Examination Regulations (Rules) of the Faculty of Mathematics and Natural Sciences at Christian-Albrechts-Universität zu Kiel (Kiel University) for students of the degree programme in "Climate Physics: Meteorology and Physical Oceanography" leading to a Master of Science degree (M.Sc.) – 2021 (Examination Regulations (Rules) Climate Physics: Meteorology and Physical Oceanography M.Sc. – 2021)

of 10 June 2021

Article 3 of the rules of 10 June 2021, published on 16 July 2021 (NBl. HS MBWK Schl.-H. p 51)

Based on § 52 (1) Sentence 1 of the Schleswig-Holstein Higher Education Act (HSG) of 5 February 2016 (GOVOBl. Schl.-H. p 39), most recently amended by the Act of 13 December 2020 (GVOBl. Schl.-H. 2021, p. 2), after a resolution was passed by the Convention of the Faculty of Mathematics and Natural Science on 28 May 2021 the following rules were issued:

Table of contents:

Annex : Programme schedule for the Master of Science in "Climate Physics: Meteorology and Physical Oceanography"

§ 1
Scope of Application

(1) These Examination Regulations in conjunction with the Examination Procedure Regulations (Rules) of Kiel University for students of Bachelor's and master's Degree Programmes (PVO) apply to the Master's Degree programme "Climate Physics: Meteorology and Physical Oceanography" at Kiel University.

(2) For imported modules, in particular for the admission to and the conduct of examinations, the provisions of the degree specific examination regulations of the offering subject apply.

§ 2
Objective of the degree programme

In the research-oriented Master's degree programme which is the subject of these Regulations, students are provided with advanced knowledge in the selected subject areas as well as the skills required for independently carrying out project work and presenting the results. The Master's degree is regarded as proof that graduates are capable of performing independent, scientific work in their subject area. They are also accordingly qualified for professional careers. The degree also serves to qualify for a doctoral degree programme.

§ 3
Academic title

The student is awarded the degree of Master of Science (M.Sc.) if he or she has obtained at least a final grade of 'sufficient' (ausreichend).

§ 4
Admission to the Master's degree programme

(1) Admission to the Master's degree programme requires that the applicant has completed a Bachelor's degree programme (B.Sc.) in Climate Physics, Meteorology, Oceanography or a related subject after a standard period of study of at least three years at a German or comparable foreign institution of higher education. The candidate must have obtained at least 180 ECTS credit points or passed a comparable final examination.
Applicants with a university degree in a related subject can be admitted without satisfying further conditions, if they have obtained at least a total of 50 ECTS credit points in modules from the subjects of Physics and Mathematics. The content of these modules must correspond with the knowledge upon achievement of the Bachelor's degree programme in "Physics of the Earth System: Meteorology - Oceanography– Geophysics". If the applicant has obtained fewer than 50 ECTS credit points but at least 40 ECTS credit points in modules from the subjects of Physics and Mathematics, then admission is possible under the condition that the student catches up with the required ECTS credit points as part of the optional studies.

(2) In addition, admission to the Master's degree programme in "Climate Physics: Meteorology and Physical Oceanography", requires evidence of the following:
   1. A special motivation, evidenced by a motivational letter written in English which presents:
      a. the specific talents and interests on account of which the applicant considers him or herself particularly suited to this degree programme.
      b. to what extent he or she possesses sufficient prior knowledge of the scientific basics of the Master's degree, obtained from a first degree programme and/or previous professional activities.
      c. how this Master's degree programme will enable the applicant to achieve his/her professional goals.
   2. Programming skills in at least one programming language, as well as knowledge of Unix or Linux.

3. English language skills in accordance with the study qualification rules (Studienqualifikationssatzung).

(3) The Examination Board determines whether the requirements for admission to the Master's degree programme are met and a motivational letter was submitted.

§ 5
Structure of the curriculum

(1) The standard period of study for the Master's degree programme is four semesters. The degree programme encompasses approximately 100 weekly 45-minute teaching units (Semesterwochenstunden – SWS) and 120 ECTS credit points, including 25 ECTS for the Master's thesis. The number of SWS may deviate slightly from this, depending on the optional modules chosen.

(2) The Master's degree programme in "Climate Physics: Meteorology and Physical Oceanography" is divided into the following sections, with the number of ECTS credit points for each in brackets: Pflichtmodule/Compulsory Modules (C) (30 ECTS), Wahlpflichtmodule/Compulsory Elective Modules (CE) (20 ECTS), Wahlpflichtmodule Vertiefung/Specialization Modules (SP) (45 ECTS) and the Master's thesis with 25 ECTS. For the "Compulsory Modules" section, the modules are bindingly named in the study plan (Annex 3).
For the "compulsory elective modules" section, students must complete two of the three compulsory elective modules given in the programme schedule (i.e. climAPO, climAME and climAPC). In the "specialization modules" section, students must complete modules from the table "Specialization modules from the field of Climate Physics" (Annex 3) or graded modules from the range offered by the Faculty of Mathematics and Natural Sciences, mainly from geosciences and marine sciences, or the physical subjects.

§ 6
Academic year

The academic year applies to the degree programme in these Examination Regulations. Courses for both new students and returning students from odd-numbered semesters are only offered in a winter semester.

Registrations for the Master's degree programme in "Climate Physics: Meteorology and Physical Oceanography" during odd-numbered semesters are only possible for a winter semester. Registrations during even-numbered semesters are only possible for a summer semester.

§ 7
Teaching and examination language

The teaching and examination language is English.

§ 8
Module examinations and module grades

(1) The type and number of module examinations required as part of the modules can be found in the Annex.

(2) The duration of a written examination must be at least 30 minutes and no longer than 2 hours. An oral examination shall last at least 15 and no more than 30 minutes.

(3) If a module examination consists of several examinations, the module grade will be calculated using the arithmetic average of the grades for individual examinations or in accordance with the weighting of the individual examinations indicated in the Annex.

§ 9
Prerequisites for admission to examinations and admission to modules

(1) If a module contains field trips, lab courses, practical exercises or one of the seminars listed in (2), admission to the examination requires regular attendance to these courses.

(2) Regular attendance to the seminars accompanying lab courses is necessary because they address safety aspects as well as aspects related to performing experiments.

climCOL, climMESEM, climPOSEM:
Attendance to the modules is compulsory. The aim is to teach students to critically evaluate current research, participate in scientific discussions and come into contact with new research topics and methods. An important element is the students' own lecture on current literature, which is discussed and evaluated together, or the students' moderation and discussion of the lectures by external scientists. Attendance is therefore crucial.

climOMSEM, climCSEM, climMEMODEL, climMEASSIM, climMECARBON, climMECLOUD, climPOTROPIC, climPOLAGRANGE, CLIMPOENSO, climPOSHALLOW, climCPPCLIM-01a, climCPMCLIM-01a, climCPTCLIM-01a:
Attendance to the seminars for the modules listed is compulsory. Among other things, presentations are given by students on current research topics, which should accompany and consolidate the respective topic of the lecture. The aim is to teach students to critically evaluate current research, participate in scientific discussions and come into contact with new research topics and methods. An important element is the student's own presentation about his/her current literature, which is jointly discussed and assessed. Attendance is therefore crucial.

(3) Attendance is considered regular if the student does not miss more than 10% of the dates. The Examination Board decides regarding justified exceptional cases.

(4) If a student misses more dates - but not more than a total of 40% of all course dates - due to illness or other good reasons, the responsible examiners may authorise the student to make up for the parts missed by delivering an equivalent achievement in terms of (5). However, students do not have the right to demand this. The reasons for failing to attend courses must be proven immediately; in the case of illness by a doctor's note.

(5) As a precondition for admission to examinations, the following examination prerequisites may be required: practical reports, written reports, seminar presentations, completion of calculation exercises, working out practical exercises, attendance certificates, term papers, oral presentations. The modules in which examination prerequisites may be required are marked as such in the annex. The specific examination prerequisites along with further details will be suitably announced at the beginning of the respective semester.

§10
Restriction of admission to compulsory or compulsory elective lectures

(1) The number of places available for the individual compulsory or compulsory elective lectures will be determined by the Faculty Convention upon request by the Department of Marine Sciences or Geosciences. If more students initially register for the lab courses, seminars or exercises than there are places available, the Examination Board will determine whether the remaining students can be accommodated through other or additional courses.

(2) If it is not possible to accommodate all the remaining students, the course administrator will select a number of students from those registered for a degree programme in which the course is envisaged as part of the curriculum, who have promptly registered by the date stipulated by the course administrator and who satisfy the conditions of attendance, according to the following criteria:

1. The first entitlement goes to students for whom attendance at this specific course is essential for them to duly complete their studies according to the curriculum, and who, in the previous semester, were set back by one semester due to capacities.

2. The second entitlement goes to students who are currently in the semester for which the course is envisaged according to the curriculum, and to students who did not obtain the necessary certificate in the previous semester and therefore would have to retake the course in accordance with these examination regulations. Within this entitlement, the first group is entitled to 90% of the places and the second group to 10%.
3. The third entitlement goes to students who are not currently in the semester for which the course is envisaged according to the curriculum and who register for the course at issue for the first time, and to students who already received a place on the course at issue in a previous semester but had to give it up with valid reasons in accordance with Section 52 (4) of the Schleswig-Holstein Higher Education Act, or for a comparable reason.
4. The fourth entitlement goes to students who already received a place on the course at issue in a previous semester and who vacated the course without evidence of a valid reason.

In the case of equal entitlement, the lower number of semesters will decide; in the case of equal number of semesters, the decision will be made by drawing lots. The examination board decides on cases of hardship.

§ 11
Master’s thesis

(1) When applying for admission to the Master’s thesis, the candidate can propose a topic to the supervisor for the thesis. This does not give rise to any claims.

(2) In exceptional cases and with the consent of the Examination Board, the Bachelor’s or Master’s thesis may be prepared at an institution outside the University, provided that appropriate supervision of the candidate is available there. Supervision may also be provided by people working at the supervising facility, who are qualified in accordance with the Examination Procedure Regulations for students of Bachelor’s and Master’s Degree Programmes (PVO). In cases of doubt the Examination Board will decide.

(3) The Master’s thesis must be written in English.

(4) The results of the Master's thesis are to be presented orally in a scientific lecture with a discussion before submitting the written version. The lecture will be held in a colloquium in front of both examiners of the Master’s thesis and will take place in English. With confirmation by the Examination Board, the attendance of one of the supervisors can be waived. The lecture must be passed but will not be graded.

(5) The Master’s thesis is to be submitted to the responsible Examination Office in the form of two hard copies and one copy stored on a medium suitable for electronic data processing.

(6) The Bachelor’s or Master’s thesis will be assessed within six weeks of submission in the form of two written reports by the examiners.

(7) Any candidate who has obtained at least 60 ECTS credits from module examinations in compulsory and optional modules may be admitted to the Master’s thesis.

(8) The period from when the topic is issued until the Master’s thesis is submitted is 6 months. With regard to an extension of the processing time, the regulations of the examination procedure regulations (Prüfungsverfahrensordnung) of Kiel University apply.

(9) The topic of the Master’s thesis may be handed back only once and only within the first six weeks.

§ 12
Calculation of the final grade

In the Master's degree programme in "Climate Physics: Meteorology and Physical

Oceanography", the overall grade includes the section grades for the compulsory modules (weighting of 30), compulsory elective modules (weighting of 20) and specialization modules (weighting of 45) as well as the grade for the Master's thesis (weighting of 50).

The section grades are calculated as the weighted average of the grades from the modules allocated to the respective section according to § 5. The ECTS credit points of the allocated modules are used as the weighting factors.

§ 13
Transitional provisions

(1) Students who were registered for the degree programme in Climate Physics: Meteorology and Physical Oceanography leading to a Master of Science (M.Sc) degree by 01 October 2021 automatically change to the new Rules.

(2) If modules are offered in a changed form, they must be completed in the new version. If compulsory modules from the expired Rules are no longer offered in accordance with § 4 (2), substitute modules shall be named by the Examination Board.

(3) If a student has completed and passed independent parts of a module examination, these will be recognised. The Examination Board determines which additional examinations are necessary to complete the module, under consideration of the module's learning targets and the purpose of the examination.

(4) Examinations failed before these rules entered into force will be set off against the number of attempts in accordance with the new examination regulations, provided the structure of the new module examinations permits recognition.

(5) The Examination Board decides regarding special cases of hardship for which the student is not responsible.

Article 4 of the statute of 10 June 2021
Entry into force, expiry

(1) These rules enter into force on 1 October 2021.

(2) At the same time, the Examination Regulations (Rules) of the Faculty of Mathematics and Natural Sciences at Christian-Albrechts-Universität zu Kiel (Kiel University) for students of the Bachelor of Science (B.Sc.) degree programme in "Physics of the Earth: Meteorology – Oceanography – Geophysics" and the Master of Science (M.Sc.) degree programmes in "Geophysics" and "Climate Physics: Meteorology and Physical Oceanography" – 2019 of 13 June 2019 HS MBWK Schl.-H., p. 38), last amended by the Rules of 25 February 2021 (NBl. HS MBWK Schl.-H. p. 17) expire.

Annex:

Programme schedule for the Master of Science in "Climate Physics: Meteorology and Physical Oceanography"

The module sections cover C "Compulsory Modules", CE "Compulsory Elective Modules", SP "Specialization Modules".

	Modul	Modulbezeichnung	LF	SWS	P / WP	Voraus-setzung	PL	LP		Be-reich
								Sem.	Jahr	
1st semester	climAGFD	Advanced Geophysical Fluid Dynamics	V/PÜ#	2/1	P		M*	5		C
	climOMSEM	Oceanography-Meteorology Seminar	S#	2	P		P*	5		C
	climAPO	Advanced Physical Oceanography1 Part 1: Thermohaline Circulation	V/PÜ#	2/1	WP		-	(5)		CE
	climAME	Advanced Meteorology1 Part 1: Stratospheric Physics & Dynamics	V/PÜ#	2/1	WP		-	(5)		CE
		Specialization2	V/S od. V/PÜ#	2/1	WP		j.n.M.*	5		SP
		Specialization2	V/S od. V/PÜ#	2/1	WP		j.n.M.*	5		SP
		Specialization2	V/S od. V/PÜ#	2/1	WP		j.n.M.*	5		SP
				Σ 17/20				**Σ (30) 25**		
2nd semester	climDAT	Data Analysis and Statistics	V/PÜ#	2/1	P		M*	5		C
	climCSEM	Climate Seminar	S#	2	P		P*	5		C
	climAPO	Advanced Physical Oceanography1: Part 2: Wind-driven Circulation	V/PÜ#	2/1	WP		M*	(5) 10		CE
	climAME	Advanced Meteorology1: Part 2: Tropospheric Physics & Dynamics	V/PÜ#	2/1	WP		M*	(5) 10		CE
		Specialization2	V/S od. V/PÜ#	2/1	WP		j.n.M.*	5		SP
		Specialization2	V/S od. V/PÜ#	2/1	WP		j.n.M.*	5		SP
		Specialization2	V/S od. V/PÜ#	2/1	WP		j.n.M.*	5		SP
				Σ 17/20				**Σ (30) 35**	**Σ 60**	
3rd semester	climNUM	Numerical Methods and Models	V/PÜ#	2/1	P		M*	5		C
	climGD	Geostrophic Dynamics	V/PÜ#	2/1	P		M*	5		C
	climAPC	Advanced Physical Climate1 Part 1: Climate Feedbacks	V/PÜ#	2/1	WP		-	(5)		CE
		Specialization2	V/S od. V/PÜ#	2/1	WP		j.n.M*	5		SP
		Specialization2	V/S od. V/PÜ#	2/1	WP		j.n.M*	5		SP
		Specialization2	V/S od. V/PÜ#	2/1	WP		j.n.M*	5		SP
				Σ 15/18				**Σ (30) 25**		
4th semester	climAPC	Advanced Physical Climate1: Part 2: Regional Climate Variability	V/PÜ#	2/1	WP		M*	(5) 10		CE

	climTHES	Master's Thesis & Presentation	-	-	P	Min. 60 LP	S+M3	25		
				Σ 2/5				**Σ (30) 35**	**Σ 60**	

Note:
[1] A total of two of the three modules climAPO, climAME and climAPC must be completed in the compulsory elective section. If the module climAPO is chosen, the choice of the modules climAPOTHERM-01a and climAPOWIND-01a in the area SP is excluded; if the module climAME is chosen, the choice of the modules climAMESTRAT-01a and climAMETROP-01a in the area SP is excluded and if the module climAPC is chosen, the choice of the modules climAPCFEED-01a and climAPCREGION-01a in the area SP is excluded.

[2] See the table for the "Specialization Modules" section "M.Sc. specialization modules from the Climate Physics section

[3] The Master's thesis is made up of a graded, written paper and an ungraded presentation (composite examination).

Note: due to the alternating courses on offer, it is possible that the modules from the 3rd semester need to be taken in the 1st semester, and modules from the 1st semester in the 3rd semester.

"Specialization Modules" section
Table for the M.Sc. specialization modules from the Climate Physics section

Abbr.	Modulname	Module elements and SWS	P/WP	LP	PL	N	Zugangs-vorausset zung
climCOL	Ocean Circulation and Climate Dynamics Colloquium	1S#	WP	2	Tt#	n	-
climSCHOOL	Environmental Science Summer School	Mind. 5 Tage Blockvorlesung / Block Lecture	WP	5	H	n	-
climINTERN	Ocean and Climate Physics Research Internship	Variable Projektarbeit / Research Internship	WP	5	H	n	-
climSUSTAIN	Ocean Sustainability	2V+1K	WP	6	PL	j	-
climMESEM	Meteorological Lunch Seminar	2S#	WP	5	P#	j	-
climMEMODEL	Modern Aspects in Meteorology I: Climate Modeling	2V+1S#	WP	5	P#	j	-
climMEASSIM	Modern Aspects in Meteorology II: Data Assimilation	1V/1S#/1PÜ#	WP	5	P#	j	-
climMECARBON	Modern Aspects in Meteorology III: Carbon Cycling in a Changing Climate	1V/1S#/1PÜ#	WP	5	M#	j	-
climMECLOUD	Modern Aspects in Meteorology IV: Cloud Physics	2V+1S#	WP	5	P#	j	-
climPOSEM	Physical Oceanography Lunch Seminar	2S	WP	5	P*	j	-
climPOTROPIC	Modern Aspects in Physical Oceanography I: Tropical Ocean Dynamics	2V+1S#	WP	5	M#	j	-
climPOLAGRANGE	Modern Aspects in Physical Oceanography II: Lagrangian analysis and dispersion in the ocean	2V+1S#	WP	5	RS#	j	-
climPOENSO	Modern Aspects in Physical Oceanography III: The El Niño-Southern Oscillation	2V+1S#	WP	5	P#	j	-
climPOSHALLOW	Modern Aspects in Physical Oceanography IV: Shallow water analogues of ocean/atmosphere processes	2V+1S#	WP	5	H#	j	-
climPOOGCM	Modern Aspects in Physical Oceanography V: Ocean General Circulation Modelling	2V+1S	WP	5	SB	j	-
climPOMODCIRC	Modern Aspects in Physical Oceanography VI: The modelled wind-driven and thermohaline circulation	2V+1S	WP	5	SB	j	-
climPOCOAST	Modern Aspects in Physical Oceanography VII: Coastal Oceanography	2V+1S	WP	5	P	j	-
climSCIENCE-01a	Introduction to scientific writing	2S#	WP	3	RS#	j	-
climAMESTRAT-01a	Advanced Meteorology: Stratospheric Physics & Dynamics[4]	2V+1PÜ	WP	5	M	j	-
climAMETROP-01a	Advanced Meteorology: Tropospheric Physics & Dynamics[4]	2V+1PÜ	WP	5	M	j	-
climAPCFEED-01a	Advanced Physical Climate: Feedbacks in the Climate System[5]	2V+1PÜ	WP	5	M	j	-

climAPCREGION-01a	Advanced Physical Climate: Regional Climate Variability[5]	2V+1PÜ	WP	5	M	j	-
climAPOTHERM-01a	Advanced Physical Oceanography: Thermohaline Circulation[6]	2V+1PÜ	WP	5	M	j	-
climAPOWIND-01a	Advanced Physical Oceanography: Wind-driven Circulation[6]	2V+1PÜ	WP	5	M	j	-
climPALEO-01a	Modern Aspects in Physical Oceanography VIII: Introduction to Paleoceanography/ Paleoclimatology	2V+1S	WP	5	P	j	-
climCPPCLIM-01a	Modern Aspects in Climate Physics I: Polar Climate	1V+2S#	WP	5	SB	j	-
climCPMCLIM-01a	Modern Aspects in Climate Physics II: Mid Latitude Climate	1V + 2S#	WP	5	SB	j	-
climCPTCLIM-01a	Modern Aspects in Climate Physics III: Tropical Climate	1V + 2S#	WP	5	SB	j	-

[4] If this module is selected, the selection of the module climAME in the CE area is excluded.
[5] If this module is selected, the selection of the module climAPC in the CE area is excluded.
[6] If this module is selected, the selection of the module climAPO in the CE area is excluded.

Erläuterungen/Explanations:

Modul:	Titel des Moduls in Form des Modulcodes Module title given as module code
Modulbezeichnung:	Name des Moduls Module name
LF:	Lehrform, Art der Lehrveranstaltung Course type V: Vorlesung/Lecture, S: Seminar/Seminar, PÜ: Praktische Übung/Practical Exercise (mit Anwesenheitspflicht/compulsory attendance), K: Kolloquium/Colloquium
SWS:	Semesterwochenstunden der LF Course semester hours
P / WP:	Status des Moduls (Pflicht / Wahlpflicht) Module status (P =compulsory / WP= compulsory elective)
Voraussetzung:	Zugangsvoraussetzung für das Modul Module prerequisite
PL:	Prüfungsleistung Type of Examination j.n.M.: je nach Modul/ depending on the module, M: mündliche Prüfung/Oral examination, H: Hausarbeit/Assignment, PL: Portfolio/Portfolio, Tt: Testate, RS: Referat mit schriftlicher Ausarbeitung/ Seminar Paper with Written Report, P: Präsentation/Presentation, SB: Seminarleistung/ Seminar Coursework, S: Schriftliche Prüfung/Written Examination
LP:	Leistungspunkte ECTS credit points
N:	Note: j:benotet, n:unbenotet Grade: j:graded, n:ungraded
(#):	Regular attendance in accordance with §9 (1) is an examination prerequisite.
(*):	Examination prerequisites in accordance with §9 (5) may be required.