Master´s Programme in Science for Sustainable Development

120 credits

Master´s Programme in Science for Sustainable Development

F7MSU

Valid from: 2018 Autumn semester

Determined by
Board of the Faculty of Arts and Sciences

Date determined
2006-12-08

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2008-11-03; 2009-11-20; 2010-11-10; 2012-08-17; 2013-06-10; 2014-06-16; 2017-11-24

Introduction

The Master's programme in Science for Sustainable Development is a two-year, full-time study program that provides a strong basis for a professional career related to issues regarding sustainable development and environmental change at international and national agencies, universities, municipalities, non-governmental organisations and international corporations. The programme also fulfils the students' eligibility for doctoral programmes in related fields.

The MSc programme is designed to provide students with knowledge on environmental change and the challenges of creating a sustainable society. On completion of the program the students will have developed an independent and critical approach to environmental science and sustainability studies and have acquired skills and knowledge that will enable them to actively work in and contribute to developments in these fields, either as practitioners or researchers. The students will:

- develop the capacity to understand, empirically and theoretically, implications of environmental change, as well as sustainability/environmental aspects in broad temporal and spatial terms,
- attain understanding of and skills to use a range of analytical tools for examining contemporary sustainability studies/environmental issues,
- acquire an in-depth understanding of sustainability studies/environmental issues,
- train their ability to critically approach current challenges for sustainable development from various perspectives,
- develop the capacity to conduct independent analyses of sustainability studies/environmental issues, and to competently present analytical results.

Aim

Learning outcomes

Knowledge and understanding

On completion of the programme students should be able to:

- demonstrate knowledge and understanding in Environmental Science, including both an overview of the field and specialised knowledge in certain areas of the field as well as insight into current research and development work, and
- demonstrate specialised methodological knowledge in Environmental Science.

Competence and skills

On completion of the programme students should be able to:

- demonstrate the ability to integrate knowledge and analyse, assess and deal with complex phenomena, issues and situations even with limited information
- demonstrate the ability to identify and formulate issues autonomously as well as to plan and, using appropriate methods, undertake advanced tasks within predetermined time frames
- demonstrate the ability in speech and writing 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
- demonstrate the skills required for participation in research and development work or employment in some other qualified capacity.

Judgement and approach

On completion of the programme the students should be able to:

- demonstrate the ability to make assessments in Environmental Science informed by relevant disciplinary, social and ethical issues and also to demonstrate awareness of ethical aspects of research and development work
- demonstrate insight into the possibilities and limitations of research, its role in society and the responsibility of the individual for how it is used, and
- demonstrate the ability to identify the personal need for further knowledge and take responsibility for his or her ongoing learning.
- capability to judge which types of information various methods can provide, and to critically assess scientific results in terms of validity and reliability;
- capability to understand professional, societal and ethical responsibilities associated with sustainable development;
- capability to critically assess and approach current challenges for sustainable development from various perspectives.

Content

Environmental issues are inherently complex and constantly changing. To address environmental issues with the aim of sustainable development requires taking an interdisciplinary perspective. Core courses in this Master's program are designed with this perspective in order to broaden the students' understanding of questions and challenges related to sustainable development. The program also provides students with opportunities to deepen knowledge in more specific areas of interest. Students also learn how to use relevant analytical tools for studies of environmental change.

We offer courses that take up the challenges of assessing and addressing environmental resource use and challenges as they are impacted upon by environmental variability and change. Climate science and policy, resource management e.g. energy, food, as well as the social, political, biogeochemical and ecological components of environmental issues, are central themes in the program. Students will also learn to critically evaluate common concepts, scientific approaches, use and assess methods, and tools commonly used within social and natural science. The final semester of the program consists of a thesis project where students deepen their knowledge and skills within a selected area of specialization.

As an international programme, the Master's programme in Science for Sustainable Development offers the possibility to carry out studies abroad for instance to perform an internship or the MSc thesis.

Semester 1

Critical perspectives on Sustainable development (7.5 credits)

An introduction to sustainable development as a political idea and an analytical concept.

Environmental and Resource Use Challenges (7.5 credits)

The course has a focus on the historic development of environmental changes induced by human use and consumption of energy, water, food and land and the challenges these changes and uses imply for sustainable development.

Climate Science and Policy (15 credits)

The course focus on the following: the basic science on climate change and biogeochemical processes, and the policy of climate change and climate change assessments.

Semester 2

Analytical Frameworks in Sustainability Studies (15 credits)

Theoretical and methodological aspects, as well as applications, of relevant natural and social science based analytical approaches to environmental and sustainability issues.

Sustainable Resource Management (15 credits)

Sustainability aspects of resource management, primarily with focus on energy and water are studied from different perspectives.

Semester 3

Designing Environmental Studies in Sustainable Development (7.5 credits)

Comprehensive course on research design with a specific focus on the planning process of a Master's thesis in Environmental Sciences.

Specialization covering 22.5 credits.

Semester 4

Master´s Thesis (30 credits)
The Master's thesis is to be written in a selected area of specialization. Students select their thesis topic and methods of research and analysis in consultation with a thesis supervisor and the course coordinator.

Teaching and working methods

Established concepts, novel and proven strategies and models of research will be penetrated through lectures, seminars, workshops, experimental studies, computer laboratory work, role-play exercises and field work.

Students will gain the opportunity to deepen their interdisciplinary perspective which entails understanding how different aspects of natural and social sciences can contribute to sustainable development.

Examination

Examination forms vary between courses, but in general, active participation in group work and seminars, written assignments and oral presentations are required. A description of the examination for each course can be found in the respective syllabus. Students who have failed an examination are normally allowed to retake it on two additional occasions. Those who have passed an examination may not retake it to improve grades.

In the completed Master's thesis the student should demonstrate ability of independent and analytical thinking, logical reasoning about the results obtained and an ability to critically discuss these results in relation to relevant scientific theories and other empirical studies. The work should be well structured and illustrate the correct performance of methods and analysis and use of reference literature. Each student should present and defend her/ his thesis work in an open seminar in the presence of an assigned opponent.

Grades

Grades given are stipulated in each of the course syllabi.

Entry requirements

Bachelor's degree equivalent to a Swedish Kandidatexamen within natural sciences, social sciences, health sciences, humanities or engineering or equivalent, that relates to environmental, social or economic aspects of sustainable development.

English corresponding to the level of English in Swedish upper secondary education (English 6/B).

Threshold requirements

The student must have passed at least 45 ECTS credits of the first year (including the courses Critical Perspectives on Sustainable Development and Environmental and Resource Use Challenges and Climate Science and Policy, in order to be admitted to the third semester of the programme.

The student must have passed at least 75 ECTS credits of the programme (including the course Designing environmental studies) in order to be allowed to start the Master´s Thesis course.

Degree requirements

The student will be awarded the degree of Master of Science (120 credits) in Environmental Science, provided all course requirements are completed and that the student fulfils the general and specific eligibility requirements including proof of holding a Bachelor's (kandidat) or a corresponding degree.

Completed courses and other requirements will be listed in the degree certificate.

A degree certificate is issued by the Faculty Board on request. The department provides a special form which should be submitted to the Student Affairs Division.

Degree in Swedish

Filosofie master i miljövetenskap

Degree in English

Master of Science (120 credits) in Environmental Science

Specific information

Transfer of Credits

Students are admitted to the programme in its entirety.
The Board of the Faculty of Arts and Sciences or person nominated by the Board decides whether or not previous education can be transferred into the programme.

Enrolment Procedure

Students are admitted to the programme in its entirety.

Language of instruction

Language of instruction is English.

Curriculum

Semester 1 (Autumn 2018)

Course code	Course name	Credits	Level	Weeks	ECV
746A80	Critical Perspectives on Sustainable Development	7.5	A1X	v201834-201838	C
746A61	Environmental and Resource Use Challenges	7.5	A1X	v201839-201843	C
746A66	Climate Science and Policy	15	A1X	v201844-201903	C

Semester 2 (Spring 2019)

Course code	Course name	Credits	Level	Weeks	ECV
746A63	Analytical Frameworks in Sustainability Studies	15	A1X	v201904-201913	C
746A69	Sustainable Resources Management	15	A1X	v201914-201923	C

Semester 3 (Autumn 2019)

Course code	Course name	Credits	Level	Weeks	ECV
746A71	Designing Environmental Studies in Sustainable Development	7.5	A1X	v201934-201938	C
746A71	Designing Environmental Studies in Sustainable Development	7.5	A1X	v201934-201938	C
746A58	Visualizing Climate Change	7.5	A1X	v201939-201943	E
746A77	Internship in Environmental Science	7.5	A1X	v201939-201943	E
746A78	Research skills in environmental science I	7.5	A1X	v201939-201943	E
746A87	Internship in Environmental Science	15	A1X	v201939-201948	E
746A74	Sustainability in the urban realm: city/neighbourhood/home	7.5	A1X	v201944-201948	E
746A77	Internship in Environmental Science	7.5	A1X	v201944-201948	E
746A78	Research skills in environmental science I	7.5	A1X	v201944-201948	E
746A79	Research skills in environmental science II	7.5	A1X	v201944-201948	E
746A87	Internship in Environmental Science	15	A1X	v201944-202003	E
746A77	Internship in Environmental Science	7.5	A1X	v201949-202003	E
746A78	Research skills in environmental science I	7.5	A1X	v201949-202003	E
746A79	Research skills in environmental science II	7.5	A1X	v201949-202003	E

Semester 4 (Spring 2020)

Course code	Course name	Credits	Level	Weeks	ECV
746A55	Master's Thesis in Science for Sustainable Development	30	A2E	v202004-202023	C

ECV = Elective / Compulsory /Voluntary
*Kursen läses över flera terminer