

Subject-specific study and examination regulations for the Master's program Climate, Earth, Water, Sustainability at the University of Potsdam

From 10 February 2021

The Faculty Council of the Faculty of Mathematics and Natural Sciences of the University of Potsdam has, on the basis of §§ 19 para. 1, 22 para. 1-2, in conjunction with. § Section 72 (2) no. 1 of the Brandenburg Higher Education Act (BbgHG) of April 28, 2014 (GVBl.I/14, [No. 18]), last amended by Act of September 23, 2020 (GVBl.I/20, [No. 26]) in conjunction with the Ordinance on the Design of Examination Regulations to Ensure the Equivalence of Studies, Examinations and Degrees (Higher Education Examination Ordinance - HSPV) of 4. March 2015 (GVBl.II/15, [No. 12]), last amended by Ordinance of July 7, 2020 (GVBl.II/20, [No. 58]), the Ordinance on the Regulation of Study Accreditation (Study Accreditation Ordinance - StudAkkV) of 28. October 2019 (GVBl.II/19, [No. 90]) and with Art. 21 para. 2 No. 1 of the Basic Regulations of the University of Potsdam (GrundO) of December 17, 2009 (AmBek. UP No. 4/2010 p. 60) in the version of the Fifth Statute Amending the Basic Regulations of the University of Potsdam (GrundO) of 21. February 2018 (AmBek. UP No. 11/2018 p. 634) and § 1 para. 2 of the new version of the general study and examination regulations for the non-teaching bachelor's and master's degree programs at the University of Potsdam dated January 30, 2013 (BAMA-O) (AmBek. UP No. 3/2013 p. 35), last amended on December 16, 2020 (Am-Bek. UP No. 2/2021 p. 10), enacted the following bylaws on February 10, 2021:¹

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§ 1 Scope of application

(1) These regulations apply to the master's program in Climate, Earth, Water, Sustainability at the University of Potsdam. As a subject-specific regulation, it supplements the new version of the general study and examination regulations for the non-teaching bachelor's and master's degree programs at the University of Potsdam (BAMA-O).

(2) In the event of any conflict between these Regulations and the BAMA-O, the provisions of the BAMA-O shall prevail over the provisions of these Regulations.

§ 2 Degree

After acquisition of the required credit points and after presentation of the graduation requirements, the University of Potsdam awards the degree of "Master of Science", abbreviated "M.Sc.", through the Faculty of Mechanical and Natural Sciences.

§ 3 Aims of the Master's program

In the research-oriented master's program Climate, Earth, Water, Sustainability, the specialized knowledge, skills and methods acquired in the bachelor's program are deepened and extended. The students:

- develop a deeper understanding of climate, other subsystems of the Earth system, and their changes, which builds on a fundamental understanding of Earth and environmental systems,
- become familiar with the water cycle and climate physics and acquire a general understanding of the use and management of water resources and energy production,
- have a broad understanding of statistics, geospatial data analysis and numerical modeling and are able to apply them to solve individual problems in scientific and applied fields,
- can collect and process field- and laboratory-based data and combine them with other relevant methods, such as remote sensing, as well as with results from environmental models,
- Learn to effectively formulate scientific problems related to climate change and environmental issues and offer science-based sustainable solutions.

¹ Approved by the President of the University of Potsdam on March 23, 2021.

- that also integrate economic aspects, develop the necessary soft skills such as teamwork, constructive feedback and independence, organizational and problem-solving skills, presentation skills, and knowledge transfer to effectively explain scientific problems and communicate scientific data and the results, thereby reaching the general public outside of academia.

§ 4 Duration and structure of the Master'program

(1) The consecutive and research-oriented master's degree program Climate, Earth, Water, Sustainability is offered at the University of Potsdam as a single-subject program with a standard period of study (full-time study) of 4 semesters and 120 credit points.

(2) The master's program is structured as follows:

Mandatory modules	36 LP
Elective modules	54 LP
Master thesis	30 LP

§ 5 Modules and course of study

(1) The Climate, Earth, Water, Sustainability master's program is composed of the following components:

Module abbreviation	Module name	LP
I. Compulsory modules (36 LP)		
GEE-CM01	Data Analysis and Management in Earth System Science	6
PHY-CM02	Numerical methods (Programming) & Introduction: Climate, Earth, Water, Sustainability	6
GEE-CE03	Data collection in Earth System Science	6
PHY-CC01	Atmospheric and Oceanic Fluid Dynamics	6
PHY-CM03	Debating Club (Student seminars) & Research training (traineeship)	6
Introductory modules (6 LP) One of the following introductory modules must be taken to compensate for the lack of specialized knowledge in each case.		
GEE-CE01	Introduction to the Earth System	6

GEE-CE02	Mathematics & Physics for Earth Sciences	6
II. Elective modules (54 LP)		
Students must successfully complete 9 elective modules totaling 54 credit points.		
II.1 Climate/Atmosphere		
PHY-SC01	Dynamics of the Climate System	6
GEW-SC02	Earth's Climate History	6
PHY-SC04	Numerical Models in Climate Science	6
GEE-M-V02	Atmospheric Science in the Anthropocene	6
II.2 Earth		
GEE-SE01	Land Use - a Key Control of Earth System Processes	6
GEE-SE02	Earth System Science & Anthropocene	6
GEE-SE03	The Environmental Modelling process	6
II.3 Water		
PHY-SW01	Ocean Dynamics	6
PHY-SW02	Ice Dynamics	6
GEE-SW03	Terrestrial Hydrosystems	6
GEE-M-V04	Dryland Hydrology	6
II.4 Sustainability		
MWPCEW100	Environmental Economics	6
MWPCEW200	Economics of Climate Change	6
GEE-SS03	Risk Perception, Communication and Adaptive Behavior	6
BIO-SS04	Ecosystem Dynamics (Biodiversity)	6
PHY-SS05	Recent Advances in CIEWS	6
MWPCEW300	Energy Policy and Climate Change	6
EMW_MA_010	Introduction to Science & Climate Change Communication	6
GEE-M-TK7	Natural Hazards and Risks	6
GEE-M-V03	Climate Change Adaptation	6
GEE-M-V06	Risk Analysis, - Assessment and - Reduction	6
II.5 Research Project		
PHY-S01	Introductory research project	6
III. master thesis (30 LP)		
Sum:		120

(2) The language of teaching and examination in the program is English.

(3) More detailed information on the modules mentioned in paragraph 1 is provided in Annex 1 to these regulations.

(4) An exemplary study plan for the

Master's program is listed in Appendix 2 to these regulations.

§ 6 Master thesis

(1) As soon as the student can prove that he or she has successfully completed 75 percent of the total number of credits to be earned in the program, including the credits for the master's thesis (72 credits), he or she is entitled to the immediate assignment of a topic for the master's thesis.

(2) The Master's thesis, including the disputation, has a total of 30 credit points.

(3) In deviation from § 30 para. 12 BAMA-O, the Master's thesis is written in English.

§ 7 Free trial

In the master's program Climate, Earth, Water, Sustainability, two free attempts are possible.

§ 8 Stay abroad

If a stay abroad is intended in the Master's program, the 2nd or 3rd semester is recommended according to the exemplary study plan.

§ 9 Module weighting of subject grades

The overall grade in the Master's program is calculated by calculating the mean value of all associated module grades weighted by the credit points, whereby the Master's thesis is given double weighting.

§ 10 Entry into force

(1) These regulations are to be published in the official announcements of the University of Potsdam and come into effect on October 1, 2021.

(2) These regulations apply to all students enrolled in the master's program Climate, Earth, Water, Sustainability at the University of Potsdam after the effective date of these regulations.

Annex 1: Module catalog

1. MNF modules

The descriptions of the modules of the study program listed in § 6 para. 1 as well as in the following table are regulated by the statutes for the module catalog of the Faculty of Mathematics and Natural Sciences to supplement the Bachelor's and Master's programs at the University of Potsdam (MK MNF). Supplementary regulations or deviations from the regulations of the MK MNF can be found in the following table.

Module no.	Module title	PM/ WPM	LP	Access requirement
BIO-SS04	Ecosystem Dynamics (Biodiversity)	WPM	6	s. MK MNF
GEE-CE01	Introduction to the Earth System	PM	6	s. MK MNF
GEE-CE02	Mathematics & Physics for Earth Sciences	PM	6	s. MK MNF
GEE-CE03	Data collection in Earth System Science	PM	6	s. MK MNF
GEE-CM01	Data Analysis and Management in Earth System Science	PM	6	s. MK MNF
GEE-M-V04	Dryland Hydrology	WPM	6	s. MK MNF
GEE-M-V06	Risk Analysis, - Assessment and - Reduction	WPM	6	s. MK MNF
GEE-M-TK7	Natural Hazards and Risks	WPM	6	s. MK MNF
GEE-M-V03	Climate Change Adaptation	WPM	6	s. MK MNF
GEW-SC02	Earth's Climate History	WPM	6	s. MK MNF
GEE-SE01	Land Use - a Key Control of Earth System Processes	WPM	6	s. MK MNF
GEE-SE02	Earth System Science & Anthropocene	WPM	6	s. MK MNF
GEE-SE03	The Environmental Modeling Process	WPM	6	s. MK MNF
GEE-SS03	Risk Perception, Communication and Adaptive Behavior	WPM	6	s. MK MNF
GEE-SW03	Terrestrial Hydrosystems	WPM	6	s. MK MNF
GEE-M-V02	Atmospheric Science in the Anthropocene	WPM	6	s. MK MNF
PHY-CC01	Atmospheric and Oceanic Fluid Dynamics	PM	6	s. MK MNF
PHY-CM02	Numerical methods (Programming) & Introduction: Climate, Earth, Water, Sustainability	PM	6	s. MK MNF
PHY-CM03	Debating Club (Student seminars) & Research training (Traineeship)	PM	6	s. MK MNF
PHY-S01	Introductory research project	WPM	6	s. MK MNF
PHY-SC01	Dynamics of the Climate System	WPM	6	s. MK MNF
PHY-SC04	Numerical Models in Climate Science	WPM	6	s. MK MNF
PHY-SS05	Recent Advances in CIEWS	WPM	6	s. MK MNF
PHY-SW01	Ocean Dynamics	WPM	6	s. MK MNF
PHY-SW02	Ice Dynamics	WPM	6	s. MK MNF

2. WiSo modules

The descriptions of the modules of the study program listed in § 6 para. 1 as well as in the following table are regulated by the statutes for the module catalog of the Faculty of Economics and Social Sciences to supplement the Bachelor's and Master's programs at the University of Potsdam (MK WiSoF). Supplementary regulations or deviations from the regulations of the MK WiSoF can be found in the following table.

Module no.	Module title	PM/ WPM	LP	Access requirement
MWPCEW100	Environmental Economics	WPM	6	s. MK WiSoF
MWPCEW200	Economics of Climate Change	WPM	6	s. MK WiSoF
MWPCEW300	Energy Policy and Climate Change	WPM	6	s. MK WiSoF

3. Modules of the PhilF

The descriptions of the modules of the study program listed in § 6 para. 1 as well as in the following table are regulated by the statutes for the module catalog of the Faculty of Humanities to supplement the Bachelor's and Master's programs at the University of Potsdam (MK PhilF). Supplementary regulations or deviations from the regulations of MK PF can be found in the following table.

Module no.	Module title	PM/ WPM	LP	Access requirement
EMW_MA_010	Introduction to Science & Climate Change Communication	WPM	6	s. MK PhilF

Appendix 2: Exemplary study plan

Module short description	Module	Subject Semester			
		1.	2.	3.	4.
I Compulsory modules (36 LP)					
GEE-CM01	Data Analysis and Management in Earth System Science	6			
PHY-CM02	Numerical methods (Programming) & Introduction: Climate, Earth, Water, Sustainability	5 (V&Ü)	1 (E)		
GEE-CE03	Data collection in Earth System Science		6		
PHY-CC01	Atmospheric and Oceanic Fluid Dynamics		6		
PHY-CM03	Debating Club (Student seminars) & Research training (traineeship)			6	
GEE-CE01	Introduction to the Earth System	6			
GEE-CE02	Mathematics & Physics for Earth Sciences				
II. Elective Modules (54 LP). Nine modules á 6 LP are to be chosen					
II.1 Climate/Atmosphere					
PHY-SC01	Dynamics of the Climate System (recommended prerequisite GEE-CC01)			<6>	
GEW-SC02	Earth's Climate History*	<6>		<6>	
PHY-SC04	Numerical Models in Climate Science** (recommended prerequisite: PHY-CM02, PHY-CC01).			<6>	
GEE-M-V02	Atmospheric Science in the Anthropocene*	<6>		<6>	
II.2 Earth					
GEE-SE01	Land Use - a Key Control of Earth System Processes*	<6>		<6>	
GEE-SE02	Earth System Science & Anthropocene**	<6>	<6>	<6>	
GEE-SE03	The Environmental Modeling Process*	<6>		<6>	
II.3 Water					
PHY-SW01	Ocean Dynamics**	<6>	<6>	<6>	
PHY-SW02	Ice Dynamics		<6>		
GEE-SW03	Terrestrial Hydrosystems		<6>		
GEE-M-V04	Dryland Hydrology		<6>		

II.4 Sustainability					
MWPCEW100	Environmental Economics*	<6>		<6>	
MWPCEW200	Economics of Climate Change**	<6>	<6>	<6>	
GEE-SS03	Risk Perception, Communication and Adaptive Behavior		<6>		
BIO-SS04	Ecosystem Dynamics (Biodiversity)		<6>		
PHY-SS05	Recent Advances in CIEWS**	<6>	<6>	<6>	
MWPCEW300	Energy Policy and Climate Change**	<6>	<6>	<6>	
EMW-MA_010	Introduction to Science & Climate Change Communication		<6>		
GEE-M-TK7	Natural Hazards and Risks		<6>		
GEE-M-V03	Climate Change Adaptation*	<6>		<6>	
GEE-M-V06	Risk Analysis, - Assessment and - Reduction*	<6>		<6>	
II.5 Research Project					
PHY-S01	Introductory research project	<6>	<6>	<6>	
Master thesis and disputation (30 LP)					
Master thesis					30
Total LP to be acquired per semester		29	31	30	30
*Module can be taken alternatively in 1st or 3rd FS.					
** Module is offered alternatively in WiSe or SoSe.					