

Please note: The aim of this document is to give information about the examination regulations. The only legally valid version of the regulations is the German version of December 19 2011.

Subject-Specific Examination Regulations applicable to the Master Study Course “Biochemistry and Molecular Biology” at the University of Bremen”
dated 19th December 2011

The Board of the Faculty 2 [Fachbereich 2] (Biology/Chemistry) has on 19th December 2011 in accordance with Article 87 paragraph 1 number 2 of the Bremisches Hochschulgesetz (BremHG) [Higher Education Act of the State of Bremen] and Article 62 BremHG of the version of the notice of 9th May 2007 (BremGHI p. 339), last change by article 8 of the law dated 22nd June 2010 (Brem.GBl. p. 375) approved the following subject-specific examination regulations:

These subject-specific examination regulations apply in conjunction with the General Part of the Examination Regulations for Master Study Courses (AT MPO) at the University of Bremen from 27th January 2010 in their respectively valid version.

Article 1

Duration of Study and Degree

(1) To successfully complete the master study course “Biochemistry and Molecular Biology” a total of 120 credit points (CP) according to the European Credit Point System has to be accumulated. This is the equivalent to a prescribed period of study of four semesters.

(2) According to the passed master examination the academic degree

Master of Science
(abbreviated M.Sc.)

is conferred.

Article 2

Study Structure, Modules and Credit Points

(1) The master study course “Biochemistry and Molecular Biology” is studied according to Article 4 paragraph 1 of the General Part of the Examination Regulations for Master Study Courses.

(2) The appendix regulates the required examination achievements and presents the course of study.

(3) The compulsory subjects and compulsory optional subjects as well as a sufficient number of optional subjects have to be offered minimum one time a year.

(4) All courses will be held in English language.

(5) A module description is available for each course.

(6) Modules will be carried out as compulsory subjects, compulsory optional subjects or optional subjects.

(7) Courses will be carried out according to Article 6 paragraph 1 of the General Part of the Examination Regulations for Master Study Courses or in combination with the teaching forms mentioned in this paragraph.

Article 3

Examinations

- (1) Examinations will be conducted according to Article 8 et seqq. of the General Part of the Examination Regulations for Master Study Courses.
- (2) The repetition of examinations not passed may proceed in a form deviating from the first.
- (3) Forms, deadlines and the scope of examination requirements will be communicated to the student body at the beginning of a module.
- (4) Examinations can be conducted in the form of multiple choice questions or e-examinations. Details are set out in appendix 4.

Article 4

Acknowledgement of Study and Examination Achievements

The acknowledgement of study and examination achievements has to be in accordance with the regulations of article 22 of the General Part of the Examination Regulations for Master Study Courses in their respectively valid version.

Article 5

Admission Requirements for Modules

The registration for some modules according to appendix 5 is only possible if before other modules are successfully passed.

Article 6

Module Master's Thesis and Defence

- (1) Conditional for the application for the acceptance of a master's thesis is 90 credit points achieved in the compulsory subjects, compulsory optional subjects or optional subjects
- (2) The master's thesis and the defence will be rated with 30 credits points.
- (3) The time given to work on the Master's thesis amounts to 24 weeks. Upon well-founded application, the examination board can grant a single maximum extension of four weeks.
- (4) The master's thesis is produced as individual work performance and is to be written in English language.
- (5) A master's thesis defence has to be held within 4 weeks after the presentation of the reports. The defence comprises a thirty-minute lecture and an approximately thirty-minute discussion. The master's thesis and the defence establish a single mark to which the master's thesis contributes 75 % and the defence 25% to the overall mark for Module G.
- (6) The review of the master's thesis has to be carried out as quickly as possible, but not longer than 4 weeks.

Article 7

Overall Mark of the Master Degree Examination

The mark of the master's thesis and defence comprises 40% of the overall mark. The remaining 60% are composed of the marks received for the modules weighted according to the credit points and the courses in which the marked examinations were taken.

Article 8

Entry into Force

These examination regulations entered into force subsequent to their approval by the President of University of Bremen on 1 October 2011. They have been published in the official law journal of the Free Hanseatic City of Bremen. They apply to all students who, for the first time, are matriculated from the winter semester of 2011/2012 onward in the "Biochemistry and Molecular Biology" Master Study Course.

Approved in Bremen on the XX.XX.XXXX
The President of the University of Bremen

Appendices

Appendix 1: Study structure plan

Appendix 2: Lists of modules for compulsory optional and optional subjects

Appendix 3: Further forms of examination

Appendix 4: Performance of examinations as multiple-choice procedures and as e-examinations

Appendix 5: Examinations requirements (if not regulated in Article 5)

Appendix 1: Study structure plan of master study course “Biochemistry and Molecular Biology”

The study structure plan is a hint for the structure of the study. The students can participate in the modules in another order if they fulfill the admission regulations according to Article 5.

2nd Year	4th term	(Module G) Master's thesis 30 CP/C/ME	
	3rd term	(Module F)* Project proposal 9 CP/C/ME	(Module E) Laboratory rotations 27 CP/O/ME
1st Year	2nd term	(Module C) Selected Aspects of Biochemistry and Molecular Biology 6 CP/C/ME	(Module D) Studies in advanced BMB or <i>Studies in advanced Microbiology</i> 18 CP/O/ME
	1st term	(Module A) Basics in Biochemistry and Molecular Cell Biology 21 CP/C/ME	(Module B) Bioorganic Chemistry 9 CP/CO/ME or <i>Applied Microbiology</i> 9 CP/CO/PE

C: Compulsory subjects, CO: Compulsory optional subjects, O: Optional subjects, ME: module examination, PE: partial examination

*Module F takes place in the 2nd and 3rd term, one examination (3CP) in the 2nd term has to be passed.
Italic: Modules in master programme with the specialization in microbiology (microbial system – MicSys)

Supplementary information for the compulsory modules within the master programme „Biochemistry and Molecular Biology“

CN	Module description	CP	ME/ PE	Division CP if partial examination	E / CA (Number)
400 a,b	Basics in Biochemistry and Molecular Cell Biology (Module A)	21	ME		E:1
					CA:1
400	Selected Aspects of Biochemistry and Molecular Biology (Modul C)	6	ME		E:1
420, 422	Project Proposal	9	PE	3*	E:1*
				6	E:1

*Module F takes place in the 2nd and 3rd term, one examination (3CP) in the 2nd term has to be passed.

E: examination (with marking), CA: course achievement (without marking)

Appendix 2: Lists of modules for compulsory optional and optional subjects

Modules for compulsory optional subjects (Module B)

CN	Module description	CP	ME/ PE/ CE	Division CP if partial examination	E / CA (Number)
406	Bioorganic Chemistry	9	ME		E:1
	<i>Applied Microbiology</i>	9	<i>PE</i>	3 6	<i>E:1</i> <i>E:1</i>

Italic: Modules in master programme with the specialization in microbiology (microbial system – MicSys)

List of modules for optional subjects in module D:

Modules for optional subjects will be accepted by the examination board. The following modules are available as partial modules:

CN	Module description	CP	ME/ PE/ CE	Division of CP when partial examination	E / CA (Number)
432	Bioanalytical methods: protein analysis (Proteomics)	6	CE		E: 1
436	Functional genomics of lower eukaryotic unicellular organisms	6	CE		E: 1
401	Biochemistry of posttranslational modifications	6	CE		E: 1
423	<i>Molecular Virology</i>	6	CE		E: 1
	MRI and MRS in biomedical research	6	CE		E: 1
408	Intracellular protein targeting with amphibian oocytes	6	CE		E: 1
413	Glycobiology	6	CE		E: 1
43x	Measurements and modelling of intracellular Ca and pH	6	CE		E: 1
437	Electron transport	6	CE		E: 1
433	<i>Environmental and applied Microbiology</i>	6	CE		E: 1
439	<i>Microbial Biofilms</i>	6	CE		E: 1
436	<i>Functional Genomics of bacteria: RNA and Microarray analysis</i>	6	CE		E: 1
434	<i>Analysis of Bacterial Genomes and Biodiversity</i>	6	CE		E: 1

CN = Code number, ME = module examination, PE = partial examination, CE = combined examination, E = examination (= with marking); CA = course achievement (= without marking)

Italic: Modules in master programme with the specialization in microbiology (microbial system – MicSys)

Module E of optional subjects (laboratory rotations)

For their laboratory rotations students can choose projects in working groups who are accepted for this module by the examination board.

CN	Module description	CP	ME/ PE/CE	Division of CP when partial examination	E / CA (Number)
403a,b,c	Laboratory rotations	27	PE	12 12 3	E: 1 E: 1 CA: 1

Appendix 3: Further examination forms

There are no further examination forms than mentioned in the General Part of the Examination Regulations for Master Study Courses.

Appendix 4: Performance of examinations by multiple choice questions and “e-examinations”

Article 1

Procedure for multiple-choice questions

(1) The multiple-choice procedure of an examination means that the requirements for passing the examination can only be achieved by marking or assignment of the right or wrong answers. Examinations and examination questions in the multiple-choice procedure will only be permissible, if they are appropriate to prove that the candidates are able to master the contents and methods of the module in its essential context and apply their knowledge and skills acquired. The multiple-choice procedure has to be prepared by an examiner according to article 27 of the General Part of the Examination Regulations for Master Study Courses. The examiner chooses the examination subjects, formulates the questions and determinates the answering options. The examiner will create an evaluation scheme according to paragraph 4 which is applicable after the examination. It is permissible to deduct points within an examination question in the multiple-choice procedure.

(2) The examination questions have to be unequivocally comprehensible, clearly answerable and also appropriate to assess the candidate's knowledge according to article 1 sentence 2. The examiner can also create a pool of equivalent examination questions. In the examination students receive different questions from this pool. The questions will be randomly allocated. The equivalence of examination questions must be ensured. The conditions for passing the examination are to be defined in advance. Moreover,

- the choice of questions
- the model solution and
- the evaluation scheme according to article 4

have to be defined.

(3) The examination is passed when the candidate has achieved at least 50 % of the maximum amount of points. If the overall average of the points achieved in the examination is below 50 % of the reachable points, the examination will be passed, when the amount of the candidate's points does not fall below 15 % of the average examination performance of all participants. A grading scheme which only determines an absolute pass mark is not admissible.

(4) Achievements are to be graded as follows: If the required minimum number of the reachable points according to paragraph 3 has been obtained, the grades will be

- “1.0”: when at least 90 %,
- “1.3”: when at least 80 % but less than 90 %,
- “1.7”: when at least 70 % but less than 80 %,
- „2.0“: when at least 60 % but less than 70 %,
- „2.3“: when at least 50 % but less than 60 %,
- „2.7“: when at least 40 % but less than 50 %,
- „3.0“: when at least 30 % but less than 40 %,
- „3.3“: when at least 20 % but less than 30 %,
- „3.7“: when at least 10 % but less than 20 %,
- „4.0“: when at least 10%

of the additionally reachable points have been achieved.

(5) In the case that the evaluation of examination results performed in the form of multiple-choice questions shows of a considerable incidence of errors, the examiner will review the respective task immediately and prior to announcement of the results regarding the compliance with the requirements of paragraph 2 (1) and check for possible errors. If the review shows errors in single tasks, they have to be reevaluated or disregarded concerning the examination results. The amount of examination questions to be considered for the results will be reduced accordingly. The reduction of examination questions must not work to the detriment of students. Should the number of reachable points for the tasks to be eliminated exceed 20 % of the maximum reachable points, the examination has to be repeated. This is also valid for an examination performance, within the framework of which only one part is subject to the multiple-choice procedure.

(6) If the multiple-choice procedure is only part of the examination, this appendix will be valid with exception of article 5 paragraph 5 clause 2 only for the part of the examination concerning the multiple-choice procedure.

Article 2

Performance of examinations as “e-examinations“

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(1) The preparation, performance and evaluation of an e-examination are computer-based (except the open questions). An e-examination is permitted, provided it is suitable to prove that the candidates are able to master the contents and methods of the module in its essential context and apply their knowledge and skills acquired; if necessary it can be completed by other examination forms.

(2) E-examinations have to be performed in the presence of a qualified person (protocolist). A protocol shall be drawn which at least records the names of the protocolist and the candidates, begin and end of the examination as well as any special occurrences. It must be ensured that the electronic data can be assigned to the candidates clearly and permanently. In accordance with article 24 paragraph 6 of the General Part of the Examination Regulations for Master Study Courses, candidates have to be granted access to the file of the computer-based examination and their results achieved. The task assignment including the model solution, the grading scheme, the single examination results and the records are to be archived in accordance with the legal requirements.

Appendix 5: Admission requirements for modules

The following requirements apply to the participation in the modules:

If you want to participate in module C,D,E and F you have to passed module A and B.