	NGPA	CA	WE	
Semester 1			Specialization requirement			15.0					
MA1014	Mathematics	C	5/2	1	3.0			20	80		
CS1033	Programming Fundamentals	C	2	2	3.0			20	80		
ME1033	Mechanics	C	2	2/4	2.0			20	80		
MT1023	Properties of Materials	C	2	2/4	2.0		15.0	0.0	20	80	
CE1023	Fluid Mechanics	C	2	2/4	2.0			20	80		
EE1040	Electrical Fundamentals	C	2	2/4	2.0			20	80		
EL1030	Language Skills Enhancement [S1 & S2]	C	0	2	1.0			100	0		
			Total			15.0	0.0	15.0	0.0		
Semester 2			Specialization requirement			18.0					
MA1024	Methods of Mathematics	C	5/2	1	3.0			30	70		
CE1113	Structural Mechanics I	C	5/2	2/2	3.0		13.0	1.0	30	70	
CE1123	Fluid Dynamics	C	5/2	2/2	3.0			30	70		
CE1133	Building Construction and Materials	C	2	2	3.0			30	70		
EL1030	Language Skills Enhancement [S1 & S2]	C	0	2	1.0			100	0		
CE1140	Introduction to Conceptual Design [S2 & S3]	C	0	2		1.0		100	0		
CE1210	Computing for Civil Engineering	E	1	2		2.0		100	0		
CE2261	Building Design Process & Applications	E	1	2		2.0	0.0	2.0	30	70	
HM-1	Humanities Electives	E	2	0	2.0			2.0	0.0	100	
			Total			15.0	5.0	15.0	3.0		
Semester 3			Specialization requirement			23.0					
MA2014	Differential Equations	C	2	0	2.0			30	70		
MA2024	Calculus	C	2	0	2.0			30	70		
CE2014	Structural Mechanics II	C	5/2	2/2	3.0			30	70		
CE2023	Design of Steel Structures	C	2	2	3.0			30	70		
CE2033	Hydraulic Engineering	C	5/2	2/2	3.0		22	1	30	70	
CE2043	Soil Mechanics & Geology I	C	2	2	3.0			30	70		
CE2053	Construction Planning & Cost Estimating	C	2	2	3.0			30	70		
CE2063	Surveying I	C	2	2	3.0			30	70		
CE1140	Introduction to Conceptual Design [S2 & S3]	C	0	2		1.0		100	0		
			Total			22.0	1	22	1		
Semester 4			Specialization requirement			21.0					
MA2034	Linear Algebra	C	2	0	2.0			30	70		
CE2114	Structural Analysis I	C	5/2	2/2	3.0			30	70		
CE2123	Design of Concrete Structures I	C	2	2	3.0			40	60		
CE3013	Engineering Hydrology	C	5/2	2/2	3.0		21.0	0.0	30	70	
CE2133	Soil Mechanics & Geology II	C	2	2	3.0			30	70		
CE2143	Surveying II	C	2	2	3.0			30	70		
CE3153	Fundamentals of Environmental Engineering	C	3/2	2/2	2.0			30	70		
CE3163	Fundamentals of Transportation Engineering	C	3/2	2/2	2.0			40	60		
			Total			21.0	0.0	21.0	0.0		
Semester 5			Specialization requirement			18.0					
MA3014	Applied Statistics	C	2	0	2.0			30	70		
CE3113	Structural Analysis II	C	5/2	2/2	3.0			50	50		
CE3123	Design of Masonry & Timber Structures	C	2	2	3.0			40	60		
CE3133	Geotechnical Engineering	C	5/2	2/2	3.0		18.0	0.0	30	70	
CE3143	Construction Management	C	5/2	2/2	3.0			30	70		
CE4343	Construction Technology	C	2	2	3.0			40	60		
CE3880	Engineer and Society [S5 & S6]	C	0	2	1.0			100	0		
			Total			18.0	0.0	18.0	0.0		

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Industrial Training				Specialization requirement		8.0	
CE3993	Industrial Training	C	0	0	6.0		100 0
CE3914	Survey Camp	C	0	0	2.0	8.0	100 0
Total			0.0	8.0	0	8	
Semester 6				Specialization requirement		11.0	
CE4023	Hydraulic Design	C	5/2	2/2	3.0		30 70
CE4033	Geotechnical Design	C	5/2	2/2	3.0		30 70
CE4903	Communication Skills and Research Methodology	C	1	2	2.0	9.0 2.0	100 0
CE4923	Research Project [S6, S7 & S8]	C	0	2	1.0		100 0
CE3880	Engineer and Society [S5 & S6]	C	1	2	2.0		100 0
Total			9.0	2.0	9.0	2.0	
Semester 7				Specialization requirement		13.0	
CE4043	Highway Engineering	C	5/2	2/2	3.0		40 60
CE4353	Traffic Engineering & Planning	C	5/2	2/2	3.0		40 60
CE4913	Comprehensive Design Project [S7 & S8]	C	0	4	2.0	13.0 0.0	100 0
CE4013	Design of Concrete Structures II	C	2	2	3.0		40 60
CE4923	Research Project [S6, S7 & S8]	C	0	4	2.0		100 0
CE4571	Operations Research for Infrastructure Systems	E	2	2	3.0	A*	50 50
CE4581	Intelligent Transportation Systems	E	2	2	3.0	A*	40 60
CE4333	Remote Sensing & GIS	E	5/2	2/2	3.0	B*	50 50
CE4053	Environmental Engineering	E	5/2	2/2	3.0		40 60
CE4313	Building Engineering	E	2	2	3.0		40 60
CE4323	Irrigation Engineering	E	5/2	2/2	3.0	0.0 0.0	30 70
CE4611	Sustainable design and whole lifecycle	E	3	0	3.0		100 0
CE4640	Disaster Risk Management	E	2	2	3.0		80 20
Total			37.0	0.0	13.0	0.0	
Semester 8				Specialization requirement		12.0	
CE4923	Research Project [S6, S7 & S8]	C	0	2	1.0		100 0
CE4913	Comprehensive Design Project [S7 & S8]	C	0	6	3.0	9.0 0.0	100 0
CE4113	Management Skill Development	C	2	0	2.0		30 70
CE4124	Engineering Economics and Financial Accounting	C	2	2	3.0		30 70
CE4563	Environmental Impact Assessment	E	2	2	3.0	3.0 0.0	40 60
CE4650	Environmental Sustainability for Civil Engineering Applications	E	5/2	2/2	3.0		40 60
CE4591	Railway and Airport Engineering	E	2	2	3.0	A*	40 60
CE4533	Highway Construction & Maintenance Management	E	5/2	2/2	3.0	C*	40 60
CE4543	Analysis & Design of Transportation Systems	E	5/2	2/2	3.0	C*	40 60
CE4413	Bridge Engineering	E	2	2	3.0	B*	40 60
CE4433	Design of Large Structures	E	5/2	2/2	3.0		40 60
CE4443	Computational Mechanics	E	5/2	2/2	3.0		40 60
CE4453	Coastal & Port Engineering	E	5/2	2/2	3.0		30 70
CE4473	Environmental Geotechnics	E	2	2	3.0		30 70
CE4483	Computational Geotechnical Engineering	E	2	2	3.0	0.0 0.0	50 50
CE4493	Project Management	E	2	2	3.0		30 70
CE4523	Sustainable Design & Construction	E	2	2	3.0		40 60
CE4553	Water & Wastewater Treatment	E	5/2	2/2	3.0		40 60
CE4621	Engineering Response to Climate Change	E	3	0	3.0		100 0
CE4630	Computational Hydraulics and Hydrology	E	2	2	3.0		50 50
Total			57	0	12.0	0.0	
Grand Total			194.0	16.0	125.0	14.0	

Total credit requirement for the Specialization	151.0
Faculty/Specialization Electives beyond the specialization requirements [refer faculty electives table]*	0
TOTAL CREDIT REQUIREMENT FOR GRADUATION	151.0

* Norm for the Specialization Electives categorized as A, B, and C is as follows,

Minimum of 6 credits from modules in category A

Minimum of 3 credits from modules in category C

Minimum of 12 credits from modules from categories A, B and C