

Regulations for the degree programme Sustainable Urban Development Master of Science (M.Sc.)

Implementation regulations
with appendices

I: Study and examination plan

II: Competence descriptions

III: Module handbook (*only published electronically*), dated
22 July 2020



TECHNISCHE
UNIVERSITÄT
DARMSTADT

Die englische Übersetzung dient nur zu Informationszwecken. Rechtlich verbindlich ist der deutsche Text.

The English translation is for information purposes only. The legally binding document is the German version.

Resolution of the Departmental Council on

22/07/2020

Coming into force of the Regulations for the Degree Programme on 01 October 2021

The Regulations for the degree programme M.Sc. Sustainable Urban Development of the Department of Civil and Environmental Engineering (with amendments to the Appendices I and III), dated 22 July 2020, supplementing the APB (*Allgemeine Prüfungsbestimmungen* – General Examination Regulations) of Technical University of Darmstadt, have been published, based on the approval of the Executive Board of Technical University of Darmstadt on 11 March 2021 (Ref. 652-2-2).

Darmstadt, 11 March 2021

President of Technical University of Darmstadt, Prof. Dr.
Tanja Brühl

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Joint regulations of the Department of Civil and Environmental Engineering of Technical University of Darmstadt and Vietnamese-German University (VGU) for the joint Master's degree programme Sustainable Urban Development concluding with the degree Master of Science (M.Sc.), dated 22 July 2020

Art. I Scope and general conditions

Section 1 Scope

These Regulations for the degree programme govern the course of studies and the module examinations of the Master's degree programme Sustainable Urban Development that is offered jointly both by Vietnamese-German University and the Department of Civil and Environmental Engineering of Technical University of Darmstadt in accordance with the APB (*Allgemeine Prüfungsbestimmungen* – General Examination Regulations) of Technical University of Darmstadt, dated 19 April 2004 (*Staatsanzeiger* – gazette of the State of Hesse no. 25, dated 21 June 2004, page 1998) in the version of the 5th amendment, dated 25 March 2015, (*Satzungsbeilage* – appendix to the statutes 2015 III page 3) and the amendments, dated 18 May 2016 (*Satzungsbeilage* – appendix to the statutes 2016 II page 37) and the General Examination Regulations of Vietnamese-German University, dated 14 August 2018.

The Regulations of the degree programme contain the APB (*Allgemeine Prüfungsbestimmungen* – General Examination Regulations) of Technical University of Darmstadt and the General Examination Regulations of Vietnamese-German University, the Implementation Regulations of the degree programme, the Study and Examination Plan, the Competence Descriptions and the Module Descriptions in their respective currently valid version.

Section 2 General conditions

As far as no deviating regulations have been specified in these Regulations of the degree programme, the Regulations of the university apply that teaches this degree programme.

Section 3 Examination board

The Department of Civil and Environmental Engineering of Technical University of Darmstadt and Vietnamese-German University set up a joint examination board for the Master's degree programme Sustainable Urban Development.

Section 4 Managing the degree programme

The degree programme Master of Science Sustainable Urban Development is jointly managed by both universities. Student records are managed by the university at which the students complete their first semester (home university). Both universities coordinate the exchange of student records.

1. Implementation regulations

For Section 2(1): Degrees

The degree programme M.Sc. Sustainable Urban Development is jointly carried out by the Department of Civil and Environmental Engineering of Technical University of Darmstadt and Vietnamese-German University (VGU) in Ho Chi Minh City. Technical University of Darmstadt and Vietnamese-German University award the degree Master of Science once the total of 120 credit points (CPs) required for the degree programme has been achieved.

For Section 3(4): Deadlines for examinations

Deadlines for examination (technical examinations and study examinations) are specified in Appendix I, the study and examination plan, of these implementation regulations.

As a rule, the registration periods for examinations at TU Darmstadt are between 15 November and 15 December for the winter semester and between 01 June and 30 June for the summer semester. The TUCaN portal must be used for registration.

At the VGU, registration for a module also includes registration for a module examination. Students can register either at the Examinations Office or via an electronic registration system up until one week from start of the module at the latest.

For Section 5(2),(3): Modules, components and type of examination

Appendix I of these implementation regulations, containing the study and examination plan, specifies the type (technical examination, study examination), scope, number and form (oral, written, special form, research assignment, seminar paper etc.) of the examination components as well as the weighting with which these are included in the overall grade for the module.

For Section 6: Offices for Student Affairs

The examinations (to be) taken by students are managed by the university where the respective examination has taken place. The universities coordinate how and when student records are shared. All records on examinations passed and failed are shared between the Offices for Student Affairs. The regulations of the respective university apply where examinations need to be retaken.

For Section 7(2),(3): Examination Board

Eight officials from both universities are members on the Examination Board. The Departmental Councils appoint four members each to serve on the Examination Board.

1. Chairperson (either a professor or a research associate (WiMi))
2. Deputy Chairperson (either a professor or a research associate)
3. Two members that are professors and/or research associates at TU Darmstadt
4. Two members that are professors and/or research associates at Vietnamese-German University
5. Student member of TU Darmstadt
6. Student member of Vietnamese-German University

The term of office for professors and research associates serving on the Examination Board is three years and for student members one year. The Chairperson and the Deputy Chairperson must not be from the same university. They are to be newly appointed by the universities with alternating functions every three years.

Regulations for the degree programme: M.Sc. Sustainable Urban

For Section 11(4),(5): General admission requirements – language of instruction

The language of instruction for the degree programme is English. Individual courses/modules can be offered in German and will also involve reading and working with academic literature in German. This is indicated in the module description.

The entry requirements for the Master's degree programme Sustainable Urban Development and, in particular, the prior knowledge and qualifications (entrance competencies) required from the applicants are defined below.

For Section 17a(1): Entry requirements and entrance competencies for Master's degree programmes

TU Darmstadt: For applicants who have obtained a degree in a member state of the European Union that entitles them to be admitted to the Master's degree programme, the application deadline for the Master's degree programme Sustainable Urban Development is 15 July of the year (cut-off period) for a winter semester. For all other applicants, the application deadline is 15 January of the year (cut-off period) for a winter semester.

Vietnamese-German University: For all applicants, the application deadline for the Master's degree programme Sustainable Urban Development is 18 August of the year (cut-off period) for a winter semester.

For Section 17a(2): Entrance competencies for a consecutive Master's degree programme

The entrance competencies for the consecutive Master's degree programme Sustainable Urban Development result from the competence profile of the entitling Bachelor's degree programmes in

- Architecture, Civil Engineering and Geodesy or Environmental Engineering at TU Darmstadt or
- Spatial planning (TU Dortmund University, TU Kaiserslautern etc.) or
- Urban and Regional Planning (HCU Hamburg, TU Berlin etc.) or
- Urbanistik (i.e. urban planning) (Bauhaus-Universität Weimar etc.) and Political Science or Sociology specialising in Urban Development

serving as reference degree programmes.

Details regarding the entrance competencies are specified in the competence description in Appendix II. The entry requirement for the Master's degree programme in Sustainable Urban Development is a Bachelor's degree in one of the reference degree programmes or a degree in a degree programme that teaches competencies that are not substantially different from those taught in one of the reference degree programmes (comparable degree programme).

For Section 17a(4) lit. a) and b): Formal entrance examination

During the formal entrance examination, proof of the required entrance competencies is verified on the basis of the written documents to be submitted by the applicants. The following documents must be submitted: the transcript for the first degree, the Diploma Supplement or comparable documents for the degree programme leading to the first degree.

For Section 17a(4) lit. c): Substantive entrance examination

If the entrance competencies could not be clarified positively or negatively during the formal entrance examination, a substantive entrance examination will then be conducted.

Depending on where the application has been handed in and as part of the substantive entrance examination, an oral examination of 60 minutes is conducted either on the premises of Technical University of Darmstadt or Vietnamese-German University or via Internet-based video telephony that is unobjectionable under data protection law.

For Section 17a(8): Admission subject to conditions

If, after an entrance examination, it is found that the applicant lacks entrance competencies that can be compensated for by completing modules amounting to no more than 30 CPs, admission may be granted subject to conditions. The letter of admission lists the modules or technical examinations that are required. The conditions must be met by the end of the second regular semester.

The conditions are governed by the APB (*Allgemeine Prüfungsbestimmungen* – general examination regulations) of Technical University of Darmstadt with the exception of the second resit/retake examination in accordance with Section 31 APB and the oral supplementary examination (mEP) in accordance with Section 32 APB, i.e., only two attempts per condition are permitted.

For Section 18: Admission requirements

The admission requirements for examinations or modules are specified in Appendix I and III of these implementation regulations, containing the study and examination plan and the module descriptions respectively.

For Section 22(2): Conducting examinations – duration of the oral examination

The duration of the oral examination (at least 15 minutes per examinee and examination) is specified in Appendix I of these implementation regulations, containing the study and examination plan.

For Section 22(5): Conducting examinations – duration of supervised examinations

The duration of supervised examinations (at least 45 minutes) is specified in Appendix I of these implementation regulations, containing the study and examination plan.

For Section 23(2): Thesis – requirements

For the topic of the thesis to be issued, the student must have acquired at least 84 CPs.

For Section 23(4): Thesis – supervision

Theses can be supervised both by the Department of Civil and Environmental Engineering of Technical University of Darmstadt and by Vietnamese-German University. A member of the group of professors at the Department of Civil and Environmental Engineering of TU Darmstadt and a member of Vietnamese-German University are responsible for assessing the thesis.

For Section 23(5): Thesis – preparation time

The thesis includes a workload of 24 CPs (720 hours) and must be completed and submitted within 26 weeks.

For Section 23(6): Thesis – withdrawal

Depending on who is supervising the thesis, either the APB (*Allgemeine Prüfungsbestimmungen* – General Examination Regulations) of TU Darmstadt or the General Examination Regulations of Vietnamese-German University apply.

For Section 23(7): Thesis – submission

Depending on who is supervising the thesis, either the APB (*Allgemeine Prüfungsbestimmungen* – General Examination Regulations) of TU Darmstadt or the General Examination Regulations of Vietnamese-German University apply.

For Section 23(8): Thesis – publication

Depending on who is supervising the thesis, either the APB (*Allgemeine Prüfungsbestimmungen* – General Examination Regulations) of TU Darmstadt or the General Examination Regulations of Vietnamese-German University apply.

For Section 25(1),(3): Formation and weighting of grades

The assessment system for each examination component is specified in Appendix I of these implementation regulations, containing the study and examination plan. The study and examination plan also specifies how the grades for the technical examinations and study examinations are weighted for module grading. Unless otherwise specified, the grades of each examined component within a specific module are totalled and weighted according to the credit points assigned to each of these components to produce the final module grade.

The university conducting the examination, determines the grades in accordance with the rules specified in its respective general examination regulations. How the grading scales are converted to grades is specified by the universities (refer to Appendix IV: Grading scales and conversion to grades).

For Section 28(3): Overall grade

Appendix I of these implementation regulations, containing the study and examination plan, specifies how the module grades are weighted for overall grading. Unless otherwise specified in Appendix I, the module grades are included and weighted in the overall grade according to the credit points earned in the modules.

For Section 31(1): Second resitting/retaking

The second resit/retake examination can take place orally with the agreement of the examiners and examinees.

For Section 34: Diploma Supplement

The universities issue a joint Diploma Supplement in English and in accordance with European conventions containing information regarding both education systems. The Executive Boards of both universities coordinate all other aspects of how the Diploma Supplement is to be set up.

For Section 35: Transcript

Each of the two universities issues its own certificate stating the demonstrated academic achievements in accordance with the applicable grading systems and referring to the certificate issued by the other university. The transcript will be issued in English. The Executive Boards of both universities coordinate all other aspects of how the transcript is to be set up.

For Section 36: Certificate

A joint certificate will be issued in English by Vietnamese-German University and TU Darmstadt. This certificate will state that this is a joint degree programme between TU Darmstadt and the VGU. The Executive Boards of both universities coordinate all aspects of how the certificate is to be set up.

For Section 38a: Taking effect

These implementation regulations take effect on 01 October 2021. They will be published in the *Satzungsbeilage* (appendix to the statutes) of Technical University of Darmstadt and in the Quality Handbook of Vietnamese-German University.

The Executive Board of Technical University of Darmstadt is authorised to republish an editorially revised complete version of the Regulations for the degree programme M.Sc. Sustainable Urban Development, dated 22 July 2020, in its approved version.

With these implementation regulations taking effect, the implementation regulations, dated 31 August 2018 (*Satzungsbeilage* – appendix to the statutes 2019-II) cease to apply.

Appendix I Study and examination plan

Appendix II Competence descriptions

Appendix III Module descriptions

Regulations for the degree programme: M.Sc. Sustainable Urban

Darmstadt, 18 February 2021

The Departmental Chairperson of Civil and Environmental
Engineering of Technical University of Darmstadt

The President of Vietnamese-German University

1.1. Appendix I: Study and examination plan

Master's degree programme Sustainable Urban Development (M.Sc.)

Study and examination plan (Appendix I): Admitted at TU Darmstadt

Key		Examination components					Course			Semester						
Assessment system:	St = standard (graded); bnb = passed/not passed	Technical examination	Study examination	Form of examination	Duration (min.)	Weighting for module grade	Weighting for overall grade	Contact hours per week (SWS)	Status	Form of teaching	Total CPs	Examinations are assigned to semesters for guidance only.				
Form of examination:	B=report; GW=groupwork; H=homework assignment; HÜ=homework, worksheets; CW=course work (in-class assignment, homework); K=written exam; mP=oral examination; Pf=portfolio; Pt=presentation; Th=thesis; S=seminar											1.	2.	3.	4.	
Status:	o = obligatory; f = facultative															
Form of teaching:	S=seminar															
CPs:	Credit points															
TUcaN number (#) and assignment of CPs to module elements are informative in nature. The CPs are recorded once the module is completed.																
Basic Courses												Study load per semester (CPs)				
												1.	2.	3.	4.	
13-B2-J001	German Law of Property and Planning	St	bnb	K	90	0	1	4			6	6				
13-B2-J001-se	German Law of Property and Planning			Pt				4	o	S		x				
13-B2-J002	Methodology of Empirical Analysis	St	bnb	H		0	1	4			6	6				
13-B2-J002-se	Methodology of Empirical Analysis			Pt				4	o	S		x				
13-B2-J003	GIS and Applications to Urban Development	St	bnb	K	90	0	1	4			6	6				
13-B2-J003-se	Basics of GIS			HÜ				2	o	S		x				
13-B2-J004-se	Using GIS for Urban Analysis							2	o	S		x				
Main Courses																
												1.	2.	3.	4.	
13-02-J001	Urban Development and Architecture of Cities	St	bnb	mP	20	0	1	4			6	6				
13-B2-J005-se	Urban Structures			Pt				2	o	sec		x				
13-M4-J001-se	Typology of Buildings							2	o	sec		x				
13-02-J004	Water in Urban Development	St		K	90		1	4			6		6			
13-K0-J001-se	Sanitary Environmental Engineering							2	o	S			x			
13-L2-J001-se	Hydraulic Engineering							2	o	S			x			
13-K3-J021	Sustainable Waste Management and Life Cycle Assessment Application	St	bnb	K	90	0	1	4			0		6			
13-K3-0021-vl	Sustainable Waste Management and LCA Application							2	o	VL			x			
13-K3-0021-ue	Sustainable Waste Management and LCA Application - Exercise							2	o	Ü			x			
13-K4-M007	Infrastructure Planning	St	bnb	K	120	0	1	4			6		6			
13-B2-J006-se	Economic Assessment Methods			HÜ				2	o	S			x			
13-B2-J007-se	System of Infrastructure							2	o	S			x			
13-EX-J001	Ecological Management in Urban Development						1	6			6			6		
./.	Ecological Management in Urban Development	St		CW		10			o	S				x		
		St		K	120	70										
		St		H		20										
13-EX-J002	Urban Rural Partnerships						1	6			6			6		
./.	Urban Rural Partnerships	St		CW		10			o	S				x		
		St		K	120	70										
		St		H		20										
13-EX-J003	Instruments of Spatial Planning						1	6			6			6		
./.	Instruments of Spatial Planning	St		CW		20			o	S				x		
		St		K	120	60										
		St		H		20										
13-EX-J004	Urban Transport Planning						1	6			6			6		
./.	Urban Transport Planning	St		CW		30			o	S				x		
		St		B		70										
Specialisation Courses																
												1.	2.	3.	4.	
13-D1-M008	Green Building Design II	St	bnb	B+Pt	15	1	1	4			6		6			
13-D1-0017-vl	Green Building Design II			HÜ		0		1	o	VL			x			
13-D1-0018-ue	Green Building Design II - Exercise							3	o	Ü			x			
13-A0-J001	Urban Construction Technologies	St		K	120		1	4			6		6			
13-A0-J001-se	Urban Construction Technologies								o	S			x			
13-EX-J005	Development Planning and Governance						1	6			6			6		
./.	Development Planning and Governance	St		GW		25			o	S				x		
		St		mP/K	20 / 120	50										
		St		CW		25										
Multidisciplinary Courses																
												1.	2.	3.	4.	
41-21-052	English Scientific Writing		St	Pf/Pt			1	4			6	6				
41-21-0550-ku	English Scientific Writing								o	S		x				
13-B2-J004	Multidisciplinary Project	St		mP	20		1	6			6		3	3		
13-B2-J008-se	Multidisciplinary Project		bnb	H					o	S			x	x		
MASTER'S THESIS (24 CPs)																
												1.	2.	3.	4.	
13-00-MTSU		St		Th			80				24			24		
		St		mP	40		20							x		
TOTAL																
												120	30	30	33	27



Master's degree programme

Study and examination plan (Appendix I): Admitted at VGU

Key		Examination components					Course			Semester						
Assessment system:	St = standard (graded); bnb = passed/not passed	Technical examination	Study examination	Form of examination	Duration (min.)	Weighting for module grade	Weighting for overall grade	Contact hours per week (SWS)	Status	Form of teaching	Total CPs	Examinations are assigned to semesters for guidance only.				
Form of examination:	B=report; GW=groupwork; H=homework assignment; CW=course work (in-class assignment, homework/exercise); K=written exam; mP=oral examination; Pt=presentation; Th=thesis; S=seminar											1.	2.	3.	4.	
Status:	o = obligatory; f = facultative											Study load per semester (CPs)				
Form of teaching:	S=seminar															
CPs:	Credit points															
TUCa number (#) and assignment of CPs to module elements are informative in nature. The CPs are recorded once the module is completed.																
Basic Courses																
13-EX-J006	Vietnamese Law of Property and Planning						1	16			18					
./.	Vietnamese Law of Property and Planning	St		mP/K	20 / 120	50		4	o	S	6	6				
		St		GW		25						x				
		St		CW		25										
13-B2-J002	Methodology of Empirical Analysis	St					1	6			6	6				
13-B2-J002-se	Methodology of Empirical Analysis	St		H		60			o	S		x				
		St		Pt		20										
		St		CW		20										
13-B2-J003	GIS and Applications to Urban Development	St		K	120		70	6			6	6				
		St		CW			30									
13-B2-J003-se	Basics of GIS							2	o	S		x				
13-B2-J004-se	Using GIS for Urban Analysis							2	o	S		x				
		St		K	120	70										
		St		CW		30										
Main Courses																
13-02-J001	Urban Development and Architecture of Cities						1	6			48	6	6			
./.	Urban Development of Architecture of Cities	St		mP/K	20 / 120	1		2	o	S	6	x				
			bnb	H												
			bnb	CW												
13-02-J004	Water in Urban Development	St		K	90		1	4			6		6			
13-K0-J001-se	Sanitary Environmental Engineering							2	o	S			x			
13-L2-J001-se	Hydraulic Engineering							2	o	S			x			
13-K3-J021	Sustainable Waste Management and Life Cycle Assessment Application	St		K	90		1	4			0		6			
			bnb	Pt		0										
13-K3-0021-vl	Sustainable Waste Management and LCA Application							2	o	VL			x			
13-K3-0021-ue	Sustainable Waste Management and LCA Application - Exercise							2	o	Ü			x			
13-K4-M007	Infrastructure Planning	St		K	120		1	4			6		6			
			bnb	HÜ		0										
13-B2-J006-se	Economic Assessment Methods							2	o	S			x			
13-B2-J007-se	System of Infrastructure							2	o	S			x			
13-EX-J001	Ecological Management in Urban Development						1	6			6			6		
./.	Ecological Management in Urban Development	St		CW		10			o	S				x		
		St		K	120	70										
		St		H		20										
13-EX-J002	Urban Rural Partnerships						1	6			6			6		
./.	Urban Rural Partnerships	St		CW		10			o	S				x		
		St		K	120	70										
		St		H		20										
13-EX-J003	Instruments of Spatial Planning						1	6			6			6		
./.	Instruments of Spatial Planning	St		CW		20			o	S				x		
		St		K	120	60										
		St		H		20										
13-EX-J004	Urban Transport Planning						1	6			6			6		
./.	Urban Transport Planning	St		CW		30			o	S				x		
		St		B		70										
Specialisation Courses																
13-D1-M008	Green Building Design II	St		B+Pt	15	1	1	4			6		6			
			bnb	HÜ		0										
13-D1-0017-vl	Green Building Design II							1	o	VL			x			
13-D1-0018-ue	Green Building Design II - Exercise							3	o	Ü			x			
13-A0-J001	Urban Construction Technologies	St		K	120		1	4			6		6			
13-A0-J001-se	Urban Construction Technologies								o	S			x			
13-EX-J005	Development Planning and Governance						1	6			6			6		
./.	Development Planning and Governance	St		GW		25			o	S				x		
		St		mP/K	20 / 120	50										
		St		CW		25										

Multidisciplinary Courses						12		12						
41-21-0552	English Scientific Writing					1	6		6	6				
41-21-0550-ku	English Scientific Writing	St		H		65		o	S	x				
		St		Pt		35								
13-B2-J004	Multidisciplinary Project			mP	20	1	6			6			3	3
13-B2-J008-se	Multidisciplinary Project		bnb	H				o	S				x	x
MASTER'S THESIS (24 CPs)		St		Th		80				24				24
13-00-MTSU		st		mP	40	20								
						TOTAL				120	30	30	33	27

v1.0

Status: 01 October 2020 (FB13)

1.2. Annex II: Competence descriptions

1.2.1. Entrance competencies

The following is expected from the admitted graduates of the Bachelor's degree programme entering the joint degree programme Sustainable Urban Development:

1. Fundamental knowledge regarding current challenges and basic methods of urban development and their application to simple cases;
2. Fundamental knowledge regarding empirical analysis methods, statistical analysis techniques and calculation skills;
3. Fundamental knowledge regarding and experience in producing written assignments and presentations; Good command of English;
4. Basic knowledge of economics is desirable;
5. Basic knowledge of civil engineering is recommended;
6. Fundamental knowledge of Vietnamese or German planning, building and land law, using geographic information systems including how to use these tools to solve simple tasks is advisable.

Should one or two of the required skills and abilities not have been acquired prior to starting the degree programme, this lack of expertise can be compensated by completing the offered basics modules (during the 1st semester).

1.2.2. Qualification objectives

Graduates of the degree programme Sustainable Urban Development will

1. have acquired in-depth knowledge regarding the drivers of sustainable urban development, how to identify them and how they interact;
2. be able to analyse complex questions of urban development and describe desired future conditions based on their analysis;
3. be able to develop possible solutions to reach these conditions, assess them by comparative evaluation and justify their preferred solution;
4. be able to implement such a solution in terms of planning and organisation;
5. have acquired the necessary ability provided by this interdisciplinary degree programme to create additional value through content synergies beyond individual disciplines;
6. have learned to set up an interdisciplinary team of experts from different areas of expertise to contemplate a problem from different perspectives and to collaborate as an interdisciplinary team;
7. be able to express and present the results of their work in writing and to an audience;
8. be able to freely discuss and adequately present their work and opinion in professional forums and with/to the interested public;
9. be able to apply empirical methods and GIS analyses to independently master complex tasks of sustainable urban development and become familiar with new challenges;
10. have acquired the ability to assess consequential effects of their action to their profession and society while considering their technological, social, economic and ecological impacts and putting them in a global context;
11. be able to work scientifically and present the results of their scientific work on a national and international level in speech and writing.

1.3. Annex III: Module descriptions

The module descriptions are published electronically as a module handbook in accordance with Section 1(1) of the *statute of Technical University of Darmstadt regulating the publication of the statutes of Technical University of Darmstadt*, dated 18 March 2010.