



Department of Geospatial Science

B.Sc. Geoinformatics

Course Curriculum for All Semesters

SEMESTER I

Sl	Code	Course Title	L	T	P	Credit
Theory						
1	TIU-UGI-T101	Major: Geographical Concepts	2	1	0	3
2	TIU-UGI-T103	Major: Introduction to Earth System Science	2	1	0	3
3	TIU-UGI-IDC105	Mathematics & Statistics for Geoinformatics	2	1	0	3
4	TIU-UGI-MN101	Minor Course – I: Introduction to Environmental Science & Sustainability	2	1	0	3
5	TIU-AEC-101	Communication Skills – I	2	0	0	2
6	TIU-VAC-101	Value Added Course – Indian Knowledge Systems / Constitution	2	0	0	2
Practical						
7	TIU-UGI-L101	Cartography Lab	0	0	4	2
9	TIU-UGI-L105	Statistics & Programming Lab	0	0	4	2
Total Credit						20

SEMESTER II

Sl	Code	Course Title	L	T	P	Credit
Theory						
1	TIU-UGI-102	Major -	2	1	0	3
2	TIU-UGI-104	Major - Introduction to GIS	2	1	0	3
3	TIU-UGI-106	Major - Photogrammetry & GNSS	2	1	0	3
4	TIU-UGI-MN102	Minor Course – II: Statistics & Quantitative Techniques for Spatial Analysis	2	1	0	3
5	TIU-UGI-VAC-102	Foreign Language	3	0	0	3
6	TIU-UGI-SEC-102	Skill Enhancement – Basic Python for GIS	2	0	0	2
Practical						
7	TIU-UGI-L102	Remote Sensing Lab	0	0	4	2
	TIU-UGI-L104	GIS Lab	0	0	4	2
	TIU-UGI-L106	GNSS & Survey Lab	0	0	4	2
Total Credits						22



SEMESTER III

Sl	Code	Course Title	L	T	P	Credit
Theory						
1	TIU-UGI-T201	Major - Geostatistics	2	0	0	2
2	TIU-UGI-T203	Major - Spatial Analysis	2	1	0	3
3	TIU-UGI-T205	Major - Microwave Remote Sensing	2	1	0	3
4	TIU-UGI-MN301	Minor Course – III- Fundamentals of Spatial Data Analysis	2	1	0	3
5	AEC-301	Environmental Studies	2	0	0	2
6	SEC-301	Skill Enhancement – Database Management	2	0	0	2
Practical						
	TIU-UGI-L201	Geostatistics Lab	0	0	4	2
	TIU-UGI-L203	Spatial Analysis Lab	0	0	4	2
	TIU UGI-L205	Microwave Remote Sensing Lab	0	0	4	2
Total Credit						21

SEMESTER IV

Sl	Code	Course Title	L	T	P	Credit
Theory						
1	TIU-UGI-T202	Major - Thermal & Hyperspectral RS	2	1	0	3
2	TIU-UGI-T204	Major - Web GIS & Mobile GIS	2	1	0	3
3	TIU-UGI-T206	Major - Programming for Geospatial Data Science	2	1	0	3
4	TIU-UGI-MN401	Minor Course – IV: Geoinformatics for Disaster Management	2	1	0	3
5	VAC-401	Human Values & Ethics	2	0	0	2
6	SEC-401	Skill Enhancement – UAV Mapping	2	0	0	2
Practical						
7	TIU-UGI-L202	Thermal Remote Sensing Lab	0	0	4	2
8	TIU-UGI-L204	Web GIS Lab	0	0	4	2
9	TIU-UGI-L206	Python & Data Analytics Lab	0	0	4	2
Total Credits						22



SEMESTER V

Sl. No.	Course Code	Course Title	L	T	P	Credit
Theory						
1	TIU-UGI-T301	Major: Advanced Spatial Modelling	2	0	0	2
2	TIU-UGI-T303	Major: AI and ML for Geospatial Applications	2	1	0	3
3	TIU-UGI-T305	Major: UAV & Drone-based Mapping	2	1	0	3
4	TIU-UGI-E301	Specialisation Paper – I (Urban / Agriculture / Data Science)	2	1	0	3
5	TIU-UGI-MN301	Minor – V: Introduction to Geospatial Data Analytics	2	1	0	2
6	SEC-501	Skill Enhancement: Geospatial Database & Enterprise GIS	2	0	0	2
7	TIU-UGI-L301	UAV & ML Practical	0	0	2	1
8	TIU-UGI-L303	Specialisation Practical – I	0	0	2	1
9	TIU-UGI-L305	Summer Internship	0	0	0	5
Total Credits						22

SEMESTER VI

Sl. No.	Course Code	Course Title	L	T	P	Credit
Theory						
1	TIU-UGI-T302	Major: Spatial Decision Support Systems	2	1	0	3
2	TIU-UGI-T304	Major: IoT & Real-Time GIS Applications	2	1	0	3
3	TIU-UGI-E302A/B/C	Specialisation Paper – II (Urban / Agriculture / Data Science)	2	1	0	3
4	TIU-UGI-E306A/B/C	Specialisation Paper – III Advanced Domain Analytics	2	1	0	3
5	TIU -UGI-MN302	Minor – VI: Emerging Trends in GeoAI & Big Geospatial Systems	2	1	0	3
6	TIU -VAC-302	Value Added Course (IPR / Ethics / Professional Practice)	2	0	0	2
Practical						
7	TIU -UGI-L302	Specialisation Practical – II	0	0	4	2
8	TIU -UGI-304	Advanced Analytics Lab	0	0	4	2
Total Credits						21



SEMESTER VII

Sl. No.	Course Code	Course Title	L	T	P	Credit
Theory						
1	TIU-UGI-T401	Major: Research Methodology & Scientific Writing	3	1	0	4
2	TIU-UGI-T405	Major: Geospatial Policy, Governance & Ethics	2	1	0	3
3	TIU-UGI-E403	Advanced Specialisation Paper – I (Urban / Agriculture / Data Science)	2	1	0	3
4	TIU-GEO-DSE702	Advanced Specialisation Paper – II	3	1	0	4
5	TIU-GEO-AEC701	AEC: Professional Communication & Technical Writing	2	0	0	2
Practical						
6	TIU-GEO-DSE701P	Advanced Specialisation Lab	0	0	4	2
7	TIU-GEO-RES701	Research Proposal & Seminar Presentation	0	0	4	2
Total Credits						20

SEMESTER VIII

Theory

Sl. No.	Course Code	Course Title	L	T	P	Credit
Theory						
1	TIU-UGI-T401	Major: IPR, Innovation & Entrepreneurship in Geospatial Sector	2	0	0	2
2	TIU-GEO-T801	Major: Emerging Trends in GeoAI & Big Geospatial Systems	3	0	0	3
Practical						
3	TIU-GEO-L801	Major Research Project / Dissertation	0	0	12	10
4	TIU-GEO-VIVA801	Viva Voce	0	0	0	5
Total Credits						20