Please note that this document is a non-binding convenience translation. Only the German version of the document entitled "Prüfungsordnung der Universität Heidelberg für den Bachelorstudiengang Biowissenschaften" [published in the President's bulletin (Mitteilungsblatt des Rektors) of 15 June 2009, p. 783], last modified on 10 April 2014 [President's bulletin (Mitteilungsblatt des Rektors) of 30 April 2014, p. 279] has legal validity.

Heidelberg University examination rules and regulations for the Bachelor's degree programme in Biosciences

18 May 2009

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I. General information

§ 1 Purpose of the academic programme and examination

(1) The Bachelor's examination is a first degree for the Bachelor's degree programme in Biosciences, qualifying graduates to enter a profession. The degree programme in Biosciences conveys the academic basis and methods required for entering a profession in research, development and administration in the field of biosciences.

(2) The purpose of the Bachelor's examination is to assess whether students have an overview of the interconnections between the individual disciplines, are able to apply academic methods and knowledge, and have acquired the specialist knowledge required for entering a profession.

(3) Admission to the academic programme is subject to separate admission regulations.

§ 2 Bachelor's degree

Heidelberg University, represented by the Faculty of Biosciences, awards the academic degree of "Bachelor of Science" (abbreviated to "B.Sc.") to those who have passed the Bachelor's examination.

§ 3 Standard period of study, programme structure and range of courses offered

(1) The standard period of study is six semesters, including the Bachelor's examination.

(2) Lectures and courses run for five semesters. They include basic modules (listed in annex 1) and specialisation modules (listed in annex 2). Successful completion of the Bachelor's degree programme requires a total of 180 credit points (ECTS points) in examination prerequisites and results for compulsory and elective courses.

(3) Examination prerequisites are graded with credit points in accordance with the European Credit Transfer System. One credit point corresponds to around 30 hours' workload. Credits are only awarded for successfully completed modules. Successful completion of graded modules requires the grade "sufficient" (4.0) or higher.

(4) An orientation examination must be taken no later than at the end of the second semester. It is an integral part of the course and consists of successful participation in an examination, lasting 90 minutes and dealing with the content covered in the basic lecture Biology I. The examination is passed when it has been graded as "sufficient" (4.0) or higher.

(5) If the orientation examination is not passed or is considered not to have been passed, it may be retaken once during the following semester. If the orientation examination has not been passed by the end of the third semester, the student is not entitled to take the final examinations, unless the student is not responsible for the deadline being exceeded.

(6) The orientation examination is an early part of the Bachelor's examination.

(7) The degree programme is completed with the Bachelor's examination in accordance with § 15 paragraph 1.

(8) Lectures and courses in the degree programme and the corresponding examination components are mainly held in German, however, some are also held in English. In general, examination components have to be taken in the language of instruction.

(9) A transcript of records will be issued at the end of each semester, listing all module examinations students have passed, including the corresponding credits and grades.

§ 4 Examinations board

(1) An examinations board is formed for organising examinations and tasks defined in these examination rules and regulations. It consists of five members of the academic staff who are primarily employed by the Faculty of Biosciences. Four members must be professors, one member must be a research associate representative and one member must be a student as an advisory member.

(2) The chairperson of the examinations board, deputy chairperson, further members and their deputies are all appointed by the faculty council. The chairperson and their deputy must be professors. The examinations board student member is appointed by the faculty council based on a proposal from the departmental student committee.

(3) The members are appointed for two years; the student member is appointed for one year. Each term starts on January 1st. Members may be re-elected.

(4) The examinations board ensures that the examination rules and regulations are upheld. On a regular basis, the committee reports to the faculty regarding changes to examinations, study periods and grading. This report is published in a suitable form.

(5) The chairperson manages the business of the examinations board, prepares and chairs meetings and, in the event of a tie vote, has the deciding vote. The examinations board can confer further responsibility on its chairperson. Such a decision may be revoked at any time.

(6) Examinations board members have the right to attend examinations.

(7) Members of the examinations board and their deputies are subject to official secrecy. Those who are not civil servants are sworn to secrecy by the chairperson.

§ 5 Examiners and observers

(1) The chairperson, having consulted the examinations board, appoints the examiners for examination components. Examiners must be lecturers in the Bachelor's degree programme in Biosciences.

(2) In general, examination components which are not completed during the course of study may only be examined by professors, associate professors, lecturers, or research associates who have been granted the right to examine.

(3) In general, the lecturer for the respective lecture or course is responsible for examination components completed during the course of study.

(4) Observers must have sat the Bachelor's examination or at least an equivalent final examination. Observers are appointed by the examiners.

(5) The oral defence is examined by one examiner and one observer. The examiner should be the supervisor of the thesis.

(6) For examiners and observers, § 4 paragraph 7 (official secrecy) shall apply accordingly.

§ 6 Recognition of course credits, examination results and academic degrees

(1) Examination prerequisites and results, and academic degrees obtained through degree programmes at German universities or universities of cooperative education (state or state-recognised), or at foreign universities (state or state-recognised), will be recognised as long as there is no significant difference concerning the skills acquired, courses taken and degree obtained through the programme. This recognition is required in order to continue an academic programme, take examinations, start a further academic programme or be admitted to a doctorate programme. § 15 paragraph 3 and 4 LBG (State Public Service Law) are not affected.

(2) Preliminary and intermediate examinations taken at other German universities of the same type in the same or a similar academic programme will be recognised. Units of study completed at recognised distance

learning institutions will be considered equal to the corresponding regular study programme regarding the duration of study.

(3) It is the applicant's responsibility to provide all information necessary for achievements to be recognised. It is the responsibility of the office which carries out the recognition procedure to prove that an application does not fulfil the requirements.

(4) If agreements exist between the Federal Republic of Germany and other states about equivalent university degree programmes (Equivalency Agreements) that favour students from other states by way of derogation from paragraph 1 and § 29 paragraph 2 sentence 5 of the LHG (Act on Higher Education of the Land of Baden-Württemberg), the rules and regulations in the Equivalency Agreement take precedence.

(5) Examination prerequisites and results are to be graded on the basis of a credit point system which allows for achievements in equal or similar degree programmes to be recognised; the same applies for universities of cooperative education, provided there is equivalence.

(6) Knowledge and skills gained outside a university degree programme may be recognised for such a programme, as long as

1. the requirements for university admission are fulfilled at the time of recognition,
2. the knowledge and skills to be recognised for the university degree programme are equivalent in both content and level to the course credits and examinations which they should replace, and
3. the criteria for recognition have been verified in an accreditation.

Knowledge and skills gained outside a university degree programme may not replace more than 50 % of the university degree programme. Universities shall specify the details of the examination rules and regulations, in particular the extent to which knowledge and skills gained outside a university degree programme can be recognised and the preconditions that must be fulfilled. The examination rules and regulations may require that a placement test is taken.

(7) For refresher courses, credits may be assigned for examination prerequisites and results. When recognising credits from refresher courses for a university degree programme, paragraphs 2 and 5 as well as paragraph 6 sentence 1 no. 1 apply accordingly. When recognising knowledge and skills gained outside a university degree programme for refresher courses, paragraph 6 applies accordingly.

§ 7 Unexcused absence, withdrawal, deception and breaches of regulations

(1) An examination is graded as "failed" (5.0) if candidates fail to appear without being able to state a valid reason for their absence, or if they withdraw after the examination has started. A written examination that was

not produced within the allocated time is also graded as "failed", unless the candidate is not responsible for the deadline being exceeded.

(2) Reasons for withdrawal or absence must be stated plausibly and immediately to the examinations board in writing. If the candidate, or a child for whom the candidate is generally the sole carer, is ill, a medical certificate must be provided. In case of doubt, a medical certificate from a designated doctor can be requested. If the reasons are accepted, a new appointment will be scheduled. In this case, examination results that are already available will be taken into account.

(3) When deciding whether the candidate is responsible for exceeding a deadline for registration or taking an examination, the examinations board must respect the provisions stated in the Maternity Protection Act and the legal regulations concerning parental leave. The candidate must be granted use of these provisions.

(4) If the candidate tries to influence the examination results through deception or by using unauthorised aids, the examination component in question will be graded as "failed" (5.0). If candidates disrupt the proper course of the examination, they may be excluded from taking further part in the examination by the examiner or examination supervisor. In this case, the examination result will be graded as "failed" (5.0). In severe cases, the examinations board may exclude the candidate from all further examinations.

(5) Within a period of fourteen days, the candidate may request that the decision be validated by the examinations board in accordance with paragraph 4 sentences 1 and 2. The candidate must be informed of negative decisions immediately and in writing, stating the reasons and providing information on the procedure for appeal.

§ 8 Types of examination components

(1) The examination components are:
1. oral examinations
2. written examinations (electronically where applicable)
3. the Bachelor's thesis.

(2) If candidates provide a medical certificate which plausibly proves that they are not able to take examination components in the form prescribed, completely or partially, due to permanent or sustained health problems, the examinations board may allow them to take an equivalent examination. This also applies to examination prerequisites.

§ 9 Oral examination components

(1) In oral examination components, candidates should show that they are

able to identify interconnections within the examination matter and relate special problems to these interconnections.

(2) Generally, oral examination components are examined by one examiner and one qualified observer.

(3) An oral examination lasts between 15 and 45 minutes.

(4) Important content and the results of the oral examination must be written in the minutes. Candidates must be notified of examination results following the oral examination.

(5) Students wishing to take a subject examination at a later examination date should be permitted to listen in on the same examination, if room is available. The audience may not attend the assessment and announcement of the examination result. Listeners can be prohibited from attending upon the candidate's request or for other valid reasons.

§ 10 Written examination components

(1) In written examination components, candidates should show that they are able to recognise problems relating to their subject and find solutions for them, using subject-specific methods with limited time and resources.

(2) A written examination lasts between 45 and 120 minutes. Multiple choice questions are permitted.

(3) Generally, multiple choice questions are set by the lecturer responsible for a lecture or course, as determined by the examinations board. The questions must be tailored for examining the knowledge conveyed in the lecture or course and provide reliable results. Before assessing the examination results, the person responsible as determined in sentence 1 must make sure that the questions for the examination apply with paragraph 3 sentence 2. If the examiner finds individual examination questions incorrect, these questions must not be considered when assessing the examination results. In such a case, the total amount of questions is reduced and the assessment is based on the reduced number of questions. Reducing the number of examination questions must not have negative consequences for the candidates.

An examination carried out as a multiple choice examination is considered as passed, when at least 50 % of the questions were answered correctly, or when a candidate's number of correctly answered questions is not lower than 22 % of the average examination results of all candidates (non-referenced grading). In case of non-referenced grading, at least 45 % of the questions must be answered correctly.

If a candidate answered the required number of questions for passing

correctly, the multiple choice examination must be assessed as follows. In case of non-referenced grading, the scale for assessment is moved lineally by the difference between absolute and relative threshold for passing.

% corresponds to	grade
≥ 50 – 55	4.0
> 55 – 60	3.7
> 60 – 65	3.3
> 65 – 70	3.0
> 70 – 75	2.7
> 75 – 80	2.3
> 80 – 85	2.0
> 85 – 90	1.7
> 90 – 95	1.3
> 95 – 100	1.0

(4) If a written examination component takes the form of a term paper, candidates must assure that they are the author of their work and have used no sources or aids other than those indicated.

§ 11 Assessment of examination components

(1) Grades for the individual examination components are determined by the respective examiners. The following grades must be used for assessment of examinations:

1 = very good	:	an outstanding performance;
2 = good	:	performance which lies substantially above average requirements;
3 = satisfactory	:	a performance which corresponds to average requirements;
4 = sufficient	:	a performance which, despite deficiencies, still meets the requirements;
5 = failed	:	a performance which does not meet the requirements due to considerable deficiencies.

For more detailed assessment of examination results, interim grades may be given by increasing or decreasing the individual grades by 0.3; the grades 0.7, 4.3, 4.7 and 5.3 may not be used.

(2) In general, the evaluation period for examination components should not exceed two weeks after completion of the module.

(3) An examination component is passed when it has been graded as "sufficient" (4.0) or higher. A module is successfully completed when all

individual sub-module examinations have been passed.

(4) The overall grade for the Bachelor's examination is calculated using the grades of the module examinations. The overall grade is as follows:

for an average up to and including 1.5	very good
for an average between 1.6 and up to/including 2.5	good
for an average between 2.6 and up to/including 3.5	satisfactory
for an average between 3.6 and up to/including 4.0	sufficient

(5) When calculating final module grades and the overall examination grade, only the first decimal after the point is taken into account. The other decimals are dropped without rounding.

(6) If grades are awarded in accordance with the European Credit Transfer System ECTS, the assessment stated in annex 5 is used.

§ 12 Retaking an examination component integrated in the course of study

(1) If examination components are not passed or considered not to have been passed, they may be retaken once.

(2) A second retake is only possible on request, providing severe reasons, and only for one single module examination in the fields of chemistry, physics and mathematics, and for one basic module examination of all the lectures and courses in Biosciences (in accordance with annex 1). Such a request must be made to the examinations board. § 3 paragraph 5 applies for the orientation examination.

(3) It is not possible to retake an examination component if it has been graded as passed.

(4) If an examination component has been failed, it must be retaken at the next examination date, at the latest. If candidates miss this deadline, they may not retake the examination component, unless they are not responsible for the deadline being exceeded.

(5) If finally a module is failed, the candidate loses the entitlement to take examinations.

§ 13 Participation in lectures or courses

Participation in a lecture or course may require previous successful participation in another lecture or course. Such regulations result from the individual module descriptions.

II. Bachelor’s examination

§ 14 Admission requirements and procedure

(1) Admission to the individual examination components for the Bachelor's examination is only authorised for those who:

1. are enrolled in the Bachelor’s degree programme in Biosciences at Heidelberg University;
2. have not lost the entitlement to take examinations.

(2) The application for admission to the Bachelor's examination must be made in writing before taking the first examination component, addressed to the chairperson of the examinations board. Such an application has to include the following documents:

1. evidence of fulfilment of the admission requirements in accordance with paragraph 1;
2. candidates' declarations stating whether they have already lost the entitlement to take examinations at Heidelberg University in the Bachelor's degree programmes in Biology, Molecular Cell Biology or Molecular Biotechnology, in the teaching degree programme in Biology, or in the Diplom degree programme in Biology; or whether they are currently undergoing an examination procedure in one of these programmes.

(3) The decision on admission of the candidate is made by the chairperson of the examinations board.

(4) The application for admission to the examination may only be rejected if

1. conditions are not fulfilled in accordance with paragraph 1, or
2. documents are not compete, or
3. candidates have already lost the entitlement to take examinations at Heidelberg University in the Bachelor's degree programmes in Biosciences, Biology, Molecular Cell Biology or Molecular Biotechnology, in the teaching degree programme in Biology, or in the Diplom degree programme in Biology, or
4. candidates have lost the entitlement to take examinations due to other reasons, or
5. candidates are currently undergoing an examination procedure in the Bachelor’s degree programme in Molecular Biotechnology or the teaching degree programme in Biology.

(5) Such a declaration in accordance with paragraph *2* no. 2 must be submitted to the examiner for each examination component.

(6) In addition to the documents listed in paragraph 1 and 2, evidence of successful participation in the modules as stated in annex 1, evidence of regular attendance in the course "Introduction to the Academic

Programme" and evidence of successful participation in the modules "Main laboratory course" and "courses" listed in annex 2 (minimum requirement) have to be provided in order to be admitted to write the Bachelor's thesis.

(7) The oral defence can only be taken after successful completion of the Bachelor's thesis.

(8) Lectures and courses of the specialisation module in accordance with annex 2 are grouped in accordance with annex 3. At least one lecture or course out of four of the five groups in annex 3 must be successfully completed.

§ 15 Scope, nature and organisation of Bachelor's examination

(1) The Bachelor's examination consists of:

1. examination components completed during the course of study for the basic and specialisation modules in accordance with annex 1 and 2,
2. the Bachelor's thesis,
3. the defence.

(2) Examinations as referred to in paragraph 1 no. 1 are taken as an integrated part of the lecture or course. They can be in written or oral form. The lecturer responsible for a lecture or course determines the nature and duration of the examination components in accordance with paragraph 1 no. 1 and announces this information by the beginning of the lecture or course at the latest.

(3) Module examinations may consist of several sub-module examinations.

§ 16 Bachelor's thesis

(1) The Bachelor's thesis is an examination component that completes the academic programme. The purpose of the thesis is for candidates to show that they are able to work independently on a problem from the field of biosciences within a given period of time, using academic methods.

(2) The Bachelor's thesis may be assigned and supervised by any authorised examiner in accordance with § 5 paragraph 2.

(3) The candidate must apply for allocation of a Bachelor's thesis topic (registration) no later than one year after passing the last examination component integrated in the course of studies. This application must be addressed to the chairperson of the examinations board. The thesis may only be started after registration. Starting to write the thesis later than one year after passing the last course-integrated examination component is only possible on substantiated request. Such a request must be made to

the chairperson of the examinations board.

(4) If the candidate misses this deadline, the final academic thesis is graded as "failed" (5.0), unless the candidate is not responsible for the deadline being exceeded.

(5) The Bachelor's thesis topic will be determined by the thesis supervisor, having consulted with the candidate. If such an application is made, the chairperson of the examinations board will ensure that the candidate receives a topic for their Bachelor's thesis in due time. The candidate is allowed to propose topics. However, this does not constitute a legal entitlement to a certain topic. The chairperson of the examinations board assigns the thesis topic; the date of assignment must be recorded.

(6) The deadline for submission of the thesis is 8 weeks after the topic was assigned. Exceptionally, the examinations board may extend this deadline by up to 2 weeks. If the deadline is exceeded, the Bachelor's thesis will be graded as "failed" (5.0), unless the candidate is not responsible for the deadline being exceeded.

(7) The topic, task and scope of the Bachelor's thesis must be limited in such a way that the candidate should be able to complete the thesis within the given time frame.

(8) The thesis should contain a summary. The thesis may be written in German or English.

§ 17 Submission and assessment of Bachelor's thesis

(1) Two copies of the Bachelor's thesis must be submitted to the examinations board before the deadline; the submission date must be recorded.

(2) When submitting their Bachelor's thesis, candidates must assure in writing that they are the author of their work and have used no sources or aids other than those indicated.

(3) The Bachelor's thesis is assessed by one examiner. § 5 paragraphs 1 and 2 apply accordingly. The examiner should be the supervisor of the thesis. The candidate is allowed to make a proposal; however this does not constitute a legal entitlement to be examined by a certain examiner. The evaluation period should not exceed two weeks. If the Bachelor's thesis is graded as failed, a second examiner must be consulted. If both examiner's assessments differ, the examinations board will decide on the basis of the examiners' reviews.

(4) If the Bachelor's thesis is graded as "failed" (5.0), it may be retaken on a new topic; retaking the thesis with the previous topic is not possible. The retake must be started within four weeks after the candidate was notified of

failing the first attempt.

§ 18 Oral defence

(1) The oral defence lasts about 30 minutes. Candidates are supposed to present and defend the findings of the Bachelor's thesis in a discussion with the examiner. The purpose of the oral defence is for candidates to show that they have sufficient basic knowledge in biology and have an overview of the interconnections in the field of examination. In general, the oral defence is taken one week after the thesis was submitted, at the latest.

(2) The oral defence is examined by one examiner and one observer in accordance with § 5 paragraph 5. The examiner should be the supervisor of the Bachelor's thesis. If the examiner is not the supervisor of the thesis, the candidate must be notified of the examiner's name at least one week before the oral defence.

(3) If the oral defence is failed, it may be retaken once. The candidate must apply to the examinations board to retake the oral defence within one month after the candidate was notified of failing the first attempt.

(4) If the candidate misses the deadlines stated in paragraphs 1 and 3, the oral defence is graded as "failed" (5.0), unless the candidate is not responsible for the deadline being exceeded.

§ 19 Passing the examination and overall grade

(1) The Bachelor's examination is passed when all examination components completed during the course of study, the Bachelor's thesis, and the oral defence have been graded as "sufficient" (4.0) or higher.

(2) § 11 applies for assessment of all examination components and the overall grade.

(3) The overall grade of the Bachelor's examination is calculated using the grades for the individual modules listed in annex 1 and 2, including the oral defence and the Bachelor's thesis. The module grades are weighted according to the credit points. Module grades for the natural science modules Mathematics, Inorganic and General Chemistry, Organic Chemistry, Physics A and B are weighted according to the credit points and a factor of 0.5.

§ 20 Diploma

(1) After the Bachelor's examination is passed, a diploma will be issued within four weeks. It states all individual modules, including the Bachelor's thesis,

with their respective grades and credit points, and the overall grade. The diploma is dated with the day of the last examination component. It must be signed by the chairperson of the examinations board.

(2) A Diploma Supplement in German and English is added, containing additional information about the course content and period of study. The content complies with the European Diploma Supplement Model.

§ 21 Bachelor's certificate

(1) A Bachelor’s certificate is issued with the diploma, bearing the same date. It certifies the conferment of the academic degree.

(2) The Bachelor’s certificate is signed by the dean and the chairperson of the examinations board. It bears the faculty seal.

(3) If the candidate has failed the Bachelor's examination, a certificate will be issued on request and on presentation of relevant proof, listing passed examination components and the corresponding grades as well as the missing examination components. It is signed by the chairperson of the examinations board and includes a note about the Bachelor's examination not being passed. The same applies for the Bachelor's examination, failed on the final attempt.

III. Final provisions

§ 22 Invalidity of examinations

(1) If a candidate has deceived in an examination and this is only discovered after the diploma has been issued, the examinations board may correct the examination results affected by the deception accordingly and may declare the examination partially or completely failed.

(2) If the requirements for admission to the examination were not fulfilled without any intent to deceive on the candidate’s part, and this is only discovered after the diploma has been issued, the passed examination is considered to compensate for this shortcoming. If the candidate intentionally gained admission to the examination through deceit, the examinations board will make a decision on the matter.

(3) Before the decision is made, candidates are given the right to explain themselves.

(4) The fraudulent examination diploma will be confiscated and, if necessary, a new diploma will be issued. The Bachelor's certificate will be confiscated along with the fraudulent examination diploma if the examination was graded as "failed" due to deception. In accordance with paragraph 1 and

paragraph 2 sentence 2, a decision may not be taken more than five years after the date on the examination diploma.

§ 23 Access to examination documents

Within a year after the examination procedure has been completed, the candidate can request access to written examination documents, examiners reviews and the examination minutes. The examiner responsible determines when and where access will be given.

§ 24 Coming into force

(1) These examination rules and regulations will come into force on the first day of the month following publication in the President's bulletin (Mitteilungsblatt des Rektors). At the same time, the examination and degree programme rules and regulations for the Bachelor's programme in Biology from 25 September 2006 (President's bulletin (Mitteilungsblatt des Rektors) from 27 September 2006, p. 939) will expire.

(2) Students who are enrolled in the Bachelor's degree programme in Biology at Heidelberg University while these examination rules and regulations are coming into effect may apply for the former regulations to apply to them, if their application is made within six months of these rules and regulations coming into force.

ANNEX 1: Basic modules

Compulsory (elective) modules[1], incl. certification of successful participation and grading:

Basic modules	CP
Basic lectures: Biology 1	5
Basic lecture: Biology 2	9
Basic lecture: Biology 3	9
Basic lecture: Biology 4	4
Basic course: Basics of Biosciences	4
Basic course: Methods of Molecular Biosciences	6
Basic course: Experimental Physiology	3
Basic course: Developmental Biology	4
Basic course: Bioinformatics	2
Basic seminars (compulsory elective)	8
Mathematics	4
Chemistry	20
Physics A	6
Physics B	6

[1] Based on the European Credit Transfer System (ECTS), the modules correspond to a certain number of credit points (CP).

ANNEX 2: Specialisation modules

Compulsory (elective) modules[1], incl. certification of successful participation and grading:

Specialisation modules	CP
Advanced lecture (compulsory elective)	16
Courses (compulsory elective)	16
Main laboratory course: Nucleic acids (compulsory	9
Seminars (compulsory elective)	8
Main laboratory course: Proteins (compulsory elective)	9
Main laboratory course	9
Seminar "Planning of scientific work"	4
Oral defence	4
Bachelor’s Thesis	12

Compulsory (elective) modules[1], incl. certification of successful participation

Excursions / Work Experience in Field		2
Introduction to the Academic Programme		1

ANNEX 3: Specialisation module - Grouping

Group 1	Group 2	Group 3	Group 4	Group 5
- Biodiversity - Ecology - Evolution	- Microbiology - Parasitology - Virology - Immunology	- Molecular Biology - Molecular Cell Biology - Genetics - Histology - Morphology of Cells	- Biochemistry - Biophysics - Structural Biology - Biomathematics	- Neurobiology - Physiology - Developmental Biology

Annex 4: Integrated crossdisciplinary skills (key skills):

Skill	Module	CP
Presentation skills	Basic seminars, seminars, courses, main laboratory courses	2
Ability to work in a team	Chemistry, Methods of Molecular Cell Biology, Experimental Physiology and Developmental Biology, courses, main laboratory course	2
Time management	Chemistry, specialisation modules, Bachelor's thesis	3
Integrative and creative thinking	all modules	4
Scientific writing	specialisation modules, Bachelor's thesis	2
Scientific English	all modules	2

ANNEX 5: Grading in accordance with ECTS

In addition to the German-style grades, students who have passed the examination components will also be awarded a relative grade according to the following scale:

A	top 10 %
B	the following 25 %
C	the following 30 %
D	the following 25 %
E	the following 10 %

The relative grades are calculated based on the results of the graduation year group as well as two or more previous years, depending on the number of students in the year group. For degree grades, the ECTS grade must be added. For individual modules, the ECTS grade can be stated, where possible and necessary.

Annex 6: Modules

Basic lecture module: Biology 1

a) *Module content and qualification objectives*
The module is part of the basic education for general biology.
It aims at conveying basic knowledge in biology and gives an overview of interconnections.

b) *Teaching methods*
Lecture

c) *Requirements for participation*
none

d) *Applicability of module*
Biosciences (Bachelor)
Basic education in biology for science degree programmes with biology as minor subject.

e) *Requirements for awarding credits*
The basic lecture Biology 1 is completed by a written examination (orientation examination). The examination may be retaken once and must be successfully completed by the end of the third semester.
The grade of the written examination is used as module grade.

f) *Credit points and grades*
5 ECTS points are awarded.

g) *Course offered*
annually, winter semester

h) *Workload*
The workload is 150 hours.

i) *Duration*
The module lasts one semester (lecture period).

Basic lecture module: Biology 2

a) *Module content and qualification objectives*

The module is part of the basic education for general biology.
It aims at conveying basic knowledge in biology and gives an overview of interconnections.
Three thematic blocks give a detailed introduction to biochemistry, molecular biology and cell biology.

b) *Teaching methods*

Lecture, seminar

c) *Requirements for participation*

Knowledge conveyed in the module "Chemistry" is required.

d) *Applicability of module*

Biosciences (Bachelor)
Basic education in biology for science degree programmes with biology as minor subject.

e) *Requirements for awarding credits*

The lecturer defines the scope and nature of the examination component and announces this information at the beginning of the lecture. The grade of the examination component is used as module grade.

f) *Credit points and grades*

9 ECTS points are awarded.

g) *Course offered*

annually, summer semester

h) *Workload*

The workload is 270 hours.

i) *Duration*

one semester

Basic lecture module: Biology 3

a) *Module content and qualification objectives*

The module is part of the basic education for general biology.
It aims at conveying basic knowledge in biology and gives an overview of interconnections.
This module conveys the theoretical basis of physiology and developmental biology.

b) *Teaching methods*

Lecture

c) *Requirements for participation*

none

d) *Applicability of module*

Biosciences (Bachelor)
Basic education in biology for science degree programmes with biology as minor subject.

e) *Requirements for awarding credits*

The lecturer defines the scope and nature of the examination component and announces this information at the beginning of the lecture. The grade of the examination component is used as module grade.

f) *Credit points and grades*

9 ECTS points are awarded.

g) *Course offered*

annually, winter semester

h) *Workload*

The workload is 270 hours.

i) *Duration*

one semester

Basic lecture module: Biology 4

a) *Module content and qualification objectives*
The module is part of the basic education for general biology. This module conveys the theoretical basis of immunology, bacteriology, virology, parasitology, plant-pathogen interaction and ecology.

b) *Teaching methods*
Lecture

c) *Requirements for participation*
none

d) *Applicability of module*
Biosciences (Bachelor)
Basic education in biology for science degree programmes with biology as minor subject.

e) *Requirements for awarding credits*
The lecturer defines the scope and nature of the examination component and announces this information at the beginning of the lecture. The grade of the examination component is used as module grade.

f) *Credit points and grades*
4 ECTS points are awarded.

g) *Course offered*
annually, summer semester

h) *Workload*
The workload is 120 hours.

i) *Duration*
The module lasts half a semester (lecture period).

Basic course module: Basics of Biosciences

a) *Module content and qualification objectives*

This module conveys a concise overview of the biosphere. This includes organisation of bacteria and fungi cells, structure of plant cells and variability of animal cells. Examples are used form molecular cell biology. Symbiosis and parasitism exemplify contact of organisms and cell behaviour. This basic module for microscopy / anatomy gives an introduction to microscopy and basic practical techniques.

b) *Teaching methods*

Course: Lecture, laboratory course

c) *Requirements for participation*

none

d) *Applicability of module*

Biosciences (Bachelor)

Basic education in biology for science degree programmes with biology as minor subject.

e) *Requirements for awarding credits*

The lecturer defines the scope and nature of the examination component and announces this information at the beginning of the lecture. The grade of the examination component is used as module grade.

f) *Credit points and grades*

4 ECTS points are awarded.

g) *Course offered*

annually, winter semester

h) *Workload*

The workload is 120 hours.

i) *Duration*

one semester

Basic course module: Bioinformatics

a) *Module content and qualification objectives*
This basic course provides an overview of the methods and fields of application in bioinformatics.

b) *Teaching methods*
Course: Lecture, laboratory course

c) *Requirements for participation*
none

d) *Applicability of module*
Biosciences (Bachelor)
Basic education in biology for science degree programmes with biology as minor subject.

e) *Requirements for awarding credits*
The lecturer defines the scope and nature of the examination component and announces this information at the beginning of the lecture. The grade of the examination component is used as module grade.

f) *Credit points and grades*
2 ECTS points are awarded.

g) *Course offered*
annually, winter semester

h) *Workload*
The workload is 60 hours.

i) *Duration*
one semester

Basic course module: Experimental Physiology

a) *Module content and qualification objectives*

Theoretical and practical introduction to animal and plant physiology. Ground laying methods and hypothesis in experimental physiology will be covered ranging from molecular processes to the entire organism.

b) *Teaching methods*

Course: Lecture, laboratory course, seminar

c) *Requirements for participation*

none

d) *Applicability of module*

Biosciences (Bachelor)

e) *Requirements for awarding credits*

The lecturer defines the scope and nature of the examination component and announces this information at the beginning of the lecture. The grade of the examination component is used as module grade.

f) *Credit points and grades*

3 ECTS points are awarded.

g) *Course offered*

annually, winter semester

h) *Workload*

The workload is 90 hours.

i) *Duration*

one semester; course can be offered as block course

Basic course module: Developmental Biology

a) *Module content and qualification objectives*
Theoretical and practical introduction to developmental biology for plants and animals.

b) *Teaching methods*
Course: Lecture, laboratory course, seminar

c) *Requirements for participation*
none

d) *Applicability of module*
Biosciences (Bachelor)

e) *Requirements for awarding credits*
The lecturer defines the scope and nature of the examination component and announces this information at the beginning of the lecture. The grade of the examination component is used as module grade.

f) *Credit points and grades*
4 ECTS points are awarded.

g) *Course offered*
annually, winter semester

h) *Workload*
The workload is 120 hours.

i) *Duration*
one semester; course can be offered as block course

Basic course module: Methods of Molecular Cell Biology

a) *Module content and qualification objectives*

The module covers the basics in the methods and techniques of biochemistry, molecular and microbiology as well as an introduction to scientific experimentation and laboratory experience.

b) *Teaching methods*

Course: Lecture, laboratory course, seminar

c) *Requirements for participation*

none

d) *Applicability of module*

Biosciences (Bachelor)

Basic education in biology for science degree programmes with biology as minor subject.

e) *Requirements for awarding credits*

The lecturer defines the scope and nature of the examination component and announces this information at the beginning of the lecture. The grade of the examination component is used as module grade.

f) *Credit points and grades*

6 ECTS points are awarded.

g) *Course offered*

summer semester

h) *Workload*

The workload is 180 hours.

i) *Duration*

one semester; course can be offered as block course

Courses module (compulsory elective):
a) *Module content and qualification objectives*
The students choose on option from within specialised topics in the fields of botany, zoology, microbiology, molecular biology, cell biology and genetics, biochemistry and the courses offered in life sciences. The language of instruction for this course may be English.

b) *Teaching methods*
Course: Lecture, laboratory course, seminar

c)*Requirements for participation*
The lecturer can define specific preconditions for participation. For some lectures or courses the successful completion of the module "Basic course: Methods of Molecular Biosciences" can be required.

d) *Applicability of module*
Biosciences (Bachelor)

e) *Requirements for awarding credits*
Every student must take four of the compulsory elective courses.
The lecturer defines the scope and nature of the examination component and announces this information at the beginning of the lecture. The grades of the examination components are used as module grade.

f) *Credit points and grades*
16 ECTS points are awarded.

g) *Course offered*
Lectures and courses for this module are offered every semester. However, we cannot guarantee that a specific lecture or course is offered on a regular basis.

Basic seminars module (compulsory elective):
a) *Module content and qualification objectives*
Alongside the pure passing on of knowledge, the processing of scientific information and practising presentation skills are focused on.
Student presentation in the seminar will be produced and presented independently and selected from a topic catalogue provided. The language of instruction for this course may be English.

b) *Teaching methods*
Seminar

c) *Requirements for participation*
none

d) *Applicability of module*
Biosciences (Bachelor)

e) *Requirements for awarding credits*
Every student must take two compulsory elective seminars.
The lecturer defines the scope and nature of the examination component and announces this information at the beginning of the lecture. The module grade is calculated as the mean of both examination components.

f) *Credit points and grades*
8 ECTS points are awarded.

g) *Course offered*
Lectures and courses for this module are offered each semester; however it cannot be guaranteed that a specific course is offered.

h) *Workload*
The workload is 240 hours.

i) *Duration*
The module may last several semesters; seminars can be offered as block seminars.

Module: Mathematics

a) *Module content and qualification objectives*

This module conveys knowledge in scientific computing for mathematical data analysis.

The subject matter is explained and practised using practical examples from biology.

With the lecture, practice classes are offered.

b) *Teaching methods*

Lecture, practice class

c) *Requirements for participation*

none

d) *Applicability of module*

Biosciences (Bachelor)

Applicable as scientific basic education in module based scientific degree programmes

e) *Requirements for awarding credits*

The lecturer defines the scope and nature of the examination component and announces this information at the beginning of the lecture. The grade of the examination component is used as module grade.

f) *Credit points and grades*

4 ECTS points are awarded.

g) *Course offered*

annually, winter semester

h) *Workload*

The workload is 120 hours.

i) *Duration*

one semester

Module: Chemistry

a) *Module content and qualification objectives*

This module conveys basic knowledge and skills in inorganic and organic chemistry, using experimental and theoretical methods.
The module consists of lectures, seminars and a laboratory course with integrated theory based seminar and colloquium.

b) *Teaching methods*

Lecture, laboratory course, seminar, colloquium

c) *Requirements for participation*

none

d) *Applicability of module*

Biosciences (Bachelor)
Applicable as scientific basic education in module based scientific degree programmes.

e) *Requirements for awarding credits*

Participation in the laboratory course is only allowed for students who have passed the lecture examination for "General and Inorganic chemistry" and "Organic Chemistry". The laboratory course will take place as a seminar. In order to take the final examination, which takes place at the end of the laboratory course, the laboratory course has to be successfully completed.
The module grade is calculated using the grades from the written examination components.

f) *Credit points and grades*

20 ECTS points are awarded.

g) *Course offered*

annually, beginning of winter semester

h) *Workload*

The workload is 600 hours.

i) *Duration*

two semesters

Module: Physics A

a) *Module content and qualification objectives*
The module is a part of the basic education in physics and provides an introduction to the basics of dynamics, mechanics, thermodynamics and electrodynamics.

b) *Teaching methods*
Lecture, practice class

c) *Requirements for participation*
Attending the offered pre-course in mathematics is highly recommended, however it is not mandatory.

d) *Applicability of module*
Biosciences (Bachelor)
Applicable as scientific basic education in module based scientific degree programmes.

e) *Requirements for awarding credits*
The lecturer defines the scope and nature of the examination component and announces this information at the beginning of the lecture. The grade of the examination component is used as module grade.

f) *Credit points and grades*
6 ECTS points are awarded.

g) *Course offered*
annually, winter semester

h) *Workload*
The workload is 180 hours.

i) *Duration*
one semester

Module: Physics B

a) *Module content and qualification objectives*
The module is a part of the basic education in physics and provides an introduction to the basics of electromagnetic waves, optics, atom physics, many body physics (solid state) and nuclear physics.

b) *Teaching methods*
Lecture, practice class

c) *Requirements for participation*
"Physics B" is based on the content of "Physics A".

d) *Applicability of module*
Biosciences (Bachelor)
Applicable as scientific basic education in module based scientific degree programmes.

e) *Requirements for awarding credits*
The lecturer defines the scope and nature of the examination component and announces this information at the beginning of the lecture. The grade of the examination component is used as module grade.

f) *Credit points and grades*
6 ECTS points are awarded.

g) *Course offered*
annually, summer semester

h) *Workload*
The workload is 180 hours.

i) *Duration*
one semester

Module: Introduction to the Academic Programme

a) *Module content and qualification objectives*

This module conveys methods for procuring knowledge and information, filtering the flood of information and structured processing of information and presentation.
An introduction to the library, online literature searches and the correct way to quote literature sources are the basis of the seminar.
The distributed seminar topics reflect the methodological diversity of research in biology. The language of instruction for this course may be English.

b) *Teaching methods*

Seminar

c) *Requirements for participation*

none

d) *Applicability of module*

Biosciences (Bachelor)

e) *Requirements for awarding credits*

Regular attendance and oral presentation. This module is not graded.

f) *Credit points and grades*

1 ECTS point is awarded.

g) *Course offered*

annually, winter semester

h) *Workload*

The workload is 30 hours.

i) *Duration*

one semester or block

Advanced lecture module (compulsory elective):
a) *Module content and qualification objectives*
This module provides advanced theoretical training in the fields of biodiversity, ecology, evolution, microbiology, parasitology, virology, molecular biology, molecular cell biology, genetics, histology, morphology of cells, biochemistry, biophysics, structural biology, biomathematics, neurobiology, physiology, developmental biology and immunology. The language of instruction for this course may be English.

b) *Teaching methods*
Lecture

c) *Requirements for participation*
Knowledge conveyed in modules "Basic lectures 1 - 3" is required. The lectures can build on each other.

d) *Applicability of module*
Biosciences (Bachelor), Biology (Teaching Degree)

e) *Requirements for awarding credits*
Four of the lectures must be taken.
The lecturer defines the scope and nature of the examination component and announces this information at the beginning of the lecture. The module grade is calculated as the mean of the examination components for the four lectures taken.

f) *Credit points and grades*
16 ECTS points are awarded.

g) *Course offered*
every semester

h) *Workload*
The workload is 480 hours.

i) *Duration*
The module may last several semesters; seminars can be offered as block seminars.

Main laboratory course module (compulsory elective):
a) *Module content and qualification objectives*
The aim of the module is to gain practical qualifications based on specific questions in biology. Conveying and acquiring key qualifications such as time management (qualitative and operational), personal responsibility and goal orientation are integrated in the main laboratory courses. The language of instruction for this course may be English.

b) *Teaching methods*
Laboratory course

c) *Requirements for participation*
The lecturer may define special entry requirements such as successful completion of certain modules or lectures and courses.

d) *Applicability of module*
Biosciences (Bachelor), Biology (Teaching Degree)

e) *Requirements for awarding credits*
From the compulsory elective lecture or course, one must be taken.
The lecturer defines the scope and nature of the course assessment and announces this information at the beginning of the lecture.
The module grade is calculated from the results of the completed lectures and courses.

f) *Credit points and grades*
9 ECTS points are awarded.

g) *Course offered*
Lectures and courses for this module are offered each semester; however it cannot be guaranteed that a specific course is offered.

h) *Workload*
The workload is 270 hours.

i) *Duration*
one semester

Main laboratory course module: Nucleic acids (compulsory elective)

a) *Module content and qualification objectives*

This module focuses on working with DNA (independent cloning) as well as planning and assessing experiments. Students will learn to work on their own. Equivalent courses are allocated to the module and the lecturer can organize the last week's lectures or courses based on their specific areas of interest.

The language of instruction for this course may be English.

b) *Teaching methods*

Laboratory course

c) *Requirements for participation*

The lecturer may define special entry requirements such as successful completion of certain modules or lectures and courses.

d) *Applicability of module*

Biosciences (Bachelor)

e) *Requirements for awarding credits*

One lecture or course of the module must be successfully completed.

The lecturer defines the scope and nature of the examination component and announces this information at the beginning of the lecture. The grade of the examination component is used as module grade.

The module grade is calculated from the results of the completed lectures and courses.

f) *Credit points and grades*

9 ECTS points are awarded.

g) *Course offered*

Lectures and courses for this module are offered each semester; however it cannot be guaranteed that a specific course is offered.

h) *Workload*

The workload is 270 hours.

i) *Duration*

one semester

Main laboratory course module: Proteins (compulsory elective)

a) *Module content and qualification objectives*

The module focuses on dealing with proteins (protein purification / fractionation, enzyme enrichment, defining the molecular weight, western blot, SDS-PAGE) as well as planning and assessing experiments. Students will learn to work on their own. Equivalent courses are allocated to the module and the lecturer can organize the last week's lectures or courses based on their specific areas of interest.
The language of instruction for this course may be English.

b) *Teaching methods*

Laboratory course

c) *Requirements for participation*

The lecturer may define special entry requirements such as successful completion of certain modules or lectures and courses.

d) *Applicability of module*

Biosciences (Bachelor)

e) *Requirements for awarding credits*

One lecture or course of the module must be successfully completed.
The lecturer defines the scope and nature of the examination component and announces this information at the beginning of the lecture. The grade of the examination component is used as module grade.

f) *Credit points and grades*

9 ECTS points are awarded.

g) *Course offered*

Lectures and courses for this module are offered each semester; however it cannot be guaranteed that a specific course is offered.

h) *Workload*

The workload is 270 hours.

i) *Duration*

one semester

Seminar module (compulsory elective):
a) *Module content and qualification objectives*
Gaining, deepening and building on special biological knowledge are combined with learning various techniques of presentation and acquisition of media literacy. Communication and language skills are trained and built on by producing and holding presentations independently, and discussing the results. The language of instruction for this course may be English.

b) *Teaching methods*
Seminar

c) *Requirements for participation*
The lecturer may define special entry requirements such as successful completion of certain modules or lectures and courses.

d) *Applicability of module*
Biosciences (Bachelor)

e) *Requirements for awarding credits*
Two lectures or courses of the module must be successfully completed.
The lecturer defines the scope and nature of the course assessment and announces this information at the beginning of the lecture. The module grade is calculated as the mean of the results of both completed lectures or courses.

f) *Credit points and grades*
8 ECTS points are awarded.

g) *Course offered*
Lectures and courses for this module are offered each semester; however it cannot be guaranteed that a specific course is offered.

h) *Workload*
The workload is 240 hours.

i) *Duration*
The module may last several semesters; seminars can be offered as block seminars.

Seminar module: Planning of scientific work

a) *Module content and qualification objectives*

In preparation for independent scientific work, the necessary key skills, which are required for carrying out scientific work, such as problem solving strategies and networked thinking, will be conveyed and developed. The language of instruction for this course may be English.

b) *Teaching methods*

Seminar, practice class

c) *Requirements for participation*

The lecturer may define special entry requirements such as successful completion of certain modules or lectures and courses.

d) *Applicability of module*

Biosciences (Bachelor)

e) *Requirements for awarding credits*

The lecturer defines the scope and nature of the course assessment and announces this information at the beginning of the lecture.
The module grade is the result of the course assessment.

f) *Credit points and grades*

4 ECTS points are awarded.

g) *Course offered*

annually

h) *Workload*

The workload is 120 hours.

i) *Duration*

one semester or block

Module: Excursion / work experience

a) *Module content and qualification objectives*

The module develops personal access to fields of work in biosciences as well as developing scientific interconnections, also in the field. It promotes crossdisciplinary skills such as personal responsibility, communication and organisational skills.

b) *Teaching methods*

Excursion, workshop, seminar, course, symposium, presentations

c) *Requirements for participation*

The lecturer may define special entry requirements.

d) *Applicability of module*

Biosciences (Bachelor)

e) *Requirements for awarding credits*

The module will not be graded. It is deemed successfully completed when the participant has confirmed participation in five of the lectures or courses.

Two types of excursions are provided:

1. Supervised group excursions.
   - *Biodiversity excursions*
   - *other life science excursions*
   - *Excursions to gain work experience*

For supervised group excursions, the lecturer provides a course assessment, which is usually a recorded log of the excursion.

2. Individual excursions.
   - *Bertalanffy lecture and workshop*
   - *COS Symposium, conferences*
   - *Marsilius Studies*
   - *Courses on methods*
   - *Courses on ethics and experiments on animals*
   - *Courses on scientific skills (writing, presentations, etc.)*
   - *Language courses*
   - *Career advice events*

For individual excursions, a certificate of attendance will be provided to the dean of studies.

f) *Credit points and grades*

Out of the five required excursions, at least three must be supervised group excursions. 2 ECTS points are awarded.

g) *Course offered*

every semester

h) *Workload*

The workload is 60 hours.

i) *Duration*
The lectures and courses can be completed during the whole course of study.

Module: Oral defence

a) *Module content and qualification objectives*
Understanding and knowledge of the interconnections between the subjects of study should be demonstrated comprehensively.

b) *Teaching methods*
not applicable

c) *Requirements for participation*
All module examination components completed during the course of study and the Bachelor's thesis must be successfully completed.

d) *Applicability of module*
Biosciences (Bachelor)

e) *Requirements for awarding credits*
The examination is carried out by one examiner. It lasts around 30 minutes.

f) *Credit points and grades*
4 ECTS points are awarded.

g) *Course offered*
summer semester

h) *Workload*
The workload is 120 hours.

i) *Duration*

Module: Bachelor's thesis

a) *Module content and qualification objectives*
The academic thesis should cover a topic from the field of study, using academic methods and working independently. The results will be presented in written form in the Bachelor's thesis. The thesis includes a summary.

b) *Teaching methods*
Guidance to scientific work

c) *Requirements for participation*
All basic module examination components competed during the course of study and the practical specialisation modules must be successfully completed.

d) *Applicability of module*
Biosciences (Bachelor)

e) *Requirements for awarding credits*
The thesis will be assessed by an examiner, who should be the thesis supervisor.
The module must be started one year after the last examination component completed during the course of study, at the latest.

f) *Credit points and grades*
12 ECTS points are awarded.

g) *Course offered*
every semester

h) *Workload*
The workload is 360 hours.

i) *Duration*
8 weeks, however a 2 week extension can be applied for in exceptional cases

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