Teaching and Examination Regulations (TER)

Faculty of Science

Masterprogramme in Ecology

Academic year: 2019-2020

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B1: Programme specific section – general provisions
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Section A: Faculty Section

1. General provisions

Article 1.1 Applicability of the Regulations

1. These Regulations apply to anyone enrolled for the programme, irrespective of the academic year in which the student was first enrolled for the programme. These Regulations apply to the teaching and examinations for the following Master’s degree programmes:

- Artificial Intelligence
- Bioinformatics and System Biology
- Biomedical Sciences
- Biomolecular Sciences
- Business Analytics
- Computer Science
- Drug Discovery and Safety
- Earth Sciences
- Ecology
- Environment and Resource Management
- Global Health (research)
- Health Sciences
- Hydrology
- Information Sciences
- Management, Policy Analysis and Entrepreneurship in the Health and Life Sciences
- Mathematics
- Medical Natural Sciences
- Neurosciences (research)
- Parallel and Distributed Computer Systems
- Science Business and Innovation
- Stochastics and Financial Mathematics

Advice OLC, approval FGV (9.38 ub b)

2. These Regulations enter into force with effect from 1 September 2019.

Advice OLC, approval FGV (9.38 ub b)

3. An amendment to the Teaching and Examination Regulations is only permitted to concern an academic year already in progress if this does not demonstrably damage the interests of students.

Advice OLC, approval FGV (9.38 sub b)

Article 1.2 Definitions

The following definitions are used in these Regulations (in alphabetical order):

a. academic year: the period beginning on 1 September and ending on 31 August of the following calendar year;
b. CvB: the Executive Board of Vrije Universiteit Amsterdam.
c. Double degree programme joint programme in the context of cooperation between Vrije Universiteit Amsterdam and the educational institution within and outside the EU, as to gain a double university degree; of the VU and the educational institution concerned; though not being the same as a ‘joint degree programme’ according to the art. 7.3c WHW’;
d. EC (European Credit): an EC credit with a workload of 28 hours of study;
e. educational component: a unit of study of the programme within the meaning of the WHW;
f. examination: the final examination of the Master’s programme;
g. exemption Exemption from an examination/ practical/ fieldwork based on an earlier successfully completed examination, or knowledge / skills of a similar content, level and scope gained outside higher education;
h. FGV: Faculty joint assembly – assembly of the faculty student council and faculty staff
i. interim examination: an assessment of the student’s knowledge, understanding and skills relating to a course component. The assessment is expressed in terms of a final mark. An interim examination may consist of one or more partial examinations. A resit always covers the same material as the original interim examination;

j. joint degree: a degree awarded by an institution together with one or more institutions in the Netherlands or abroad, after the student has completed a study programme (a degree programme, a major or a specific curriculum within a degree programme) for which the collaborating institutions are jointly responsible;

k. OLC: programme committee;
l. period: a part of a semester;
m. practical exercise: the participation in a practical training or other educational learning activity, aimed at acquiring certain (academic) skills. Examples of practical exercises are:
   - researching and writing a thesis or dissertation
   - carrying out a research assignment
   - taking part in fieldwork or an excursion
   - taking part in another educational learning activity aimed at acquiring specific skills, or
   - participating in and completing a work placement;

n. premaster student those who enroll in a premaster programme;
o. Programme: the totality and cohesion of the course components, teaching activities/methods, contact hours, testing and examination methods and recommended literature;
p. SAP/SLM: the student information system (Student Lifecycle Management);
q. semester: the first (September - January) or second half (February - August) of an academic year;
r. study guide: the guide for the study programme that provides further details of the courses, provisions and other information specific to that programme. The Study Guide is available electronically at: https://www.vu.nl/studiegids
s. subject see ‘educational component’;
t. substituting course/educational component see under d (double degree programme). A course obtained at the educational institute, within the context of cooperation, that is mentioned in the diploma supplement as such; not being an ‘exemption’.
u. thesis/ internship work placement a component comprising research into the literature and/or contributing to scientific research, always resulting in a written report;
v. university: Vrije Universiteit Amsterdam;
w. WHW: the Dutch Higher Education and Research Act (Wet op het Hoger Onderwijs en Wetenschappelijk Onderzoek);
x. workload: the workload of the unit of study to which an interim examination applies, expressed in terms of credits = EC credits (ECTS = European Credit and Transfer Accumulation System). The workload for 1 year (1,680 hours) is 60 EC credits.

The other terms have the meanings ascribed to them by the WHW.

2. Study programme structure

Article 2.1 Structure of academic year and educational components

<table>
<thead>
<tr>
<th>Clause</th>
<th>Text</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>The study programme will be offered in a year divided into two semesters.</td>
</tr>
<tr>
<td>2.</td>
<td>Every semester consists of three consecutive periods of eight, eight and four weeks.</td>
</tr>
<tr>
<td>3.</td>
<td>An educational component comprises 6 EC or a multiple thereof.</td>
</tr>
</tbody>
</table>

Ordinance CvB, see appendix 3
4. By way of exception to paragraph 3, Section B may stipulate that a unit of study comprises 3 EC or a multiple thereof. The Faculty Board requests permission from the Executive Board.

Article 2.2 Refusal or termination of registration / (iudicium abeundi)

1. Pursuant to the provisions of Article 7.42a of the Act, the Faculty Board or the Examination Board may, in exceptional circumstances, request the Executive Board to terminate or refuse a student’s registration on a programme. This may be the case if the student’s conduct or statements demonstrate his or her unsuitability to work in the relevant field or discipline, or to take part in the programme’s practical training component.

2. If a student is suspected of being unsuitable as described in paragraph 1, the Examination Board or the Faculty Board will examine the case, and the student will be informed of this immediately. The Examination Board or the Faculty Board will only issue a recommendation after careful consideration of the interests involved and following a hearing with the student concerned.

3. Assessment and Examination

Article 3.1 Signing up for education and interim examinations

1. Every student must sign up to participate in the educational components of the programme, the examinations and resits. The procedure for signing up is described in an annex to the Student Charter.

2. Signing up may only take place in the designated periods.

3. If a student does not pass the examination and the resit of a component, he/ she is obliged to take the whole component again. This rule does not apply to practical exercises and programmes that make use of component marks that retain their validity. For further regulations see Section B of the programme involved.

Article 3.2 Type of examination

1. At the student’s request, the Examination Board may permit a different form of interim examination than that stipulated in the course catalogue. If applicable, more detailed regulations on this are included in the Rules and Guidelines for the Examination Board.

2. In an educational component is no longer offered in the academic year following its termination, at least one opportunity will be provided to sit the interim examination(s) or parts thereof and a transitional arrangement will be included in the programme-specific section for the subsequent period.

Article 3.3 Oral interim examinations

1. An oral assessment is public unless the Examinations Board on request determines otherwise.

2. An oral examination will be taken in the presence of a second examiner.

Article 3.4 Determining and announcing results

1. The examiner determines the result of a written interim examination as soon as possible, but at the latest within fifteen working days. By way of departure from that stipulated in the first clause, the marking deadline for theses, internships / work placements and final assignments is no longer than twenty working days. The examiner will then immediately ensure that the marks are registered and also ensures that the student is immediately notified of the mark, taking due account of the applicable confidentiality standards.
2. a. The examiner determines the result (i.e. mark) of an oral examination as soon as possible, though within one working day, after the examination has finished and informs the student accordingly. The third clause of the first paragraph applies. 
b. The examiner determines the result of an interim examination no later than five working days before the next (interim) examination will be held.

3. In the case of alternative forms of oral or written examinations, the Examination Board determines in advance how and by what deadline the student will be informed of the results.

4. A student can submit a request for reassessment to the examiner. A request for reassessment does not affect the time period for lodging an appeal.

5. Together with the result of an examination, the student’s attention will also be drawn to their right to inspect the assessed work and have a post-examination discussion as stipulated in Art. 3.9, as well as his/her option to lodge a complaint before the Examination Board, and if necessary, to appeal to the Examinations Appeals Board (in Dutch: COBEX).

Article 3.5 Examination opportunities

1. a. Per academic year, two opportunities to take examinations per educational component will be offered. 
b. The options for retaking practical components, work placements and theses are detailed in the relevant work placement manual, teaching regulations or graduation regulations.

2. The most recent mark will apply in the event of a resit. A retake is allowed for both passed and failed units of study.

3. The resit for a (partial) interim examination must not take place within ten working days of the announcement of the result of the (partial) examination being resat.

4. The Examination Board may allow a student an extra opportunity to sit an examination if that student:
   a) is lacking only those credits to qualify for his or her degree;
   b) has failed the examination during all the previously offered attempts, unless participation in an examination was not possible for compelling reasons.

The extra opportunity can only be offered if it concerns a written examination, a paper or a take home examination. This provision excludes the practical assignments and the Master’s thesis. Requests for an additional examination opportunity must be submitted to the Examination Board no later than 15 July. If necessary, the method of examination may deviate from the provisions in the study guide.

Article 3.6 Marks

1. Marks are given on a scale from 1 to 10 with no more than one decimal point.

2. The final marks are given in whole or half points.

3. Final marks between 5 and 6 will be rounded off to whole marks: up to 5.5 rounded down; from 5.5 rounded up. To pass a course, a 6 or higher is required.

In case the examination of a component consists of two or more parts, each of which are graded separately, the (weighted) mean of these marks (meaning: the final mark) must be rounded off using the following table:

<table>
<thead>
<tr>
<th>From</th>
<th>Up to</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,00</td>
<td>1,25</td>
<td>1</td>
</tr>
<tr>
<td>1,25</td>
<td>1,75</td>
<td>1,5</td>
</tr>
<tr>
<td>1,75</td>
<td>2,25</td>
<td>2,0</td>
</tr>
<tr>
<td>2,25</td>
<td>2,75</td>
<td>2,5</td>
</tr>
</tbody>
</table>
### Article 3.7 Exemption

1. At the written request of the student, the Examination Board may exempt the student from taking one or more examination components, if the student:
   a) has passed a course component of a university or higher professional education programme that is equivalent in terms of content and level;
   b) has demonstrated through his/her work and/or professional experience that he/she has sufficient knowledge and skills with regard to the relevant course component.

   The Examination Board will make a decision within six weeks after receiving the request.

   **Advice OLC; approval FGV (7.13 r)**

2. The Master’s thesis, the final work placement (c.q. internship) and the final project (c.q. final paper) are excluded from this exemption possibility.

   **Advice OLC; approval FGV (9.38 sub b)**

3. A maximum of 18 EC for a one one-year master programme and 36 EC for a one two-year master programme can be accumulated through granted exemption. The substituting courses (educational components) are not included.

   **Advice OLC, approval FGV (art. 7.13 par. 2, under r WHW jo art. 9.38 par. b)**

### Article 3.8 Validity period for results

1. The validity period of interim examinations passed and exemption from interim examinations is unlimited, unless otherwise specified in Section B.

   **WHW**

2. The validity period of a partial examination is limited to the academic year in which it was sat or until the end of the unit of study concerned, as stipulated for the relevant unit of study in Section B.

   **Advice OLC; approval FGV (9.38 sub b)**

### Article 3.9 Right of inspection and post-examination discussion

1. For twenty working days after the announcement of the results of a written interim examination, the student can, on request, inspect his or her assessed work, the questions and assignments set in it, as well as the standards applied for marking. The place and time referred to in the previous clause will be announced at the time of the interim examination on VUnet or Canvas.

   **Advice OLC; approval FGV (7.13 p en q)**

2. If a collective post-examination discussion has been organized, individual post-examination discussions will be held only if the student has attended the collective

   **Advice OLC; approval FGV (7.13 q)**
3. Students who meet the requirements stipulated in paragraph 1 can submit a request for an individual post-examination discussion to the relevant examiner. The discussion shall take place at a time and location to be determined by the examiner.

Article 3.10 Fraud and plagiarism

1. The provisions of the Rules and Guidelines for the Examination Board apply in full.

2. Electronic detection software programmes may be used to detect plagiarism in texts. In submitting a text, the student implicitly consents to the text being saved in the database of the detection programme concerned.

4. Academic student counselling and study progress

Article 4.1 Administration of study progress and academic student counselling

1. The faculty board is responsible for the correct registration of the students’ study results. After the assessment of an educational component has been registered, every student has the right to inspect the result for that component and also has a list of the results achieved at his or her disposal in VUnet.

2. Enrolled students are eligible for academic student counselling. Academic student counselling is in any case provided by:
   a. The Student General Counselling Service
   b. Student psychologists
   c. Faculty academic advisors

Article 4.2 Adaptations for students with a disability

1. A student with a disability can, at the moment of submission to VUnet, or at a later instance, submit a request to qualify for special adaptations with regard to teaching, practical training and interim examinations. These adaptations will accommodate the student’s individual disability as much as possible, but may not alter the quality or degree of difficulty of a unit of study or an examination. In all cases, the student must fulfil the exit qualifications for the study programme.

2. The request referred to in the first paragraph must be accompanied by a statement from a doctor or psychologist. If possible, an estimate should be given of the potential impact on the student’s study progress. In case of a chronic disability a single (one time) request suffices.

3. Students who have been diagnosed with dyslexia must provide a statement from a BIG, NIP or NVO registered professional who is qualified to conduct psychological evaluation.

4. The faculty board, or on behalf of the faculty board, the educational director, or the programme director, decides on the adaptations concerning the teaching facilities and logistics. The Examination Board will rule on requests for adaptations with regard to examinations.

5. In the event of a positive decision in response to a request as referred to in paragraph 1, the student will make an appointment with the study adviser to discuss the details of the provisions.

6. A request for adaptations will be refused if it would place a disproportionate burden on the organization or the resources of the faculty or university were it upheld.

7. If the disability justifies an extension of the interim examination time, the Examination Board will grant permission testifying to this entitlement to an extension. If a disability justifies other measures to be taken, the Examination Board will advice the Faculty Board on the necessary measures to be taken.

8. The decision as referred to in paragraph 7, is valid for a maximum period of one year with...
5. Hardship clause

Article 5.1 Hardship clause
In instances not regulated by the Teaching and Examination Regulations or in the event of demonstrable extreme unreasonableness and unfairness, the faculty board responsible for the study programme will decide, unless the matter concerned is the responsibility of the Examinations Board.

Advice OLC; approval FGV (9.38 sub b)

Article 5.2. Publication
1. The faculty board will ensure the appropriate publication of these Regulations and any amendments to them.

WHW

2. The Teaching and Examination Regulations will be posted in the study guide or on VUnet.

WHW

Approved by authorized representative advisory body FGOV of the Faculty of Science on 3 September 2019.

Adopted by the Faculty Board on 30 August 2019.
Section B1: Programme specific – general provisions

6. General programme information and characteristics

Article 6.1 Study programme information
1. The masters’ programme Ecology CROHO number 60607 is offered on a full-time basis.
   - Advice OLC; approval FGV (7.13 i)
2. The language of instruction is English.
   - Advice OLC; approval FGV (9.38 sub b)
3. This programme is offered in partnership with the University of Amsterdam (i.e. a joint programme).
   - Advice OLC; approval FGV (9.38 sub b)

Article 6.1a. Deviant size of educational component
By way of derogation from art. 2.1 par. 3, the units listed below have deviant size:
- AM_1244 Employability, Skills and Career (0 EC).
  - Approval OLC (art. 7.13 lid 2, under e), approval CvB

Article 6.2 Teaching formats used and modes of assessment
1. The programme uses the teaching formats as specified in the study guide.
   - Advice OLC; approval FGV (7.13 x)
2. The modes of assessment used per educational component are specified in the study guide.
   - Advice OLC; approval FGV (7.13 l)

7. Further admission requirements

Article 7.1 Intake date(s)
1. The programme starts on September 1.
   - Advice OLC; approval FGV (9.38 sub b)

Article 7.2 Admission requirements
1. Admission to the Master's programme is possible for an applicant who has obtained a Bachelor’s degree at an institution of academic higher education, which demonstrates the following knowledge, understanding and skills:
   a. Knowledge and understanding:
      ▪ Biochemistry and Cell Biology (insight into molecular and cellular processes in living organisms);
      ▪ Genetics (both at the organismal and population level);
      ▪ Evolutionary biology (origin and development of life, processes of speciation, relationship between and within taxa, building plans of the most important groups);
      ▪ Ecology (understanding of ecosystems, the ecological processes that play a role within them and the interrelationship of those processes, behavioral ecology);
      ▪ Animal and Plant Physiology (the function at supra-cellular level, insight into the construction and function of the main tissues, organs and organ systems and the regulation of their operation);
      ▪ Knowledge and understanding of basic statistical (t-test, regression and correlation analysis, analysis of variance, non-parametric tests) and
mathematical principles and techniques (differentiation and integration, ordinary differential equations).

**b. Skills:**
- The ability to collect data in a systematic way by means of observations during (laboratory) research and/or fieldwork, as well through literature review or other authoritative (internet) sources,
- The ability to manage the collected data and observations in relation to each other, save, process, interpret them and write a scientific report that meets the bachelor level,
- The ability to clearly define a biological question, along with accompanying assumptions – and to determine a strategy for answering the question (under guidance),
- The ability to analyze research on main lines, both with regard to the design and conduct of research and to the interpretation of results.

<table>
<thead>
<tr>
<th>2.</th>
<th>The Admissions Board will investigate whether the applicant meets the admission requirements.</th>
<th>Legal provision</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.</td>
<td>In addition to the requirements referred to in the first paragraph, the Admissions Board can also assess requests for admission in terms of the following criteria:</td>
<td>Partly legal provision &amp; ordinance CvB, see appendix 3. Admission requirements excepted from participation in WHW</td>
</tr>
<tr>
<td>a.</td>
<td>talent and motivation;</td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>proficiency in methods and techniques; i.e. the ability to work with computer programs for word processing, spreadsheets, modelling, statistical processing, graphics, presentations, management of databases and consultation of scientific literature.</td>
<td></td>
</tr>
</tbody>
</table>

| 4. | Direct admission is granted to students with a Bachelor of Science degree in Biology from a Dutch university. Admission is also provided to VU students with a Bachelor’s degree in Biomedical Sciences or Health and Life Sciences, with an examination programme that includes at least the following components: | |
| a. | Minor Evolutionary Biology and Ecology (EBE, 30 EC) | |
| b. | The alternative embedded pre-Master programme that may apply to HBO students contains the following courses: | |
|   |   | |
|   | AB_1020 Environmental Toxicology (6 EC); | |
|   | AB_1022 Evolutionary Genetics (6 EC); | |
|   | AB_1041 Behavioral Biology (6 EC); | |
|   | AB_1261 Diversiteit van Leven (6 EC); | |
|   | AB_1219 Adaptation to Human Environments (6 EC). | |
| c. | An alternative BSc or pre-Master programme that has been pre-approved by the Admissions Board. | |

| 5. | In addition to the requirements referred to in the paragraphs 1 and 3, the Board will also assess requests for admission in terms of the following criteria for students coming from outside the European Economic Area: | |
| a. | Average grades for classes in ecological, evolutionary, genetic, physiological and statistical subjects should be within the top 30 %. (i.e. 7 or higher for Dutch grades, 14 or higher in the French system, B or A for USA or UK grades and, 2 or 1 for German grades); | |
| b. | The period between the obtaining of the Bachelor’s degree and the start of the Master’s programme should not be longer than 5 years, unless, according to the Admission Board the applicant has been able to maintain and update his/her knowledge sufficiently by taking additional courses or by working in the field. | |
6. When the programme commences, the candidate must have fully completed the Bachelor’s programme or premaster programme allowing admission to this Master’s programme.

7. Exceptional and highly motivated students have the possibility to be selected for the IMABEE track, see Article 9.2.

Article 7.3 English language requirement for English-language Master's programmes or English-language specializations

1. In deviation from the language proficiency requirements as stated in the Application and registration regulation (RAI) an applicant should demonstrate that he or she has sufficient level of proficiency in English by meeting at least one of the following standards, no more than two (2) years before the start of the programme at the VU:
   - Successful completion of 6VWO exam English;
   - (academic) IELTS (>6.5) with the minimum sub-scores:
     ▪ Listening: 6.0;
     ▪ Reading: 6.0;
     ▪ Writing: 6.5, and;
     ▪ Speaking: 6.0.
   - TOEFL paper based test (> 580) with the minimum sub-scores:
     ▪ Listening Comprehension: 58;
     ▪ Structure and Written Expression: 59, and;
     ▪ Reading Comprehension:58
   - TOEFL internet based test (> 92) with the minimum sub-scores:
     ▪ Listening: 19;
     ▪ Reading: 18;
     ▪ Writing: 24, and;
     ▪ Speaking: 19.
### Article 7.4 Pre-Master’s programme

1. a) Students with a Bachelor's degree of a university of applied science (HBO) in a field that corresponds to a sufficient extent with the subject area covered by the Master's programme can request admission to the pre-Master’s programme.

   b) Students with a Bachelor's degree from an institution of academic higher education in a field that does not sufficiently corresponds with the subject area covered by the Master's programme can request admission to the pre-Master’s programme.

2. The pre-Master’s programme comprises [30] EC and is made up of the following units of study:
   a. Option 1 - Minor Evolutionary Biology and Ecology (EBE, 30 EC);
   b. Option 2 - An alternative 30 EC pre-Master programme can be agreed upon if the student has already obtained an HBO degree, and will then contain the following course:
      - AB_1020 Environmental Toxicology (6 EC);
      - AB_1022 Evolutionary Genetics (6 EC);
      - AB_1041 Behavioral Biology (6 EC);
      - AB_1261 Diversiteit van Leven (6 EC);
      - AB_1219 Adaptation to Human Environments (6 EC).
   c. Option 3 - If, based on the content of the educational programme previously followed by the candidate, the Admissions Board decided that less than 30 EC and/or different courses are required, an alternative pre-Master programme will be proposed.

3. A successfully completed pre-Master’s programme serves as proof of admission to the specified Master's programme in the subsequent academic year.

4. A candidate can only participate in one pre-Master’s programme at the Vrije Universiteit.

### Article 8.1 Sequence of interim examinations

1. Students may participate in interim examinations [or practical exercises] of the components below only if they have passed the interim examination or examinations for the components mentioned hereinafter:
   - AM 1114 – Research Project E&E II after passing: AM 1100 – Research Project E&E I

### Article 8.2 Validity period for results

1. If the exam shows that a student’s knowledge is insufficient or outdated, or if the student’s skills evaluated in the exam are demonstrably outdated, the Examination Board may impose a supplementary or replacement examination for a course for which an examination was passed more than 6 years ago.

### Article 8.3 Maximum Exemption(s)

A maximum of 36 EC of the curriculum can be accumulated through granted exemptions, based on previous results within other master’s programmes.
### Article 8.4 Degree

Degree Students who have successfully completed their Master’s final Examination are awarded a Master of Science degree (MSc). The degree awarded is stated on the diploma. Specialization name will be stated on the diploma if one has successfully completed at least 24 EC of the specific Specialization; otherwise no track name will be stated on the diploma.

| Legal provision, WHW |  |
### Section B2: Programme specific – content of programme

#### 9. Programme objectives, specializations and exit qualifications

**Article 9.1 Workload**

1. The programme has a workload of 120 EC.

**Article 9.2 Specializations**

The programme has the following specializations:

- Research Specialization – Ecology & Evolution;
- Research Specialization – International Master Biodiversity, Ecology & Evolution (IMABEE);
- Societal specialization – Science Communication;
- Societal specialization – Science in Society;
- Societal specialization – Education.

Ad. b. IMABEE, International Master of Biodiversity, Ecology and Evolution. In the second year, provided that all the courses of the 1st semester of the 1st year have been completed above average, it is possible to enter the IMABEE programme. This means that the complete 2nd year (60 EC) can be followed at one of the partner universities (University of Rennes, France; University of Göttingen, Germany; University of Aarhus, Denmark).

Ad. e. Education: In the second year, the Societal specialization - Education can be chosen. The Master’s graduate with a specialization in Education (CROHO number 68502, accreditation date 1 January 2010) obtains a certificate that qualifies the graduate to teach Biology in secondary schools (this is a ‘grade one’ certificate, i.e. it qualifies the graduate to teach pupils who will sit public exams in the subject).

**Article 9.3 Programme objective**

The programme aims to provide students with the knowledge, skills and insights required to operate as an independent professional within the field of Ecology and Evolution, and to be a suitable candidate for a subsequent PhD study leading to a career in a fundamental or applied research field. As a consequence, it is a research-oriented programme. Having completed the programme the student should have developed a critical, scientific attitude and an awareness of the ethical and social aspects of Ecology and Evolution.

The programme offers a broad package of courses and research experiences that provide a firm theoretical and practical basis for a Masters’ degree with the possibility to develop a distinct, individual profile within the array of ecological and evolutionary sub-disciplines.

In addition, it is possible to follow the Societal Specializations in the second year of this master (See Article 9.2).
Article 9.4 Exit qualifications

1. At all events, a graduate of the study programme will have: learning outcomes of the MSc Ecology programme according to the Dublin descriptors:

A. **Dublin descriptor 1 – Knowledge and understanding**: The graduate should have specialized theoretical and practical knowledge of ecological and evolutionary science notably within the field of his/her specialization. The graduate:
   a. masters the field’s conceptual framework, understands the state of the art in terms of developing theories and has insight into the most important current research issues in ecology and evolution,
   b. appreciates the place of this discipline within Biology and the Natural Sciences,
   c. appreciates the scientific and social relevance of ecology and evolution,
   d. is able to think in multidisciplinary terms,
   e. has sufficient knowledge of and is able to apply appropriate mathematical and statistical methods and computer software.

B. **Dublin descriptor 2 – Application of knowledge**: The graduate should be experienced in carrying out research, in applying techniques specific to the subject area and in applying scientific knowledge to problems raised in society. The graduate:
   a. is able to design and perform experiments in the different ecological and evolutionary fields and analyse their results,
   b. has command of the relevant advanced research techniques and laboratory procedures,
   c. is able to transmit his/her scientific knowledge to societal and political issues,
   d. is able to reflect on the ethical aspects of research and its uses.

C. **Dublin descriptor 3 – Critical judgment**: The graduate should be able to independently and critically judge information. The graduate:
   a. is able to independently and critically analyze ecological and evolutionary research,
   b. is able to independently acquire, analyze and critically evaluate ecological and evolutionary information from the literature at a meta level,
   c. has the ability to evaluate his/her own performance, both introspectively and in discussion with others.

D. **Dublin descriptor 4 – Communication**: The graduate should be able to transfer knowledge and skills related to his/her subject area to other persons and to adequately reply to questions and problems posed within society. The graduate:
   a. can report orally on research results to a scientific audience in English with support of modern presentation techniques,
   b. can report in written form on research results on the level of peer-reviewed academic journals (in English),
   c. can make essential contributions to scientific discussions,
   d. can operate professionally in a research team.

E. **Dublin descriptor 5 – Learning skills**: The graduate should develop learning skills that enable him/her further self-education and development within the subject area. The graduate:
   a. is able to draw up a research proposal developing new research questions and directions, giving details of experimental design, performance and analysis,
- is familiar with high-impact general scientific journals as well as professional journals in ecology and evolution,
- able to evaluate and reflect on scientific contributions of peers,
- can make a well-considered choice for a specialized PhD trajectory or other positions on the job market.

### 10. Curriculum structure

**Article 10.1 Composition of the programme**

1. The programme comprises at least a package of compulsory components (see Article 10.2) and an individual Master’s thesis or academic internship.

2. Additionally the programme can offer:
   - Elective course components (12 - 18 EC); students are free to spend 6 EC to either an elective course or to expand one of their research projects with 6 EC. The shortest research project is at least 30 EC. The first research project has to take place at the Vrije Universiteit or the University of Amsterdam.

3. Educational components are categorized as specialized (400), research oriented (500) and highly specialized (600) level.

**Article 10.2 Compulsory educational components**

_A detailed description per educational component can be found in the Study Guide._

<table>
<thead>
<tr>
<th>Educational component</th>
<th>course code</th>
<th>nr of EC</th>
<th>level</th>
<th>Advice OLC; (7.13 a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current Trends in Ecology &amp; Evolution</td>
<td>AM_470507</td>
<td>6</td>
<td>500</td>
<td>Ordinance CvB, see appendix 3</td>
</tr>
<tr>
<td>(VU or UvA course, depending on the year the student started)</td>
<td>AMU_470507</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Masterclasses in Ecology and Evolution</td>
<td>AM_1016</td>
<td>3</td>
<td>400</td>
<td>Ordinance CvB, see appendix 3</td>
</tr>
<tr>
<td>Ecological Data Analysis</td>
<td>AM_1225</td>
<td>6</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>Scientific Writing in English</td>
<td>AM_471023</td>
<td>3</td>
<td>400</td>
<td></td>
</tr>
<tr>
<td>Research Project E&amp;E I</td>
<td>AM_1100</td>
<td>30≤EC≤48</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>Research Project E&amp;E II</td>
<td>AM_1114</td>
<td>30≤EC≤48</td>
<td>600</td>
<td></td>
</tr>
<tr>
<td>(Applied) Literature Survey E&amp;E*</td>
<td>AM_1131</td>
<td>12</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td></td>
<td>or AM_1226</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employability, Skills and Career (0 EC)</td>
<td>AM_1244</td>
<td>0</td>
<td>400</td>
<td></td>
</tr>
</tbody>
</table>

* In case the student follows a specialization different from the “Research Specialization - Ecology & Evolution” mentioned in Article 9.2, these compulsory 12 EC can be replaced by an equivalent number of ECs from the chosen specialization.
### Article 10.3 Elective educational components

1. The student can take one or more of the following electives without prior consent from the Examination Board:

<table>
<thead>
<tr>
<th>Name of educational component</th>
<th>course code</th>
<th>nr of EC</th>
<th>level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evolutionary Genomics</td>
<td>AM_1231</td>
<td>6</td>
<td>500</td>
</tr>
<tr>
<td>Environments through time</td>
<td>AMU_0022</td>
<td>6</td>
<td>500</td>
</tr>
<tr>
<td>Ecosystem Services and Scientific Advocacy</td>
<td>AM_1053</td>
<td>6</td>
<td>500</td>
</tr>
<tr>
<td>Global Ecology &amp; Biodiversity</td>
<td>AMU_0027</td>
<td>6</td>
<td>500</td>
</tr>
<tr>
<td>Invasion &amp; Conservation Biology</td>
<td>AMU_0026</td>
<td>6</td>
<td>500</td>
</tr>
<tr>
<td>Tropical Ecology</td>
<td>AM_1223</td>
<td>6</td>
<td>500</td>
</tr>
<tr>
<td>Grand Challenges of Human-Ecosphere Interactions</td>
<td>AM_1206</td>
<td>6</td>
<td>500</td>
</tr>
<tr>
<td>Metropole Ecology</td>
<td>AM_1199</td>
<td>6</td>
<td>500</td>
</tr>
<tr>
<td>Microbial Ecology</td>
<td>AM_0008</td>
<td>6</td>
<td>500</td>
</tr>
<tr>
<td>Biotic Interactions</td>
<td>AM_0019</td>
<td>6</td>
<td>500</td>
</tr>
<tr>
<td>Benthic Ecosystems</td>
<td>AMU_0023</td>
<td>6</td>
<td>500</td>
</tr>
<tr>
<td>Abiotic Stress</td>
<td>AMU_0024</td>
<td>6</td>
<td>500</td>
</tr>
</tbody>
</table>

2. If the student wishes to take a different educational component than listed, advance permission must be obtained in writing from the Examinations Board.

### Article 10.4 Practical exercise

The following components can be considered as practical exercises:

<table>
<thead>
<tr>
<th>Name of educational component</th>
<th>course code</th>
<th>nr of EC</th>
<th>level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Project E&amp;E I</td>
<td>AM_1100</td>
<td>30≤EC≤48</td>
<td>600</td>
</tr>
<tr>
<td>Research Project E&amp;E II</td>
<td>AM_1114</td>
<td>30≤EC≤48</td>
<td>600</td>
</tr>
<tr>
<td>Literature Survey E&amp;E</td>
<td>AM_1131</td>
<td>12</td>
<td>500</td>
</tr>
<tr>
<td>Applied Literature Survey E&amp;E</td>
<td>AM_1226</td>
<td>12</td>
<td>500</td>
</tr>
</tbody>
</table>

### Article 10.5 Participation in practical training and tutorials

1. In the case of a practical training, the student must attend at least 100 % of the practical sessions. Should the student attend less than 100 %, he or she must repeat the practical training, or the Examinations Board may have one or more supplementary assignments issued.

2. In the case of a work group with assignments, the student must attend 100 % of the work group sessions. Should the student attend less than 100 %, he/she must repeat the work group, or the examiner of the course may have one or more supplementary assignments issued.

3. In exceptional circumstances, the Examinations Board may, at the request of the student, permit an exemption from this requirement if, in the opinion of the Board, the assessment of the intended skills is also possible with a lesser percentage of participation, with or without the imposition of supplementary requirements.
11. Evaluation and transitional provisions

Article 11.1 Evaluation of the education

The education provided in this programme is evaluated in accordance with the (attached) evaluation plan. The faculty evaluation plan offers the framework.

Article 11.2 Transitional provisions

By way of departure from the Teaching and Examination Regulations currently in force, the following transitional provisions apply for students who started the programme under a previous set of Teaching and Examination Regulations:

- Current Trends in Ecology & Evolution (AM_470507 or AMU_470507) replaces Current Trends in Evolution AMU_0003;
- Ecological Data Analysis (AM_1225) replaces Experimental Design and Analysis AM_470505
- The course Developmental Biology (AM_470613) have been removed from the curriculum.

Advice and approval by the Programme Committee of M Ecology, on 26 March 2019.

Approved by the Faculty Joint Assembly, on 3 September 2019.

Adopted by the board of the Faculty of Science, on 30 August 2019.
Appendix I  Overview of articles that must be included in the OER
Based on Section 7.13, paragraph 2, of the WHW and other Sections of the Act.

Section B1: Programme specific – general provisions

<table>
<thead>
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<th>6. General programme information and characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Article 6.1 Study programme information</td>
</tr>
<tr>
<td>Article 6.2 Teaching formats used and modes of assessment</td>
</tr>
<tr>
<td>[option:] Article 6.3 Academic student counselling</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>7. Further admission requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Article 7.2 Admission requirements</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>8. Interim examinations and results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Article 8.1 Sequence of interim examinations</td>
</tr>
<tr>
<td>[option 1:] Article 8.2 Validity period for results</td>
</tr>
<tr>
<td>[option 2:] Article 8.2 Validity period for results</td>
</tr>
</tbody>
</table>

Section B2: Programme specific – content of programme

<table>
<thead>
<tr>
<th>9. Programme objectives, specializations and exit qualifications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Article 9.1 Workload</td>
</tr>
<tr>
<td>Article 9.2 Specializations</td>
</tr>
<tr>
<td>Article 9.3 Programme objective</td>
</tr>
<tr>
<td>Article 9.4 Exit qualifications</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>10. Curriculum structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Article 10.1 Composition of the programme</td>
</tr>
<tr>
<td>Article 10.2 Compulsory educational components</td>
</tr>
<tr>
<td>[Optional] Article 10.3 Elective educational components</td>
</tr>
<tr>
<td>[Optional] Article 10.4 Practical exercise</td>
</tr>
<tr>
<td>Article 10.5 Participation in practical training and tutorials</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>11. Evaluation and transitional provisions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Article 11.1 Evaluation of the education</td>
</tr>
<tr>
<td>Article 11.2 Transitional provisions</td>
</tr>
</tbody>
</table>
## Appendix II  Overview of rights to prior consultation (advice) and rights to approve OLC and FGV

(Dutch only)

<table>
<thead>
<tr>
<th>Onderwerpen Onderwijs – en Examenregeling (OER) 7.13 paragraph 2 WHW</th>
<th>FGV</th>
<th>OplC</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. de inhoud van de opleiding en van de daaraan verbonden examens</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a1. de wijze waarop het onderwijs in de desbetreffende opleiding wordt geëvalueerd</td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. de inhoud van de afstudeerrichtingen binnen een opleiding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>c. de kwaliteiten op het gebied van kennis, inzicht en vaardigheden die een student zich bij beëindiging van de opleiding moet hebben verworven</td>
<td></td>
<td></td>
</tr>
<tr>
<td>d. waar nodig, de inrichting van praktische oefeningen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>e. de studielast van de opleiding en van elk van de daarvan deel uitmakende onderwijsinheiten</td>
<td></td>
<td></td>
</tr>
<tr>
<td>f. de nadere regels, bedoeld in de artikelen 7.8b, zesde lid, en 7.9, vijfde lid (BSA)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>g. ten aanzien van welke masteropleidingen toepassing is gegeven aan artikel 7.4a, achtste lid (verhoogde studielast)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>h. het aantal en de volgtijdelijkheid van de tentamens alsmede de momenten waarop deze afgelegd kunnen worden</td>
<td></td>
<td></td>
</tr>
<tr>
<td>i. de voluitkijk, deeluitkijk of duale inrichting van de opleiding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>j. waar nodig, de volgorde waarin, de tijdvakken waarbinnen en het aantal malen per studiejaar dat de gelegenheid wordt geboden tot het afleggen van de tentamens en examens</td>
<td></td>
<td></td>
</tr>
<tr>
<td>k. waar nodig, de geldigheidsduur van met goed gevolg afgelegde tentamens, behoudens de bevoegdheid van de examencommissie die geldigheidsduur te verlengen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>l. of de tentamens mondeling, schriftelijk of op een andere wijze worden afgelegd, behoudens de bevoegdheid van de examencommissie in bijzondere gevallen anders te bepalen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>m. de wijze waarop studenten met een handicap of chronische ziekte redelijkerwijs in de gelegenheid worden gesteld de tentamens af te leggen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>n. de openbaarheid van mondeling af te nemen tentamens, behoudens de bevoegdheid van de examencommissie in bijzondere gevallen anders te bepalen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o. de termijn waarbinnen de uitslag van een tentamen bekend wordt gemaakt alsmede of en op welke wijze van deze termijn kan worden afgeweken</td>
<td></td>
<td></td>
</tr>
<tr>
<td>p. de wijze waarop en de termijn gedurende welke degene die een schriftelijk tentamen heeft afgelegd, inzage verkrijgt in zijn beoordeelde werk</td>
<td></td>
<td></td>
</tr>
<tr>
<td>q. de wijze waarop en de termijn gedurende welke kennis genomen kan worden van vragen en opdrachten, gesteld of gegeven in het kader van een schriftelijk afgenomen tentamen en van de normen aan de hand waarvan de beoordeling heeft plaatsgevonden</td>
<td></td>
<td></td>
</tr>
<tr>
<td>r. de gronden waarop de examencommissie voor eerder met goed gevolg afgelegde tentamens of examens in het hoger onderwijs, dan wel voor buiten het hoger onderwijs opgedane kennis of vaardigheden, vrijstelling kan verlenen van het afleggen van een of meer tentamens</td>
<td></td>
<td></td>
</tr>
<tr>
<td>s. waar nodig, dat het met goed gevolg afgelegd hebben van tentamens voorwaarde is voor de toelating tot het afleggen van andere tentamens</td>
<td></td>
<td></td>
</tr>
<tr>
<td>t. waar nodig, de verplichting tot het deelnemen aan praktische oefeningen met het oog op de toelating tot het afleggen van het desbetreffende tentamen, behoudens de bevoegdheid van de examencommissie vrijstelling van die verplichting te verlenen, al dan niet onder oplegging van vervangende eisen</td>
<td></td>
<td></td>
</tr>
<tr>
<td>u. de bewaking van studievoortgang en de individuele studiebegeleiding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>v. indien van toepassing: de wijze waarop de selectie van studenten voor een speciaal traject binnen een opleiding, bedoeld in artikel 7.9b, plaatsvindt (excellentietaject binnen een opleiding)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>w. de feitelijke vormgeving van het onderwijs</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

alle overige onderwerpen die in de OER zijn geregeld maar die niet als zodanig zijn genoemd in art. 7.13 WHW onder a t/m s.

De lettering komt overeen met de lettering van artikel 7.13 lid 2 WHW
### Appendix III  Ordinances VU CvB and Binding Guidelines (richtlijn)

<table>
<thead>
<tr>
<th>Section B1, article:</th>
<th>Concerns:</th>
<th>CvB ordinance / guideline</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.2.1</td>
<td>Admission criteria; at least WO Bachelor’s degree</td>
<td>Richtlijn Bachelor en Masteronderwijs, revised on 6 June 2017</td>
</tr>
<tr>
<td>7.2.3</td>
<td>Additional admission criteria; type of criteria</td>
<td>Richtlijn Bachelor en Masteronderwijs, revised on 6 June 2017</td>
</tr>
<tr>
<td>Section B1, article:</td>
<td>Concerns:</td>
<td>CvB ordinance / guideline</td>
</tr>
<tr>
<td>10.1</td>
<td>Composition programme</td>
<td>Richtlijn Bachelor en Masteronderwijs, revised on 6 June 2017</td>
</tr>
<tr>
<td>10.2</td>
<td>Categorization of components</td>
<td>Richtlijn Bachelor en Masteronderwijs, revised on 6 June 2017</td>
</tr>
</tbody>
</table>