

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

M Tech in Geoinformatics and its applications

SCHEME OF STUDY (January 2021)

First Semester:

Course No.	Subject	Scheme of studies periods per week			Total Credits
		L	T	P	
MTH 101 GI	Advanced Mathematics	3	-	-	3
GI 102	Basic Concepts of Mapping Cartography	3	-	-	3
GI 103	Basics of Remote Sensing Tech	3	-	-	3
GI 104	Geodesy and GNSS based Mapping	3	-	-	3
	Elective-1 (A)	3	-	-	3
	Elective-2 (B)	3	-	-	3
GI 105	Lab-1	-	-	2	1
GI 106	Seminar-1	-	-	2	1
GI 107	Communication Skills NPTEL/ MOOC/ Humanities Deptt.	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	
GI 201	Basic Concepts of GIS	3	-	-	3
GI 202	Digital Processing of Remotely Sensed Data	3	-	-	3
GI 203	Basic Concepts Photogrammetry	3	-	-	3
	Elective-3 (A)	3	-	-	3
	Elective-4 (A)	3	-	-	3
	Elective-5 (C)	3	-	-	3
GI 204	Lab-2	-	-	2	1
GI 205	Research Methodology, Technical Report and Paper Writing	-	2	-	2
GI 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	
GI 301	Dissertation Phase-1	-	-	32	16
Total hours: 32 Total Credits: 60		Total Semester Credits			16

Fourth Semester:

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

List of Electives A		List of Electives B	
GI501	Basic concepts and Applications of Microwave Remote Sensing	EN103	Air and Noise Pollution
GI502	Remote Sensing and GIS applications in Earth Sciences and Geotechnical Engg.	EN510	Global Warming and Climate Change
GI503	Remote sensing and GIS for applications in agriculture & forestry	GE102	Advanced Geotechnical Engineering
GI504	Air Borne Laser Terrain Mapping	GE103	Advanced Foundation Engg.
GI505	Hyper spectral Remote Sensing	GE104	Soil Dynamics
GI506	Remote sensing and GIS for Hydrology and Water Resources	GE508	Earthquake Engineering
GI507	Remote sensing and GIS applications in Environmental Engineering	HY103	Hydro Power Potential Assessment
GI508	Geo informatics in urban development and planning	HY508	Design and Analysis of Piping Systems
GI509	Remote sensing and GIS applications in Disaster Mitigation and Management	ST104	Advanced Design of Structures
GI510	Change detection using remote sensing	ST509	Soft Computing
GI511	Digital Photo grammetry	TR102	Analysis and Design of Pavement Structures
GI512	Advanced Soft Computing Techniques	TR103	Traffic Engineering and Management
GI513	Concepts of Database Systems	TR104	Transport Planning
GI514	Geo informatics Applications in Engineering Projects and Utility Management	TR502	Transport System Analysis
		WR101	Computational Techniques in Water Resources Engineering
		WR102	Applied Hydrology
		WR103	Irrigation and Drainage Engineering
		WR501	Flood Measurement and Management
		WR502	Integrated Watershed Management
		List of Electives C	
		ID203	Advanced Product Design
		IT202	Failure Analysis & Prevention
		AM202	Advanced Composite Materials
		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}