

Geoinformatics MSc (in English, full time, from 2025)

1. Professional core material

1.1 Basic in science													
								Semester					
Subject Code	Subject	Lecture (L)	Practice (Pr)	Laboratory	Consultation	Form of assessment	Credit	Recommended Semester	Prerequisite	1st Semester	2nd Semester	3rd Semester	4th Semester
ELTE-OI-AI	Start wAIinless - Introduction to the use of Artificial Intelligence in Higher Education						0	1		online course			
IGM-E25MP1P	Map projections 1 P	1	0	0	0	PG	2	1		0+1+0+0			
IGM-EESY	Environmental systems	2	0	0	0	E	3	3				2+0+0+0	
IGM-EGSM	Geostatistics-Geomathematics	0	2	0	0	PG	3	3				0+2+0+0	
	1.1 Summa credit						12			6		6	

1.2 Basics in Economic, Legal and Human													
								Semester					
Subject Code	Subject	Lecture (L)	Practice (Pr)	Laboratory	Consultation	Form of assessment	Credit	Recommended Semester	Prerequisite	1st Semester	2nd Semester	3rd Semester	4th Semester
IGM-ESSD	Spatial-social data sources	0	2	0	0	PG	3	2			0+2+0+0		
IGM-KOI	Fundamentals of economics	2	0	0	0	E	3	3				2+0+0+0	
	1.2 Summa credit						6				3	3	

1.3 Basics in geoinformatics													
								Semester					
Subject Code	Subject	Lecture (L)	Practice (Pr)	Laboratory	Consultation	Form of assessment	Credit	Recommended Semester	Prerequisite	1st Semester	2nd Semester	3rd Semester	4th Semester
IGM-EDMS	Data mining and cloud-based solutions	0	2	0	0	PG	3	1		0+2+0+0			
IGM-EGSAL	Geospatial algorithms L	2	0	0	0	E	3	1	IGM-EGSAP (weak)	2+0+0+0			
IGM-EGSAP	Geospatial algorithms P	0	2	0	0	PG	3	1		0+2+0+0			

IGM-EGEO	Geoinformatics	2	0	0	0	E	3	1		2+0+0+0			
IGM-ESDB	Spatial databases	0	2	0	0	PG	3	1		0+2+0+0			
IGM-E25MDEL	Map design and editing L	2	0	0	0	E	5	1	IGM-E25MDEP (weak)	4+0+0+0			
IGM-E25MDEP	Map design and editing P	0	2	0	0	PG	2	1		0+2+0+0			
IGM-EVBG1	Vector-based GIS (QGIS)	0	2	0	0	PG	3	2			0+2+0+0		
IGM-EDTM	Digital terrain models	0	2	0	0	PG	3	2			0+2+0+0		
IGM-EMDC	Measurements and data collection	0	2	0	0	PG	3	2			0+2+0+0		
IGM-ESATG	Satellite remote sensing P	0	2	0	0	PG	3	2			0+2+0+0		
IGM-EVBG2	Vector-based GIS (ArcGIS)	0	2	0	0	PG	3	2			0+2+0+0		
IGM-E25HRSL	High resolution remote sensing L	2	0	0	0	E	3	2	IGM-EHRSP (weak)		2+0+0+0		
IGM-EHRSP	High resolution remote sensing Pr	0	2	0	0	PG	3	2			0+2+0+0		
IGM-ESLWP	Scripting languages in webcartography	0	2	0	0	PG	3	2			0+2+0+0		
IGM-EAGS	Application of ArcGIS-based Server and Web GIS	0	2	0	0	PG	3	3	IGM-EVBG2			0+2+0+0	
IGM-E25PRM	Project management in geoinformatics	2	0	0	0	E	3	3				2+0+0+0	
	1.3 Summa credit						52			22	24	6	

2. Obligatory optional courses

2.1 Module A													
									Semester				
Subject Code	Subject	Lecture (L)	Practice (Pr)	Laboratory	Consultation	Form of assessment	Credit	Recommended Semester	Prerequisite	1st Semester	2nd Semester	3rd Semester	4th Semester
IGM-EASA	Automatizing spatial analysis	0	2	0	0	PG	3	2			0+2+0+0		
IGM-EGIR	GIS in R	0	2	0	0	PG	3	2			0+2+0+0		
IGM-EDHG	Creating Databases in Human Geography	0	2	0	0	PG	3	3				0+2+0+0	
IGM-EAPG	The applications of GIS in physical geography	0	2	0	0	PG	3	3				0+2+0+0	
IGM-EEAG	Environment and GIS	0	2	0	0	PG	3	3				0+2+0+0	
IGM-ESEP	Spatial energy planning	0	2	0	0	PG	3	3				0+2+0+0	
IGM-ECAD	CAD-based GIS	0	2	0	0	PG	3	4					0+2+0+0
IGM-ESGS	Google Earth Engine	0	2	0	0	PG	3	4					0+2+0+0
IGM-EHDM	Hydrologic modelling	0	2	0	0	PG	3	4					0+2+0+0
IGM-ENCG	Nature conservation and GIS	0	2	0	0	PG	3	4	IGM-EESY				0+2+0+0

2.2 Module B													
								Semester					
Subject Code	Subject	Lecture (L)	Practice (Pr)	Laboratory	Consultation	Form of assessment	Credit	Recommended Semester	Prerequisite	1st Semester	2nd Semester	3rd Semester	4th Semester
IGM-ECEG	Cartographic elements in geoinformatics	2	0	0	0	E	3	1		2+0+0+0			
IGM-EBP	Batch processing	0	2	0	0	PG	2	1		0+2+0+0			
IGM-EIQGS	Introduction to QGIS	0	2	0	0	PG	3	1		0+2+0+0			
IGM-EIAGS	Introduction to ArcGIS	0	2	0	0	PG	3	1		0+2+0+0			
IGM-EGBC	GIS-based cartography	0	2	0	0	PG	3	2			0+2+0+0		
IGM-ESTL	Surveying and Topography L	2	0	0	0	E	2	2			2+0+0+0		
IGM-TSZTG	Terminology of Cartography and GIS	0	2	0	0	PG	3	2			0+2+0+0		
IGM-EMP2L	Map projections 2.	2	0	0	0	E	3	2	IGM-VET1E		2+0+0+0		
IGM-E3DM	3D modelling in geoinformatics	0	2	0	0	PG	3	3	IGM-EDTM			0+2+0+0	
IGM-EDRS	Drones in field spectroscopy	0	2	0	0	PG	3	3	IGM-EMDC			0+2+0+0	
IGM-EGVIZ	Geovizualization	2	0	0	0	E	3	3				2+0+0+0	

IGM-EGIS	GIS projekt	0	2	0	0	PG	3	3				0+2+0+0	
IGM-EIPR	Image processing	0	2	0	0	PG	3	3				0+2+0+0	
IGM-ETHDL	Thematic data visualization methods L	2	0	0	0	E	3	3	IGM-ETHDP (weak)			2+0+0+0	
IGM-ETHDP	Thematic data visualization methods P	0	2	0	0	PG	3	3				0+2+0+0	
IGM-EOSG	Open source WebGIS Programming	0	2	0	0	PG	3	3				0+2+0+0	
IGM-ETCG	Terminology of Cartography and GIS	0	2	0	0	PG	3	3				0+2+0+0	
IGM-ESPMB	Spatial process model building	0	2	0	0	PG	3	4					0+2+0+0
IGM-EPLG	Development of scripts and plugins in geoinformatics software	0	2	0	0	PG	3	4					0+2+0+0
IGM-EDGS	Dedicated geospatial information systems	2	0	0	0	E	2	4					2+0+0+0
	Professional core material (1.1+1.2+1.3)						70	1-3		28	27	15	
	Obligatory optional courses (Module A/ Module B)						24	1-4		0/6	6 / 6	12/6	6/6
IGM-E25ERASMUS	Erasmus mobility (max. 24 credits)						24	1-4					
	Optional courses						6						6
IGM-EDIP	Degree thesis						20	4					20
	Summa credit in semester									30	30	30	30
	Summa credit						120						

PG: Practice Grade E: Exam Grade XPG: Lecture+Practice with Practical Grade XE: Lecture+Practice with Exam