

Study and examination regulations
(SPO)

for the

International Master Geomatics

Degree awarded: Master of Science (M.Sc.)

Version 8

§ 40-GMCM	Program structure
§ 41-GMCM	Lectures, curriculum and examination details
§ 42-GMCM	Double graduation
§ 43-GMCM	Master's thesis
§ 44-GMCM	Grade and degree certificate
§ 45-GMCM	Tables with curriculum details
§ 50-GMCM	Coming into effect
§ 51-GMCM	Transitional regulations

On the basis of § 8 para. 5 clause 1 in conjunction with § 19 para. 1 clause 2 no. 9 and § 32 para. 3 and 4 of the act pertaining to institutions of higher education in Baden-Württemberg (the State Law on Higher Education Landeshochschulgesetz LHG) in its current version, the Senate of Karlsruhe University of Applied Sciences resolved the following revised version of the Study and Examination Regulations, parts B and C for the master's program in Geomatics with M.Sc. degree, on 17 July 2018.

§ 40-GMCM Program structure

- (1) The International Master Geomatics covers four semesters.
- (2) All courses are offered in English.
- (3) In case of students having a bachelor's degree with more than 180 credits and a suitable profile, up to 30 ECTS points can be transferred. The Admission Commission including the Chair of the Board of Examiners decide about the recognition as well as the extent and the kind of the recognized courses before the start of the studies.
- (4) In addition to the compulsory modules of the first semester, students have to choose five elective modules having 3 ECTS credits each. In addition to the compulsory modules of the second and third semesters, students have to choose three elective modules per semester, each module having 6 ECTS credits (CP).
- (5) The elective modules including study and examination credits are defined by the Board of Examiners of the Geomatics study program (GMCM) and are published together with the pre-requirements in the respective module descriptions. All elective modules have the same weight in the calculation of the individual final grade.
- (6) The workload in the compulsory and electives modules required to successfully complete the study program amounts to a total of 120 ECTS CP.

Study option A

The name of this program is *International Master Geomatics*. It applies to students who have obtained their qualifying entry degree abroad. For students having qualified themselves by a German degree program an additional semester of studies or a master's thesis project at a foreign, non-German speaking university is compulsory. Students who spent, during their bachelor studies, at least one study semester abroad can be exempted from this additional semester on request.

Study option B

Students having qualified themselves by a German degree program who do not spend, or have recognized, a study semester abroad are classed in the *Master Geomatics*.

§ 41-GMCM Lectures, curriculum and examination details

- (1) For information about the compulsory modules as well as the pre-examination credits and examination credits required for successful completion of studies, see table 1. The study credits (SL) assigned to a subject examination must be completed within the frame of the subject examination. The pre-examination credits (PV) must be completed as a prerequisite for admission to the related examination.
- (2) Table 2 shows the subject examinations leading to the Master's degree, the associated modules to be completed, as well as the weight of the marks obtained in the various modules towards the subject grades.
- (3) From the module "GMCM130 Language & Academic Writing" students have to choose courses from the areas of language and engineering writing with a workload of 5 CP. Suitable courses will be announced in due time. The features of the study and examination credits of the language and academic writing courses are to be determined by the institution offering the respective courses.

§ 42-GMCM Double graduation

It is possible to obtain a double degree from Karlsruhe University of Applied Sciences and an approved partner university if a total of 120 CPs is obtained from both universities, at least 60 CP of which are obtained from the home university and 60 CP from the partner university. § 40 (3) is not applicable. The study and examination credits to be completed are defined in the

agreement between Karlsruhe University of Applied Sciences and the particular partner university.

§ 43-GMCM Master's Thesis

The Seminar for the Master's Thesis is to be completed within one month, the Master's Thesis is to be completed within a period of five months. The Master's Thesis has to be written in English.

§ 44-GMCM Grade record and degree certificate

The grade record and the certificate specify the study option in which the degree program was successfully completed.

In case of study option A or double graduation, the wording is as follows: International Master Geomatics.

In case of study option B, the wording is as follows: Master Geomatics.

In both cases, the qualification awarded is Master of Science, abbreviated as M.Sc.

§ 45-GMCM Tables with curriculum details

Explanation of the content of the columns and abbreviations in the tables below:

Column number

1 Course code (EDV code)

2 Course title (module)

3 Semester in which the course is offered (Sem.)

4 Contact hours per week (SWS)

5 ECTS credit points (CP)

6 Course type (Art)

V = Lecture

S = Seminar

Ü = Exercises

P = Project lecture

L = Lab work

IPS = Pedagogical seminar for engineers

(V+Ü), (V+Ü+V) Two or three courses pertaining to the same module can be enclosed in brackets to show that these courses will be assessed in a single examination. In these examples, a joint examination covers the subjects taught in one / two lectures and an exercise course.

If there are several courses listed in one line with corresponding examinations in the column 8, 9 or 10 please see the numbering to match courses and examinations. The numbering does not stand for a sequence in time.

Example:

1.Ü+2.(V+S) listed in column 6 and 1.PA+2.Re/30 listed in column 10 signifies that the exercise course has a practical assignment for examination, and the lecture and seminar together have a thirty-minute presentation for examination.

7 Prerequisites for admission to the exam procedure (Voraus.)

8 Type of study credits specifying duration in minutes, if no other unit is specified (SL/Dauer)

9 Type of pre-examination credits specifying duration in minutes, if no other unit is specified (PV/Dauer)

10 Type of examination credits specifying duration in minutes, if no other unit is specified (PL/Dauer)

8, 9 and 10 The following may be used for study credits (SL), pre-examination credits (PV) or examination credits (PL):

MP = Oral exam

Re = Presentation

KI = Written exam

La = Lab work

St = Study assignment

En = Draft paper

Ue = Exercises

Pa = Practical assignment

T(n) = Test (n = number per semester)

Examination credit only (PL):

MT = Master's thesis

The following applies for the duration

S = Semester M = Month(s) W = Week(s) D = Day(s)

Several obligatory examinations are listed by "+", several elective examinations are listed by "o", e.g.

"MP+KI" means that an oral exam and a written exam are required.

"MPoKI" mean that an oral exam or a written exam is required.

11 Weight of examination credits towards subject grade of a module (GFN)

12 Assigning examination credits to subject examination (FP)

13 Remarks

7 and 13 The following abbreviations are used:

Block = Block course
 Tf = Subject scheduled for a specific semester
 FP = Subject examination
 Wpf = Elective course
 üPL = Cross-course examination credits
 bPL = Study-related examination credits
 LV = Course

Degree program: Geomatics (GMCM)									Degree awarded: Master of Science		Table 1	
Study Program												
1	2	3	4	5	6	7	8	9	10	11	12	13
EDV Code	Module	Sem	SWS	CP	Art	Voraus	SL/Dauer	PV/Dauer	PL / Dauer	GFN	FP	Remarks
GMCM110	GIS and Databases	1	5	5	1.(V+Ü)+ 2.(V+Ü)			1.St/1S+ 2.St/1S	(1.+2.)KI / 120	1	01	
GMCM120	Object-oriented & Web Pro- gramming	1	5	5	1.(V+Ü)+ 2.(V+Ü)			1.St/1S+ 2.St/1S	(1.+2.)KI / 120	1	02	
GMCM130	Language & Academic Writing	1	6	5	1.(V+Ü)+ 2.(V+Ü)					1+1	03	§ 41 (3)
GMCM140	Pre-required Electives	1	10	15	1.(V+Ü)+ 2.(V+Ü)+ 3.(V+Ü)+ 4.(V+Ü)+ 5.(V+Ü)			1.St/1S+ 2.St/1S+ 3.St/1S+ 4.St/1S+ 5.St/1S	1.KI/60+ 2.KI/60 + 3.KI/60+ 4.KI/60+ 5.KI/60	5x1	04	§ 40 (4)
GMCM210	Software Engineering	2	4	6	1.(V+Ü)+ 2.(V+Ü)			1.St/1S+ 2.St/1S	(1.+2.)MP / 30	1	05	
GMCM220	Web Services & Monitoring	2	4	6	1.(V+Ü)+ 2.(V+Ü)			1.St/1S+ 2.St/1S	1.KI/60+ 2.KI/60	1+1	06	
GMCE230 to GMCE270	Elective 1	2	4	6		§ 40 (5)				1	07	§40 (4,5)
GMCE230 to GMCE270	Elective 2	2	4	6		§ 40 (5)				1	07	§40 (4,5)
GMCE230 to GMCE270	Elective 3	2	4	6		§ 40 (5)				1	07	§40 (4,5)
GMCM310	Geostatistics	3	4	6	V+Ü			St/SL	KI / 120	1	08	
GMCM320	Open Source GIS	3	4	6	V+Ü			St/SL	KI / 120	1	09	
GMCE330 to	Elective 4	3	4	6		§ 40 (5)				1	07	§40 (4,5)

SPO Geomatics Master's Degree Programme Part B

GMCE370												
GMCE330 to GMCE370	Elective 5	3	4	6		§ 40 (5)				1	07	§40 (4,5)
GMCE330 to GMCE370	Elective 6	3	4	6		§ 40 (5)				1	07	§40 (4,5)
GMCM410	Seminar for Master's Thesis	4		5					St / 1M	1	10	
GMCM420	Master's Thesis	4		22					MT / 5M	1	11	
GMCM430	Colloquium for Master's Thesis	4		3					MP / 30	1	12	
Total	Master's Program			120								

Degree program: Geomatics (GMCM)				Degree awarded: Master of Science		Table 2	
Master's examination							
EDP Code	Name of subject examination	Code	Related courses	Sem.	Weight for subject grade	Weigh of subject grades for overall grade	Note
GMCM110	GIS and Databases	FP01	GIS and Databases	1	1	1	
GMCM120	Object-oriented & Web Programming	FP02	Object-oriented & Web Programming	1	1	1	
GMCM130	Language & Academic Writing	FP03	Language & Academic Writing	1	1	1	
GMCM140	Pre-required Electives	FP04	Pre-required Electives	1	1	3	
GMCM210	Software Engineering	FP05	Software Engineering	2	1	1	
GMCM220	Web Services & Monitoring	FP06	Web Services & Monitoring	2	1	1	
GMCE230 to GMCE270 and GMCE330 to GMCE370	Electives	FP07	Elective 1 Elective 2 Elective 3 Elective 4 Elective 5 Elective 6	2+3	1 1 1 1 1 1	6	\$40 (4,5)
GMCM310	Geostatistics	FP08	Geostatistics	3	1	1	
GMCM320	Open Source GIS	FP09	Open Source GIS	3	1	1	
GMCM410	Seminar for Master's Thesis	FP10	Seminar for Master's Thesis	4	1	1	
GMCM420	Master's Thesis	FP11	Master's Thesis	4	1	4	
GMCM430	Colloquium for Master's Thesis	FP12	Colloquium for Master's Thesis	4	1	1	

§ 50-GMCM Coming into effect

This SPO comes into effect on September 1, 2018.

§ 51-GMCM Transitional regulations

Students who are already registered in the degree program *Geomatics* at Karlsruhe University of Applied Sciences at the date when this SPO comes into effect are allowed to take any remaining pre-examination and examination credits according to version 7 of the study and examination regulations until 31 August 2020 at the latest. Starting with this date, all students are required to take their examination credits according to the present SPO.

Karlsruhe, on August 14, 2018

The President

Prof. Dr.-Ing. Frank Artinger