AALBORG UNIVERSITET

# CURRICULUM FOR THE MASTER'S PROGRAMME IN ENVIRONMENTAL SCIENCE, 2022

MASTER OF SCIENCE (MSC) IN TECHNOLOGY
AALBORG

Link to this studyline

Link(s) to other versions of the same line:

Master of Science (MSc) in Technology (Environmental Science), 2020
Master of Science (MSc) in Technology (Environmental Science), 2019

# TABLE OF CONTENTS

## § 1: PREFACE

Pursuant to consolidation Act 778 of August 7, 2019 on Universities (the University Act), the following is established.

The programme also follows the Examination Policies and Procedures incl. the Joint Programme Regulations for Aalborg University.

## § 2: BASIS IN MINISTERIAL ORDERS

The Master's programme is organised in accordance with the Ministry of Higher Education and Science's Order no. 2285 of December 1, 2021 on Full-time University Programmes (the University Programme Order) and Ministerial Order no. 2271 of December 1, 2021 on University Examinations (the Examination Order). Further reference is made to Ministerial Order no. 104 of January 24, 2021 (the Admission Order) and Ministerial Order no. 114 of February 3, 2015 (the Grading Scale Order).

## § 3: CAMPUS

The programme is offered in Aalborg.

## § 4: FACULTY AFFILIATION

The Master's programme falls under The Faculty of Engineering and Science, Aalborg University.

## § 5: STUDY BOARD AFFILIATION

The Master's programme falls under Study Board of Chemistry and Bioscience

## § 6: AFFILIATION TO CORPS OF EXTERNAL EXAMINERS

The programme is affiliated with the external evaluator corps: Nationwide engineering examiners/Chemistry.

## § 7: ADMISSION REQUIREMENTS

There are no Bachelors from Aalborg University with a legal right of admission (retskrav).

**Applicants without legal right of admission (retskrav)**

- Bachelor of Science in Environmental Science, Aalborg University
- Bachelor of Science in Biology, Aalborg University
- Bachelor of science byggeri og anlæg, vand og miljø, Aalborg University
- Bachelor of science in Biology, Copenhagen University
- Bachelor of science in Biology, University of Southern Denmark
- Bachelor of science in Biology, Aarhus University
- Bachelor of science in agrobiologi, Aarhus University
- Bachelor of science in Environmental Biology, Roskilde University
- Bachelor of science in naturressourcer, Copenhagen University
- Bachelor of science in vand, bioressourcer og miljømanagement, Technical University of Denmark

All applicants without a legal claim must prove that their English language qualifications is equivalent to level B (Danish level) in English

## § 8: THE PROGRAMME TITLE IN DANISH AND ENGLISH

The Master's programme entitles the graduate to the title Cand.tech. i miljøvidenskab. The English title is: Master of Science (MSc) in Technology (Environmental Science).

## § 9: PROGRAMME SPECIFICATIONS IN ECTS CREDITS

The Master's programme is a 2-year, research-based, full-time study programme. The programme constitutes a total of 120 ECTS credits.

## § 10: RULES CONCERNING CREDIT TRANSFER (MERIT), INCLUDING THE POSSIBILITY FOR CHOICE OF MODULES THAT ARE PART OF ANOTHER PROGRAMME AT A UNIVERSITY IN DENMARK OR ABROAD

The Study Board can approve that passed programme elements from other educational programmes at the same level replaces programme elements within this programme (credit transfer).

Furthermore, the Study Board can, upon application, approve that parts of this programme is completed at another university or a further education institution in Denmark or abroad (pre-approval of credit transfer).

The Study Board's decisions regarding credit transfer are based on an academic assessment.

## § 11: EXEMPTIONS

The Study Board's possibilities to grant exemption, including exemption to further examination attempts and special examination conditions, are stated in the Examination Policies and Procedures published at this website: https://www.studyservice.aau.dk/rules

## § 12: RULES FOR EXAMINATIONS

The rules for examinations are stated in the Examination Policies and Procedures published at this website: https://www.studyservice.aau.dk/rules

## § 13: RULES CONCERNING WRITTEN WORK, INCLUDING THE MASTER'S THESIS

In the assessment of all written work, regardless of the language it is written in, weight is also given to the student's formulation and spelling ability, in addition to the academic content. Orthographic and grammatical correctness as well as stylistic proficiency are taken as a basis for the evaluation of language performance. Language performance must always be included as an independent dimension of the total evaluation. However, no examination can be assessed as 'Pass' on the basis of good language performance alone; similarly, an examination normally cannot be assessed as 'Fail' on the basis of poor language performance alone.

The Study Board can grant exemption from this in special cases (e.g., dyslexia or a native language other than Danish).

The Master's Thesis must include an English summary. If the project is written in English, the summary can be in Danish. The summary is included in the evaluation of the project as a whole.

## § 14: REQUIREMENTS REGARDING THE READING OF TEXTS IN A FOREIGN LANGUAGE

It is assumed that the student can read academic texts in his or her native language as well as in English and use reference works etc. in other European languages.

## § 15: COMPETENCE PROFILE ON THE DIPLOMA

The following competence profile will appear on the diploma:

A Candidatus graduate has the following competency profile:

A Candidatus graduate has competencies that have been acquired via a course of study that has taken place in a research environment.

A Candidatus graduate is qualified for employment on the labour market based on his or her academic discipline as well as for further research (PhD programmes). A Candidatus graduate has, compared to a Bachelor, developed his or her academic knowledge and independence so as to be able to apply scientific theory and method on an independent basis within both an academic and a professional context.

## § 16: COMPETENCE PROFILE OF THE PROGRAMME

**Knowledge**

A Master in Environmental Science has knowledge within environmental science that in selected areas such ecosystem engineering, ecosystem services, soil science, pollution and remediation of ecosystems, and environmental management is based on the highest international research.

A Master in Environmental Science is able, on a scientific basis, to understand and reflect over the knowledge in the above-mentioned areas and to identify scientific problems

**Skills**

A Master in Environmental Science masters the scientific methods and tools of the above-mentioned areas and master the general skills that are tied to work within environmental science and technology.

A Master in Environmental Science can evaluate and select among the scientific theories, methods, tools and general skills of environmental science and technology and environmental management, and set up, on a scientific basis, new analysis and solution models

A Master in Environmental Science can communicate research-based knowledge and discuss professional and scientific problems with both peers and non-specialists.

**Competencies**

A Master in Environmental Science is able to develop methods and models for environmental management issues, and evaluate and solve assignments concerning environmental and management issues in private and public enterprises.

A Master in Environmental Science can independently take responsibility for own professional development and specialization.

A Master in Environmental Science can analyze, identify and formulate problems on a scientific basis and subsequently work problem-oriented on understanding, further developing and finding solutions both individually and in collaboration with other professionals.

A Master in Environmental Sciencecan use digital solutions for data collection and storage, statistical data analysis, data visualization, modeling and simulation, for presentation of theories, hypotheses and results in writing as well as orally, as well as for organizing and implementing collaboration in project groups and with external partners.

A Master in Environmental Science can perform digital search of relevant professional and research literature and knowledge in databases as well as assess the validity of digital sources and use digital platforms for self-study and knowledge sharing as well as for professional discussion and communication.

## § 17: STRUCTURE AND CONTENTS OF THE PROGRAMME

The program is structured in modules and organised as a problem-based study. A module is a program element or a group of program elements, which aims to give students a set of professional skills within a fixed time frame specified in ECTS credits, and concluding with one or more examinations within specific exam periods. Examinations are defined in the curriculum.

The program is based on a combination of academic, problem-oriented and interdisciplinary approaches and organized based on the following work and evaluation methods that combine skills and reflection:

- Lectures
- Project work
- Exercises (individually and in groups)
- eacher feedback
- Scientific reflection

**AAU Micro**

AAU Micro are small e-learning modules of limited, well-defined scope. AAU Micro modules are extra-curricular but may be employed to support learning in curricular course and project modules.

## § 18: OVERVIEW OF THE PROGRAMME

All modules are assessed through individual grading according to the 7-point scale *or* Pass/Fail. All modules are assessed by external examination (external grading) or internal examination (internal grading or by assessment by the supervisor only).

| Offered as: 1-professional | | | | | | |
|---|---|---|---|---|---|---|
| Module name | Course type | ECTS | Applied grading scale | Evaluation method | Assessment method | Language |
| 1 SEMESTER | | | | | | |
| Sustainability in the Environment (K-BIO-K1-54) | Project | 15 | 7-point grading scale | Internal examination | Oral exam based on a project | English |
| Environmental Soil Science and Geostatistics (B-VM-K1-3) | Course | 5 | Passed/Not Passed | Internal examination | Written or oral exam | English |
| Ecosystem modelling (K-BIO-K1-60) | Course | 5 | 7-point grading scale | Internal examination | Written or oral exam | English |
| Experimental Hydrology (B-VM-K1-2) | Course | 5 | 7-point grading scale | Internal examination | Written or oral exam | English |
| 2 SEMESTER | | | | | | |
| Climate Change and Ecosystem Analysis (K-BIO-K2-58) | Project | 15 | 7-point grading scale | Internal examination | Oral exam based on a project | English |
| Marine Pollution (K-BIO-K2-6) | Course | 5 | 7-point grading scale | Internal examination | Written or oral exam | English |
| Global Change Biology (K-BIO-K1-13) | Course | 5 | 7-point grading scale | Internal examination | Written or oral exam | English |
| Electives 2nd semester | Course | 5 | | | | |
| 3 SEMESTER Option A | | | | | | |
| Project-Oriented Study in an External Organisation (K-BIO-K3-66A) | Project | 30 | 7-point grading scale | External examination | Oral exam based on a project | English |
| 3-4 SEMESTER Option B | | | | | | |
| Master's Thesis (K-KMB-K4-4A) | Project | 60 | 7-point grading scale | External examination | Master's thesis/final project | English |
| 4 SEMESTER | | | | | | |
| Master's Thesis (K-KMB-K4-5A) | Project | 30 | 7-point grading scale | External examination | Master's thesis/final project | English |

| Electives 2nd semester | | | | | | |
|---|---|---|---|---|---|---|
| Module name | Course type | ECTS | Applied grading scale | Evaluation Method | Assessment method | Language |
| Limnology (K-BIO-B6-16A) | Course | 5 | 7-point grading scale | Internal examination | Written or oral exam | English |

| | | | | | | |
|---|---|---|---|---|---|---|
| Danish Biotopes – Evaluation and Management (K-BIO-K2-7) | Course | 5 | Passed/Not Passed | Internal examination | Active participation/continuous evaluation | Danish and English |
| Basic Biological and Chemical Waste Water Treatment (K-BIO-B6-53) | Course | 5 | 7-point grading scale | Internal examination | Written or oral exam | English |

All modules in the Master's degree programme are taught in English. As an exception, the elective modules *Fundamentals of Wastewater Treatment* and *Danish Biotopes* are taught in Danish.

The study board can cancel elective modules if the number of enrolled students is low. If some of the electives are canceled, the students will be offered other options.

## § 19: ADDITIONAL INFORMATION

All students who have not participated in Aalborg University's PBL introductory course during their Bachelor's degree must attend the introductory course "Problem-based Learning and Project Management". The introductory course must be approved before the student can participate in the project exam. For further information, please see the www.en.bio.aau.dk.

## § 20: COMMENCEMENT AND TRANSITIONAL RULES

The curriculum is approved by the dean and enters into force as of 1st September, 2022.

The Study Board does not offer teaching after the previous curriculum from 2020 after the summer examination examination 2023.

The Study Board will offer examinations after the previous curriculum, if there are students who have used examination attempts in a module without passing. The number of examination attempts follows the rules in the Examination Order.

## § 21: AMENDMENTS TO THE CURRICULUM AND REGULATIONS

The Vice-dean has on November 24, 2023, approved an addition of Micro Modules in section 17, valid from spring 2024.