



# **Teaching and Examination Regulations**

MASTER's Degree Programme

M Environment and Resource Management

B. Programme-specific section

Academic year 2017-2018

## **Section B: Programme-specific section**

- 1. General provisions**
  - Article 1.1 Definitions
  - Article 1.2 Degree programme information
  - Article 1.3 Intake dates
  
- 2. Programme objectives and exit qualifications**
  - Article 2.1 Programme objective
  - Article 2.2 Exit qualifications
  
- 3. Further admission requirements**
  - Article 3.1 Admission requirements
  - Article 3.2 Pre-Master's programme
  - Article 3.3 Limited programme capacity [*or: not applicable (n.a.)*]
  - Article 3.4 Final deadline for registration
  - Article 3.5 Dutch language requirement for Dutch-language Master's programmes
  - or*
  - Article 3.5 English language requirement for English-language Master's programmes
  - Article 3.6 Free curriculum
  
- 4. Curriculum structure**
  - Article 4.1 Composition of programme
  - Article 4.2 Compulsory units of study
  - Article 4.3 Practical training [*or: n.a.*]
  - Article 4.4 Electives [*or n.a.*]
  - Article 4.5 Sequence of examinations
  - Article 4.6 Participation in practical training and tutorials [*of: n.a.*]
  - Article 4.7 Maximum exemption [*or: n.a.*]
  - Article 4.8 Validity period for results
  - Article 4.9 Degree
  
- 5. Transitional and final provisions**
  - Article 5.1 Amendments and periodic review
  - Article 5.2 Transitional provisions
  - Article 5.3 Publication
  - Article 5.4 Effective date

## **Section B: Programme-specific section**

### **1. General provisions**

#### **Article 1.1 Definitions**

In addition to the definitions as laid down in article 1 of TER part A, the following abbreviations are also used in TER part B:

<b>Abbreviations and terms</b>	<b>Meaning</b>
CROHO	Centraal Register Opleidingen Hoger Onderwijs Tentamen
EC	European Credit (Studiepunten)
TER	Teaching and Examination Regulation
WHW	Wet op het hoger onderwijs en wetenschappelijk onderzoek
ERM	Environment and Resource Management
GPA	Grade point average

The examination and teaching methods that are used per educational unit can be found in the study guide.

#### **Article 1.2 Degree programme information**

1. The programme Environment and Resource Management with the CROHO number 60045 is offered on a full-time, basis, and the language of instruction is English.
2. The programme has a workload of 60 EC.
3. A unit of study comprises 6 EC or a multiple thereof.

#### **Article 1.3 Intake dates**

The programme is offered starting in the first semester of the academic year only. The intake date mentioned in this paragraph ensure(s) that a programme can be completed within the nominal study duration set for the programme.

### **2. Programme objectives and exit qualifications**

#### **Article 2.1 Programme objective**

The programme aims to deliver ERM graduates who are able to:

1. Assess the relevance of environmental issues in the context of both the natural and the social sciences;
2. Position environmental issues within the context of sustainable development;
3. Carry out in-depth research and analysis of environmental issues, starting from a set of concepts, theories and research methods based on either the natural or the social sciences, or from a twofold approach;
4. Independently set up an investigation into an environmental issue, to carry out this investigation, to report on the progress, and to formulate recommendations for further intervention and research;
5. Make a profound contribution at an academic level to the transition to a sustainable society, on the basis of acquired substantive and methodical knowledge, skills in the field of the integration of knowledge, and reporting and advisory skills;
6. Communicate both in a scientific and a non-scientific context about environmental issues and the way to deal with those issues, to assume scientifically sound points of view in that connection, and to argue those points of view;
7. Critically reflect on environmental issues, the contribution of environmental scientists in that respect, and the associated questions of complexity and uncertainty;
8. Assume the role of an environmental professional, acting as a researcher, an advisor and/or an operative for academic, government or private (profit and non-profit) organizations.

## Article 2.2 Exit qualifications

In all events, a graduate of the degree programme will have the following:

Knowledge and Understanding: The ERM graduate has demonstrated knowledge and understanding of the complexity of environmental problems and solutions that is founded upon and extends or enhances in a multidisciplinary approach the level that is typically associated with Bachelor's level, and that provides a basis or opportunity for originality in developing and/or applying ideas, often within a research context.

1. Has demonstrated knowledge and understanding of the relevant key concepts, theories and methodologies in the field of environment and resource management;
2. Has in-depth knowledge of the theories and methodologies of at least one area in the field of environment and resource management by specializing in (a) ecosystem services and biodiversity (b) energy and climate; (c) water and society; and (d) environmental studies;
3. Understands the concept of sustainable development and the relationships between resource utilization, environmental pressure, production and consumption processes, societal processes and responses and is able to apply combinations of concepts and theories in a local, national or global context;

Applying Knowledge and Understanding: The ERM graduate can apply his/her knowledge, understanding and problem solving abilities in new or unfamiliar environments within broader or multidisciplinary context of sustainability related to environment and resource management; has the ability to integrate knowledge of multiple disciplines with the purpose of handling complexity of environmental problems and designing effective solutions.

4. Can integrate knowledge from various disciplines and understands the interrelationships in sustainable development processes;
5. Is able to understand, and to apply various methods for investigating and assessing environmental problems, for example economic analysis, scenario analysis, stakeholder analysis and spatial analysis and is aware of the value and the scope of these tools;
6. Can independently develop and execute scientific research of societal relevance.
  - a. Is able to formulate a problem based on empirical data or literature study and design a scientific approach for researching and investigating the problem;
  - b. Has the skills to apply methodologies and techniques when conducting independent research;
  - c. Is able to independently acquire and compile relevant information on environmental problems by doing literature study, modelling and/or empirical data collection;
  - d. Is able to analyze and interpret research data and to understand, translate and evaluate these data in the context needed;
  - e. Can formulate recommendations and/or policy advice based on the conclusions of the research;

Making Judgements: The ERM graduate can formulate judgments based on incomplete or limited information, that include reflection on social and ethical responsibilities linked to the application of the students' own knowledge and judgments.

7. Can recognize and acknowledge the different perspectives of relevant stakeholders on society and the environment, and is capable of taking these perspectives into account in a balanced manner;
8. Can reflect on core problems and solutions in the general domain of environment and resource management as well as the domain of the chosen specialization, and

is able to form an opinion and to contribute to both scientific and practitioners' discussions;

9. Can reflect on the trade-offs between economic, social and environmental issues that play a role in environment and resource management;

Communication: The ERM graduate can communicate conclusions, the knowledge and the rationale that underpin these, to an audience of specialists and non-specialists in a clear and unambiguous manner.

10. Can operate in diverse (e.g. multidisciplinary, international and/or intercultural) teams at a level that is at the frontier of research in Environment and Resource Management by active and constructive participation in discussions, debates, and meetings;

11. Can clearly communicate in English, both orally and in writing, while making appropriate use of visual material, including digital aids;

- a. To the scientific community, the conclusions from their research, and the knowledge and rationale underpinning these. Communication may be in the form of a research report, poster presentation, or oral presentation;
- b. To a general audience, the purpose of their research, their findings and the significance of these. Communication may be in the form of pitches, stories and debates.

Learning Skills: Has the learning skills to continue to study in a manner that may be largely self-directed and autonomous.

12. Has the knowledge of and competences for working in a multidisciplinary team, in particular the ability to compare and integrate insights and approaches from various environmental scientific disciplines;
13. Is able to reflect critically, but constructively on one's own as well as peers' papers, presentations and general functioning in groups, and is able to accept, consider and put to advantage the feedback of others;
14. Understands his/her personal stronger and weaker points, affinities, development potential and preferences in relation to the discipline chosen and the related professional potential;
15. Can familiarize oneself with new topics related to the field of study within a short timeframe.

### **3. Further admission requirements**

#### **Article 3.1 Admission requirements**

1. Admission to the Master's programme is possible for an individual who can demonstrate that he/she has the following knowledge, understanding and skills at the Bachelor's degree level, obtained at an institution of academic higher education. First degrees may be in both natural and social sciences; however, the previous study programme of students must show affinity to environmental problems. Criteria for admission are:
  - BSc degree from a well-regarded university;
  - GPA of 7/10 and higher or equivalent ;
  - English language proficiency, including sufficient scores for each test component as specified in Article 3.5;
  - Proven interest in environmental issues by courses taken and/or work experience, expressed in a motivation statement or curriculum vitae;

- Other information such as reference letters, course descriptions, students thesis or reports.
2. The Admissions Board will investigate whether the interested person meets the admission requirements.
  3. When the programme commences, the candidate must have fully completed the Bachelor's programme or pre-Master's programme allowing admission to this Master's programme.

#### Article 3.2 Pre-Master's programme

1. Students with a Bachelor's degree 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.
2. The pre-Master's programme comprises 30 EC and is made up of 5 courses

E_IBA3_GCS	Grand Challenges for Sustainability	Period 1	6 EC
AB_1229	Governance of Global Sustainability	Period 1	6 EC
AB_1230	Sustainability and environmental change	Period 2	6 EC
E_IBA3_SSCM	Sustainable Supply Chain Management	Period 2	6 EC
AB_1231	Designing Solutions for Global Sustainability	Period 3	6 EC

3. Proof of a successfully completed pre-Master's programme and fulfilment of the English proficiency requirements, including sufficient scores for each test component as specified in article 3.5, serves as proof of admission to the Master's programme specified within it in the subsequent academic year.

#### Article 3.3 Limited programme capacity

Not applicable

#### Article 3.4 Final deadline for registration

A candidate must submit a request to be admitted to the programme through Studielink before 31 May in the case of Dutch students and EU/EEA student who do not need the services of the international office. Non-EU/EEA students with an international degree who need services from the International Office (housing (optional) and visa procedure) and EU/EEA students with an international degree who need services of the International Office (housing) need to apply before 1 April .Under exceptional circumstances, the Examinations Board may consider a request submitted after this closing date.

#### Article 3.5 English language requirement for English-language Master's programmes

1. The proficiency requirement in English as the language of instruction can be met by the successful completion of one of the following examinations or an equivalent:
  - IELTS: 6.5
    - Minimum Sub-score Listening 6.
    - Minimum Sub-score Reading 6.0
    - Minimum Sub-score Writing 6.0
    - Minimum Sub-score Speaking 6.0
  - TOEFL paper based test: 580
  - TOEFL internet based test: 92-93
    - Minimum Sub-score Reading 18
    - Minimum Sub-score Listening 19
    - Minimum Sub-score Speaking 19
    - Minimum Sub-score Writing 23

- Cambridge Advanced English: A, B or C.
2. Exemption is granted from the examination in English referred to in the first paragraph to students who:
    - met the requirements of the English language proficiency TOEFL ITP, with at least the scores specified in paragraph 1, or
    - had previous education in secondary or tertiary education in an English-speaking country as listed on the VU website, or
    - have an English-language 'international baccalaureate' diploma

#### Article 3.6 Free curriculum

1. Subject to certain conditions, the student has the option of compiling a curriculum of his/her own choice which deviates from the curricula prescribed by the programme.
2. The concrete details of such a curriculum must be approved beforehand by the most appropriate Examinations Board.
3. The free curriculum is put together by the student from the units of study offered by Vrije Universiteit Amsterdam or another institution of higher education and must at least have the size, breadth and depth of a regular Master's programme.
4. The following conditions must have been met in order to be eligible for the Master's degree:
  - a. at least 40 EC must be obtained from the regular curriculum,
  - b. the level of the programme must match the objectives and exit qualifications that apply for the programme for which the student is enrolled.

## 4. Curriculum structure

#### Article 4.1 Composition of programme

1. The programme consists of the following components:
  - a. compulsory units of study (48 EC)
  - b. specialisation tracks (12 EC)

#### Article 4.2 Compulsory units of study

Abbreviations of teaching method and type of test are defined in Article 1.1.

The compulsory units of study are:

<b>AM_ERM-V</b>		<b>MSc ERM, compulsory courses</b>			
<b>Course code</b>	<b>Name</b>	<b>EC</b>	<b>Period</b>	<b>Level</b>	
AM_1049	Causes and Consequences of Environm. Ch.	6	1	400	
AM_1135	Methods of Environment and Res. Man.	6	4	400	
AM_1136	Research Workshops	6	4	400	
AM_468017	Research Project ERM	18	Ac. Year	500	
AM_468020	Environmental Economics for ERM	6	2	400	
AM_468021	Environmental Policy	6	2	400	
<b>AM_ERM-EC</b>		<b>MSc ERM spec. Energy and Climate</b>			
<b>Course code</b>	<b>Name</b>	<b>EC</b>	<b>Period</b>	<b>Level</b>	
AM_1155	Energy and Climate Governance	6	3	400	
AM_468018	Sustainable Energy Analysis	6	1	400	
<b>AM_ERM-EcoSe</b>		<b>MSc ERM spec. Ecosystems Services</b>			
<b>Course code</b>	<b>Name</b>	<b>EC</b>	<b>Period</b>	<b>Level</b>	
AM_468024	Value of Ecosystem Services	6	1	400	
AM_468025	Governance of Ecosystem Services	6	3	400	
<b>AM_ERM-WS</b>		<b>MSc ERM spec. Water and Society</b>			
<b>Course code</b>	<b>Name</b>	<b>EC</b>	<b>Period</b>	<b>Level</b>	
AM_1192	Water Governance	6	3	400	
AM_468023	Water Management	6	1	400	

#### MSc ERM spec. Environmental Studies

At least 6 EC from the courses offered in the other three specialisation pathways. Remaining 6 EC can be chosen from the courses offered in the other three specialisation pathways and the electives mentioned under article 4.4 (Electives).

#### Article 4.3 Practical exercise

Not applicable.

#### Article 4.4 Electives

The student can take the following electives:

<b>AM_ERM-EnvSK optional modules</b>				
AM_1124	Modern Climate and Geo-ecosystems	6	1	400
AM_450004	Climate Modelling	6	3	400
	Sedimentary Environments and Climate			
AM_450330	Ar.	6	1	400
S_SIGEG	Selected Issues: GEG	6	2	500
S_TAIR	Theories and Approaches in IR	6	1	400
	Workshop Global Environmental			
S_WGEG	Governance	12	4	600
AM_450014	Ecohydrology	6	1	400
	Ecosystem Services and Scientific			
AM_1053	Advocacy	6	1	
	Current Sustainable Energy			
X_422582	Technologies	6	3	500
AM_470590	Science Museology	6	3	500
E_STR_ECC	Economics of Climate Change	6	4	400

<b>AM_ERMenvSVk choose at least one of these courses</b>				
AM_450188	Energy and Climate Governance	6	3	400
AM_468018	Sustainable Energy Challenges	6	1	400
AM_468023	Water Management	6	1	400
AM_468024	Value of Ecosystem Services	6	1	400
AM_468025	Governance of Ecosystem Services	6	3	400
AM_1155	Water Governance	6	3	400
AM_468018	Sustainable Energy Analysis	6	1	400

If the student wishes to take a different course than the units of study listed, advance permission must be obtained in writing from the Examinations Board.

#### Article 4.5 Sequence of examinations

Students may participate in examinations for the units below only if they have passed the examination or examinations for the units mentioned:

- Research Project: after passing 18 EC in the ERM curriculum on February 15, as well as participation in the "Methods of Environmental and Resource Management" course and the "Research Workshops" course.

#### Article 4.6 Participation in practical exercise 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/she must repeat the practical training, or the examiner may have one or more supplementary assignments issued.
2. In the case of tutorials with assignments, the student must attend at least 100 % of the tutorials. Should the student attend less than 100 %, he/she must repeat the study group, or the Examinations Board 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.

#### Article 4.7 Maximum exemption

A maximum of 18 EC of the curriculum can be accumulated through granted exemptions.

#### Article 4.8 Validity period for results

As laid down in article 4.8 of TER part A.



**Article 4.9 Degree**

Students who have successfully completed their Master's final examination are awarded a Master of Science degree. The degree awarded is stated on the diploma. If it is a joint degree, this will also be stated on the diploma.

**5. Transitional and final provisions****Article 5.1 Amendments and periodic review**

1. Any amendment to the Teaching and Examination Regulations will be adopted by the faculty board after taking advice, and if necessary approval by the Programme Committee concerned. A copy of the advice will be sent to the authorized representative advisory body.
2. An amendment to the Teaching and Examination Regulations requires the approval of the authorized representative advisory body if it concerns components not related to the subjects of Section 7.13, paragraph 2 sub a to g and v of the WHW and the requirements for admission to the Master's programme.
3. An amendment to the Teaching and Examination Regulations can only pertain to an academic year that is already in progress if this does not demonstrably damage the interests of students.

**Article 5.2 Transitional provisions**

Notwithstanding the current Teaching and Examination Regulations, the following transitional provisions apply for students who started the programme under a previous set of Teaching and Examination Regulations:

**1. Compulsory components**

- a. The compulsory components below have been replaced in academic year 2014-2015.

<b>New component</b>	<b>Former component</b>
AM_1135 Methods of Environment and Resources Management (6 EC) <i>and</i> AM_1136 Research Workshops (6 EC)	AM_468012 Environmental and Energy Policy Tools (12 EC)

From 1 September 2014 on students obtain the new courses, unless they passed the former course.

Students who started their programme before academic year 2014-2015 are, under specified conditions, permitted to replace compulsory courses by another compulsory course from their former examination programme.

- b. For students who started in 2012-2013 or earlier:

<b>Compulsory course</b>	<b>Permitted replacement course</b>
AM_1049 Causes and Consequences of Environmental Change (6 EC)	AM_468011 Sustainability and Growth (6 EC)

From 1 September 2013 students obtain the new course, unless they passed the former

**2. Specialisation course**

- a. The specialization course below has been replaced in academic year 2015-2016.

<b>New component</b>	<b>Former component</b>
AM_1155 Energy Governance (6 EC)	AM_468019 Energy system transition (6 EC)

From 1 September 2015 on students obtain the new course, unless they passed the former course.

- b. The specialization course below has been replaced in academic year 2016-2017.

<b>New component</b>	<b>Former component</b>
AM_1192 Water Governance (6 EC)	AM_450188 Climate and Policy (6 EC)
AM_468023 Water Management (6 EC)	AM_468023 Water and Policy (6 EC)

AM_450188 Energy and Climate Governance (6 EC)	AM_1155 Energy Governance (6 EC)
--	----------------------------------

From 1 September 2016 on students obtain the new course, unless they passed the former course.

### 3. Electives

a. The electives below have been replaced in academic year 2014-2015.

New component	Former component
AM_1124 Modern Climate and Geo-ecosystems (6 EC)	AM_450185 Modern Climate Systems (3 EC) and AM_450313 Modern Geo-ecosystems (3 EC)

From 1 September 2014 on students obtain the new course, unless they passed the former course.

b. The courses below are no longer available in the programme but are still elective components for students who started their programme before academic year 2014-2015 and have passed the courses' examinations:

*Courses ended in academic year 2013-2014*

- AM\_1015 Sustainable Land Management (6 EC)

- AM\_450137 Aquatic Ecology (6 EC)

- AM\_1029 International development issues in the context of sustainable development (6EC)

### 3. Total of 60 EC

The final examination programme should always total at least 60 EC.

#### Article 5.3 Publication

1. The faculty board will ensure the appropriate publication of these Regulations and any amendments to them.
2. The Teaching and Examination Regulations will be posted on VUnet.

#### Article 5.4 Effective date

These Regulations enter into force with effect from 1 September 2017

Advice from Programme Committee, on 20 March 2017

Approved by authorized representative advisory body, on 6 July 2017

Adopted by the Faculty Board, on 21 July 2017

## Appendix I

List of articles that must be included in the OER pursuant to the WHW (articles in framed boxes):

### Section A

Art. 1.1	7.13, para 1, WHW
Art. 2.1	7.13, para 2 sub w
Art. 3.2	7.13, para 2 sub e
Art. 4.2	7.13, para 2 sub h and l
Art. 4.3	7.13, para 2 sub n
Art. 4.4	7.13, para 2 sub o
Art. 4.5	7.13, para 2 sub j, h
Art. 4.7	7.13, para 2 sub r
Art. 4.8	7.13, para 2 sub k
Art. 4.9	7.13, para 2 sub p
Art. 4.10	7.13, para 2 sub q
Art. 4.11	7.13, para 2 sub a
Art. 5.1	7.13, para 2 sub u
Art. 5.2	7.13, para 2 sub m

### Section B

Art. 1.2	7.13, para 2 sub i
Art. 2.1	7.13, para 1 sub b, c
Art. 2.2	7.13, para 2 sub c
Art. 3.1	7.25, para 4
Art. 4.1	7.13, para 2 sub a
Art. 4.2	7.13, para 2 sub e, h, j, l
Art. 4.3	7.13, para 2 sub t
Art. 4.4	7.13, para 2 sub e, h, j, l
Art. 4.5	7.13, para 2 sub s
Art. 4.6	7.13, para 2 sub d
Art. 4.8	7.13, para 2 sub k