

Study Regulations

for the postgraduate degree programme “Natural Hazards and Risks in Structural Engineering”
(Master of Science)

In accordance with § 3, par. 1 in combination with § 34, par. 3 of the Thuringian Higher Education Act (ThürHG) effective 21 December 2006 (GVBl. pp. 601 ff.) and as amended by Article 15 on 20 March 2009 (GVBl. p. 238), the Bauhaus-Universität Weimar has issued the following study regulations, based on the Rector’s approval of the examination regulations for the postgraduate degree programme “Natural Hazards and Risks in Structural Engineering” with the conferral of a Master of Science (M.Sc.) degree. These study regulations were approved by the Faculty of Civil Engineering’s Faculty Council on 14 July 2009 and went into effect on 7 July 2010 with the approval of the Rector of the Bauhaus-Universität Weimar.

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§ 1 - Scope

The following study regulations specify the objectives, content and structure of the master's degree programme "Natural Hazards and Risks in Structural Engineering". On completion of the studies, the candidate receives a "Master of Science" (M.Sc.) degree in accordance with the corresponding Examination Regulations.

§ 2 - Admission requirements

(1) The minimum qualification of admission to this programme is normally a "Bachelor of Science" degree in Civil Engineering, or equivalent professional qualification with a final grade of 2.5 (acc. to German system) or better. The Examination Committee must ensure that the candidate's prior degree is equivalent to that of the B.Sc. programme in Civil Engineering. If not, the Examination Committee may attach additional conditions for admission, which the candidate must meet. In such cases, candidates are not legally entitled to gaining admission to the programme.

(2) In accordance with § 2 par. 8 (ImmaO), candidates must provide proof of English language proficiency level C1 by submitting either:

1. Proof of English proficiency as a native speaker (certificate of higher education entrance qualification or first-level professional qualification (i.e., undergraduate degree) from an English-speaking country), or
2. Proof of English proficiency level C 1 based on the Common European Framework of Reference for Languages, certified by one of the following internationally recognized certificates:
 - TOEFL (Internet: 79, computer: 213, paper: 550)
 - Cambridge Certificate in Advanced English, Grade C
 - IELTS, vol. 6.0or other equivalent certificate.

§ 3 - Commencement of degree programme

Candidates may only begin this master's degree programme in the winter semester.

§ 4 - Duration and credit requirements

The prescribed duration of study is four semesters. The master's degree programme requires that students complete course work totalling 120 ECTS credit points (CP). Upon request, students may be permitted to participate in this degree programme on a part-time basis.

§ 5 - Object and goals of the degree programme

(1) The master's degree programme in "Natural Hazards and Risks in Structural Engineering" is an intensive and application-based advanced course of study. The programme is highly supervised and research-oriented. It provides students a solid technical basis in the key areas of structural engineering through coherent and co-ordinated degree programme, integrating research and practical applications

(2) The degree programme enables students' excellence in oral and written skills. By providing students with advanced, scientifically-based, interdisciplinary knowledge, they are able to take on demanding engineering tasks in the areas of planning, construction and realization of structures under specific conditions. They are also able to carry out site- or structure-specific risk analysis using modern tools to estimate the threat of natural hazards.

In addition to strengthening their theoretical and scientific competence, students are able to develop skills in modelling, simulation and application of performance-based design, field work and laboratory investigations.

In order to structure and reflect the complexity of the chain reactions inherent to natural hazards, this programme explores in detail various engineering disciplines and engineering-related areas of the natural sciences, social sciences and economics. It examines the central role that structural

engineering plays in reducing the impact of natural disasters. Furthermore, it focuses on the engineering methods that are used to assess and reduce the vulnerability of structures. The programme highlights the demands on engineering technology at both regional and global level by using international projects as models. The elective compulsory modules expand on specific lines of development; they equip and prepare students systematically for future professional careers or further research positions.

(3) Following the successful completion of the master's examination, the candidate is awarded a "Master of Science" degree.

§ 6 - Structure and content of the degree programme

(1) Students should complete 30 credit points (CP) per semester. Students can only receive credit for passing the module examinations. One credit point corresponds to 30 hours of course work which includes course attendance and private study.

(2) The language of instruction is English.

(3) The master's degree programme is structured as follows:

See Attachment 1 (Course Schedule)

(4) The course work is module-based, i.e., interrelated seminars and lectures are bundled into modules of similar content or methods. The amount of credit awarded for modules is based on the total amount of work required to complete them. To receive credit for a module, the student must pass an examination at the end of the module which may be comprised of one or more assignments. A module is worth 6 CP of course work, or a multiple thereof. There are two basic structural forms of modules:

1. Basic (compulsory) modules, which all students are required to complete.
2. Elective compulsory modules, which students must choose from a course catalogue, published at the beginning of each semester.
Students must select a project as one of their elective compulsory modules.
Students must receive prior approval from the Examination Committee if they wish to select an elective compulsory module not included in their course catalogue.
3. Elective module, which students must choose from university course catalogue.

(5) Students are required to complete the Master's Thesis in the fourth semester. The Master's Thesis is equivalent to a workload of 24 credit points (CP).

§ 7 - Study abroad

The Faculty recommends that students study abroad – preferably during the summer break – to gain experience in data collection and become involved in concrete projects related to their course content, for which they are awarded a minimum of 6 credit points. Before departure, students should meet with the director of the degree programme to discuss what they intend to achieve during their stay abroad, which they document in a Learning Agreement. This Learning Agreement serves as the basis for awarding credit to the student's degree programme for the course work completed abroad. The director of the degree programme pledges to provide immediate academic and organizational support if circumstances justify it.

§ 8 - Completion of the master's degree programme

The master's degree programme concludes with the completion of the master's examination, comprised of the module examinations taken during the programme, the Master's Thesis and its presentation.

§ 9 - Academic advising

(1) An orientation event is offered to new first-semester students.

(2) A faculty advisor is responsible for personally advising students on academic matters.

(3) Personal academic advising is provided by university professors and academic staff of the Faculty of Civil Engineering.

(4) The director of the degree programme meets with the students at the beginning of each academic year to discuss the content and structure of the degree programme.

§ 10 - Equal treatment clause

Terms of status and function as applied in these regulations pertain to both sexes to an equal degree.

§ 11 - Statement of effect

These study regulations entered into effect on the first day of the month following their public announcement by the Bauhaus-Universität Weimar. First-semester students beginning in the winter semester 2010/11 are the first to which these regulations apply.

Approved by resolution of the Faculty Council on 16 February 2011.

Prof. Dr.-Ing. Hans-Joachim Bargstädt,
Dean of the Faculty of Civil Engineering

The statutes are approvable.

Dipl.-Jur. Rainer Junghanß
Legal advisor

Approved
Weimar, 6 April 2011

Prof. Dr.-Ing. Gerd Zimmermann
Rector

Study Regulations - Supplement 1				1st semester	2nd semester	3rd semester	4th semester
Master's degree programme "Natural Hazards and Risks in Structural Engineering" (2011)				(winter semester)	(summer semester)	(winter semester)	(summer semester)
Moduls		Credits		Credits	Credits	Credits	Credits
Stochastics and risk assessment		6		6			
Finite element methods and structural dynamics		6		6			
Structural engineering		6		6			
Primary hazards and risks		6		6			
Geographical Information Systems (GIS) and building stock survey		6		6			
Earthquake engineering and structural design		6			6		
Hazard projects and advanced geotechnologies		6			6		
Geo- and hydrotechnical engineering		6			6		
Elective module **		6			6		
Elective compulsory module *		6			6		
Experimental structural evaluation and rehabilitation		6				6	
Life-lines engineering		6				6	
Risk projects and evaluation of structures		6				6	
Elective module **		6				6	
Elective compulsory module *		6				6	
Elective compulsory module *		6					6
Master's Thesis		24	4 month				24

total **120** **30** **30** **30** **30**

* see NHRE module catalogue (updated annually, to be confirmed by the examination committee)

Students must select a project as one of their elective compulsory modules.

** any course is valid (German language course is valid too)