

Maulana Azad National Institute of Technology, Bhopal – 462003
Civil Engineering Department

M Tech in Geotechnical Engineering

SCHEME OF STUDY (January 2021)

First Semester:

Course No.	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
MTH 101 GE	Advanced Mathematics	3	-	-	3
GE 102	Advanced Geotechnical Engineering	3	-	-	3
GE 103	Advanced Foundation Engineering	3	-	-	3
GE 104	Soil Dynamics	3	-	-	3
	Elective-1 (A)	3	-	-	3
	Elective-2 (B)	3	-	-	3
GE 105	Lab-1	-	-	2	1
GE 106	Seminar-1	-	-	2	1
GE 107	Communication Skills/ NPTEL/ MOOC/ Hum. Dept.	2	-	-	2
Total Hours: 24 Total credits 22		Total Semester Credits			22

Second Semester:

Course No.	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
GE 201	Design and Construction of Machine Foundation	3	-	-	3
GE 202	Ground Improvement Techniques	3	-	-	3
GE 203	Reinforced Soil Structures	3	-	-	3
	Elective-3 (A)	3	-	-	3
	Elective-4 (A)	3	-	-	3
	Elective-5 (C)	3	-	-	3
GE 204	Lab-2	-	-	2	1
GE 205	Research Methodology, Technical Report and Paper Writing	-	2	-	2
GE 206	Seminar-2	-	-	2	1
Total hours: 24 Total Credits: 44		Total Semester Credits			22

Third semester:

Course No.	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
GE 301	Dissertation Phase-1	-	-	32	16
Total Hours: 32 Total Credits: 16		Total Semester Credits			60

Fourth Semester:

Course No.	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
GE 401	Dissertation Phase-2	-	-	40	20
Total Hours: 40 Total Credits: 20		Total Semester Credits			80

List of Electives A		List of Electives B	
GE501	Forensic Geotechnical Engineering	GI103	Basics of Remote Sensing Technology
GE502	Environmental Geo techniques	ST101	Finite Element Method
GE503	Geotechnical Investigations and Field Testing of Soils	ST501	Soil Structure Interaction
GE504	Critical State Soil Mechanics	ST507	Design of Foundation Systems
GE505	Rock mechanics and Engineering Geology	TR102	Analysis and Design of Pavement Structures
GE506	Expansive and Shrinkable Soils	List of Electives C	
GE507	Strength and Deformation Behavior of Soils	ID203	Advanced Product Design
GE508	Earthquake Engineering	IT202	Failure Analysis & Prevention
GE509	Constitutive Soil Mechanics	AM202	Advanced Composite Materials
GE510	Software Application in Geotechnical Engineering	SV203	Theory of Vibration II
		TH202	Thermal Environmental Engineering
		PS201	Modern Control Systems
		ED202	Advanced Control Systems
		VE202	VLSI Technology
		DC203	Digital Image Processing
		AC203	Optimization Techniques
		AI202	Deep Learning
		CN203	Graph Theory & Network Algorithm
		IS201	Applied Cryptography
		MS202	Deformation Behavior of Materials
		CH203	Industrial Safety & Hazard Management
		HS1204	Housing Finance
		UP1203	Infrastructure Planning
		NT201	Nano Structures Characterization Techniques
		BI203	Optimization Techniques & Graph
		CSB201	Mathematical Modeling & Simulation of Biological Systems
		RE202	Solar Energy Systems
		ES202	Energy Management in Buildings
		BIO201	Cheminformatics & Drug Designing

Group A: Program Electives.

Group B: Departmental Electives.

Group C: Open Electives.

{It may also be opted as NPTEL Course after approval from Chairman Senate}