Education and Examination Regulation 2019-2020

Master Medical Biology

Radboud Universiteit

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PART I GENERAL PROVISIONS

Section 1. General provisions

Article 1.1 Applicability of these regulations

1. These Education and Examination Regulations (EER) apply to the Master's programmes (the degree programme in which the student is enrolled is hereinafter referred to as "the programme"), including all their components, of the Faculty of Science. These EER outline the applicable procedures, rights and obligations concerning teaching, interim examinations and final examinations.
2. The present regulations apply to all students enrolled in the programme in the academic year 2019-2020. Students who started the degree programme before 1 September 2016 and have been continuously enrolled in this programme may appeal to the EER which was valid at the time of their initial enrolment in the programme.
3. Course components provided by a different faculty or institution that are followed as part of the degree programme are subject to the rules applicable at that faculty or institution. Components offered by the Faculty of Science are at all times subject to the regulations described in at least one of the EERs of the Faculty of Science.
4. The faculty offers the following 120-EC Master's programmes:
   a. Biology;
   b. Chemistry;
   c. Computing Science;
   d. Mathematics;
   e. Medical Biology;
   f. Molecular Life Sciences;
   g. Physics and Astronomy;
   h. Science.
5. The faculty offers the following 60-EC Master's programmes:
   a. Information Sciences.
6. All degree programmes are offered exclusively as full-time programmes.
7. The programmes are taught in English. The Science and Education specialisation is taught in Dutch.

Article 1.2 Definition of terms

1. The terms used in these EER, which are also used in the Higher Education and Research Act (*Wet op het hoger onderwijs en wetenschappelijk onderzoek*, hereinafter, "the Act") will have the same meaning as in the Act.

2. Apart from the terms referred to in clause 1, the terms below will be understood to have the following meaning:
   a. Degree programme: the Master's degree programme referred to in Article 7.3a, clause 1 of the Act;
   b. Component: an educational unit as referred to in Article 7.3, clauses 2 and 3 of the Act;
   c. Student: anyone enrolled at Radboud University for participation in a degree programme or in the partial examinations or final examinations of a programme;
   d. Academic year: the period from 1 September in a given year until 31 August of the following year;
   e. Practical: a practical exercise as referred to in Article 7.13 clause 2 under D of the Act;
   f. Interim examination: an examination testing the knowledge, understanding or skills of the student in relation to a certain unit of study, as well as the assessment of the results of this examination, which is administered by at least one examiner designated by the Examining Board. For the purpose of these regulations, a partial examination or a resit is also considered an interim examination;
   g. Partial examination: an examination of the knowledge, insight and skills of the student, as well as the assessment of the results of the examination, which in conjunction with one or more other partial examinations constitute the interim examination as referred to under clause f. In these regulations, when the term examination is used this can also be read as partial examination, unless explicitly indicated otherwise;
   h. Resit: a new opportunity to take a particular examination as referred to in Article 7.10 clause 1 of the Higher Education and Research Act (WHW). In these regulations, when the term examination is used this can also be read as resit, unless explicitly indicated otherwise;
   i. Final examination: an assessment, on the basis of which the Examining Board determines whether all the components pertaining to the Master's programme have been completed successfully. The Examining Board may decide that the final examination also includes an investigation by the Examining Board into the knowledge, insight and skills of the candidate, as well as the assessment of the outcomes of that investigation (in accordance with Article 7.10 WHW);
   j. Fraud: any deliberate act or omission by a student that makes forming an accurate opinion of his or her knowledge, understanding, and skills partially or entirely impossible. The Regulations on Fraud during Interim Examinations and Examinations are included as an appendix to these EER;
   k. Examining Board: the examining board of a degree programme, established in accordance with Article 7.12 of the Act. Also see the Radboud University Structural Regulations;
   l. Examiner: the person designated by the Examining Board to administer the interim examinations, in accordance with Article 7.12 of the Act;

m. EC: European Credits, i.e. the study load unit in accordance with the European Credit Transfer System;
n. Specialisation: a coherent programme within the Master's programme that has been approved as such by the faculty board;
o. Work day: Mondays to Fridays, with the exception of official holidays and any other days designated by Radboud University as collective holidays;
p. Awarding of the degree certificate: the formal confirmation that all the examination requirements have been met;
q. Study guide: the guide for a particular degree programme of the Faculty of Science, containing specific information regarding the Master's degree programme;
r. The university: Radboud University;
s. The faculty: The Faculty of Science;
t. Free elective: a freely-selected, academic, assessable component;
u. Rules and regulations: the rules in which the Examining Board explain how it works in accordance with the Education and Examination Regulations.

PART II GENERAL PART

Section 2. Admission to the degree programme and education

Article 2.1 Admission and admission requirements

1. Decisions regarding admission are made by the education institute on behalf of the Dean.
2. The programme-specific part of these EER lists the admission requirements the student must meet to be admitted to the degree programme.

Article 2.2 Language requirements

1. A sufficient command of the English language is required to participate in the programme and to sit for examinations in English. This requirement is met if the student:
   a. comes from one of the following countries: Australia, Canada (with the exception of Quebec), Ireland, New Zealand, Singapore, the United Kingdom, the United States and South Africa; or
   b. is in possession of a pre-university education (VWO) diploma; or
   c. is in possession of a pre-university education diploma obtained at an English-language institution in the Netherlands or elsewhere; or
   d. has a pre-university education diploma obtained at a German secondary education institution, with English as *Grundkurs*; or
   e. has a Bachelor's diploma from a university of applied sciences (HBO); or
   f. has a Bachelor's diploma from a Dutch university; or
   g. in the opinion of the programme meets the requirements; or
   h. has achieved a sufficient score on one of the following English language tests:
      i. the TOEFL with a score of 575 or higher for the paper version;
      ii. the TOEFL with a score of 90 or higher for the Internet version with none of the sub-scores below 18;
      iii. the IELTS with a score of 6.5 or higher, where none of the sub-scores are below 6.0;
      iv. the Cambridge CAE or CPE with a score of C or higher.
2. A sufficient command of Dutch is required to participate in the programme and to sit for examinations in Dutch. Non-Dutch students have met the language requirement for sufficient proficiency in Dutch if they have passed the state examination of Dutch as a second language, level 2.

   In certain cases, the education institute may assess whether a student is sufficiently proficient in Dutch.

Section 3. Structure and design

Article 3.1 Final examination, degree and distinctions

1. The degree programme is concluded by the Master's final examination.
2. A student who has passed the final examination of the Master's degree programme will be awarded the Master of Science (MSc) degree.
3. The degree referred to in the second clause is exclusively awarded if the student has earned at least half of the EC for his/her degree programme at this university.
4. The Examining Board can award a distinction to a student who has successfully passed the degree programme examination. The rules for awarding a distinction can be found in Article 4.7 of these EER.

Article 3.2 General learning outcomes

The degree programme has the following learning outcomes for students:

a. Acquire knowledge, skills and insights in the relevant field of study;
b. Develop academic competences;
c. Prepare for further study or future career;
d. Strengthen qualifications in the area of independent academic research.

Article 3.3 Curriculum

1. The programme comprises the total of the components as described in the programme-specific part of these regulations and is aimed at the realisation of well-defined objectives regarding the knowledge, understanding and skills that students are expected to possess upon successful completion.
2. The programme has research specialisations and societal specialisations. The specialisations are described in the programme-specific part.
3. Each degree programme includes a component that is philosophical in nature with a minimum study load of 3 EC, free elective space of 6 EC and a component to aid reflection on study performance, study planning, and professional orientation with a study load of 0 or 1 EC.
4. The elective courses cannot have a substantial overlap in content with courses from the mandatory or elective components of the programme. It is not possible to receive an exemption for the elective component based on a Bachelor's course.
5. The composition of the Master's programme compiled by the student must be presented for approval to the Examining Board no later than six months before the expected examination date. The Examining Board will decide whether to grant approval within a month of receiving the submitted programme.
6. A student can only participate in components provided by the Radboud Teachers Academy of

Education after the disciplinary internship has been completed. A student can only participate in the Science, Management and Innovation final research project after the student has passed the thematic components and NWI-FMT019 Methods in Societal Research: Science, Management & Innovation. A student can only participate in the Science in Society research project after 12 EC has been obtained from the SiS curriculum.

7. A student is permitted to add components to the examination programme. These components are considered extra-curricular and do not count towards the determination of the distinction.
8. If a student can choose between components within the curriculum and the student has passed more than one of these components, then the student can decide which components will count towards their distinction.

Article 3.4 Type of interim examination

1. Each component of the degree programme will be concluded by an interim examination. Interim examinations may comprise more than one modular partial examination and may consist of the following assessment forms:
   a. Written test (paper or digital);
   b. Oral test;
   c. Presentation;
   d. Skill test;
   e. The creation of a discipline-specific product and/or assignment.
2. Prior to the commencement of the academic year, information will be provided in the study guide for each individual component regarding the way in which the interim examinations will be administered. At the request of the student or the examiner, the Examining Board may allow an interim examination to be administered in a form other than stated above, if this is not to the detriment of the student.
3. In cases where an interim examination has admission requirements, the admission requirements will be published in the study guide before the start of the academic year. This requires the permission of the programme coordinator. Notwithstanding the above provisions, the admission requirements for the courses completed in the fourth period may still be changed up until the start of the second period, with the permission of the programme coordinator.
4. Students with disabilities are given the opportunity to take interim examinations in a manner appropriately suited to their disability. The Examining Board, if necessary, shall seek expert advice and counsel prior to reaching its decision. If the students in question requires certain facilities for their interim examinations or resits, they must request these from the Education and Examination Administration of the faculty no later than two weeks before the interim examination or resit.

5. For oral examinations, no more than one person is tested simultaneously, unless decided otherwise by the Examining Board.
6. An oral interim examination is not public, unless the Examining Board has deemed otherwise in exceptional cases.
7. An audio recording is made of oral examinations. As an alternative to an audio recording, a second examiner or a designated observer may be present.

Article 3.5 Exemptions

1. The Examining Board, at the request of a student and having heard the examiner involved, may exempt the student, either partially or fully, from sitting an interim examination if the student:
   a. Has completed a course in a relevant subject at a university or institute of higher vocational education (HBO);
   b. Demonstrates that he/she has adequate knowledge and skills regarding the component in question as a result of relevant work experience or professional experience.
2. If the degree programme allows group exemptions, then these are included in the programme-specific part of these regulations.
3. Only one grade for each course may be registered for a single degree programme. If a course is also part of another examination programme, this course will be listed on the diploma as an exemption.
4. Students who were first enrolled on or after 1 September 2017 can never have more exemptions, as stated in clause 1, than a quarter of the total study load of the programme expressed in EC.
5. All results for a degree programme achieved before the date of the first enrolment are stated as exemptions on the degree programme's diploma. These exemptions do not count towards the ECs as stated in clause 4 if the courses are only included in a one examination programme.
6. Exemptions as referred to in clauses 1 and 2 cannot be granted for final examination assignments.

Article 3.6 Term of validity of successfully completed interim examinations

1. The term of validity of successfully completed interim examinations is unlimited.
2. Results obtained for interim examinations are valid at least until the end of the academic year. The lecturer can decide to extend the term of the validity of the result obtained for a partial examination.

Article 3.7 Elective programme

The programme's Examining Board determines whether to grant permission for a student to take an elective programme as meant in Article 7.3d of the Act. The Examining Board will verify whether the

programme fits within the domain of the degree programme under the authority of the Examining Board, whether it is sufficiently coherent, and whether the level is adequate in the context of the programme's exit qualifications.

Section 4. Testing

Article 4.1 Frequency of interim examinations

1. Students are given the opportunity to take the examinations at least twice per academic year.
2. Notwithstanding the provisions of clause 1, a degree programme coordinator may decide to only offer one opportunity for an interim examination or partial examination. If only one opportunity is given to take an interim examination or partial examination, this is stated in the programme study guide before the start of the academic year.
3. Contrary to the stipulation in the first clause, there will be at least one opportunity in the following year to take an interim examination for a course that was taught for the final time in a particular academic year.
4. If a certain component is not given in a particular academic year, the opportunity to take the corresponding examination will be offered once in that academic year, as long as the interim examination is administered in written or oral form.

Article 4.2 Registration for course examinations

1. Students who register through OSIRIS for courses are also automatically registered for the first interim examination opportunity in the relevant academic year. This does not apply to students whose enrolment has not yet been completed.
2. The student must register for an interim examination in accordance with the applicable guidelines and instructions, no later than five days before the interim examination or resit date.
3. A successfully passed examination may be taken again.

Article 4.3 Confirmation of examination results

1. The result of an interim examination is determined by an examiner in the form of a grade on a scale from 1 to 10 (with 10 as the highest possible grade), consisting exclusively of whole numbers or half numbers. However, a grade of 5.5 is never given. When rounding off between 5 and 6, the rule applies that a grade lower than a 5.5 is rounded down to a five (5) which is an insufficient grade, meaning the educational component has not been successfully completed; while a 5.5 and higher is rounded up to a six (6), meaning that this educational component has been successfully

completed. In addition to results in the form of a grade, the assessments “completed”, “not completed”, “satisfactory”, “not satisfactory” and “good” may also be awarded.

2. Notwithstanding the provisions of clause 1, partial examinations may also be graded with one decimal point on a 10-point scale. Rounding off of grades takes place exclusively for the final grade of the component.
3. If a student re-sits an interim examination, the most recent result will determine the final result.

Article 4.4 Publication of results

1. The examiner shall determine the result of a Master’s thesis within 15 working days after its submission via http://thesissubmission.science.ru.nl.
2. The examiner shall determine the result of an oral examination within 2 working days of the date that it was administered.
3. The examiner shall determine the result of a written interim examination within 15 working days of the date it was administered. Here the precondition applies that there must be at least 10 working days between the date of the publication of the result in Osiris and the date of the resit.
4. Contrary to the provisions in clause 2, the examiner shall determine the result of a written interim examination in the fourth period no later than 9 days before the scheduled date of the corresponding resit. The examiner shall determine the result of a written resit examination in the fourth period within 5 working days of the date it was administered.
5. In special cases, the Examining Board may extend the term in which the result must be determined as referred to in clause 3 by a maximum of 10 working days. This is not possible for interim examinations in the fourth period.
6. In this statement of the result of an interim examination, the student is also informed of his/her right of inspection, referred to in Article 4.5 as well as the right to appeal to the Examination Appeals Board.
7. A student may submit an appeal of a decision by the Examining Board to the Examination Appeals Board within six weeks.

Article 4.5 Right of inspection and explanation

1. Within at least 30 working days following publication of a written interim examination result, the student may request access to review and inspect all graded work. For the results of interim examinations with “open” questions, at the student’s request he/she shall be granted a copy of their graded work at cost.

2. During the period referred to in clause 1 of this Article, any student who has taken an interim examination may review the questions and assignments of the interim examination in question, as well as the standards on which the result was based.
3. The Examining Board may determine that the inspection or review shall take place at a particular location and provide at least two different time periods. If the student demonstrates that he/she is unable to attend the inspection or review as a result of force majeure, then another option shall be offered, if possible, within the period stated in clause 1 of this Article.
4. In all cases, provided this has been requested by the student in a timely fashion, the inspection must take place a minimum of five working days before the resit of an interim examination. For examinations in the fourth period, the student may view his/her work until one working day before the resit.
5. The examiner shall retain all written interim examinations and related papers (assignments or otherwise) that count towards the final result for a period of two years following the date when the examination was administered. Master's programme reports and theses must remain available for visitations, accreditations and inspections and shall be kept for seven years.

Article 4.6 Confirmation of the result of the final examination

1. The student is given the opportunity to take the final examination after he/she has provided sufficient proof that he/she has passed the components leading up to the final examination.
2. Examinations are scheduled each month.
3. The Examining Board will determine the result of the final examination, as well as the rules in relation to the manner in which the result of the examination is determined. The result of the examination is determined by the Examining Board within five weeks following the student's request. If the examination took place in July, the results will be determined no later than 31 August. In relation to entry requirements for a subsequent programme or the acceptance of a job, if required, a statement can be provided within 5 days indicating that the student has met the requirements of the examination. This is only possible if the student has met the criteria specified in clause 1.
4. Prior to determining the result of the final examination, the Examining Board may evaluate and assess the student's knowledge with respect to one or more components or aspects of the programme, if and to the degree to which the results of the related interim examinations justify this.

Article 4.7 Awarding distinctions

1. With due observance of the provisions set out in this Article, the Examining Board is responsible for the decision of whether a distinction shall be awarded and if so, which distinction.

2. The distinctions:
   a. “cum laude” shall be awarded if the weighted average result of the assessments of all components with less than 20 EC is at least equal to an 8.0 and the weighted average result of the assessments of all components with 20 EC or more is at least equal to an 8.0.
   b. “summa cum laude” shall be awarded if the weighted average result of assessments of all components with less than 20 EC is equal to an 9.0 and the weighted average result of the assessments of all components with 20 EC or more is at least equal to an 9.0.
3. The distinction shall be calculated on the basis of all components of the examination programme for which a mark has been awarded on a scale from 1 to 10, with the exception of extra-curricular components.
4. The number of EC of the component referred to in clause 3 shall serve as the weighting factor for the calculation of the weighted average result, unless stipulated otherwise in the programme-specific part of these regulations.
5. The distinction shall not be awarded if more than 10 percent of the total study load of the examinations for the degree programme (being one or more components) has been re-sat or if interim examinations have been re-sat more than once, unless the Examining Board decides otherwise, stating the reasons for this decision.

Section 5. Study performance, guidance, and evaluation of education

Article 5.1 Study performance and support

1. The faculty dean is responsible for recording student results in such a way that, upon request, the Examining Board can respond by providing the student with an overview of the progress of the study programme within a reasonable timeframe.
2. The dean is responsible for providing adequate student counselling.

Article 5.2 Method of evaluation of education

In compliance with the quality assurance system of the university as described in the *Handboek Kwaliteitszorg Onderwijs Radboud Universiteit* (Radboud University quality assurance manual), the dean shall ensure that the education of the degree programmes is systematically evaluated.

PART III PROGRAMME-SPECIFIC PART

Section 6. Admission to the degree programme and education

Article 6.1 Admission requirements

Admission requirements for the programme:

1. Students who have successfully passed the final examination of the Bachelor's programme in Biology at Radboud University with the minor in Medical Biology or the minor in Medicine.
2. Students who have successfully passed the final examination of the Bachelor's programme in Molecular Life Sciences at Radboud University with at least five of the following courses: NWI-BB023B Animal Cell Biology, NWI-BB023B Animal Cell Biology, NWI-BB051B Applied Bioinformatics, NWI-BB017C Biochemistry and Molecular Biology II, NWI-BB085B Brain and Behaviour, NWI-BB081B Cognitive Neuroimaging, NWI-BB048B Endocrinology, NWI-BB064B Functional Genomics, NWI-BB086 Genomics for Health and Environment, NWI-BB047C Human Embriology and Developmental Biology, NWI-BB025B Human Pathology, NWI-BB019B Immunology, NWI-MOL104 Medical Biotechnology, NWI-BB084B Molecular Principles of Development, NWI-BB034B Neurobiology, NWI-BB021B Neurobiophysics, NWI-BB039C Neurodevelopment, NWI-BB080B Neurophys. of Cognition and Behaviour, NWI-BB063B Neuroscience: from Basis to Clinic, NWI-BB065B Pathophysiology of the Kidney, MED-MIN16 Translational neuroscience.
3. Students must have successfully passed the final examination of the Bachelor's programme in Medical Biology, Biomedical Sciences at Radboud University or an equivalent degree in a similar topic at another Dutch university.
4. Students must be in possession of a degree certificate that is at least equal to the degree referred to in clause 1.
5. Students must have demonstrated suitability for participation in the degree programme, in the opinion of the Examining Board.
6. Students must provide proof of sufficient proficiency in English, as described in Article 2.2.

Article 6.2 Pre-Master's

Students who have earned a degree in Medical Biology or a related area at a university of applied sciences (HBO), including higher laboratory education (HLO) and Life Science degree programmes, and have completed the Medical Biology Pre-Master's programme of 30 EC are also eligible for admission to the degree programme.

Article 6.3 Enrolment capacity

In addition to the admission requirements described above, a maximum enrolment capacity of 50 students per year applies for the specialisation in Medical Epigenomics.

Section 7. Structure and design

Article 7.1 Programme-specific learning outcomes

1. In addition to the general learning outcomes described in Part II of these regulations, after obtaining their Master's degree for this programme, the student is:
   a. capable of setting up and conducting research aimed at acquiring new knowledge and insight in the field, based on broad and up-to-date knowledge of biological and/or biomedical processes in combination with specialist knowledge (theories, methods, techniques) and research experience in at least one sub-specialisation of this field;
   b. capable of formulating new questions and hypotheses in the biological/biomedical field and is familiar with the research methods and state-of-the-art techniques to solve these, taking into account available equipment and resources;
   c. capable of independently setting up and conducting scientific experiments, including the related controls, using models and theories to explain the results, and evaluating the results in terms of well-founded scientific conclusions;
   d. capable of independently identifying, critically reading and comprehending relevant, up-to-date international literature from different disciplines, of discriminating essential from non-essential information, and of integrating new information in his/her overall view on health and disease;
   e. capable of using concepts from different organisation levels in biology, in combination with those from physics, chemistry and mathematics, to solve a complex biological/ biomedical problem at a specific abstraction level;
   f. capable of writing down the results of a research project in the form of a Master's thesis, in accordance with the standards of an academic article;
   g. capable of independent professional practice whereby, depending on the chosen variant, the emphasis is put on conducting fundamental scientific research (under supervision), or on transferring or applying existing scientific knowledge, thereby taking into account the students' own competences;
   h. capable of asking adequate questions with a critical and constructive attitude in regard to analysing and resolving complex biological and/or biomedical problems;
   i. capable of defending his/her view and of critically evaluating other views in a scientific discussion;
   j. capable of presenting and discussing the results of a research project in the form of an oral presentation for experts and fellow students;
   k. capable of working in or leading a project team, including making the plans, distributing the tasks, integrating the sub-projects and jointly evaluating the results;
   l. capable of integrating ethical aspects in his/her professional practice, along with the ability to reflect on the potential implications for society;
   m. capable of assessing his/her own performance and possibilities in the labour market, through self-reflection and conversations with others.
2. Students who choose a research-oriented specialisation, as described in Article 7.2 clause 1a-c, will also achieve the following learning outcomes upon graduation:

a. Graduates are capable, based on specialised knowledge and research experience in two distinct sub-areas of biological/biomedical sciences, of independently setting up and performing experiments, including the design of appropriate checks and the evaluation of the results in a given time frame.
b. Graduates are capable of writing the results of a research project according to the exact format of a scientific journal.
c. Graduates are capable of writing a research proposal according to the criteria of external scientific organisations.
d. Graduates are capable of starting up a PhD research project within his/her biological/biomedical field of expertise.

3. Students who choose the specialisation in Science, Management and Innovation as described in Article 7.2d, will also achieve the following learning outcomes:
   a. Graduates are capable of bridging the gap between their own discipline and other disciplines, based on a profound understanding of the chosen core theme and how this relates to societal, political, economic, and environmental requirements of the world today.
   b. Graduates are familiar with and capable of analysing specific problems within their theme and are able to apply a range of approaches to address these, to argue for, select, and implement feasible options, taking into account the full width of technological, societal, political and economic perspectives.
   c. Graduates are proficient in using research methods and techniques, including basic finance and economics, to verify, justify and substantiate strategies and plans and are capable of effectively using a wide variety of information and communication channels.
   d. Graduates are capable of balancing perspectives and interests in specific contexts within a company or (non-)governmental organisation in order to formulate appropriate strategies and plans regarding the implementation of the Sustainable Development Goals (SDGs).
   e. Graduates are capable of communicating insights, views and analyses of complex issues to others in a clear, concise and understandable manner, both in written and spoken form.
   f. Graduates are capable of working in multidisciplinary, multicultural and high-performance teams based on sound division of tasks, knowledge, competencies, and responsibilities, whilst respecting diverging views and opinions.
4. Students who choose the specialisation in Science in Society as described in Article 7.2e, will also achieve the following learning outcomes:
   a. Graduates are capable of analysing the role of scientific expertise in societal and political decision-making with regard to socio-scientific issues.
   b. Graduates are capable of designing and conducting independent and methodologically sound social research at the interface of science and society and are capable of contributing to academic research.
   c. Graduates are capable of understanding and designing public and stakeholder participation processes in research and innovation.
   d. Graduates are capable of analysing, improving and evaluating interdisciplinary collaborations with multiple stakeholders and integrating different perceptions, interests and types of knowledge (experiential, professional and scientific).
   e. Graduates are capable of substantiating and communicating the relevance of one's scientific discipline in society.
5. Students who choose the specialisation in Science and Education as described in Article 7.2f, will also achieve the following learning outcomes:

a. Graduates have knowledge of and insight into the theoretical principles of discipline-specific thinking, educational design, and the methods and techniques of applying didactic research in the discipline.
b. Graduates are able to design, implement and systematically evaluate an educational design and a scientific study, drawing a link between didactic and professional practice concepts, discipline-specific thinking of the students at different levels and problems from teaching practice.
c. Graduates devote attention to discipline-specific learning of individual and unique students, focusing on developing inspiring education.
d. Graduates are able to apply thorough scientific knowledge of general didactic concepts about the learning of individual students and methods to improve both the social climate in the classroom and to answer the individual learning needs of the students.
e. Graduates are able to differentiate themselves and improve the social climate for collaboration and, in doing so, to set independent priorities and respond appropriately to development and behavioural problems, after consultation with relevant third parties.
f. Graduates focus on collaboration and responsible behaviour based on clear communication with individual students and colleagues, on the basis of a personal vision.
g. Graduates develop their own professional knowledge base to justify their own actions and understand the actions of colleagues and supervisors.
h. Graduates use their professional knowledge base and contextual feedback (students, colleagues, and supervisors) to evaluate and guide their own professional development.
i. Graduates develop a personal identity in the context of their own actions, external frameworks and ethical dilemmas.

Article 7.2 Composition of the programme

1. Subject to the provisions in Part II of these regulations, the student chooses one of the following specialisations of the degree programme:
   a. Human Biology
   b. Medical Epigenomics
   c. Neurobiology
   d. Science, Management and Innovation
   e. Science in Society
   f. Science and Education
2. Students must select their specialisation through Osiris at the start of the Master's programme. Changing this choice is possible at any time during the first year.

Article 7.2a Master's specialisation in Human Biology

The Master's specialisation in Human Biology consists of the following components:

1. Compulsory components (15 EC):

Course code	Course name	EC

NWI-MOL413	Transport and Metabolomics	3
NWI-BM071	Molecular Therapy	3
NWI-BM072	Translational Genomics	6
NWI-BM073	Trends in Stem Cell Biology	3

2. Limited choice electives (15 EC)

A student must choose at least one of the following courses:

Course code	Course name	EC
NWI-BM010C	Advanced Adaptation Physiology	3
NWI-BM004C	Apoptosis	3
NWI-BM016C	Cellular Imaging in Four Dimensions	3
NWI-BM050B	Human Fertility (offered in alternating years, will next be offered in 2019-2020)	3
NWI-BM024D	Laboratory Animal Science and Alternatives	3
NWI-BM032C	Advanced Endocrinology	3
NWI-BM062	Epigenomics in Health and Disease	3
NWI-BM064	Protein Dynamics and Networks	3
NWI-BM066A	Computation for Biologists	3
NWI-LM012	Molecular Aspects of Host Defence, Tissue Destruction and Repair (not offered in 2018/2019)	3
NWI-BM061	Neurogenomics of Speech, Language and Reading Disorders	3
NWI-BM015C	Oncology	3
NWI-BM041B	Principles of Systems Biology	3
NWI-MOL411	Protein Modification	3
NWI-BM051B	Systematic Reviews of Animal Studies	3
NWI-BM053B	Behavioural Neuroscience	3
NWI-MM013	Research Skills	3
NWI-BM044B	Systems Neuroscience	3
NWI-BM001C	Molecular and Cellular Neurobiology	3
NWI-BM007C	Working with Radionuclides (level 5B)	2

Course code	Course name	EC

NWI-FFIL203B	Bioethics for Life Scientists	3
NWI-FFIL202A	Evolution and the Mind	3
NWI-FFIL209B	Environmental Ethics	3
NWI-FFIL214	Science and Metaphysics	3
NWI-FFIL212	Philosophy of Water Management	3
NWI-FFIL205A	Science and Literature	3
NWI-FFIL215	Upgrading the Human	3
NWI-FFIL302	Philosophy and Ethics in Microbiology	3
NWI-FFIL211B	The Transformative Role of Physics	3
NWI-FFIL216	Imagining the Anthropocene	3
NWI-FFIL300C	Mathematics, Zeitgeist and Worldview	3

The student must also choose from one of the following philosophical courses (3 EC):

In addition to this, natural science Master's courses need to be chosen to reach a total of 15 EC of electives.

A maximum of 6 EC of elective space can be used to extend one of the research internships to a maximum of 42 EC. It is expressly forbidden to also use the free electives to extend an internship.

The level of all components without a course code and not covered by the limited extension of an internship, as described above, must be assessed by the Examining Board.

3. *Free electives (6 EC)*

Chosen components need to be at a measurable academic level.

4. *Internships (72 EC)*

Two scientific internships at the university level in regard to a biological problem and each having a study load of 36 EC.

An internship must be completed at a department at Radboud University or Radboud university medical center. Notwithstanding the above provisions, an internship can be done at an external research department, provided written permission was obtained at the start of the internship from an internal examiner of Radboud University or Radboud university medical center, who will also act as the assessor. Both internships can also be done externally, each at a different research department, if approval is received from the Examining Board. Assessment of the internships is done with the internship assessment form for the Master's phase of the programme. Supervision and/or assessment of the second internship by the same supervisor and/or examiner as the first internship is not permitted, with the exception of external internships.

At least one internship must be done under the supervision of an examiner from one of the chair groups listed below at Radboud University or Radboud university medical center:

a. Anatomy
b. Anesthesiology
c. Biomolecular Chemistry
d. Cardiology
e. Dermatology
f. Experimental Urology
g. Gastroenterology
h. Geriatrics
i. Haematology
j. Human Genetics
k. Internal Medicine
l. Laboratory Medicine
m. Medical Microbiology/Parasitology
n. Medical Microbiology/Virology
o. Medical Oncology
p. Mitochondrial Disorders RCMM
q. Pharmacology and Toxicology
r. Nephrology
s. Neurology
t. Neuro Oncology
u. Obstetrics and Gynaecology
v. Organismal Animal Physiology
w. Orthodontics and Craniofacial Biology
x. Pathology
y. Pediatrics
z. Physiology
aa. Rheumatology
bb. Urology

5. Review Article(6 EC)

A literature review of a biological problem. The assessment must be carried out by an examiner whose chair group is part of one of the research institutes mentioned in Article 7.2a clause 4.

6. Research Proposal (6 EC)

A research proposal based on a biological problem. The assessment must be carried out by an examiner whose chair group is part of one of the research institutes mentioned in Article 7.2a clause 4. The Review Article and the Research Proposal may not have the same examiner.

7. Portfolio (0 EC)

The content of the portfolio is shaped by the writing of a Master Plan, a Master's View and internship application letters.

Article 7.2b Master's specialisation in Medical Epigenomics

The Master's specialisation in Medical Epigenomics consists of the following components:

1. Compulsory courses (15 EC)

Course code	Course name	EC
NWI-BM062	Epigenomics in Health and Disease	3
NWI-BM064	Protein Dynamics and Networks	3
NWI-BM066A	Computation for Biologists	6
NWI-BM073	Trends in Stem Cell Biology	3

2. Limited choice electives (15 EC)

A student must choose at least one of the following courses:

Course code	Course name	EC
NWI-BM010C	Advanced Adaptation Physiology	3
NWI-BM004C	Apoptosis	3
NWI-BM016C	Cellular Imaging in Four Dimensions	3
NWI-BM050B	Human Fertility (offered in alternating years, will next be offered in 2017-2018)	3
NWI-BM024D	Laboratory Animal Science and Alternatives	3
NWI-BM032C	Advanced Endocrinology	3
NWI-BM049B	Molecular Mechanisms of Novel Therapeutics	3
NWI-BM045B	Human Genetics	3
NWI-LM011	Metabolism, Transport and Motility	3
NWI-LM012	Molecular Aspects of Host Defence, Tissue Destruction and Repair (not offered in 2018/2019)	3
NWI-BM061	Neurogenomics of Speech, Language and Reading Disorders	3

NWI-BM015C	Oncology	3
NWI-BM041B	Principles of Systems Biology	3
NWI-MOL411	Protein Modification	3
NWI-BM051B	Systematic Reviews of Animal Studies	3
NWI-BM053B	Behavioural Neuroscience	3
NWI-MM013	Research Skills	3
NWI-BM044B	Systems Neuroscience	3
NWI-BM001C	Molecular and Cellular Neurobiology	3
NWI-BM007C	Working with Radionuclides (level 5B)	2

Course code	**Course name**	**EC**
NWI-FFIL203B	Bioethics for Life Scientists	3
NWI-FFIL202A	Evolution and the Mind	3
NWI-FFIL209B	Environmental Ethics	3
NWI-FFIL214	Science and Metaphysics	3
NWI-FFIL212	Philosophy of Water Management	3
NWI-FFIL205A	Science and Literature	3
NWI-FFIL215	Upgrading the Human	3
NWI-FFIL302	Philosophy and Ethics in Microbiology	3
NWI-FFIL211B	The Transformative Role of Physics	3
NWI-FFIL216	Imagining the Anthropocene	3
NWI-FFIL300C	Mathematics, Zeitgeist and Worldview	3

The student must also choose from one of the following philosophical courses (3 EC):

Besides this, natural science courses of a measurable academic level need to be chosen to reach a total of 15 EC of electives.

A maximum of 6 EC of elective space can be used to extend one of the research internships to a maximum of 42 EC. It is expressly forbidden to also use the free electives to extend an internship.

The level of all components without a course code and not covered by the limited extension of an internship, as described above, must be assessed by the Examining Board.

3. Free electives (6 EC)

Under the conditions described in Article 7.2a clause 3.

4. Internships (72 EC)

Two scientific internships at the university level in regard to a biological problem and each having a study load of 36 EC.

An internship must be completed at a department at Radboud University or Radboud university medical center. Notwithstanding the above provisions, an internship can be done at an external research department, provided written permission was obtained at the start of the internship from an internal examiner of Radboud University or Radboud university medical center, who will also act as the assessor. Both internships can also be done externally, each at a different research department, if approval is received from the Examining Board. Assessment of the internships is done with the internship assessment form for the Master's phase of the programme. Supervision and/or assessment of the second internship by the same supervisor and/or examiner as the first internship is not permitted, with the exception of external internships.

At least one internship must be done under the supervision of an examiner from one of the below departments at Radboud University or Radboud university medical center:

a. Biochemistry
b. Bioinformatics CMBI
c. Biomolecular Chemistry
d. Cell Biology Radboud university medical center
e. Human Genetics
f. Mitochondrial Disorders RCMM
g. Molecular Animal Physiology
h. Molecular Biology
i. Molecular Developmental Biology
j. Pharmacology and Toxicology
k. Physiology
l. Tumorimmunology
m. Physical Organic Chemistry
n. Synthetic Organic Chemistry

5. Review Article(6 EC)

A literature review of a biological problem. The assessment must be carried out by an examiner whose chair group is part of one of the research institutes mentioned in Article 7.2a clause 4.

6. Research Proposal (6 EC)

A research proposal based on a biological problem. The assessment must be carried out by an examiner whose chair group is part of one of the research institutes mentioned in Article 7.2a clause 4. The Review Article and the Research Proposal may not have the same examiner.

7. *Portfolio (0 EC)*

The content of the portfolio is shaped by the writing of a Master Plan, a Master's View and internship application letters.

Article 7.2c Master's specialisation in Neurobiology

The Master's specialisation in Neurobiology within the Master's programme in Medical Biology consists of the following components:

1. *Compulsory courses (24 EC)*

Course code	Course name	EC
NWI-BM044B	Systems Neuroscience	3
NWI-BM053B	Behavioural Neuroscience	3
NWI-BM001D	Molecular and Cellular Neurobiology	6
NWI-BM073	Trends in Stem Cell Biology	3
NWI-NM103B	Methods in Neuroscience	3
NWI-BM059B	Systematic Reviews in Neuroscience	6

1. *Limited choice electives (12 EC)*

A student must choose at least one of the following courses:

Course code	Course name	EC
NWI-BM010C	Advanced Adaptation Physiology	3
NWI-BM004C	Apoptosis	3
NWI-BM016C	Cellular Imaging in Four Dimensions	3
NWI-BM050B	Human Fertility (offered in alternating years, will next be offered in 2017-2018)	3
NWI-BM024D	Laboratory Animal Science and Alternatives	3
NWI-BM032C	Advanced Endocrinology	3
NWI-BM062	Epigenomics in Health and Disease	3
NWI-BM064	Protein Dynamics and Networks	3
NWI-BM066A	Computation for Biologists	3
NWI-LM012	Molecular Aspects of Host Defence, Tissue Destruction and Repair (not offered in 2018/2019)	3
NWI-BM061	Neurogenomics of Speech, Language and Reading Disorders	3

NWI-BM015C	Oncology	3
NWI-BM041B	Principles of Systems Biology	3
NWI-MOL411	Protein Modification	3
NWI-BM051B	Systematic Reviews of Animal Studies	3
NWI-BM049B	Molecular Mechanisms of Novel Therapeutics	3
NWI-MM013	Research Skills	3
NWI-BM045B	Human Genetics	3
NWI-LM011	Metabolism, Transport and Motility	3
NWI-BM007C	Working with Radionuclides (level 5B)	2

The student must also choose from one of the following philosophical courses (3 EC):

Course code	**Course name**	**EC**
NWI-FFIL203B	Bioethics for Life Scientists	3
NWI-FFIL202A	Evolution and the Mind	3
NWI-FFIL209B	Environmental Ethics	3
NWI-FFIL214	Science and Metaphysics	3
NWI-FFIL212	Philosophy of Water Management	3
NWI-FFIL205A	Science and Literature	3
NWI-FFIL215	Upgrading the Human	3
NWI-FFIL302	Philosophy and Ethics in Microbiology	3
NWI-FFIL211B	The Transformative Role of Physics	3
NWI-FFIL216	Imagining the Anthropocene	3
NWI-FFIL300C	Mathematics, Zeitgeist and Worldview	3

Besides this, natural science courses at a measurable academic level need to be chosen to reach a total of 12 EC of electives.

A maximum of 6 EC of elective space can be used to extend one of the research internships to a maximum of 42 EC. It is expressly forbidden to also use the free electives to extend an internship.

The level of all components without a course code and not covered by the limited extension of an internship, as described above, must be assessed by the Examining Board.

2. *Free electives (6 EC)*

Under the conditions described in Article 7.2a clause 3.

3. *Internships (72 EC)*

Two scientific internships at the university level in regard to a biological problem and each having a study load of 36 EC.

An internship must be completed at a department at Radboud University or Radboud university medical center. Notwithstanding the above provisions, an internship can be done at an external research department, provided written permission was obtained at the start of the internship from an internal examiner of Radboud University or Radboud university medical center, who will also act as the assessor. Both internships can also be done externally, each at a different research department, if approval is received from the Examining Board. Assessment of the internships is done with the internship assessment form for the Master's phase of the programme. Supervision and/or assessment of the second internship by the same supervisor and/or examiner as the first internship is not permitted, with the exception of external internships that are completed at another university or institute.

The internships must be done under the supervision of an examiner from one of the below departments at Radboud University:

a. Biological Psychology
b. Biophysics
c. Cognitive Neuroscience
d. Cognitive Psychology
e. DCCN
f. Language and Genetics
g. Molecular Animal Physiology
h. Neuro Oncology
i. Neurology
j. Neurophysiology
k. Molecular Neurobiology
l. DCC
m. DCM

4. *Research Proposal (6 EC)*

A research proposal based on a biological problem. The assessment must be carried out by an examiner whose chair group is part of one of the research institutes mentioned in Article 7.2a clause 4.

5. *Portfolio (0 EC)*

The content of the portfolio is shaped by the writing of a Master Plan, a Master's View and internship application letters.

Article 7.2d Master's specialisation in Science, Management and Innovation (SMI)

The Master's specialisation in Science, Management and Innovation consists of the following components:

1. Compulsory components (15 EC):

Course code	Course name	EC
NWI-FMT003E	Innovation Management	6
NWI-FMT0234	Policy and Economics	3
NWI-FMT006A	Entrepreneurship: Making a Business Plan	3
NWI-FMT019	Methods in Societal Research: Science, Management & Innovation	3

2. Theme elements (12 EC)

Choice of one of the themes:

Climate and Energy

Course code	Course name	EC
NWI-FMT022	Energy and Climate	6
Choice of 6 EC of the following courses:		
NWI-FMT020	Bio-economy	3
NWI-FMT026	Energy Modelling	3
NWI-MM020A	Environmental Life Cycle Assessment	3

Health

Course code	Course name	EC
NWI-FMT023	The Future of Health	6
Choice of 6 EC of the following courses:		
NWI-FMT025B	From Lab to Clinic	6
NWI-FMT029	Health Policy and Economics	6

3. Disciplinary components (15 EC)

Choice of one of the combinations of required components, as referred to in Article 7.2a clause 1, 7.2b clause 7, or 7.2c clause 1. If the combination is chosen as described in Article 7.2c clause 1, the student must make a selection of 15 EC of the courses listed there. Alternatively, the student can choose a combination of courses referred to in Article 7.2a clause 1, Article 7.2b clause 1, and Article 7.2c clause

1, with a total study load of 15 EC, by requesting permission from the Examining Board through a motivated request, within one year of the start of the Master's programme.

Course code	Course name	EC
NWI-FFIL203B	Bioethics for Life Scientists	3
NWI-FFIL202A	Evolution and the Mind	3
NWI-FFIL209B	Environmental Ethics	3
NWI-FFIL214	Science and Metaphysics	3
NWI-FFIL212	Philosophy of Water Management	3
NWI-FFIL205A	Science and Literature	3
NWI-FFIL215	Upgrading the Human	3
NWI-FFIL302	Philosophy and Ethics in Microbiology	3
NWI-FFIL211B	The Transformative Role of Physics	3
NWI-FFIL216	Imagining the Anthropocene	3
NWI-FFIL300C	Mathematics, Zeitgeist and Worldview	3

4. ***Philosophical course (3 EC)***

The student must choose from one of the following philosophical courses (3EC):

5. ***Internship (33 EC)***

One scientific internship at the university level on a biological problem. Assessment of the internship is done with the internship assessment form for the Master's phase of the programme. The internship is completed under the supervision of an examiner from one of the chair groups described in Article 7.2a clause 4, Article 7.2b clause 4, or Article 7.2c clause 4.

6. ***Review Article (6 EC)***

A literature review of a biological problem. The assessment must be carried out by an examiner whose chair group is part of one of the research institutes described in Article 7.2a clause 4, Article 7.2b clause 4, or Article 7.2c clause 4.

7. ***Portfolio (0 EC)***

The content of the portfolio is shaped by the writing of a Master Plan, a Master's View and internship application letters.

8. ***Free electives (6 EC)***

Under the conditions described in Article 7.2a clause 3.

9. ***Science, Management and Innovation final research project (30 EC)***

The SMI research project may, in consultation with the coordinator or a lecturer from the SMI specialisation, be completed both internally (at the Faculty of Science) or externally (government, businesses, consulting firms, NGOs, etc.), at home or abroad. In the first month, the student will draft a research plan, which needs to be approved by the examiner, the supervisor, and a second reader. The assessment of the thesis is conducted on the basis of the criteria outlined in "*Doing a research project: A guide for students of the Science, Management & Innovation Master's specialisation*".

Article 7.2e Master's specialisation in Science in Society (SiS)

The Master's specialisation in Science in Society consists of the following components:

1. Compulsory courses (24 EC)

Course code	Course name	EC
NWI-FC002B	Science and Societal Interaction	3
NWI-FC003B	Research, Responsibility and Uncertainty	3
NWI-FC0010C	Framing Knowledge	3
NWI-FC0011C	Knowledge Society	3
NWI-FC0013C	Science and Media	3
NWI-FC0043B	Science and Public Policy	3
NWI-FC0044C	Methods of Societal Research	6

2. Disciplinary components (15 EC)

Choice of one of the combinations of compulsory components, as referred to in Article 7.2a clause 1, 7.2b clause 7, or 7.2c clause 1. If the combination is chosen as described in Article 7.2c clause 1, the student must make a selection of 15 EC of the courses listed there. Alternatively, the student can choose a combination of courses referred to in Article 7.2a clause 1, Article 7.2b clause 1, and Article 7.2c clause 1, with a total study load of 15 EC, by requesting permission from the Examining Board through a motivated request, within one year of the start of the Master's programme.

3. Philosophical course (3 EC)

The student must choose from one of the following philosophical courses (3EC):

Course code	Course name	EC
NWI-FFIL203B	Bioethics for Life Scientists	3
NWI-FFIL202A	Evolution and the Mind	3
NWI-FFIL209B	Environmental Ethics	3

NWI-FFIL214	Science and Metaphysics	3
NWI-FFIL212	Philosophy of Water Management	3
NWI-FFIL205A	Science and Literature	3
NWI-FFIL215	Upgrading the Human	3
NWI-FFIL302	Philosophy and Ethics in Microbiology	3
NWI-FFIL211B	The Transformative Role of Physics	3
NWI-FFIL216	Imagining the Anthropocene	3
NWI-FFIL300C	Mathematics, Zeitgeist and Worldview	3

4. Internship (33 EC)

One scientific internship at the university level on a biological problem. Assessment of the internship is done with the internship assessment form for the Master's phase of the programme. The internship is completed under the responsibility of an examiner from one of the chair groups described in Article 7.2a clause 4, Article 7.2b clause 4, or Article 7.2c clause 4.

5 Review Article (6 EC)

A literature review of a biological problem. The assessment must be carried out by an examiner whose chair group is part of one of the research institutes described in Article 7.2a clause 4, Article 7.2b clause 4, or Article 7.2c clause 4.

6 Portfolio (0 EC)

The content of the portfolio is shaped by the writing of a Master Plan, a Master's View and internship application letters.

7 Limited choice electives (3 EC)

To be filled with components related to the topic of the thesis. These components must be presented for approval to the SiS coordinator.

8 Free electives (6 EC)

Under the conditions described in Article 7.2a clause 3.

9 Science in Society research project (30 EC)

In consultation with a SiS lecturer, the SiS graduation project can be completed both internally (at the ISIS department) or external (government, consulting firms, NGOs, etc.). In the first month, the student will draft a research plan, which needs to be approved by the examiner, the supervisor, and a second reader. The assessment of the thesis is conducted on the basis of the criteria outlined in "*Graduation project guidelines SiS*".

Article 7.2f Master's specialisation in Science and Education

The Master's specialisation in Science and Education consists of the following components:

1. Disciplinary components (15 EC)

Choice of one of the combinations of compulsory components, as referred to in Article 7.2a clause 1, 7.2b clause 7, or 7.2c clause 1. If the combination is chosen as described in Article 7.2c clause 1, the student must make a selection of 15 EC of the courses listed there. Alternatively, the student can choose a combination of courses referred to in Article 7.2a clause 1, Article 7.2b clause 1, and Article 7.2c clause 1, with a total study load of 15 EC, by requesting permission from the Examining Board through a motivated request, within one year of the start of the Master's programme.

2. Philosophical course (3 EC)

The student must choose from one of the following philosophical courses (3EC):

Course code	Course name	EC
NWI-FFIL203B	Bioethics for Life Scientists	3
NWI-FFIL202A	Evolution and the Mind	3
NWI-FFIL209B	Environmental Ethics	3
NWI-FFIL214	Science and Metaphysics	3
NWI-FFIL212	Philosophy of Water Management	3
NWI-FFIL205A	Science and Literature	3
NWI-FFIL215	Upgrading the Human	3
NWI-FFIL302	Philosophy and Ethics in Microbiology	3
NWI-FFIL211B	The Transformative Role of Physics	3
NWI-FFIL216	Imagining the Anthropocene	3
NWI-FFIL300C	Mathematics, Zeitgeist and Worldview	3

3. Internship (30 EC)

One scientific internship at the university level on a biological problem. Assessment of the internship is done with the internship assessment form for the Master's phase of the programme. The internship is completed under the responsibility of an examiner from one of the chair groups described in Article 7.2a clause 4, Article 7.2b clause 4, or Article 7.2c clause 4.

4. Review Article (6 EC)

A literature review of a biological problem. The assessment must be carried out by an examiner whose chair group is part of one of the research institutes described in Article 7.2a clause 4, Article 7.2b clause 4, or Article 7.2c clause 4.

5. Portfolio (0 EC)

The content of the portfolio is shaped by the writing of a Master Plan, a Master's View and internship application letters.

6. Free electives (6 EC)

Under the conditions described in Article 7.2a clause 3.

7. Education specialisation (60 EC)

The specialisation in Science and Education is provided by the Radboud Teachers Academy. The curriculum and related regulations are found in the EER of the Radboud Teachers Academy.

Article 7.3 Deviating programme

If a student does not choose a specialisation, he/she must submit a motivated request for permission to the Examining Board for an alternative course selection within three months after the start of the Master's programme. The submitted course selection must include at least 60 EC, including at least 15 EC of Master's courses and a programme-specific internship.

Section 8. Transitional provisions

For students of all specialisations, the following applies:

- A thesis (NWI-BM-THESIS1, NWI-BM-THESIS2, or NWI-BM-THESIS3) may be used instead of the Review Article (NWI-BM-REVIEWART).

- A thesis (NWI-BM-THESIS1, NWI-BM-THESIS2, or NWI-BM-THESIS3) may be used instead of the Research proposal (NWI-BM-RESPROP).

For students of Human Biology the following applies:

- NWI-BM078 Molecular Therapy (6 EC) may be replaced by one of the following three combinations: (i) NWI-MOL413 Transport and Metabolomics (3 EC) and NWI-BM071 Molecular Therapy (3 EC); or (ii) NWI-MOL413 Transport and Metabolomics (3 EC) and a 3 EC component from the limited choice electives; or (iii) NWI-BM071 Molecular Therapy (3 EC) and a 3 EC component from the limited choice electives.
- NWI-MOL413 Transport and Metabolomics (3 EC) may be replaced by NWI-LM011 Metabolism, Transport and Motility (3 EC).
- NWI-BM071 Molecular Therapy (3 EC) may be replaced by NWI-BM049B Molecular Mechanisms or Novel Therapeutics (3 EC).

- NWI-BM073 Trends in Stem Cell Biology (3 EC) may be replaced by NWI-BM047B Trends in Medical Biosciences II (3 EC).
- NWI-BM072 Translational Genomics (6 EC) may be replaced by NWI-BM045B Human Genetics (3 EC). The other 3 EC must be filled with a component from the limited choice electives.
- NWI-BM042B Trends in Medical Biosciences I (3 EC) may be used within the mandatory course space or the limited choice elective space.

For students of Medical Epigenomics the following applies:

- NWI-BM073 Trends in Stem Cell Biology (3 EC) may be replaced by NWI-BM047B Trends in Medical Biosciences II (3 EC).
- NWI-BM066A Computation for Biologists (6 EC) may be replaced by NWI-BM066 Computation for Biologists (3 EC). The other 3 EC must be filled with a component from the limited choice electives.
- NWI-BM042B Trends in Medical Biosciences I (3 EC) may be used within the mandatory course space or the limited choice elective space.
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For students of Neurobiology the following applies:

- NWI-BM073 Trends in Stem Cell Biology (3 EC) may be replaced by NWI-BM047B Trends in Medical Biosciences II (3 EC).
- NWI-BM001D Molecular and Cellular Neurobiology (6 EC) may be replaced by NWI-BM001C Molecular and Cellular Neurobiology (3 EC). The other 3 EC must be filled with a component from the limited choice electives.
- NWI-BM042B Trends in Medical Biosciences I (3 EC) may be used within the mandatory course space or the limited choice elective space.

For students of Science, Management and Innovation, the following applies:

- NWI-FMT021 Neuroscience (3 EC) may be used to fill the 6 EC of free elective space for Health elective courses.