



MAULANA AZAD

NATIONAL INSTITUTE OF TECHNOLOGY, BHOPAL–462003

Proposed Scheme

M.Tech. Infrastructure Engineering and Construction Management

First Semester:

Course No.	Subject	Schemes of studies periods per week			Total Credits
		L	T	P	
CE IE 1101	Infrastructure Planning and Management	3	-	-	3
CE IE 1102	Environmental Clearances for Infrastructure Projects & Legal Aspects and arbitration	3	-	-	3
CE IE 1103	Innovative and Smart Materials	3	-	-	3
	Program Elective-1	3	-	-	3
	Program Elective-2	3	-	-	3
CE IE 1104	Smart Materials and Monitoring Lab	-	-	2	1
CE IE 1105	Computational Techniques in Infrastructure Engineering Lab	-	-	2	1
CE IE 1106	Seminar-I	-	-	2	1
CE IE 1107	Minor Project-1 (Self Learning)	-	-	-	2
HS PG	Communication Skill	-	-	-	-
Total Hours:21		Total Semester Credits			20
Total Credits: 20					

Second Semester:

Course No.	Subject	Schemes of studies periods per week			Total Credits
		L	T	P	
CE IE 1201	Construction Management for Infrastructure Projects	3	-	-	3
CE IE 1202	Financing Infrastructure Projects	3	-	-	3
	Program Elective-3	3	-	-	3
	Program Elective-4	3	-	-	3
	Open Elective	3	-	-	3
CE IE 1203	Advanced Techniques for Monitoring Infrastructure Projects	-	-	2	1
CE IE 1204	Quality Control and Assurance Lab	-	-	2	1
CE IE 1205	Seminar-II	-	-	2	1
CE IE 1206	Minor Project-2 (Self Learning)	-	-	-	2
Total Hours:21		Total Semester Credits			20
Total Credits: 40					

- CE IE 575 Research Methodology proposed to be included in Elective

Third Semester:

Course No.	Subject	Schemes of studies periods per week			Total Credits
		L	T	P	
CE IE 2101	Dissertation Phase-I	-	-	40	20
Total Hours:40 Total Credits: 60		Total Semester Credits			20

Fourth Semester:

Course No.	Subject	Schemes of studies periods per week			Total Credits
		L	T	P	
CE IE 2201	Dissertation Phase-II	-	-	40	20
Total Hours:40 Total Credits: 80		Total Semester Credits			20



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List of Program Electives	
CE IE 1151 / CE IE 1251	Applications of RS and GIS in Infrastructure Projects
CE IE 1152 / CE IE 1252	Quality and Safety Management in Construction
CE IE 1153 / CE IE 1253	Structural Health Assessment and Rehabilitation
CE IE 1154 / CE IE 1254	Water Recycling and Waste Disposal System Design
CE IE 1155 / CE IE 1255	Geoenvironmental Engineering
CE IE 1156 / CE IE 1256	Environmental Management
CE IE 1157 / CE IE 1257	Airport Planning and Design
CE IE 1158 / CE IE 1258	Water Resources Systems Analysis, Planning and Management
CE IE 1159 / CE IE 1259	Contract Management
CE IE 1160 / CE IE 1260	Disaster Risk and Resilience in Infrastructure Engineering
CE IE 1161 / CE IE 1261	Environmental Impact Assessment
CE IE 1162 / CE IE 1262	Reservoir Planning and Operation
CE IE 1163 / CE IE 1263	Planning of Ports and Harbours
CE IE 1164 / CE IE 1264	Flood and Drought Management
CE IE 1165 / CE IE 1265	Smart Infrastructure and Application of Artificial Intelligence and Machine Learning
CE IE 1166 / CE IE 1266	Dams and Irrigation Infrastructure
CE IE 1167 / CE IE 1267	High-rise buildings, bridges, and tunnels
CE IE 1168 / CE IE 1268	Transportation Infrastructure
CE IE 1174 / CE IE 1274	Computational methods in Civil Engineering
CE IE 1175 / CE IE 1275	Research Methodology

List of Open Electives

Codes of Open Elective will be provided by respective departmentd

	Introduction to UrbanPlanning
	Bio process Engineering
	Biophysics Toolsand Techniques
	Analytical Techniques
	Green Technology& Processes
	Machine Learning
	Advanced DataStructuresand Algorithms
	NanotechnologyandNanoscience
	ElectricMachines& Applications
	ControlandInstrumentation
	IntroductiontoFuzzyLogic
	NeuralNetworksanditsApplications
	EnergyResourceTechnologies
	IntellectualPropertyRightsforEngineers
	AppliedPsychology:HumanCentered
	AdvancedOperationsResearch
	ComputingTechnologies
	Value Engineering
	DesignThinking
	MechatronicsandNDTinEngineering
	AdvancedInstrumentationMethodsfor Material Analysis
	SmartMaterialsandtheir Application
	EngineeringStartupManagement