

**Examination Regulations (Rules)
of the Faculty of Business, Economics and Social Sciences
at Christian-Albrechts-Universität zu Kiel (Kiel University)
for students of the 'Quantitative Finance'
Master of Science (M.Sc.) degree programme
of 6 February 2014**

Version published on 15 April 2014 (Bulletin of the Ministry of Education and Science of the Land Schleswig-Holstein (NBI. HS. MBW. Schl.-H.) p. 34), amended by statute of 10 June 2015, published on 14 July 2015 (NBI. HS MSGWG Schl.-H. p. 129), amended by statute of 2 February 2017, published on 16 February 2017 (NBI. HS MSGWG Schl.-H. p. 3)

The previous version of the Examination Regulations for the Quantitative Finance M.Sc. can be found under <http://www.studservice.uni-kiel.de/sta/3.3-032-2010.pdf>

Based on Section 52 (1) of the Schleswig-Holstein Higher Education Act (HSG) of 28 February 2007 (GVOBl. Schleswig-Holstein, page 184), most recently amended by the Act of 22 August 2013 (GVOBl. Schleswig-Holstein, page 365), after a resolution was passed by the Convention of the Faculty of Business, Economics and Social Sciences of 4 December 2013 the following Rules were issued:

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§ 1 Scope of application

- (1) These degree-specific Examination Regulations in conjunction with the Examination Procedure Regulations (Rules) of Christian-Albrechts-Universität zu Kiel for students of Bachelor's and Master's Degree Programmes (PVO) apply to the teaching and assessment of the Master's degree programme "Economics".
- (2) They apply to
 1. all modules which are exclusively part of the degree programmes regulated by these Examination Regulations,
 2. all modules which are part of the degree programmes regulated by these Examination Regulations, and which are simultaneously part of other degree programmes as exported modules;
- (3) When not stated otherwise in these Examination Regulations, admission to modules offered by other faculties or other institutes of the same faculty and the respective module examinations are subject to the examination regulations of the respective faculties or institutes.

§ 2 Objective of the degree programme

The Master's degree following on from the Bachelor's degree is a more advanced degree qualifying for a professional career in economic studies. It aims to equip graduates with the ability to assume tasks with a high level of responsibility in companies or in public administration senior service, as well as in organisations and associations or as freelancers and to qualify them for independent scientific work.

§ 3 Academic title

The student is awarded the degree of Master of Science (M.Sc.) by the Faculty of Business, Economics and Social Sciences if he or she has passed the Master's examination.

§ 4 Structure of curriculum

The standard period of study for the Master's degree programme is four semesters. The degree programme encompasses approximately 50 weekly 45-minute teaching units for the duration of one semester of about 12 weeks (Semesterwochenstunden - SWS) and 120 ECTS credits, including 30 ECTS credits for the Master's thesis.

§ 5 Academic year

- (1) The degree programmes governed by these degree-specific Examination Regulations are structured by academic year, beginning with the winter semester. As a general rule, a course will be offered once a year. Courses which, according to the curriculum are planned for an odd-numbered semester, are generally offered in the winter semester. Courses which, according to the curriculum are planned for an even-numbered semester, are generally offered in the summer semester.
- (2) Registrations to the Master's degree programme in Quantitative Finance for both odd and even-numbered semesters are possible in winter and summer semesters. Starting the degree programme in the winter semester is strongly recommended, as the modules in Mathematical Finance, Advanced Statistics I and Econometrics I are only offered in the winter semester. These modules are fundamental for many of the optional modules.

§ 6 Admission to the Master's degree programme

- (1) Anyone who has completed a Bachelor's degree programme with a standard period of study of at least three years at a German or comparable foreign institution of higher education can be admitted to the Master's degree programme. The candidate must have obtained at least 180 ECTS credits, have a grade of 2.5 or higher, or passed a comparable final examination. The candidate must produce proof of at least 35 ECTS credits from courses in Economics, in particular covering Micro- and Macroeconomic Theory, and from courses in Quantitative Basics, in particular covering Analysis, Algebra, Statistics and

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Econometrics. The contents of these courses must not overlap. Of these 35 ECTS credits mentioned above, at least 20 ECTS credits must come from courses in the field of Quantitative Basics, in particular covering Analysis, Algebra, Statistics and Econometrics. Content-related proof of the required basic knowledge must be provided by submitting an official module handbook or a module description that has been confirmed by the university.

- (2) Anyone who has completed a Bachelor's degree programme in accordance with paragraph 1 with a grade of 3.0 or higher can be admitted to the Master's degree programme if he or she can produce proof of at least 35 ECTS credits in accordance with paragraph 1, and if the average grade, weighted by ECTS credits, from the courses in Mathematics, Statistics and Econometrics is 2.5 or higher.
- (3) The Chairperson of the Examination Board decides whether the admission requirements of (1) and (2) are met and may impose conditions such as sitting certain examinations in order to qualify for admission.
- (4) The language requirements can be found in the study qualification rules (*Studienqualifikationssatzung*).

§ 7 Restriction of admission to courses

- (1) The number of places available for the individual compulsory or optional courses is determined by the Faculty Convention. If more students initially register for the seminars and practical exercises than there are places available, the module coordinator determines whether the remaining students can be accommodated through other or additional courses.
- (2) If it is not possible to accommodate the remaining students, the person responsible for the course will select the students among those who are registered for a degree programme in which the course is envisaged as part of the curriculum, who have registered in due time before the deadline set by the responsible person and who satisfy the conditions for participation. They will be selected as follows: Half of the places available are assigned based on the length of the waiting time. Preference is to be given to those students, whose number of semesters would be increased by non-admission. The remaining places are assigned by drawing lots. In order to avoid cases of hardship, the responsible committee may deviate from this order upon request.

§ 8 Purpose of the examination

The purpose of the Master's examination is to determine whether the candidate:

1. can explain and interpret the basic concepts and methods in quantitative financial economics;
2. has obtained a broad, in-depth, critical and up-to-date knowledge in several sub-branches of quantitative financial economics;
3. is capable of independently acquiring new knowledge and skills;
4. is able to evaluate the main research methods in economics;
5. is capable of developing and applying his/her own ideas.

§ 9 Teaching and examination language

Lectures and examinations will be held in English. Lectures and examinations for the optional courses may be held in German.

§ 10 Examination Board

The Examination Board may delegate the responsibility for deciding whether the student has passed or failed a final Master's examination as well as for appeals against examination decisions to the Chairperson in accordance with the Examination Procedure Regulations (PVO).

§ 11 Examination subjects and ECTS credits

- (1) Module examinations must be taken in the following subjects:

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1. Statistics & Econometrics for Finance	25 ECTS
2. Financial Economics & Corporate Finance	25 ECTS
3. Mathematical Finance	25 ECTS
4. Seminar	5 ECTS
5. Minor Subject	10 ECTS

- (2) Five modules in Section 2 are to be selected from the Financial Economics module group.
- (3) The seminar is to be completed in either Financial Economics & Corporate Markets or Mathematical Finance.

§ 12 Module examinations

- (1) The type and number of module examinations required as part of the modules can be found in Annex 1 and 2.
- (2) The duration of an oral examination must be at least 15 minutes, but must not exceed 45 minutes. The duration of a written test must be at least 30 minutes and no longer than 120 minutes.
- (3) In seminars, the grade is calculated from the performance in a seminar contribution, which generally consists of two examination elements whose contents are related (assignment and seminar paper), but can also consist of other interrelated achievements (e.g. critical analysis of a seminar paper (Ko-Referat), leading discussions). These are to be found in the module handbook.
- (4) The result of the written examination must be announced six weeks after the examination date at the latest.

§ 12 a Regular attendance at lectures

- (1) Regular attendance at lectures by the students may be demanded for excursions, language courses, work experience or practical exercises and also in “comparable lectures” within the meaning of Section 52 (12) of the Schleswig-Holstein Higher Education Act (HSG). A lecture is particularly comparable within the meaning of Section 8 (7) of the Examination Procedure Regulations (PVO) if regular attendance by the student is necessary in order to grasp the basic subject-specific methods and acquisition of the skills depends on attendance by the other participants.
- This is regularly the case with the designated economics and statistical-econometric seminars in this degree programme, because they require the joint reading, analysis and interpretation of literature that is relevant to the research, as well as scientific discussions between the students themselves and with lecturers, in addition to individual seminar papers by the students. The seminars are not mainly designed for the lecturers to pass on the knowledge, instead they primarily serve to teach students expert discourse, both in terms of conveying research findings, discourse over research strategies and methods, as well as the economic policy consequences of economic research findings. In order to achieve these aims, the Convention of the Faculty of Business, Economics and Social Sciences decided on a maximum number of students permitted to attend a seminar.
- (2) Attendance is considered regular if the student does not miss more than 25% of the attendance time. This required attendance time can be found in the module handbook. The Examination Board decides regarding justified exceptional cases.

§ 13 Resitting module examinations

For every module that ends in an examination, this examination will take place during the semester in which the module is offered. A resit examination will be in the next following examination period. The next examination opportunity will only be the next time the module is offered.

§ 14 Master's thesis

- (1) Any candidate who has obtained at least 60 ECTS credits from module examinations may be admitted to the Master's thesis.

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- (2) The topic of the Master's thesis is issued based on a proposition from the candidate in consultation with the examiner, following approval by the Chairperson of the Examination Board. If the topics are not taken from optional subjects offered by the faculty, they shall demonstrate reference to business studies.
- (3) The period from when the topic is issued until the Master's thesis is submitted is six months. This deadline may only be extended in accordance with the PVO requirements, and not by more than three months.
- (4) The topic of the Master's thesis may be handed back only once and only within the first two months.
- (5) The Master's thesis must not exceed 80 pages. Details are determined by the Examination Board. The Master's thesis is to be written in English. The thesis may also be written in German with the approval of the examiner.
- (6) The Master's thesis is to be submitted on time to the responsible Examination Office in the form of two hard copies and additionally one copy in a form suitable for electronic data processing.

§ 15 Calculation of the final grade and section grades

- (1) In the overall grade, the grade for the Master's thesis and the section grades are weighted as follows:

1. Statistics and Econometrics for Finance	25/120
2. Financial Economics & Corporate Finance	25/120
3. Mathematical Finance	25/120
4. Seminar	5/120
5. Minor Subject	10/120
6. Master's Thesis	30/120

- (2) One section grade for each of the sections above will be calculated.
- (3) The modules are incorporated into the section grade, weighted by ECTS credits. If a candidate has passed more modules in a section than the curriculum requires, those module examinations which the candidate passed first are used when calculating the section grade. The section grade for the Minor Subject is calculated according to Sentence 1, if this is not governed by the subject or institute offering the module.

§ 16 Recognition of examinations

The provisions regarding recognition in the Recognition Rules apply.

§ 17 Entry into force und transitional provisions

- (1) These Examination Regulations enter into force as of 1 July 2014. They apply to all individuals applying and registering at Christian-Albrechts-Universität zu Kiel for the winter semester 2014/15 or later, for the Quantitative Finance degree programme resulting in a Master of Science degree.
- (2) At the same time, the Examination Regulations (Rules) of the Faculty of Business, Economics and Social Sciences at the Christian-Albrechts-Universität zu Kiel for students of the 'Quantitative Finance' Master of Science (M.Sc.) degree programme of 14 May 2010 (NBI. MWV. Schl.-H. 2010, P. 54), most recently amended by the regulations of 16 February 2012 (NBI. MWV. Schl.-H. P. 9), cease to be in force.
- (3) It is possible for students who are registered for the Master of Science degree programme in Quantitative Finance at the Christian-Albrechts-Universität zu Kiel at the time when these Rules enter into force to obtain a degree up until the end of the winter semester 2016/17 in accordance with the Examination Regulations which ceased to be in force pursuant to paragraph 2. If modules and examinations are offered in a different form, these must be completed under the new version. The Chairperson of the Examination Board determines

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any adjustments which may be necessary regarding the learning objectives and the ECTS credits to be obtained.

- (4) Until 30 September 2014, students can apply to the Examination Board to change to the new degree-specific Examination Regulations. Examinations which have been completed under the old Examination Regulations retain their validity. The Examination Board determines the modules of these Examination Regulations for which the fully completed examinations are to be recognised, and which achievements regarding the learning objectives and the ECTS credits to be obtained must be gained in addition.
- (5) If a student has completed and passed independent parts of a module examination, and the remaining parts are no longer available, the Examination Boards determines which supplementary examinations are necessary to complete the module, with regard to the learning objectives of the module and the ECTS credits to be obtained.
- (6) Students continuing their degree programme under the old Examination Regulations automatically change over to the new Examination Regulations for the summer semester 2017.
- (7) Examinations failed under the old Examination Regulations 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.
- (8) The Examination Board decides regarding special cases of hardship for which the student is not responsible.
- (9) The amendment to the Rules from 15.07.2015 applies to all students who are registered in the degree-specific Examination Regulations 2014. The grades are calculated upon request on the (calculation) basis of the formerly separate fields of 'Financial Economics' and 'Capital Markets and Corporate Finance'.

The University Board at Kiel University granted its approval in accordance with Section 52 (1) of the Schleswig-Holstein Higher Education Act in its letter dated 6 February 2014.

Kiel, 6 February 2014

Professor Horst Raff, Ph.D.
Dean of the Faculty of Business, Economics and Social Sciences
of Christian-Albrechts-Universität zu Kiel

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Annex 1 Programme Schedule for the Master's in Quantitative Finance

1. Sem	Mathematical Finance		Elective lecture module Financial Economics & Corporate Finance	Elective lecture module Financial Economics & Corporate Finance	Advanced Statistics I	Econometrics I
2. Sem	Computational Finance		Elective lecture module Financial Economics & Corporate Finance	Elective lecture module Financial Economics & Corporate Finance	Advanced Statistics II	Elective lecture module in Statistics and Econometrics for Finance
3. Sem	Specialisation in Mathematical Finance	Seminar Mathematical Finance*	Elective lecture module Financial Economics & Corporate Finance	Minor Subject		Elective lecture module in Statistics and Econometrics for Finance
		Seminar Financial Economics & Corporate Finance*				
4. Sem	Master Thesis					

* One seminar in Mathematical Finance or Financial Economics & Corporate Finance is to be completed.

Annex 2 Curriculum for the Master's in Quantitative Finance

Section / Bereich	Module/ Modul	Examination / Prüfungs-leistung	Contact Time per week / SWS	ECTS Credits (module) / LP Modul	ECTS Credits (section) / LP Bereich
Statistics and Econometrics for Finance	Advanced Statistics I	Written	2V + 2Ü	5	25
	Advanced Statistics II	Written	2V + 1Ü	5	
	Econometrics I	Written	2V + 2Ü	5	
	Elective lecture module in Statistics and Econometrics for Finance	Written / Oral	2V + 1Ü	5	
	Elective lecture module in Statistics and Econometrics for Finance	Written / Oral	2V + 1Ü	5	
Financial Economics & Corporate Finance	Elective lecture module	Written / Oral	2V + Ü	5	25
	Elective lecture module	Written / Oral	2V + Ü	5	
	Elective lecture module	Written / Oral	2V + Ü	5	
	Elective lecture module	Written / Oral	2V + Ü	5	
	Elective lecture module	Written / Oral	2V + Ü	5	
Mathematical Finance	Mathematical Finance	Written	2V + Ü	10	25
	Computational Finance	Written	2V + Ü	10	
	Specialisation in Mathematical Finance	Written	2V + Ü	5	
Seminar	Seminar Financial Economics & Corporate Finance	Paper and Presentation	2 S	5	5
	Seminar Mathematical Finance				
Minor Subject	Varies for the different Minor Subjects, see Appendix 6. / Je nach gewähltem Wahlfach, für Prüfungsleistungen und SWS, siehe Anhang 6.				10
Master-Thesis / Masterarbeit					30
Sum / Summe					120

SWS: Semesterwochenstunden = weekly 45-minute teaching units; K: Klausur = written examination, MP: mündliche Prüfung = oral examination, S: Seminar contribution; V: Vorlesung = lecture; Ü: Übung = practical exercises/tutorial

Appendices 1 - 6.10

Please find the following Appendices

Appendix 1 Glossary

Appendix 2 Statistics and Econometrics for Finance (1030003)

Appendix 3 Financial Economics & Corporate Finance

Appendix 4 Mathematical Finance (1070003)

Appendix 5 Seminar (1090003)

Appendix 6 Minor Subject

Appendix 6.1 Empirical Economics

Appendix 6.2 Economics

Appendix 6.3 Business Administration

Appendix 6.4 International Comparative Sociology (54300)

Appendix 6.5 Political Science (54400)

Appendix 6.6 Agricultural Economics (54500)

Appendix 6.7 Computer Science in Economics (54600)

Appendix 6.8 Computer Science

Appendix 6.9 Mathematics

Appendix 6.10 Deutsch als Fremdsprache

in the German original: <http://www.studservice.uni-kiel.de/sta/fachpruefungsordnung-quantitative-finance-master-1-fach.pdf>