

COURSE STRUCTURE & SYLLABI

for

M.Sc. GEOINFORMATICS



**Centre for Land Resource Management
School of Natural Resource Management
Central University of Jharkhand
Brambe, Ranchi**

COURSE STRUCTURE FOR M.SC. GEOINFORMATICS

	CODE	PAPERS	L	T	P	CREDIT
SEMESTER I (23)						
THEORY	MGI 411011	Remote Sensing & Photogrammetry	2	1	0	3
	MGI 411021	Cartography & Global Positioning System	2	1	0	3
	MGI 411032	Geographic Information Systems & Spatial Modeling	2	1	0	3
	MGI 411041	Geosciences & Image Interpretation	2	1	0	3
	MGI 411052	Research Methodology & Geostatistics	2	1	0	3
LAB	MGI 412062	Remote Sensing & Photogrammetry Lab	0	0	2	2
	MGI 412071*	GPS & Cartography Lab	0	0	2	2
	MGI 412082*	Geographic Information Systems & Spatial Modeling Lab	0	0	2	2
	MGI 412090	Geosciences & Image Interpretation Lab	0	0	2	2
SEMESTER II (23)						
THEORY	MGI 421011	Digital Image Processing	2	1	0	3
	MGI 421022	Applications of Geoinformatics in Natural Resource Management	2	1	0	3
	MGI 421032	Geoinformatics in Regional & Urban Planning	2	1	0	3
	MGI 421042	Geoinformatics in Disaster Management	2	1	0	3
	MGI 421052	Computer Programming & WebGIS	2	1	0	3
LAB	MGI 422060	Digital Image Processing Lab	0	0	2	2
	MGI 422070	Applications of Geoinformatics in Natural Resource Management Lab	0	0	2	2
	MGI 422081	Geoinformatics in Regional & Urban Planning Lab	0	0	2	2
	MGI 422090	Geoinformatics in Disaster Management Lab	0	0	2	2
SEMESTER III (22)						
THEORY	MGI 511010	Geoinformatics in Climatology & Satellite meteorology	2	1	0	3
	MGI 511021	Geoinformatics in Hydrology & Water Resources	2	1	0	3
	MGI ***	ELECTIVE –I	2	1	0	3
	MGI ***	ELECTIVE –II	2	1	0	3
	MGI 514031	Field Tour				2
LAB	MGI 512040	Geoinformatics in Climatology & Satellite meteorology Lab	0	0	2	2
	MGI 512051	Geoinformatics in Hydrology & Water Resources Lab	0	0	2	2
	MGI ***	ELECTIVE –I Lab	0	0	2	2
	MGI ***	ELECTIVE –II Lab	0	0	2	2
SEMESTER IV (21)						
	MGI 524010	DISSERTATION				21
LIST OF ELECTIVES (for Semester III)						
MGI 516061	Land Information System	MGI 512021	Land Information Systems Lab			
MGI 516071	Geoinformatics applications in Coastal studies	MGI 512031	Geoinformatics applications in Coastal studies Lab			
MGI 516081	Mobile Mapping	MGI 512141	Mobile Mapping Lab			
MGI 516091	Geoinformatics in Ecology & Forestry	MGI 512151	Geoinformatics in Ecology & Forestry Lab			
MGI 516101	Geoinformatics in Agriculture, Soil & Land Evaluation	MGI 512161	Geoinformatics in Agriculture, Soil & Land Evaluation Lab			
MGI 516111	Geoinformatics applications in cryospheric studies	MGI 512171	Geoinformatics applications in cryospheric studies Lab			
Students may opt any two elective papers from the given list.						

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for
INT. M.TECH. (GEOINFORMATICS)



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CENTRE FOR LAND RESOURCE MANAGEMENT
Course Structure for Five Year Integrated M.TECH Degree in Geoinformatics

	Code	PAPERS	Classes Per Week			Credit
			L	T	P	
SEMESTER I (23 Credits)						
THEORY	ENG 120040	Communicative English	2	0	1	3
	EVS 120050	Environmental Studies	2	1	0	3
	PHY 110021	Engineering Physics I	2	1	0	3
	CHM 110030	Engineering Chemistry I	2	1	0	3
	MAT 110010	Engineering Mathematics I	2	1	0	3
		Engineering Mechanics	3	0	0	3
LAB	PHY 112080	Engineering Physics I LAB	0	0	1	1
	CHM 112090	Engineering Chemistry I LAB	0	0	1	1
		Engineering Mechanics LAB	0	0	1	1
	EEN112120	Engineering Drawing & Graphics	1	0	1	2
SEMESTER II (24 Credits)						
THEORY	PHY 121020	Engineering Physics II	2	1	0	3
	CHM 121031	Engineering Chemistry II	2	1	0	3
	MAT 121010	Engineering Mathematics II	2	1	0	3
	COM 120040	Fundamental of Computing	2	1	0	3
		Engineering Thermodynamics	2	1	0	3
		Basics of Electrical Engineering	1	1	0	3
LABS	PHY 122110	Engineering Physics II LAB	0	0	1	1
	CHM 122120	Engineering Chemistry II LAB	0	0	1	1
		Basics of Electrical Engineering LAB	0	0	1	1
		Workshop Practice	0	1	2	3
SEMESTER III (24 Credits)						
THEORY	GEO 211011	Fundamentals of Remote Sensing	2	1	0	3
	GEO 211020	Geodesy and Digital Cartography	2	1	0	3
	GEO 211031	Geosciences & Image Interpretation	2	1	0	3
	GEO 211041	JAVA Programming	2	1	0	3
	LRM 210100	Disaster Management	2	1	0	3
	GEO 211050	Numerical Methods & Computation Techniques	2	1	0	3
	LABS	GEO 212080	Geodesy and Digital Cartography Lab	0	0	2
GEO 212061		Geosciences & Image Interpretation Lab	0	0	2	2
GEO 212071		JAVA Lab	0	0	2	2
SEMESTER IV (23 credits)						
	GEO 221010	Geographic Information System	2	1	0	3
	GEO 221020	Global Positioning System	2	1	0	3
	GEO 221030	Digital Image Processing	2	1	0	3
	GEO 221040	Surveying	2	1	0	3
	GEO 221050	Geostatistics	2	1	0	3
	LABS	GEO 222060	Digital Image Processing Lab	0	0	2
GEO 222070		GIS Lab	0	0	2	2
GEO 222080		GPS Lab	0	0	2	2
GEO 222090		Surveying Lab	0	0	2	2
SEMESTER V (25 credits)						
THEORY	GEO 311010	Aerial Photography & Digital Photogrammetry	2	1	0	3
	GEO 311020	Spatial Database, Analysis and Modelling	2	1	0	3
	GEO 311030	Advanced Remote Sensing Techniques	2	1	0	3
	GEO 311040	Geoinformatics in Natural Resource Management	2	1	0	3

		Elective- I (Any one elective offered by CUJ including CLRM)	2	1	0		3
LAB	GEO 312090	Photogrammetry Lab	0	0	2		2
	GEO 312100	Spatial Database, Analysis and Modeling Lab	0	0	2		2
	GEO 312110	Geoinformatics in Natural Resource Management Lab	0	0	2		2
	GEO 312120	Advanced Remote Sensing Techniques Lab	0	0	2		2
		Elective- I Lab	0	0	2		2
LIST OF ELECTIVES I	GEO 311050	Mobile Mapping	2	1	0		3
	GEO 311060	Geoinformatics in Environmental Monitoring	2	1	0		3
	GEO 311070	Climatology & Satellite Meteorology	2	1	0		3
	GEO 311080	Fundamental of Geospatial Technology & Application (only for other Centers)	3	1	0		4
	GEO 312130	Mobile Mapping Lab	0	0	2		2
	GEO 312140	Geoinformatics in Environmental Monitoring Lab	0	0	2		2
	GEO 312150	Climatology & Satellite Meteorology Lab	0	0	2		2
SEMESTER VI (22 credits)							
THEORY	GEO 321010	Data Mining & Neural Networks	2	1	0		3
	GEO 321020	Hydrology and water resources	2	1	0		3
	GEO 321030	Geoinformatics in Regional and Urban planning	2	1	0		3
	GEO 321040	Ecology &Forestry	2	1	0		3
	GEO 321050	Field Visit & Report Writing	0	0	2		2
LABS	GEO 325060	Data Mining & Neural Networks Lab	0	0	2		2
	GEO 325070	Hydrology and water resources Lab	0	0	2		2
	GEO 325080	Regional and Urban Planning Lab	0	0	2		2
	GEO 325090	Ecology &Forestry Lab	0	0	2		2
SEMESTER VII (25 credits)							
THEORY	GEO 414010	Research Methodology & Project Formulation	2	1	0		3
	GEO 411020	Agriculture, Soil & Land Evaluation	2	1	0		3
	GEO 411030	Geoinformatics in Disaster Risk Assessment	2	1	0		3
	GEO 411040	Geoinformatics for Coastal Zone Management	2	1	0		3
	GEO 411050	Geoinformatics for Environmental Monitoring	2	1	0		3
	GEO 411060	Field Tour	0	0	2		2
LABS	GEO 412070	Agriculture, Soil & Land Evaluation Lab	0	0	2		2
	GEO 412080	Geoinformatics in Disaster Risk Assessment Lab	0	0	2		2
	GEO 412090	Geoinformatics for Coastal Zone Management Lab	0	0	2		2
	GEO 412100	Environmental Monitoring Lab	0	0	2		2
SEMESTER VIII (23 credits)							
THEORY	GEO 421010	Web Applications in Geoinformatics	2	1	0		3
	GEO 421020	Geoinformatics in Business, Health and Energy	2	1	0		3
		Elective-II	2	1	0		3
LABS	GEO 422070	Web applications Lab	0	0	2		2
		Elective-II LAB	0	0	2		2
	GEO 421030	UG Project					10
LIST OF ELECTIVES II	GEO 421040	Geoinformatics in Cryospheric Studies	2	1	0		3
	GEO 421050	Geoinformatics in Transportation Planning	2	1	0		3
	GEO 421060	Land Information System	2	1	0		3
	GEO 422080	Geoinformatics in Cryospheric Studies Lab	0	0	2		2
	GEO 422090	Transportation Lab	0	0	2		2
	GEO 422100	Land Information System Lab	0	0	2		2
SEMESTER IX (21 Credits): GEO 520010 - Thesis (to be contd. in Semester X)21							
SEMESTER X (24 Credits) : GEO 520010– Thesis							
							24

