



Programme Syllabus:

Master by Research in Environmental Engineering, 120 credits

General data

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| Code | TMMÖA |
| Cycle | Second cycle |
| Ref no | MIUN 2009/97 |
| Credits | 120 |
| Answerable department | Ecotechnology and Sustainable Building Engineering |
| Answerable faculty | Faculty of Science, Technology and Media |
| Established | 2019-10-28 |
| Date of change | 2020-11-08 |
| Version valid from | 2020-08-15 |

Aim

The objective of the programme is to provide an increased knowledge within the selected specialization by planning and carrying out research projects in collaboration with other researchers and, if any, external partners.

Programme objectives

OUTCOMES ACCORDING TO THE HIGHER EDUCATION ORDINANCE FOR A MASTER OF ARTS/SCIENCE (120 CREDITS)

Knowledge and understanding

For a Master of Arts/Science (120 credits) the student shall have:

- demonstrated knowledge and understanding in the main field of study, including both broad knowledge of the field and a considerable degree of specialised

knowledge in certain areas of the field as well as insight into current research and development work, and

- demonstrated specialised methodological knowledge in the main field of study.

Competence and skills

For a Master of Arts/Science (120 credits) the student shall have:

- demonstrated the ability to critically and systematically integrate knowledge and analyse, assess and deal with complex phenomena, issues and situations even with limited information
- demonstrated the ability to identify and formulate issues critically, autonomously and creatively as well as to plan and, using appropriate methods, undertake advanced tasks within predetermined time frames and so contribute to the formation of knowledge as well as the ability to evaluate this work
- demonstrated the ability in speech and writing both nationally and internationally to report clearly and discuss his or her conclusions and the knowledge and arguments on which they are based in dialogue with different audiences, and
- demonstrated the skills required for participation in research and development work or autonomous employment in some other qualified capacity.

Judgement and approach

For a Master of Arts/Science (120 credits) the student shall have:

- demonstrated the ability to make assessments in the main field of study informed by relevant disciplinary, social and ethical issues and also to demonstrate awareness of ethical aspects of research and development work
- demonstrated insight into the possibilities and limitations of research, its role in society and the responsibility of the individual for how it is used, and
- demonstrated the ability to identify the personal need for further knowledge and take responsibility for his or her ongoing learning.

OUTCOMES FOR MASTER BY RESEARCH IN ENVIRONMENTAL ENGINEERING

After having completed the programme the student should:

- based in a given problem within the subject area be able to choose an appropriate method and working procedure
- be able to analyze a problem and based on the analysis plan and document knowledge procurement and realization of the project
- have developed the ability to understand and evaluate the possibilities and limitations of different methods
- independently be able to plan, realize and communicate the results of a work of considerable extent.

Content

Environmental Engineering BA/MA, 30 credits, or courses necessary for the individual student's choice of subject

Environmental Science MA, Scientific Communication, 7.5 credits

Environmental Engineering MA, Problem formulation and Planning, 7.5 credits

Environmental Engineering MA, Methods Development and Experimentation, 15 credits

Environmental Engineering MA Scientific Project I, 15 credits

Environmental Engineering MA, Scientific Project II, 15 credits

Environmental Engineering MA, Individual Assignment, 30 credits

Entry requirements

English course 6/English course B from Swedish Upper Secondary School (Gymnasium) or the equivalent.

Bachelor of Science, Bachelor of Science in Engineering or equivalent (at least 180 credits/180 ECTS), with at least 45 credits (45 ECTS) relevant for the specialization in Environmental Engineering.

Eligibility for available research project is assessed on the basis of the applicant's bachelor's degree project/thesis, a letter of motivation, and, where appropriate, through other documented experience relevant to the subject.

Description of programme

The degree programme runs full-time for two years and is carried out for the most part in the form of research work in a research group.

Selection rules and procedures

Alternative selection, see heading "Other information".

Programme with restricted admissions

Special prerequisites for courses are given in the respective course specifications.

Teaching and examination

Teaching is full-time in the form of research work in a research group. The language of instruction is English.

The teaching and examination procedures are stated in the syllabus of each course.

Title of qualification

Degree of Master of Arts/Science (120 credits)

Masterexamen med huvudområdet miljöteknik, translated into Master of Science (120 credits) with a major in Environmental Engineering.

Other information

During the programme course names, contents, credit units and schedules may change.

CRITERIA FOR ALTERNATIVE SELECTION

- The applicant's qualifications in relation to the chosen subject
- Letter of motivation
- Scientific quality of Bachelor's thesis, or other documented scientific work relevant to the planned field of research
- The applicant's analytical ability and English writing skills