

Translation

Examination Regulations for the Consecutive Master's Degree Program

"Neurosciences"

at the Faculty of Medicine of the University of Bonn

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Please note that only the original German version is legally binding.

Examination Regulations for the Consecutive Master's Degree Program

"Neurosciences"

of the Faculty of Medicine of the University of Bonn

August 23, 2021

By virtue of § 2, para. 4 and § 64, para. 1 of the NRW Higher Education Act (Gesetz über die Hochschulen des Landes Nordrhein-Westfalen, Hochschulgesetz) of September 16, 2014 (Legal and Regulatory Gazette of North Rhine-Westphalia, p. 547) as last amended by Article 2 of the Act for Amending the Arts Higher Education Act and for Amending other Provisions in the Area of Higher Education (Gesetz zur Änderung des Kunsthochschulgesetzes und zur Änderung weiterer Vorschriften im Hochschulbereich) of March 25, 2021 (Legal and Regulatory Gazette of North Rhine-Westphalia, p. 329), the Faculty of Medicine of the University of Bonn issued the following Regulations:

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Part 1 Scope

§1 Scope

(1) Students who commence their studies within the consecutive Master's degree program "Neurosciences" at the University of Bonn after entry into force of these Examination Regulations are subject to these Examination Regulations.

(2) The Examination Regulations for the consecutive Master's degree program "Neurosciences" of the University of Bonn Faculty of Medicine dated September 1, 2015 (Official Announcements of the University of Bonn, 45th year, no. 44, dated September 29, 2015), hereinafter referred to as PO Neurosciences 2015, will be repealed as of September 30, 2021. Examinations in accordance with PO Neurosciences 2015 will be admissible until September 30, 2021; starting October 1, 2021, these Examination Regulations shall apply to all students in the "Neurosciences" Master's degree program. Credit for prior academic achievements shall be transferred in full. The examination board shall decide on the completion of examination procedures that have already been started on a case-by-case basis.

(3) Students who commenced their studies under PO Neurosciences 2015 prior to the coming into force of these Examination Regulations and have not yet completed all necessary examinations shall adopt these Examination Regulations ex officio on October 1, 2021.

§ 1a Coronavirus pandemic

If the Rectorate has made use of the authorization to issue provisions concerning academic studies that it was granted under the Ordinance on Overcoming Coronavirus SARS-CoV-2 Epidemic Related Challenges Posed on University Operations (Corona-Epidemie-Hochschulverordnung) dated April 15, 2020, as amended, which was issued based on § 82a of the NRW Higher Education Act, the provisions issued by the Rectorate shall supersede the corresponding provisions in these Examination Regulations.

Part 2 Program Objective, Degree and Standard Period of Study

§ 2 Objective of the degree program and purpose of the examination

(1) The consecutive Master's degree program "Neurosciences" offered by the Faculty of Medicine in cooperation with the Faculty of Mathematics and Natural Sciences of the University of Bonn is interdisciplinary, international and research-oriented.

(2) Students in this Master's degree program are to acquire the necessary scientific knowledge, skills and methods as well as relevant key qualifications for an occupation in the field, enabling them to conduct sound research, to critically assess and practically apply research findings and methods as well as to act responsibly. This includes giving due regard to changes and requirements in the working world and, if applicable, in cross-disciplinary references. The program objectives mainly focus on

- 1. building expert knowledge regarding current research by expanding the students' basic knowledge;
- 2. building methodical and analytical competences, enabling students to expand their research findings on their own authority, with a strong emphasis on research methods and strategies.

(3) Students are to learn how to approach complex problems and work on their solution beyond the existing scope of knowledge, using research methods. The interdisciplinary nature of the Master's degree program is to enable students to capture cross-disciplinary correlations as well as autonomously apply research methods and findings.

(4) The Master's examination shall lead to conferral of a Master's degree in "Neurosciences," qualifying the holder for positions demanding extensive skills in this field.

§ 3 Academic degree

Candidates who successfully complete the Master's examination shall be awarded a Master of Science (MSc) degree in "Neurosciences" by the Faculty of Medicine in cooperation with the Faculty of Mathematics and Natural Sciences of the University of Bonn.

§ 4

Standard period of study, ECTS credit point system, range of courses, program structure and language of instruction/examinations

(1) The standard period of study, including the Master's thesis, is four semesters (120 ECTS CP) when pursuing the degree program full-time.

(2) The contents of the degree program are selected and limited in a manner that the Master's examination can be completed within the standard period of study. They are organized in modules that, as a rule, consist of courses with a thematic, methodical or systematic connection.

(3) As a rule, each module is completed by passing a module examination, awarding credit points (CP) in accordance with the European Credit Transfer and Accumulation System (ECTS). One ECTS credit point is equivalent to a calculated student workload in contact hours and self-learning of 30 hours.

(4) The degree program includes 30 ECTS CP in compulsory modules, 60 CP in subject-specific elective modules and 30 ECTS CP for the Master's thesis. In the electives area, four elective modules (7.5 ECTS CP each) and two elective lab courses (15 ECTS CP each) must be chosen. Details on modules, admission to courses and the amount of ECTS credit points per module are set forth in the module structure (Annex 1).

(5) Students receive a curriculum as recommendation on how to structure their course of studies. Students may receive an individual study schedule upon request.

- (6) The language of instruction and examinations is English.
- (7) The degree program starts in the winter semester of each year.

Part 3 Admission requirements and recognition of academic achievements

§ 5

Degree program admission requirements

(1) The consecutive Master's degree program "Neurosciences" is open to applications from graduates from a university undergraduate degree program in the Neurosciences, Biology, Medicine, Biotechnology, Psychology, Pharmacy, Chemistry, Physics or a related field.

(2) The university degree in paragraph 1 must have been completed with a grade of at least 2.3.

(3) The university degree in para. 1 must provide proof of the following qualifications:

Knowledge from the undergraduate degree in the areas of

- 1. Molecular biology, cell biology or physiology, and
- 2. Laboratory experience in at least one of the subjects mentioned in paragraph 1.

(4) Adequate English skills at level B2 or higher according to the Common European Framework of Reference for Languages (CEFR) are a prerequisite for admission to the degree program and are to be proved by submitting a recognized language certificate (e.g. TOEFL iBT, IELTS) or equivalent proof.

(5) This does not affect admission restrictions due to capacity limits (numerus clausus).

(6) The selection of successful applicants is subject to the "Regulations on Selection Procedures for the consecutive Master's degree program 'Neurosciences' " (Selection Procedure Regulations).

§ 6 Recognition of and granting credit for academic achievements

(1) Academic achievements in degree programs at other public or officially recognized universities, at public or officially recognized vocational academies, in degree programs at foreign public or officially recognized universities, or in another degree program at the University of Bonn will be recognized if the acquired skills are deemed equivalent to those that would have been acquired at the University of Bonn; an equivalency assessment is not performed. The examination board assigns credit points for these achievements to the corresponding modules defined in the curriculum. Enrollment may be denied to applicants who failed the final attempt at an examination that cannot be compensated for in a degree program with substantial similarities in content with the consecutive Master's degree program "Neurosciences".

The question of recognition shall be reviewed with special regard to the significance of differences. In (2) order to determine whether significant differences do or do not exist, the topic, scope and requirements of the academic achievement to be recognized is compared to the same aspects of the academic achievement that the former is to replace. This shall not be done by skeletal comparison but rather in the form of an overall review and evaluation. A difference in the amount of awarded credit points alone does not constitute significant difference. The aforementioned regulations apply analogously to academic achievements in degree programs designed for continued education. Academic achievements are recognized to their full extent if significant difference cannot be determined. If the reviewers, in accordance with the principles described above, find that a certain academic achievement can only be recognized in part, credit points shall partially be assigned to the respective module. The respective module shall only be considered passed when all missing course work and/or examinations are completed; only then, ECTS credit points shall be awarded to the extent stipulated in these Regulations. Scope and nature of course work and/or examinations to be completed are at the discretion of the examination board. Equivalence agreements approved by the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder of the Federal Republic of Germany and the German Rectors' Conference as well as agreements under university partnerships shall be observed.

(3) In accordance with § 8, para. 4, sentence 2, the examination board has authority over the processes that underlie recognition of or granting credit for academic achievements. The examination board decides which degree programs are related to or show substantial similarities in content with the Master's degree program "Neurosciences". Representatives of the relevant departments shall be consulted when reviewing the significance of differences. In case of doubts regarding whether academic achievements completed abroad should be recognized, the Central Office for Foreign Education may be consulted. Students shall be notified within 9 weeks of whether an academic achievement is recognized, including information on legal remedies available. In case an achievement is not or only partially recognized, the examination board shall

provide the reasons for its decision, thus bearing the burden of proof. If the examination board denies recognition, students may apply for an internal audit to be conducted by the Rectorate.

(4) If examinations are recognized, the same grades—provided grading systems are comparable—shall be added to the student's transcript of records and, weighted with the ECTS credit points of the module to which credit points are assigned, considered when calculating the overall grade. If course work is recognized, the entry "pass" shall be made in the student's transcript, not assigning a grade. Should the grading systems not be comparable, the entry "pass" shall also be made in the student's transcript. Recognized academic achievements shall be identified as such in the student's certificate. Academic achievements in degree programs not using the ECTS credit point system shall be translated by the examination board into the ECTS credit point system, provided that the respective examination is equivalent to the module examinations defined in these Examination Regulations. Such translation must adhere to the scale approved by the Standing Conference of the Ministers of Education and Cultural Affairs of the Länder of the Federal Republic of Germany for comparisons to the ECTS system.

(5) If the requirements defined in para. 1 are met, students are legally entitled to have their academic achievements recognized. The student must provide all information on the academic achievement in question deemed necessary for recognition. Each semester, the examination board defines a deadline in that semester by which applications for recognition must be submitted. Applications submitted after that deadline cannot be processed until the subsequent semester.

(6) Applicants who, due to their performance in a placement test as per § 49, para. 12 of the NRW Higher Education Act, have earned the right to enter the degree program in a higher program-related semester will be granted credit for the knowledge and skills demonstrated in the placement test, with credit points being assigned to examinations that form part of the Master's examination. The examination board is bound to the results of the placement test stated in the certificate.

(7) Upon request, up to 50% of the ECTS credit points to be earned pursuant to § 4 para. 1 can be granted towards this degree program for knowledge and qualifications acquired in a manner other than academic studies if the knowledge and qualifications are equivalent in terms of content and level to the academic achievements they are to replace.

§ 7 Admission to individual courses

(1) If, in individual cases, admission to a course, due to its nature, purpose or to other reasons, needs to be limited and the number of applications exceeds the defined capacity, the lecturer may file a request with the examination board of the degree program to which the respective module is assigned to manage admissions to that course, giving due regard to § 59 of the NRW Higher Education Act. Criteria for admissions in these cases are stipulated in Annex 2 of these Examination Regulations.

(2) The examination board shall define the maximum number of participants in courses with limited capacity in conjunction with the persons responsible for the modules and announce capacities before the beginning of a semester.

Part 4 Examination board and examiners

§ 8 Examination board and exam office

(1) The faculty councils of the Faculty of Medicine and Faculty of Mathematics and Natural Sciences shall appoint a joint examination board with an equal number of members from each faculty that is to organize examinations and manage the tasks outlined in these Examination Regulations. The dean of the Faculty of Medicine shall ensure that the examination board is able to duly fulfill its tasks and does reliably do so. The dean shall give appropriate instructions and provide necessary administrative support.

- (2) The examination board shall consist of eight voting members, including
 - four members from the group of professors of the Faculty of Medicine and Faculty of Mathematics and Natural Sciences (including the chairperson and deputy chairperson);
 - two members from the group of academic staff of the Faculty of Medicine and Faculty of Mathematics and Natural Sciences and
 - two members from the group of students of the Master's degree program.

The faculty councils appoint the chairperson, deputy chairperson and other members separately by group. All professors with a teaching load of at least two course units per week in the degree program are eligible to become members of the examination board. From the group of academic staff, those who are teaching or previously taught in the Master's degree program "Neurosciences", or are involved in its management, are eligible to become members. From the group of students, those enrolled in the degree program are eligible to become members. For each of the eight members a deputy shall be appointed to represent the member in his or her absence; the deputy chairperson shall chair the examination board when the chairperson is absent. The term of office of members from the group of professors and from the group of academic staff is three years. The term of office of members from the group of students is one year. Members may be reelected. The dean and vice dean of the participating faculties can also be members of the examination board, or its chairperson or deputy chairperson, provided the faculty regulations do not exclude this.

(3) The examination board is an administrative body as defined by German administrative procedure law and the German law governing procedure in contentious administrative matters. The faculty shall create an office (Neurosciences Coordination Office) for administrative support of the examination board.

(4) The examination board shall ensure compliance with the provisions of the Examination Regulations and make certain that the examination procedure is conducted in accordance with regulations. The examination board shall be responsible in particular for recognizing academic achievements as well as handling objections against decisions made within examination procedures. It shall report to the faculty councils of the participating faculties on a regular, at least annual basis on the development of examination and study periods, including the time taken to complete Master's theses and the distribution of overall grades. Once a semester, the examination board shall inform the Student Registry on which students, according to final ruling by the examination board, have failed their final attempt at passing the Master's examination in accordance with § 24, para. 7. The examination board shall provide input for amendments to the Examination Regulations and curriculum. It may delegate clearly defined tasks to the chairperson. It shall not delegate

- decisions on objections as per sentence 2,
- reviews of decisions on deception and disruption of examinations as per § 22, para. 1, sentences 1 and 2,
- assessments of whether a student repeatedly or otherwise seriously attempted to cheat as per § 22, para. 3,
- decisions on the invalidity of the Master's examination and revocation of the Master's degree as per § 29 and
- reporting duties to the faculty council as per sentence 3.

(5) Examination board meetings are not open to the public. All members of the examination board as well as their deputies shall be bound to confidentiality. Members who are not civil servants shall be bound to confidentiality by the chairperson of the examination board. Summary minutes shall be taken as a record of the examination board's discussions and decisions and submitted to the office within ten days after the examination board meeting.

(6) The examination board shall have a quorum when, in addition to the chairperson or their deputy, at least four more members or their deputies, including at least two members from the group of professors, are present. The examination board shall pass resolutions by simple majority. In the event of a tie vote, the chairperson's vote or, in case of his/her absence, the deputy chairperson's vote shall be the deciding vote. The examination board may adopt resolutions by means of a circulation procedure if none of the members objects. In corresponding application of sentence 1, the examination board shall have a quorum for resolutions voted on using a circulation procedure if the chairperson of the examination board has received the number of member votes stipulated in sentence 1 by the deadline set for the circulation procedure; the resolution is otherwise not passed. The chairperson shall send the members of the examination board shall send their personally signed votes back to the chairperson of the examination board, with the scan of a PDF being sufficient in the case of electronic transmission. Members of the examination board shall have the right to be present during examinations.

(7) Directives, dates set and other communication of the examination board with public relevance shall, giving due consideration to data protection requirements, be made available by public display or in electronic form with legally binding effect. Additional publications of other nature are admissible but not legally binding.

(8) The examination board may include examination office staff involved in the examination procedure for consultation on a regular basis or for individual meetings or agenda items. These staff shall have a right to speak but no right to vote.

§ 9 Examiners and assistant examiners

(1) The professors and assistant professors of the Faculty of Medicine and Faculty of Mathematics and Natural Sciences with a teaching load of at least 2 course units per week in the degree program are examiners without express appointment by the examination board. This also applies to members with postdoctoral qualification (Habilitation) in the faculty, contract lecturers, honorary professors, academic staff and lecturers with special responsibilities, provided the person concerned has teaching responsibilities during the respective semester. All those holding a position named in sentences 1 and 2 can also act as assistant examiner. The examination board has the right to appoint additional examiners and assistant examiners in accordance with § 65 of the NRW Higher Education Act. Assistant examiners must have at least passed the Master's examination or an equivalent examination.

(2) Module examinations are usually held by the responsible teaching staff on that module. If a teacher, due to illness or other important cause, is not able to hold module examinations in due time, the examination board shall be responsible for the appointment of another examiner for these module examinations.

(3) Examiners shall be independent of instructions in their conduct of examinations.

(4) Candidates may propose examiners for their Master's thesis. A candidate's proposal should be followed whenever possible; however, it does not substantiate a claim.

(5) The examination board shall ensure that the candidate is informed of the names of the examiners in due time, as a rule at least two weeks before the date of the respective examination.

Part 5

Scope, conduct, form and dates of examinations

§ 10

Scope of the Master's examination

(1) The Master's examination is intended as proof of qualification for positions demanding extensive skills in the respective field as well as in-depth and research-oriented scientific qualification.

- (2) The Master's examination consists of
 - 1. module examinations completed during the course of studies and reflecting the contents of the modules specified in the module structure (Annex 1),
 - 2. the Master's thesis.

All examinations are to be completed within the standard period of study stipulated in § 4, para. 1.

(3) Examinations are completed during the course of studies. As a rule, one module examination is assigned to each module, even when a module consists of more than one course. The grade of the module examination will be indicated on the degree certificate. Students must successfully complete a module in order to be awarded the assigned ECTS credit points. A module is considered successfully completed once the assigned module examination, or all examination components associated with the module, have been graded "Sufficient" or higher.

(4) If a module consists of more than one course, with associated module examination components, the ECTS credit points will be awarded after the last module examination component has been passed.

(5) Examinations shall be held in English.

§ 11

Admission to the Master's examination and to module examinations

(1) The student must apply for admission to the Master's examination. This application shall be submitted to the examination board in writing together with the registration for the first module examination. The following shall be included with the application:

- 1. Proof of meeting the general admission requirements stipulated in § 5;
- 2. A certificate of enrollment as proof of enrollment as a student in this degree program at the University of Bonn;
- 3. A statement whether the student has failed a final attempt at an examination or the final attempt at the Master's examination in this degree program or, at the time of registration for a module examination, is involved in another examination that, if failed, would give cause for denial of enrollment. The same applies to examination procedures of degree programs with substantial similarities in content.
- (2) The examination board may only admit students to module examinations who
 - 1. can provide proof of meeting the admission requirements as per para. 1;
 - 2. meet all requirements that may be stipulated in the module structure (see Annex 1) for the respective module and module examination.

The proof specified in point 1 is not required for admission to module examinations if proof of enrollment as a student in another degree program at the University of Bonn is provided and that degree program imports the respective module in accordance with its examination regulations, or proof of admission as a cross-registered student in accordance with § 52, para. 1 of the NRW Higher Education Act is provided.

(3) Should the candidate not be able to submit documented proof as per para. 1 sentence 3 in the required form, the examination board may allow the candidate to provide proof in another form.

(4) Admission to the Master's examination procedure or, respectively, module examinations is at the discretion of the examination board.

- (5) The examination board may only deny admission to the procedure where
 - a. documents submitted are incomplete as per para. 1 and/or not submitted as requested by a certain deadline;
 - b. the requirements specified in para. 2 are not met;
 - c. the student has failed a final attempt at an examination that cannot be compensated for or failed the final attempt at the Master's examination in this degree program or in a degree program with substantial similarities in content; or
 - d. the student is registered for an examination procedure at another university in the chosen degree program or a degree program with substantial similarities in content as per § 6, para. 1, if the examination procedure could lead to failing the examination, which would mean failing the final attempt at an examination that cannot be compensated for.

§ 12 Module examinations – registration and withdrawal

(1) For each module examination, students shall electronically register with the examination board by the prescribed deadline. Where justified, registrations may be submitted in writing. Registration is only possible if, and as long as, the student satisfies the requirements in § 11, para. 2.

(2) The examination board shall make the examination dates as well as registration periods available by public display or in electronic form; registration periods are cutoff periods.

(3) Candidates may withdraw from a written or oral examination in writing or electronically without indicating reasons until one week before the examination date. This shall not affect para. 6. Candidates may withdraw from project reports until one week before assignment of the topic. The date of receipt by the examination board determines whether the deadline has been met. In cases of examinations that spread over a whole semester and are assigned to a specific course, candidates may not withdraw without giving reasons once topics or places have been assigned.

(4) Rules for registration for the Master's thesis are defined separately in § 19, para. 2.

(5) Students must register for the first attempt at an examination by the end of the third semester after the semester in which the course assigned to the examination as per the module structure/curriculum was planned. Students who fail to register within this period lose their right to examination unless they can prove that they were not at fault for failing to register in a timely manner. Students who lose their right to examination are deregistered from the degree program by the Student Registry once the examination board's decision has come into force.

(6) Students who fail a module examination or withdraw from the examination shall automatically be registered for the next examination date, from which they may not withdraw without giving reasons.

§ 13 Examination modalities and compulsory attendance

(1) Module examinations cover the contents and qualification targets of the modules specified in the module structure (Annex 1).

(2) Candidates in module examinations must be students enrolled in this degree program at the University of Bonn or, respectively, in a degree program at the University of Bonn of which modules are imported in accordance with the Examination Regulations, or admitted as cross-registered students as defined by § 52, para. 1 of the NRW Higher Education Act.

(3) In the module examinations, students are to demonstrate the knowledge and competences acquired in the respective module as well as their ability to understand cross-disciplinary correlations. Module examinations can be completed by passing graded examination components. Module examinations and module examination components can be

- written examinations;
- oral examinations;
- project reports and
- presentations.

The type of examination, admission requirements and, if applicable, division into examination components is stipulated in the module structure. Deviating from the specifications stipulated in the module structure is possible in accordance with § 16, para. 4 and § 17, para. 4; the examination board shall, in conjunction with the examiners, determine the type of examination and, in accordance with § 8, para. 7, announce its decision in due time before the beginning of the semester.

(4) The module structure may stipulate that students must have completed certain assessments (course work) prior to taking a module examination. Where required course work has not been completed, students shall not be admitted to the module examination. Upon request filed by the person responsible for the module, the examination board shall, in accordance with § 8, para. 7, announce the specific requirements regarding such course work before the beginning of the semester.

(5) Two examination dates shall be set for all written and oral module examinations. As a rule, the first examination date shall be set after the courses in the module concerned. The second examination date shall be set in a manner that the degree program can be properly continued and completed within the standard period of study. The examination board shall, in accordance with § 8, para. 7, appropriately announce all examination dates as well as the lengths of individual examinations in due time before the beginning of the semester. Candidates who only take the examination at one of the two examination dates and do not pass the examination are not entitled to another examination date during the current semester.

(6) For courses in which achieving the qualification target requires active participation by students, the module structure may stipulate mandatory regular participation (compulsory attendance) as prerequisite to being admitted to the examination. Before the beginning of the semester, the examination board shall, upon request by the person responsible for the module, give reasons for its decision on which courses require compulsory attendance. In such cases, the examination board shall also define when participation can be considered regular. Depending on the qualification target, absences of up to 15% are permissible, including absences excused by means of a medical certificate. The examination board shall announce the decisions in sentences 2–4 before the beginning of the semester in accordance with § 8, para. 7.

- (7) The following applies when grading examinations:
 - 1. Examinations submitted in writing shall be graded by a minimum of one examiner. Candidates shall be informed of the result of such examinations within four weeks.
 - 2. Oral examinations shall always be graded by a minimum of two examiners or by a single examiner in the presence of a competent assistant examiner. A record shall be kept of the essential topics and results of each examination. If the examination is conducted by a single examiner in the presence of an assistant examiner, the examiner shall hear the assistant examiner in private prior to setting a grade. Candidates shall be informed of their grade immediately following the oral examination.

If the examination is conducted by two examiners, the grade shall be calculated using the average of the two individual grades. Resit examinations that cannot be compensated for once the final attempt has been failed shall always be graded by a minimum of two examiners. In the case of a written examination, if the grade of one examiner would result in the examination being deemed failed, a third examiner shall be appointed. In this case, the two better grades shall be averaged together for the final grade. Rules for grading the Master's thesis are set forth in § 20, para. 4.

(8) The examination board can permit module examinations to be taken in electronic form or using electronic communications. The examination board shall determine the details for conducting these examinations.

(1) Students who are unable to take an examination in the designated manner due to a disability or chronic illness, or due to maternity law provisions, can submit a request for compensation for disadvantages to the examination board together with suitable proof; the same shall apply to the completion of course work as specified in § 13, para. 4. Compensation for disadvantages shall be granted on a case-by-case basis. It can, in particular, provide for differences with respect to how the examination is taken, the length of the examination and the use of auxiliary means or support persons. For students with disabilities or chronic illnesses, the entitlement to compensation for disadvantages shall extend to all of the examinations to be taken during the degree program, provided no change is expected in the illness or disability; sentence 2 remains unaffected. In the case of compulsory attendance courses, compulsory internships and compulsory study periods abroad that cannot be completed due to the impairment, even with the support of the university, alternative forms of assessment that can provide equivalent competence and qualifications shall be permitted.

(2) At the time of automatic registration for a resit examination in accordance with § 12, para. 6, the examination board shall, upon application and provision of respective proof, consider additional time for:

- a. Caring for and raising underage children as per § 25, para. 5 of the Federal Training Assistance Act (BAföG) for a maximum of three semesters per child;
- b. Acting as elected representative in a university body, the student body, the student body's student councils or the Studierendenwerk for a maximum of four semesters;
- c. Acting as gender equality officer for a maximum of four semesters;
- d. Effects of a disability or severe illness prolonging the period of study;
- e. Caring for spouses, registered partners, direct relatives, second-degree indirect relatives or firstdegree in-laws – for a maximum of three semesters.

§ 15

Resitting examinations

(1) Examinations that have been failed may only be repeated twice. Resits shall be conducted in accordance with § 12, para. 6. Rules for repetition of the Master's thesis are defined in § 20, para. 7.

(2) Students who fail the same module three times lose their right to examination and are deregistered from the degree program by the Student Registry once the examination board's decision that the final attempt at the Master's examination has been failed has come into force.

(3) If an elective module has been failed, the candidate can choose another, previously unchosen elective module as compensation before the last possible examination attempt. Such compensation is only possible once. Students who use the compensation option without success shall lose their right to examination and are deregistered from the degree program by the Student Registry once the examination board's decision that the final attempt at the Master's examination has been failed has come into force.

(4) Module examinations graded "Sufficient" or higher cannot be repeated.

(5) Should a student fail to attend a compulsory resit examination without valid excuse, that examination will be graded "Insufficient".

(6) For modules with examinations that are taken during the semester or that are part of a course, the examination cannot be repeated in the same semester. The module examination in such modules can only

be repeated by retaking the entire module or corresponding course. The examination board shall announce the respective examinations and course work to be repeated before the beginning of the semester, pursuant to § 8, para. 7.

§ 16

Written examinations

(1) In written examinations, students are to demonstrate that, within a specific period of time and with limited auxiliary means, they are capable of understanding a problem from the module's thematic field and solving this problem using methods commonly used in that field. The examiners shall announce in a timely manner which auxiliary means may be used during a written examination.

(2) Written examinations may be handwritten or computer-aided examinations, both conducted under supervision. Computer-aided written examinations are in particular free text or clozes that are completed using a computer.

(3) Written examinations shall last a minimum of 60 minutes and a maximum of 180 minutes. § 13, para.7 applies accordingly. The examination board shall announce the specific date before the beginning of the semester.

(4) The examination board may, in conjunction with the examiner, decide that instead of a written examination, an oral examination shall be held that covers the module's subject area; in accordance with § 8, para. 7 this shall be announced in due time before the beginning of the semester.

§ 17 Oral examinations

(1) In oral examinations, candidates are to demonstrate sound knowledge in the subject of examination, identify correlations and analyze specific questions arising from these as well as provide possible solutions.

(2) Oral examinations shall be conducted by either a panel of several examiners (Kollegialprüfung) or a single examiner in the presence of a competent assistant examiner, with candidates being examined either individually or in a group. If the examination is conducted by a panel of several examiners, the candidate shall be examined by one examiner per subject of examination. This shall not affect the provisions set forth in § 13, para. 7. Each oral module examination shall last a minimum of 15 minutes and a maximum of 45 minutes per candidate. When candidates are examined in a group, each candidate within that group shall be examined for the same amount of time.

(3) Students who wish to take the same oral examination at a later date may be admitted to sit in on the examination, provided that spatial circumstances allow for it and no candidate objects to their presence. The decision shall be made by the examiner, and in the case of examinations conducted by a panel of several examiners (Kollegialprüfung), by the examiners. Students sitting in on an examination shall attend neither the discussion nor the announcement of results. They shall also be prohibited from taking notes during the examination.

(4) The examination board may, in conjunction with the examiner, decide that, instead of a specified oral examination, an oral presentation or written examination shall be held that covers the module's subject area. In accordance with § 8, para. 7 this shall be announced in due time before the beginning of the semester.

§ 18 Project reports and presentations

(1) Project reports allow students to gain practical experience in scientific research and demonstrate their ability to summarize practical work independently performed in the laboratory. Candidates are to

demonstrate that they can formulate hypotheses and develop interdisciplinary problem-solving approaches for a large/complex project. Candidates shall have eight weeks to prepare a project report after receiving the topic. In the case of group project reports, it must be possible to clearly identify and grade the contribution of each individual candidate, and the contribution must satisfy the requirements in sentence 1.

(2) Presentations are oral presentations that last a minimum of 10 minutes and a maximum of 45 minutes. Candidates demonstrate their ability to comprehensibly present and discuss their own documented research results obtained using scientific methods. Candidates shall have two weeks to prepare a presentation after receiving the topic. Presentations must be held before the end of the module concerned.

(3) Otherwise, the provisions for grading oral and written assignments stipulated in § 13, para. 7 apply accordingly.

Part 6 Master's thesis

§ 19 Registration, topic and scope of the Master's thesis

(1) The Master's thesis is an examination in the form of a written assignment in which candidates are to demonstrate their ability to conduct research on, develop a solution for and appropriately present a problem from the field of the Master's degree program "Neurosciences" within a specified period of time, on their own authority and using scientific methods.

(2) Students must register their Master's thesis with the examination board. The examination board shall announce the deadline by which a Master's thesis must be registered for the candidate to complete the Master's degree program within the standard period of study.

(3) When registering their Master's thesis, students must indicate their choice of examiner for the Master's thesis.

(4) The topic for the Master's thesis may be assigned by any examiner specified in § 9, para. 1, sentence 1; if the topic is to be set by another examiner specified in § 9, para. 1, sentence 2 or 4, the consent of the examination board shall be required. The examiner who assigned the topic acts as supervisor of the Master's thesis.

(5) The topic for the Master's thesis shall only be issued when the student meets all requirements stipulated in the module structure. The examination board shall issue the topic for the Master's thesis in conjunction with the persons responsible for the module. A record shall be kept of the topic and the date of issue. Prior to registration of the Master's thesis, students shall be given the opportunity to submit proposals for the research area from which the topic of their Master's thesis shall be taken; they shall not, however, have the right to a topic from a specific area. Upon request by the student, the examination board shall ensure that the student receives a topic for his/her Master's thesis in due time as per para. 9.

(6) Candidates may reject a Master's thesis topic only once and only within the first two months after its issue. Rejecting a topic does not count as a failed attempt. The new topic issued to the candidate must be substantially different from the initial topic.

(7) The Master's thesis cannot be approved in the form of a group thesis.

(8) The Master's thesis (without annexes) may be no longer than 80 DIN A-4 pages (line spacing 1.5 lines, Arial, font size 12, margins at least 2 cm).

(9) Passing the Master's thesis awards 30 ECTS CP, corresponding to 900 hours in student workload. It must be completed within a maximum of six months. The examination board shall determine the deadline by which the Master's thesis must be submitted and notify the student of that deadline. Task and scope of the Master's thesis shall be limited in a way that candidates may complete it under reasonable requirements within the specified period. Upon valid request and in conjunction with the supervisor, the examination board may grant an extension by a maximum of six weeks. As a rule, the topic of the Master's thesis is is used at the end of the third semester.

§ 20 Submission, evaluation and repetition of the Master's thesis

(1) Candidates shall submit their Master's thesis in triplicate to the examination board (in both print and a digital format suitable for electronic evaluation); a record shall be made of the time and date of submission. Candidates may not withdraw an already submitted Master's thesis. Master's theses that are not submitted by the stated deadline shall be graded "Insufficient".

(2) Candidates shall declare in writing when submitting their Master's thesis that the thesis is their own work, that they used only those sources and resources cited in the thesis and that they have marked citations as such. The examination board can require that the candidate provide an affidavit to this effect.

(3) Master's theses shall be evaluated and graded by two examiners. One of the examiners shall be the person who assigned the topic of the Master's thesis; the second examiner shall be appointed by the examination board from among the group of examiners as defined by § 9, para. 1. It must be ensured that at least one of the examiners is a member of the group of professors (Hochschullehrerinnen und Hochschullehrer) at the University of Bonn. The candidate shall be entitled to propose examiners but shall not have a right to be assigned a specific examiner. It must be ensured that the two examiners do not belong to the same department or working group.

(4) The examiners shall each provide a grade separately and provide the reasons for the grade they assigned in writing in accordance with § 24, para. 1. When the difference between the two grades is less than 2.0, they shall be averaged together for the final grade for the Master's thesis. When the difference is 2.0 or more, the examination board shall appoint a third examiner for review of the Master's thesis. In this case, the two best grades shall be averaged together for the final grade. Grades shall be averaged in accordance with § 24, para. 2. A Master's thesis may, however, only be awarded the grade "Sufficient" or higher when at least two of the individual grades were "Sufficient" or higher.

(5) Examiners shall submit their reviews of the Master's thesis within eight weeks after the submission deadline.

(6) Candidates who receive a grade of "Sufficient" or higher for their Master's thesis are awarded 30 ECTS CP.

(7) Master's theses graded "Insufficient" may be repeated once. The topic of the second Master's thesis may be chosen from the same area as the topic of the first Master's thesis but must be substantially different in nature. The candidate may reject the proposed topic for their Master's thesis within the period specified in § 19, para. 6 only if they did not make use of this option with their first Master's thesis. Should the second thesis also be graded "Insufficient", the candidate shall have failed their final attempt at the Master's examination, losing their right to examination and being deregistered from the degree program by the Student Registry once the examination board's decision has come into force.

Part 7

Procedural irregularities and protective regulations

§ 21

Cancellation, failure to appear, withdrawal and reprimand

(1) Candidates may electronically (in the examination management system) cancel their registration for module examinations with the examination board before the deadlines indicated in § 12, para. 3; if this is not possible, cancellation can also be submitted in writing. The date of receipt by the examination board determines whether the deadline has been met.

(2) If a candidate withdraws from an examination after the cancellation deadline without good cause, the examination is graded "Insufficient". The same applies when a candidate fails to appear for an examination or to submit an assignment within the specified period of time.

(3) Candidates who have registered for an examination but have good cause to withdraw from that examination, especially due to illness, may do so regardless of the cancellation deadline. The examination board shall be notified of such withdrawals immediately and in writing. Candidates shall immediately provide a written statement credibly substantiating the grounds for their withdrawal or failure to appear. In cases of illness, candidates shall present a medical certificate proving their inability to participate in the examination or, respectively, submit their assignment on time. The examination board may, in individual cases, require the submission of a certificate from a medical examiner designated by the University if there are sufficient factual indications that the candidate would in fact have been able to participate in the examination or, respectively, submit their assignment on time or if the examination board deems other proof than that defined by sentence 4 appropriate in that case. It is not possible to withdraw from an examination after the start of the examination. If the examination board accepts a medical certificate allowing for withdrawal due to illness or other good cause given by the candidate, the examination attempt shall be deemed void.

(4) Candidates shall immediately reprimand any deficiencies related to an examination with the respective examiner or proctor. The reprimand shall be entered into the record and asserted in front of the examination board. If the examination board accepts the reprimand, the examination attempt shall be deemed void.

§ 22 Deception and disruption of examinations

(1) Candidates who try to influence the outcome of an examination through deception or the use of inadmissible auxiliary means shall receive the grade "Insufficient"; the respective examiner or proctor shall identify deception or use of inadmissible auxiliary means, include it in the record and notify the examination board. The respective examiner or proctor may bar any candidate from continuing an examination who, despite a warning, disrupts the orderly conduct of the examination; in such cases, the examination shall be graded "Insufficient". A record shall be made of the reasons for barring the candidate from the examination.

(2) Candidates may, within a period of two weeks, request that decisions taken pursuant to para. 1, sentences 1 and 2 be reviewed by the examination board.

(3) In cases of repeated or otherwise grave attempts at deception, the examination board can, after hearing the candidate, decide whether the candidate loses his or her right to examination in this degree program. The student will be deregistered by the Student Registry once the examination board's decision on the loss of the right to examination has come into force. The examination board shall determine whether the candidate's attempt at deception was repeated or otherwise grave.

(4) Violation of the provisions in these Examination Regulations regarding deception in examinations is an administrative offense. This administrative offense may be subject to a fine of up to EUR 50,000. As

competent administrative authority, the provost of the University of Bonn shall pursue and fine administrative offenses pursuant to sentence 1.

§ 23 Protective regulations

(1) Regulations on maternity leave stipulated in the Maternity Protection Act (MuSchG) as amended shall be respected; students shall provide all necessary proof. All time frames stipulated in these Examination Regulations shall be suspended by maternity leave; time frames for periods of assessment shall not include periods of maternity leave. The examination board shall notify the student of newly determined examination deadlines once all necessary proof has been submitted.

(2) Allowances shall likewise be made on application for parental leave under the Parental Allowance and Parental Leave Act (BEEG) as amended. Candidates shall notify the examination board in writing of the period(s) during which they wish to take parental leave, enclosing necessary substantiating documentation, at least four weeks prior to the date on which they wish to enter parental leave. The examination board shall determine whether the statutory requirements have been met which would lead to an employee being entitled to parental leave under the BEEG and shall inform the candidate immediately of its findings and, if applicable, any new examination deadlines. Time frames for the completion of assignments may not be interrupted by a period of parental leave. The assignment topics shall be deemed not issued. The candidate shall receive a new topic at the end of their parental leave. This does not affect § 21, para. 3, sentence 1.

(3) Allowances shall likewise be made on application for leave taken for the care of spouses, registered partners, direct relatives, second-degree indirect relatives or first-degree in-laws who are in need of care. The examination board shall review whether the requirements defined by sentence 1 are met. The application is to be submitted as soon as these requirements are met. Relevant documentation shall be attached to the application. The examination board shall immediately notify the candidate of the result and, if applicable, of the new examination deadlines. Time frames for the completion of assignments may not be extended based on such leave taken. The assignment topics shall be deemed not issued. The candidate shall receive a new topic at the end of their leave. This does not affect § 21, para. 3, sentence 1.

Part 8

Grading and final documentation

§ 24

Grading of examinations, grading system and pass requirements for the Master's examination

(1) The grade for each examination shall be determined by the respective examiners. If the examination is conducted by more than one examiner, the grade shall be calculated using the average of the individual grades. This does not affect § 13, para. 7. The following grading system shall be used:

1	Very good	Excellent achievement
2	Good	Achievement well above average requirements
3	Satisfactory	Achievement corresponding to average requirements
4	Sufficient	Achievement that still meets necessary requirements despite deficiencies
5	Insufficient	Achievement that does not satisfy requirements due to substantial deficiencies

In order to produce a graduate grading scale and provide a more nuanced evaluation, individual grades may be raised or lowered by values of 0.3; grades 0.7, 4.3, 4.7 and 5.3 shall not be admissible. An examination is passed if it is graded "Sufficient" or higher; otherwise it is failed.

(2) Only the first decimal place after the decimal shall be used when calculating the grades for individual modules or for overall performance; all further decimal places shall be dropped without rounding off.

(3) A module examination shall be deemed passed when the module is graded at least "Sufficient". If a module grade includes more than one examination component, it shall be calculated using the individual examination weights indicated in the module structure. This does not affect § 10, para. 3, sentence 4. The grading scale for modules is:

With an average grade up to and including 1.5	= Very good
With an average grade from 1.6 up to and including 2.5	= Good
With an average grade from 2.6 up to and including 3.5	= Satisfactory
With an average grade from 3.6 up to and including 4.0	= Sufficient
With an average of 4.1 or higher	= Insufficient

(4) Candidates shall be informed of the grades earned in written examinations within four weeks of the particular examination, and the grade awarded for their Master's thesis within eight weeks at the latest following the submission deadline. In accordance with the applicable data protection regulations, results shall be made available in electronic form via the examination management system or by public display; as a rule, results are to be made available before the standard period of study ends.

(5) Candidates shall have passed the Master's examination when they have passed all necessary modules as per § 4, para. 4 as well as the Master's thesis and have thus been awarded a total of 120 ECTS CP.

(6) The calculation of the overall grade shall include all graded modules. Each grade from individual modules shall be weighted by multiplying it with the number of ECTS credit points assigned to the respective module. The sum of these individually weighted grades is then divided by the total number of ECTS credit points (weighted average). Para. 3, sentence 4 applies accordingly. Deviating from this, the overall grade shall be "Excellent" if the overall grade is no lower than 1.3 and the Master's thesis has been graded "Very good" (1.0). Modules marked "pass" due to lack of comparability between grading systems shall not be included when calculating the overall grade.

- (7) The final attempt at the Master's examination shall be deemed failed when
 - the candidate has three times failed to pass a module as defined by § 10, para. 3, sentence 4, or, respectively, § 15, para. 2,
 - the compensation option for electives has been used without success as specified in § 15, para. 3, or
 - the Master's thesis has been graded "Insufficient" in the second attempt.

§ 25 Certificate

(1) The candidate shall be notified of the results of their successful Master's examination in a provisional certificate as soon as all grades have been submitted. A certificate shall thereafter be issued in German. Candidates may also receive an English translation of their certificate on application. The certificate shall include the following information:

- All modules for which ECTS credit points were earned;
- The semester in which ECTS credit points were earned;
- The grades received for the individual module examinations;
- The topic and grade of the Master's thesis;
- The date of the last examination and
- The overall grade of the Master's examination.

(2) The certificate shall state the date of issue. The certificate shall be stamped with the seal of the examination board and signed by the dean of the Faculty of Medicine and the chairperson of the examination board.

(3) Candidates who have failed their final attempt at the Master's examination shall be issued a written notification thereof by the examination board, including information on legal remedies available.

(4) Candidates who leave the university without a degree shall, after deregistration and on application, be issued a transcript including a list of all completed course work and examinations. This transcript shall be limited to those parts of the student's course of study which were successfully completed. In addition, a notification may be issued on application that indicates which examinations the student did not pass or still needs to complete in order to pass the Master's examination.

§ 26 Master's Diploma

Along with the certificate of the Master's examination, candidates shall receive a Master's Diploma issued the same day in German stating that the candidate has been awarded the academic degree as per § 3. The Master's Diploma will be accompanied by an English translation. Diplomas shall be signed by the deans of the participating faculties and by the chairperson of the examination board as well as stamped with the seals of the participating faculties.

§ 27 Diploma Supplement

The Master's Diploma shall be augmented by a Diploma Supplement. The Diploma Supplement is a standard document in English and German that shall include the following information:

- Essential contents of the program underlying the degree;
- The course of studies;
- The competences acquired with the degree;
- Information on the accreditation of the degree program and
- Information on the university awarding the degree.

The Diploma Supplement shall give a relative classification of the overall grade of the Master's examination on the ECTS grading scale.

§ 28 Access to examination records

(1) Candidates shall, on application, be granted access to their examinations, the examiners' written reviews as well as records of oral examinations; applications must be submitted within three months after notification of the examination result. This does not affect § 29 of the Administrative Procedure Act (Verwaltungsverfahrensgesetz).

(2) Candidates shall, on written application within three months after the examination board has issued the certificate as per § 26, be granted access to their examination records. This does not affect § 29 of the Administrative Procedure Act (Verwaltungsverfahrensgesetz).

(3) The examination board shall determine when and where the examination records may be accessed and notify the candidate hereof in due time.

§ 29

Invalidity of the Master's examination and revocation of the Master's degree

(1) Should it become known after the certificate has been issued that the candidate used deception in an examination or their Master's thesis, the examination board may correspondingly correct the grades for those examinations or the thesis in which the candidate used deception as well as the overall grade and declare the entire Master's examination or parts thereof failed.

(2) Should it become known after the certificate has been issued that the candidate had not met the requirements for admission to the Master's examination, and should this have happened without any fraudulent intent on the part of the candidate, this defect shall be remedied by the candidate's successful completion of the examination. Should the candidate have wrongfully secured admission with intent, the examination board shall decide on the legal consequences in accordance with the Administrative Procedure Act.

(3) Candidates shall be heard before the examination board makes a decision.

(4) The incorrect certificate shall be withdrawn and, where applicable, a new certificate shall be issued. If one or more examinations are declared failed due to deception, the incorrect certificate also makes the Master's Diploma and all other graduation documentation void. Decisions pursuant to para. 1 and para. 2, sentence 2 may be taken only for a period of five years after the issue of the certificate.

(5) Should the Master's examination be deemed altogether failed, the Master's degree shall be revoked by all participating faculties and the Master's Certificate, Master's Diploma as well as all other graduation documentation shall be withdrawn.

Part 9 Entry into force

§ 30

Entry into force and publication

(1) These Examination Regulations shall enter into force on the day after their publication in the Official Announcements of the University of Bonn.

(2) Under § 12, para. 5 of the NRW Higher Education Act, violations of the procedural or formal requirements of the Higher Education Act or regulatory or other legal provisions of the University of Bonn may no longer be asserted against these Regulations if one year has passed since their announcement.

The Dean of the Faculty of Medicine of the University of Bonn Professor Dr. med. Bernd Weber

Executed pursuant to the resolution adopted by the faculty council of the Faculty of Medicine on June 7, 2021, the accession resolution adopted by the Faculty of Mathematics and Natural Sciences on July 7, 2021 and the resolution passed by the Rectorate on July 28, 2021.

Bonn, August 23, 2021

The Rector of the University of Bonn Professor Dr. Dr. h.c. Michael Hoch

Annex 1: Module structure for the consecutive Master's degree program "Neurosciences"

Module structure key

- Abbreviations of course types: L = lecture, S = seminar, PC = practical course
- Marked with asterisk (*): Courses that require compulsory attendance as a prerequisite for participation in the module examination in accordance with § 13, para. 6. In these cases, compulsory attendance is an additional requirement to other listed course work.
- The "Course Type" column shows the type of a course within the module.
- The "Duration/Study Semester" column shows the duration (D) of the module (in semesters) and assigns it to a specific study semester (StS).
- The "Course Work" column shows requirements that must be met for admission to certain examinations pursuant to § 13, para. 4 or, respectively, to acquire ECTS credit points in modules without an examination.

Further details on individual modules, especially regarding the courses offered within or required for completion of a module, are described in the module guide, which the examination board will make available before the beginning of the respective semester, pursuant to § 8, para. 7.

Module Number/ Abbreviatio n	Module Name	Course Type	Admission Requirements	Duration/ Study Semester	Subject (content) of Examination and Qualification Objective	Course Work	Type of Examination	ECTS CP
403003301	Neuromorphology (PM 1)	L, S*, PC*	None	D: 1 sem. StS: 1 st sem.	Students will learn morphological principles that are required for neural functions.	Oral presentation in the seminar with accompanying informational materials. Poster presentation, seminar talk with moderation of the following discussion.	Written examination	7.5
403045302	Neurophysiology (PM 2)	L, S*, PC*	None	D: 1 sem. StS: 1 st sem.	Students will learn about CNS functions on the levels of ion channels, cells and cellular networks.	Practical course protocol	Oral examination	7.5

1st Academic Year - Compulsory Modules

Module Number/ Abbreviatio n	Module Name	Course Type	Admission Requirements	Duration/ Study Semester	Subject (content) of Examination and Qualification Objective	Course Work	Type of Examination	ECTS CP
403006303	Molecular Neurobiology (PM 3)	L, S*, PC*	None	D: 1 sem. StS: 1 st sem.	Students gain advanced knowledge about the structure of neuronal cells and molecular processes involved in neuronal communication.	Oral presentation in the seminar	Oral examination	7.5
403006304	Statistics (4 LP), Scientific writing (1.5 CP), Research Ethics (2 CP) (PM 4)	L, S*, PC*	None	D: 1 sem. StS: 1 st and 2 nd sem.	Students gain advanced knowledge of statistics, the preparation of scientific publications and research ethics.	None	Statistics written examination (53%), presentation of a scientific paper (20%), research ethics written examination (27%)	7.5
8900	Master's thesis		Min. 75 CP, including 30 CP from compulsory modules	D: 1 sem. StS: 4 th sem.	The knowledge and practical skills acquired during the course of studies are applied in the context of a defined scientific problem, experiments are independently planned and performed, and a scientific paper is prepared.	None	Master's thesis	30

Elective Modules

In the electives area, four elective modules (7.5 ECTS CP each) and two elective lab courses (15 ECTS CP each) must be chosen.

1st Academic Year - Elective Modules

Module	Module Name	Course	Admission	Duration/	Subject (content) of Examination and	Course Work	Type of	ECTS
Number/		Туре	Requirements	Study	Qualification Objective		Examination	СР
Abbreviatio				Semester				
n								
63260217	Neuroethology -	L, S*,	None	D: 1 sem.	The general principles of neuroethology	Oral presentation	Oral examination	7.5
	Neural basis of	PC*		StS: 1 st and	are presented to students in a comparative	followed by a		
	behaviour and			2 nd sem.	manner.	discussion		
	sensory perception							
	(WPM3, OEP-B03)							

Module Number/ Abbreviatio n	Module Name	Course Type	Admission Requirements	Duration/ Study Semester	Subject (content) of Examination and Qualification Objective	Course Work	Type of Examination	ECTS CP
403029304	Cellular and Behavioural Genetics (WPM4)	L, S*, PC*	None	D: 1 sem. StS: 1 st and 2 nd sem.	Students learn the neurobiological and molecular genetic basics of selected behavior and modern behavioral genetic methods of investigation.	Oral presentation including a handout	Oral examination	7.5
403011906	Cognitive Neuroscience (WPM 6)	L, S*, PC*	None	D: 1 sem. StS: 1 st and 2 nd sem.	Theoretical and practical understanding of the most important methods in the cognitive neurosciences.	Report	Presentation	7.5
403042907	Developmental Neurobiology, Stem Cells and Disease (WPM 7)	L, S*, PC*	None	D: 1 sem. StS: 1 st and 2 nd sem.	Students gain insight into the development of the CNS, events leading to neurodegeneration and therapeutic approaches for CNS diseases.	Oral presentation with accompanying informational materials (handout)	Written examination	7.5
403042909	Cellular Neurobiology (WPM 9)	L, S*, PC*	Recommended: Attendance in the lecture "Cellular Neurobiology of Disease"	D: 1 sem. StS: 1 st and 2 nd sem.	Basic knowledge of cellular neurobiology, basic cell biology of neurons and glial cells.	Oral presentation with accompanying informational materials (handout)	Written examination	7.5
403011911	Principles of Neural Information Processing (WPM 11)	L, S*, PC*	None	D: 1 sem. StS: 1 st and 2 nd sem.	Focusing on selected topics, students deepen their knowledge of the fundamentals of cellular and molecular neurophysiology.	Oral presentation with accompanying informational materials (handout)	Oral examination	7.5
403017912	Neurogenetics (WPM 12)	L, S*, PC*	None	D: 1 sem. StS: 1 st and 2 nd sem.	Students learn about genetic and epigenetic changes and how they lead to CNS dysfunctions.	Oral presentation with accompanying informational materials (handout), preparation of written protocols for the scientific experiments	Written examination	7.5

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Module Number/ Abbreviatio n	Module Name	Course Type	Admission Requirements	Duration/ Study Semester	Subject (content) of Examination and Qualification Objective	Course Work	Type of Examination	ECTS CP
403036913	Neuropharmacology (WPM 13)	L, S*, PC*	None	D: 1 sem. StS: 1 st and 2 nd sem.	Theoretical and practical understanding of the most important methods in neuropharmacology.	Preparation of written protocols for the scientific experiments	Oral examination	7.5
403045903	Environment and Behaviour: Cognition and Behaviour (WPM 15, OEP-B02)	L, S*, PC*	None	D: 1 sem. StS: 1 st and 2 nd sem.	Students will acquire basic knowledge of the different disciplines within the behavioral sciences.	Experiments, oral presentation	Oral examination	7.5
403011918	Protein misfolding and aggregation in neurodegenerative diseases (WPM 18)	L, S*, PC*	None	D: 1 sem. StS: 1 st and 2 nd sem.	The module provides an overview of neurodegenerative disorders associated with the aberrant folding and accumulation of proteins that lead to neuronal dysfunctions.	Oral presentation	Oral examination	7.5
403045902	Neuroanatomy (WPM 20)	L, S*, PC*	None	D: 1 sem. StS: 1 st and 2 nd sem.	Students will learn modern experimental neuroanatomical techniques and investigate the histology and connectivity of brains.	Experiments, oral presentation	Oral examination	7.5
403011921	Decision Neuroscience (WPM 21)	L, S*, PC*	None	D: 1 sem. StS: 1 st and 2 nd sem.	Students will learn about decision-making theories from a psychological, neuroscientific and neuroeconomic perspective.	Oral presentation	Project report	7.5
403098322	Assembly of Neural Circuits (WPM 22)	L, S*, PC*	None	D: 1 sem. StS: 1 st and 2 nd sem.	Students will learn state-of-the-art cell biological, genetic and molecular techniques to study circuit formation in vertebrates and invertebrates.	Oral presentation	Oral examination	7.5
403098323	Neuroethology: multiphoton imaging of activity and EM synaptic connectivity reconstruction (WPM 23)	L, S*, PC*	None	D: 1 sem. StS: 1 st and 2 nd sem.	Students will learn principles of optical and electron microscopy for imaging the brain to understand the neuronal basis of behavior.	Oral presentation and protocol	Oral examination	7.5

Module Number/	Module Name	Course Type	Admission Requirements	Duration/ Study	Subject (content) of Examination and Qualification Objective	Course Work	Type of Examination	ECTS CP
Abbreviatio n				Semester				
403011924	Neurophysiology of sensory systems (WPM 24)	L, S*, PC*	None	D: 1 sem. StS: 1 st and 2 nd sem.	This module focuses on sensory systems and how sensory information is processed in downstream circuits.	Protocol	Oral examination	7.5
403030325	The Synapse: from molecules to information processing (WPM 25)	L, S*, PC*	None	D: 1 sem. StS: 1 st and 2 nd sem.	Students will learn about aspects of the synapse, the key structure of communication and information processing in the brain.	Oral presentation	Oral examination	7.5
403011328	Social Neuroscience (WPM 28)	L, S*, PC*	None	D: 1 sem. StS: 1 st and 2 nd sem.	Students will learn about neural mechanisms in primates underlying the detection, identification, perception and decoding of social signals.	Oral presentation	Oral examination	7.5

The examination board may approve further elective modules and shall announce them before the beginning of the semester, pursuant to § 8, para. 7.

2nd Academic Year – Elective Modules/Lab Courses

Module Number/ Abbreviatio n	Module Name	Course Type	Admission Requirements	Duration/ Study Semester	Subject (content) of Examination and Qualification Objective	Course Work	Type of Examination	ECTS CP
403099302	Functional Analyses of Sensory Systems (WPP 2)	S*, PC*	Attendance in WPM 15; min 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Students receive elaborated hands-on experience in <i>in vivo</i> and/or <i>in vitro</i> single unit recordings, in light microscopy and in electron microscopy.	Oral presentation	Project report	15

Module Number/ Abbreviatio n	Module Name	Course Type	Admission Requirements	Duration/ Study Semester	Subject (content) of Examination and Qualification Objective	Course Work	Type of Examination	ECTS CP
403042303	Neural Stem Cells (WPP 3)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Knowledge of neural and embryonic stem cell biology, hands-on experience in genetic modification and controlled differentiation of stem cells and their use for cell replacement strategies in the CNS.	Protocol	Oral examination	15
403006304	Molecular Neurobiology (WPP 4)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Students learn relevant techniques for the analysis of biochemistry and cellular biology of neuronal and non-neuronal cells.	Oral presentation	Oral examination	15
403011306	Clinical Neuropsychology (WPP 6)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Theoretical principles of tests, IQ tests, etc.	Oral presentation	Project report	15
403011307	Neurophysics (WPP 7)	S*, PC*	Recommended: Knowledge of programming languages; min. 45 CP earned the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Students receive hands-on experience in the analysis of biomedical data with linear/nonlinear univariate, bivariate and multivariate time series analysis.	Oral presentation	Project report	15
403042308	Training in Cellular Neurobiology of Disease (WPP 8)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Electrophysiological techniques are combined with immunocytochemical methods and single-cell transcript analyses to perform structural-functional analyses at the cellular level.	Oral presentation	Project report	15

Module Number/ Abbreviatio	Module Name	Course Type	Admission Requirements	Duration/ Study Semester	Subject (content) of Examination and Qualification Objective	Course Work	Type of Examination	ECTS CP
n 403003309	Neuromorphology: Cell Culture Techniques in Developmental Neurobiology (WPP 9)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Students receive hands-on experience in setting up and characterizing primary neural cell cultures and cell lines as models to study developmental mechanisms. Morphological and basic molecular methods are combined to characterize the heterogeneity and functional differentiation of cells used under controlled <i>in vitro</i> conditions. Basic techniques and principles for the experimental manipulation of these cultures are presented and practiced.	Oral presentation	Project report	15
403045310	Analyses of glial cells and their role in brain function (WPP 10)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Students will apply electrophysiological techniques to characterize glial cells and their interactions with neurons.	Protocol	Presentation	15
403031311	Molecular Mechanisms of Neurodegenerative Diseases (WPP 11)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Students receive an introduction to current biochemical and cell biological methods in the investigation of neurodegenerative diseases (Alzheimer's, poly-Q).	Oral presentation	Project report	15
403011312	Functional MRI for the Investigation of Cognitive Functions /WPP 12)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Students receive hands-on experience in the investigation of cognitive functions by applying functional MRI techniques.	Oral presentation	Project report	15

Module Number/ Abbreviatio	Module Name	Course Type	Admission Requirements	Duration/ Study Semester	Subject (content) of Examination and Qualification Objective	Course Work	Type of Examination	ECTS CP
403031313	Neuromodulators in Animal Behaviour (WPP 13)	S*, PC*	Recommended: Basic knowledge of classical and modern genetics, knowledge of standard techniques of molecular biology; min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	This module deals with the question of how neuromodulators influence brain function at the molecular, cellular and systems levels.	Oral presentation	Project report	15
403099314	Animal Sensory Physiology (WPP 14)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Students learn to analyze animal sensory systems by doing quantitative psychophysical experiments combined with electrophysiological experiments.	Oral presentation	Project report	15
403031316	Molecular Mechanisms of Synaptic Function (WPP 16)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Students receive an overview of current biochemical and cell biological methods in the investigation of synapses.	Oral presentation	Project report	15
403031318	Impact of mitochondrial DNA mutations on neurodegenerative diseases (WPP 18)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Students receive an introduction to mitochondrial genetics and learn basic techniques to investigate the relevance of mitochondrial mutations in neurodegenerative diseases.	Oral presentation	Project report	15
403031321	Epigenetics (WPP 21)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Students will learn techniques for the investigation of epigenetic modifications and functional analysis of epigenetically regulated genes in glioma cells.	None	Project report	15

Module Number/ Abbreviatio n	Module Name	Course Type	Admission Requirements	Duration/ Study Semester	Subject (content) of Examination and Qualification Objective	Course Work	Type of Examination	ECTS CP
403031322	Extracellular Human Electrophysiology (WPP 22)	S*, PC*	Basic programming knowledge (Mathlab) is recommended; min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Students will learn how to analyze single- cell activity and local field potentials of awake subjects.	None	Project report	15
403031323	Cellular Neurobiology of Epilepsy (WPP 23)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Students investigate the basic principles of epileptogenesis in mouse models with temporal lobe epilepsy.	Protocol	Presentation	15
403098325	Neuroethics (WPP 25)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Students will learn the main approaches and methods in current neuroethics and research ethics. They will learn to understand central ethical questions of neuroscientific research.	Protocol	Presentation	15
403042326	Optogenetics (WPP 26)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Students will gain knowledge of optogenetics combined with electrophysiological and behavioral techniques to dissect the functional architecture of the brain and identify neuronal motifs underlying specific behaviors.	Presentation	Oral examination	15
403045330	Mechanisms of astrocyte-neuron interaction (WPP 30)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Students will receive an introduction to the concepts of astrocyte-neuron communication and hands-on experience in the investigation of involved mechanisms.	Protocol	Presentation	15
403011331	Structural MRI in Clinical Research (WPP 31)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	The student is supposed to independently handle the acquisition, preprocessing and analysis of structural MRI data and relate the results to questions of clinical neuroscience.	Oral presentation	Presentation	15

Module Number/ Abbreviatio n	Module Name	Course Type	Admission Requirements	Duration/ Study Semester	Subject (content) of Examination and Qualification Objective	Course Work	Type of Examination	ECTS CP
403099332	Comparative Neuroanatomy (WPP 32)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Students will receive knowledge about histological techniques to analyze the structure of the fish brain.	Protocol	Presentation	15
403098333	In Silico Brain Sciences (WPP 33)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	This module provides students with hands- on experience in how to combine experimental and computational methods to study the relationships between neuronal structure and function in the living animal.	None	Project report	15
403030334	Imaging Synapses at Nanoscale Resolution (WPP 34)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Students receive an introduction to novel imaging techniques and modalities revealing the nanostructural architecture of synapses.	Oral presentation	Project report	15
403098335	Molecular Biology of Neurodegeneration (WPP 35)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Students will learn about the interaction between innate and adaptive immunity and the central nervous system and the basics of molecular biology of neurodegeneration.	Protocol	Presentation	15
403003336	CNS Myelinisation (WPP 36)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Students will learn about the zebrafish as a transparent vertebrate model organism in (neuronal) developmental biology and physiology.	Protocol	Presentation	15
403098337	Aging and neurodegeneration: studying the interplay between epigenetics, mitochondrial and metabolic dysfunction in aging and neurodegenerative disorders (WPP 37)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Using different model systems, students will learn about how mitochondrial dysfunction and epigenetic mechanisms are involved in the alteration of signalling pathways contributing to longevity, neurodegeneration and neuronal function.	None	Project report	15

Module Number/ Abbreviatio n	Module Name	Course Type	Admission Requirements	Duration/ Study Semester	Subject (content) of Examination and Qualification Objective	Course Work	Type of Examination	ECTS CP
403051339	Social Neuroscience (WPP 39)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Students will learn about neural mechanisms in primates underlying the detection, identification, perception and decoding of social signals.	None	Oral examination	15
403098341	Computational Neuroethology (WPP 41)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Students will gain hands-on experience using zebrafish and/or frogs used as model systems in neuroethology. Behavioral recordings, whole-brain multiphoton Ca ²⁺ imaging and electron microscopy-based connectomic experiments will be performed.	Oral presentation	Oral examination	15
403038342	Virtual Reality Experimentation (WPP 42)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Students receive basic knowledge and hands-on experience in developing and conducting (clinical) virtual reality experiments.	Protocol	Presentation	15
403098343	Neuronal Polarization and Axonal Regeneration (WPP 43)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Students will gain hands-on experience with cell biological, molecular and imaging techniques to study neuronal polarization and mechanisms of axonal regeneration.	Protocol	Oral examination	15
403098344	Functional Characterization of Neuronal Cell Types (WPP 44)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Students will be introduced to different concepts of neuronal cell type diversity (molecular, anatomical, functional). They will gain knowledge of techniques used for investigating the contribution of diverse neuronal cell types to behavior.	None	Presentation	15
403038345	Protein quality control mechanisms in mental health and disease (WPP 45)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Students receive an introduction to protein quality control mechanisms and learn basic techniques to investigate the relevance of protein quality control in neuronal and psychiatric (patho-)physiology.	Protocol	Presentation	15

Module Number/ Abbreviatio	Module Name	Course Type	Admission Requirements	Duration/ Study Semester	Subject (content) of Examination and Qualification Objective	Course Work	Type of Examination	ECTS CP
403035346	Mechanisms of epileptogenesis (WPP 46)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Students will obtain knowledge of epileptogenesis and the functional consequences of autoimmune-mediated epilepsies by using classical molecular biology approaches as well as <i>in vivo</i> models.	Presentation	Oral examination	15
403098347	Aging and cellular senescence (WPP 47)	S*, PC*	Min. 45 CP earned in the "Neurosciences" degree program	D: 1 sem. StS: 3 rd sem.	Students will learn the basic mechanisms involved in aging and will participate in the development of novel research approaches, such as tools and methods to analyze <i>in vivo</i> senescent cells in different tissues.	Project report	Presentation	15

The examination board may approve further elective modules and shall announce them before the beginning of the semester, pursuant to § 8, para. 7.

Annex 2: Regulations for admission to courses

If admission to a course, due to its nature, purpose or to other reasons, needs to be limited and the number of registrations exceeds the defined capacities, it is handled as follows:

Applicants shall be admitted in the following order:

- <u>Group 1:</u>

Students who are enrolled as regular students at the University of Bonn, for whom, according to the curriculum, participation in this course is mandatory and who are in the same or a higher study semester as/than the one specified for participation in the curriculum, provided they

- a. were kept from registering for the course due to a delay in the first semester, or
- b. were not selected in a random selection procedure at least once in the past;

- Group 2:

Students who are enrolled at the University of Bonn and who are in the same or a higher study semester as/than the one specified for participation in the curriculum, and who do not belong to Group 1;

- <u>Group 3:</u>

All other students enrolled at the University of Bonn who are eligible for participation in this course pursuant to the curriculum;

- <u>Group 4:</u>

All other students.

This does not affect further admission requirements. Within the groups – except Group 4 – students who have collected the largest number of ECTS credit points for this degree program or for another degree program at the University of Bonn that imports modules from this degree program shall have priority. Remaining places are allocated by drawing lots.