



DELHI TECHNOLOGICAL UNIVERSITY

(Formerly Delhi College of Engineering)
Shahbad Daultpur, Main Bawana Road, Delhi-42

Scheme for Full Time M. Tech. as per NEP-2020

MULTIDISCIPLINARY CENTRE FOR GEOINFORMATICS

M.TECH. GEOINFORMATICS (GEO)

SEMESTER I					
Code	Type	Cr	L-T-P	Total Credits	Level
GEO501	Departmental Core-1: Probability, Statistics and spatial Information theory	4	3-1-0	24	500-599*
GEO505	Departmental Core-2: Remote Sensing, Photogrammetry and Satellite Image Processing	4	3-0-2		
GEO507	Departmental Core-3: Introduction to Geographic Information System and Web GIS	4	3-0-2		
GEO509	Departmental Core-4: Advanced Surveying, Cartography, Geodesy, and GNSS	4	3-0-2		
GEO511 (or) GEO513 (or) GEO515	Departmental Elective-1: Introduction to Earth Science (or) Disaster Assessment and Management (or) Fundamentals of BIM, GeoBIM and Digital Twins	4	3-1-0/ 3-1-0/ 3-1-0/		
	Self-study				
GEO551	Seminar	2			
GEO553	MOOC: Remote Sensing Principles and Applications (or) Image Processing using Python		-		
	Skill Enhancement Course				
GEO541	Skill Enhancement Course-1: Python, Matlab, GEE	2	0-0-4		
	Audit Course				
UEC501	English for Research Paper Writing	0	2-0-0		
UEC503	Disaster Management		2-0-0		
UEC505	Sanskrit for Technical Knowledge		2-0-0		
UEC507	Value Education		2-0-0		
UEC509	Constitution of India		2-0-0		
UEC511	Pedagogy Studies		2-0-0		
UEC513	Stress Management by Yoga		1-0-2		
UEC515	Personality Development through Life Enlightenment Skills		2-0-0		
SEMESTER II					

Code	Type	Cr	L-T-P	Total Credits	Level
GEO502	Departmental Core-5: Principles of Optical, Thermal and Hyperspectral Remote Sensing	4	3-0-2	24	500-599*
GEO504	Departmental Core-6: Microwave and Lidar Remote Sensing	4	3-1-0		
GEO520 (or) GEO522 (or) GEO524	Departmental Elective-2: Geointelligence – Terrain visualization, Trafficability and Target Detection (or) RS and GIS in Cryosphere and Water Hydrology Applications (or) Smart City, Sustainability and Urban Remote Sensing	4	3-1-0 3-1-0 3-1-0		
GEO530 (or) GEO532 (or) GEO534	Departmental Elective-3: Planetary and Space Sciences – Earth and Beyond (or) Advanced Geodesy and GNSS (or) Geosciences	4	3-1-0 3-1-0 3-1-0		
UCC502	Research Methodology and IPR	4	3-1-0		
	Skill Enhancement Course – 2/ Industrial Training				
GEO540	Skill Enhancement Course-2: AI, ML and GeoAI in Geoinformatics	4	2-0-4		
NHEQF Level					
SEMESTER III					
Code	Type	Cr	L-T-P	Total Credits	Level
GEO601	Departmental Core-7: Advanced Image Processing in Geoinformatics	4	3-0-2	16	600-699*
OMG601	(Open Elective) Geoinformatics and GNSS for Multidisciplinary Engineering solutions	4	3-1-0		
GEO603	Minor Project/ Research Thesis/ Patent	8	-		
SEMESTER IV					
Code	Type	Cr	L-T-P	Total Credits	Level
GEO604	Major Project/ Research Thesis/ Patent	16	-	16	-
NHEQF Level					7.0

*Level: Refer to the draft UGC Curriculum and credit framework for the PG Programme.

Note: The list of self-study course (SSC) subjects shall be available with the PG Section, and credits not to exceed 16 in the program. The open elective course (OEC) will be chosen from other departments' OECs.

**DELHI TECHNOLOGICAL UNIVERSITY
SCHEME OF TEACHING AND EVALUATION**

**Scheme for Full Time M. Tech. as per NEP-2020
MULTIDISCIPLINARY CENTRE FOR
GEOINFORMATICS
M.TECH. GEOINFORMATICS (GEO)**

Teaching Scheme					Contact Hours/ Week			Relative Weightage (%)				
S. No.	Subject Code	Course Title	Subject Area	Credit	L	T	P	CW S	PRS/ STS/ CMS	M TE	ETE	PRE
SEMESTER I												
1	GEO501	Probability, Statistics and spatial Information theory	DCC-1	4	3	1	0	25	-	25	50	-
2	GEO505	Remote Sensing, Photogrammetry and Satellite Image Processing	DCC-2	4	3	0	2	15	25	20	40	-
3	GEO507	Introduction to Geographic Information System and Web GIS	DCC-3	4	3	0	2	15	25	20	40	-
4	GEO509	Advanced Surveying, Cartography, Geodesy, and GNSS	DCC-4	4	3	0	2	15	25	20	40	-
5	GEO511 /	Lithosphere and Biosphere (Earth, Atmosphere, Climate and Environmental Sciences)	DEC-1	4	3	1	0	25	-	25	50	-
	GEO513/	Disaster Assessment and Management			3	1	0	25	-	25	50	-
	GEO515	Fundamentals of BIM, GeoBIM and Digital Twins			3	1	0	25	-	25	50	-
Self-Study Course*												
6	GEO553 (One of the two options)	MOOC/SWAYAM (Remote Sensing Principles and Applications)	SSC-1	2	-	-	-	-	-	-	-	-
		MOOC/SWAYAM (Image Processing using Python)			-	-	-	-	-	-	-	
Skill Enhancement Course												
7	GEO541	Python, Matlab, GEE	SEC-1	2	0	0	4	-	50	-	-	50
Audit Course (Non-Credit)												
8	UEC501	English for Research Paper Writing	AC-1	0	2	0	0	25	-	25	50	-
	UEC503	Disaster Management			2	0	0	25	-	25	50	-
	UEC505	Sanskrit for Technical Knowledge			2	0	0	25	-	25	50	-
	UEC507	Value Education			2	0	0	25	-	25	50	-
	UEC509	Constitution of India			2	0	0	25	-	25	50	-
	UEC511	Pedagogy Studies			2	0	0	25	-	25	50	-
	UEC513	Stress Management by Yoga			1	0	2	-	-	-	-	-

	UEC515	Personality Development through Life Enlightenment Skills			2	0	0	25	-	25	50	-
Total Credits				24								
SEMESTER II												
1	GEO502	Principles of Optical, Thermal and Hyperspectral Remote Sensing	DCC-5	4	3	0	2	15	25	20	40	-
2	GEO504	Microwave and Lidar Remote Sensing	DCC-6	4	3	0	2	15	25	20	40	-
3	GEO520	Geointelligence – Terrain visualization, Trafficability and Target Detection	DEC-2	4	3	1	0	25	-	25	50	-
	GEO522	RS and GIS in Cryosphere and Water Hydrology Applications			3	1	0	25	-	25	50	-
	GEO524	Smart City, Sustainability and Urban Remote Sensing			3	1	0	25	-	25	50	-
4	GEO530	Planetary and Space Sciences – Earth and Beyond	DEC-3	4	3	1	0	25	-	25	50	-
	GEO532	Advanced Geodesy and GNSS			3	1	0	25	-	25	50	-
	GEO534	Geosciences			3	1	0	25	-	25	50	-
5	UCC502	Research Methodology and IPR	UCC-1	4	3	1	0	25	-	25	50	-
Skill Enhancement Course												
6	GEO540	AI, ML and, GeoAI in Geoinformatics	SEC-2	4	0	0	4	--	50	--	--	50
Total Credits				24								
SEMESTER III												
1	GEO601	Advanced Image Processing in Geoinformatics	DCC-7	4	3	0	2	15	25	20	40	-
2	OMG601	Open Elective-Geoinformatics and GNSS for Multidisciplinary Engineering solutions	OEC-1	4	3	1	0	25	-	25	50	-
3	GEO603	Minor Project/ Research Thesis/ Patent	DCC-8	8	0	0	0	-	40	-	-	60
Total Credits				16								
SEMESTER IV												
1	GEO604	Major Project/ Research Thesis/Patent	DCC-9	16	0	0	0	-	40	-	-	60
Total Credits				16								

CREDITS IN FOUR SEMESTERS

Total	Course Type	Core: DCC	Generic Electives (GEC): University/ Open Electives	Department Electives (DEC)	Self-Study	Skill Enhancement Courses (SEC)
80	Credits	52	8	12	2	6