

Geoinformatics (M.Sc., Master Degree Programme)

Study plan | Start in winter term

Version: 02.11.2023

Note: The following overview offers a non-binding overview of the structure and composition of the modules. The legally binding criteria are available in the examination regulations.

Module code	Module title (Compulsory/Elective)	Sem.	CP	Type	hours	Course title	Assessment	Module Convenor	Comment/ Language
1. Semester (Wi)									
■ MA6GIC2001	Geospatial Programming – Part 1 (P)	Wi	5	V+ Ü	3	Geospatial Programming		Frantz, Müller	English
■ MA6GIC2002	Multivariate Statistics (P)	Wi	5	V	2	Multivariate Statistics	Exam (120 Min.)	Udelhoven, Willmes	English
				Ü	2	Multivariate Statistics			
■ MA6GIC2003	Environmental Remote Sensing I (P)	Wi	5	V	2	Environmental Remote Sensing I	Exam (60 min.)	Udelhoven, Buddenbaum	English
				Ü	2	Environmental Remote Sensing I			
■	Compulsory Elective module (WP)	Wi	5	A choice of 5 credit points from the <i>Compulsory Elective modules</i> must be successfully completed.					
■/■	Compulsory Elective or Elective module (WP)	Wi	10	A choice of 10 credit points from the <i>Compulsory Elective modules</i> or <i>Elective modules</i> must be successfully completed.					

2. Semester (Su)									
■ MA6GIC2001	Geospatial Programming – Part 2 (P)	Su	5	3	Ü	Geospatial Programming	Portfolio examination	Frantz, Müller	English
■ MA6GIC2004	Numerical Mathematics for Geoscientists (P)	Su	5	2	V	Numerical Mathematics for Geoscientists	Exam (60 Min.)	Schmidt	English
				2	Ü	Numerical Mathematics for Geoscientists			
■ MA6GIC2005	Environmental Remote Sensing II (P)	Su	5	3	Ü	Environmental Remote Sensing II	Term paper	Udelhoven, Röder	English
				1	GÜ	Environmental Remote Sensing II			
■ MA6GIC2006	Earth Observation Data Science I (P)	Su	5	2	V	Earth Observation Data Science I	Term paper	Frantz	English
				1	S	Earth Observation Data Science I			
■	Compulsory elective modules (WP)	Su	10	A choice of 10 credit points from the <i>Compulsory Elective modules</i> must be successfully completed.					
3. Semester (Wi)									
■ MA6GIC2007	Geospatial Statistics (P)	Su	5	V	2	Geospatial Statistics	Portfolio examination	Udelhoven	English
				Ü	2	Geospatial Statistics			
■ MA6GIC2008	Earth Observation Data Science II (P)	Su	5	S	1	Earth Observation Data Science II	Term paper	Frantz	English
				Ü	3	Earth Observation Data Science II			
■	Compulsory elective modules (WP)	Su	20	A choice of 20 credit points from the <i>Compulsory Elective modules</i> must be successfully completed.					
4. Semester (Su)									
■ MA6GIC2009	Master's Thesis (P)	Su	30	KOL	2	Colloquium	Master's Thesis and oral exam (30 Min.)	Udelhoven, Frantz	English
						Master's Thesis			

Compulsory Elective modules (35 CP to be chosen)									
■ MA6GIC2010	Remote Sensing Time Series Analysis (WP)	Su	5	V	2	Remote Sensing		Udelhoven	English
				Ü	2	Time Series Analysis			
				Term paper					
■ MA6GIC2011	Forest Remote Sensing (WP)	Su	5	Ü	2	Forest Remote Sensing		Udelhoven, Stoffels	English
				GÜ	2	Forest Remote Sensing			
				Portfolio examination					
■ MA6GIC2012	Geospatial Data Analysis (WP)	Su	5	Ü	2	Geospatial Data Analysis		Udelhoven	English
				GÜ	1	Geospatial Data Analysis			
				Term paper					
■ MA6GIC2013	Remote Sensing and Global Change (WP)	Wi	5	S	1	Remote Sensing and Global Change		Udelhoven, Röder	English
				Ü	2	Remote Sensing and Global Change			
				Term paper					
■ MA6GIC2014	Geospatial Visualization (WP)	Wi	5	V	1	Geospatial Visualization		Frantz, Müller	German
				Ü	2	Geospatial Visualization			
				Portfolio examination					
■ MA6GIC2015	Remote Sensing Applications (WP)	Wi/ Su	5	S	1	Remote Sensing Applications		Udelhoven, Stoffels	English
				Ü	2	Remote Sensing Applications			
				Portfolio examination <i>or</i> term paper					
■ MA6GIC2016	Geospatial Applications (WP)	Wi/ Su	5	S	1	Geospatial Applications		Frantz, Stoffels	English
				Ü	2	Geospatial Applications			
				Portfolio examination <i>or</i> term paper					
■ MA6GIC2017	Elements of Computer Science (WP)	Wi	10	EL	1	Elements of Computer Science		Schenkel	English
				Ü	3	Elements of Computer Science			
				Exam (120 min.) <i>and</i> exam (90 min.)					

■ MA6GIC2018	Big Data Analytics (WP)	Su	5	V	2	Big Data Analytics		Schenkel	English
				Ü	1	Big Data Analytics			
				Oral exam or exam (90 min.)					
■ MA6GIC2019	Implementation of Database Systems (WP)	Wi	5	V	2	Implementation of Database Systems		Schenkel	English
				Ü	2	Implementation of Database Systems			
				Exam (120 min.) or oral exam (15-30 min.)					
■ MA6GIC2020	Computational Geometry (WP)	Wi	10	V	2	Computational Geometry		Näher	English
				Ü	2	Computational Geometry			
				Exam (120 min.) or oral exam (15-30 min.)					
■ MA6GIC2021	Fundamentals of Computer Graphics (WP)	Su	5	V	2	Fundamentals of Computer Graphics		Diehl	English
				Ü	1	Fundamentals of Computer Graphics			
				Exam (120 min.) or oral exam (15–30 min.)					
■ MA6GIC2022	Data Mining (WP)	Su	5	V	2	Datamining		Bergmann	German
				Ü	1	Datamining			
				Exam (90 min.)					
■ MA6GIC2023	Machine Learning (WP)	Wi	5	V	2	Machine Learning		Bergmann	German
				Ü	1	Machine Learning			
				Exam (90 Min.)					
■ MA6GIC2024	Survey Sampling (WP)	Wi	5	V	2	Survey Sampling		Münnich	English
				Ü	2	Survey Sampling			
				Exam (90–120 min.)					

■ MA6GIC2025	Monte-Carlo-Simulation Methods (WP)	Wi	5	V	2	Statistical Programming with R		Münnich	English
				V	2	Monte-Carlo Simulation Methods			
				Ü	1	Monte-Carlo Simulation Methods			
				Poster presentation					
■ MA6GIC2026	Environmental System Analysis (WP)	Wi	5	V+S	2	Environmental System Analysis		Bierl, Schütz	English
				Ü	2	Environmental System Modelling			
				Exam (120 min.)					
■ MA6GIC2027	Regional and Location Development (WP)	Su	5	V/S/ Ü	2	Lecture, seminar or practical course respective lecture from the range of courses in the Module		Bruns	English/ German
				V/S/ Ü	2	Lecture, seminar or practical course respective lecture from the range of courses in the Module			
				Term paper					
■ MA6GIC2028	Planning and Development Concepts (WP)	Wi	5	V/S/ Ü	2	Lecture, seminar or practical course respective lecture from the range of courses in the Module		Bruns	English/ German
				V/S/ Ü	2	Lecture, seminar or practical course respective lecture from the range of courses in the Module			
				Term paper					
■ MA6GIC2030	Academic Research Skills (WP)	Su	5	S	2	Wissenschaftstheorie und Neue Methoden		Casper, Gronz	German
				K	1	Wissenschaftstheorie und Neue Methoden (Workshop)			
				Term paper					
■ MA6GIC2029	Internship (WP)	Wi/ Su	10	S	1	Internship seminar		Udelhoven, Frantz	English/ German
				PRA		Internship			
				Internship report					

Elective modules (10 CP to be chosen)

Modules amounting to a total of 10 CP are to be selected. The following can be selected as elective modules:

- (1) Modules of up to 35 CP from the compulsory elective modules*
- (2) Modules in the amount of up to 10 CP from the modules for the free elective area in the Master's degree programs of Trier University. Modules in the amount of up to 10 CP may be chosen from the competence area "Interdisciplinary Competences". Otherwise, modules from all competence areas and subjects may be chosen without restriction.*

List of abbreviations

Compulsory attendance courses

EX	Field trip/Day Field trip	LAB	Lab/lab course	PRS	Practice-oriented seminar
GÜ	Field exercise	PRA	Internship	PRÜ	Practical course
KOS	Colloquium seminar	PRO	Project seminar	SPÜ	Language course

Non-compulsory attendance courses

EL	E-Learning-Course	LK	Reading course	TUT	Tutorium
FK	Specialized Course	OS	Advanced seminar	Ü	Practical course
HS	Master's-level seminar	PRP	Preparatory course	V	Lecture
KOL	Colloquium	PS	Bachelor's-level seminar	V+Ü	Lecture with practical course
K	Course	S	Seminar		

Other abbreviations

LP	Credit Points	SWS	Hours	WP	Elective module or course
P	Compulsory module	So	Summer term		
Sem	Semester	Wi	Winter term		