Master´s Programme in Science for Sustainable Development

Master´s Programme in Science for Sustainable Development
120 credits

F7MSU

Valid from: 2022 Autumn semester

Determined by

Board of the Faculty of Arts and Sciences

Date determined

2006-12-08

Revised by

Course and Programme Syllabus Board at the Faculty of Arts and Sciences

Revision date

2008-11-03; 2009-11-20; 2010-11-10; 2012-08-17; 2013-06-10; 2014-06-16; 2017-11-24; 2019-06-13; 2020-06-08; 2021-06-28

Registration number

LiU-2017-01238; LiU-2019-02297; LiU-2020-01914; LiU-2021-00991

Offered first time

Autumn semester 2010

Offered for the last time

Replaced by

Introduction

The master`s programme in Science for Sustainable Development is a two year, second cycle study program that leads to a master`s degree in Environmental Science. This full-time programme provides a strong basis for a professional career related to issues regarding sustainable development and environmental change at international and national agencies, universities, municipalities, orgainsations and corporations. The master`s 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 practioners or researchers. The programme also fulfils the students` eligibility for doctoral education in related fields.

Aim

National Qualifications according to the Swedish Higher Education Act

Knowledge and understanding

For a Degree of Master (120 credits) the student shall

- demonstrate knowledge and understanding in environmental science, 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
- demonstrate specialised methodological knowledge in environmental science.

Competence and skills

For a Degree of Master (120 credits) the student shall:

- demonstrate the ability to critically and systematically 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 critically, autonomously and creatively as well as to plan and, using appropiate 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
- demonstrate the ability in speech and writing both nationally and internationally to clearly report 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 autonomous emplyment in some other qualified capacity.

Judgement and approach

For a Degree of Master (120 credits) the student shall:

- 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 responsibililty 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.

Content

Environmental issues are inherently complex and constantly changing. Core courses in the programme are designed to provide the students with interdisciplinary knowledge on questions and challenges related to sustainable development.

We offer courses that introduce sustainable development as a political idea and an analytical concept. The courses examine current and future challenges of sustainable resource use and management for assessing and analyzing environmental change. The topics of earth system and climate sciences, environmental policy and governance, sustainability transformation, sustainable resource management – including social, political, and biogeochemical aspects – are central themes in the programme. Students learn to critically evaluate common concepts and scientific approaches as well as assess and implement common theories and methods within social and natural science and humanities. The programme provides opportunities to choose specialization courses within the fields of environmental science and sustainable development during the third semester with possibilities to study abroad and carry out internship in Sweden or abroad. The final semester of the programme consists of an independent study (thesis project) where students deepen their knowledge and skills within a selected area of specialization.

The heading “Curriculum” contains a list of courses included in the programme. The course syllabuses for these describe in more detail the contents, teaching and working methods, and examination.

Teaching and working methods

Problem-oriented and real-life environmental and sustainability issues, established concepts, novel strategies and established research models are incorporated in lectures, self-studies, seminars, workshops, experimental studies, computer laboratories, roleplay exercises and field visits.

Interdisciplinarity perspectives are incorporated in courses, which entails understanding the interplay between natural and social sciences and how it contributes to sustainable development.

Examination forms vary between courses, but in general, written assignments, active participation in group work and seminars, and oral presentations are required. A description of the examination of each course can be found in the respective syllabus and study guide.

In the master's thesis, students should demonstrate independent and analytical thinking, logical reasoning about the obtained results and an ability to critically discuss these results in relation to relevant scientific theories and empirical studies.

The course syllabuses describe in more detail the contents, teaching and working methods, and examination.

Entry requirements

- Bachelor's degree equivalent to a Swedish Kandidatexamen in one of the following areas:
  - natural sciences,
  - social sciences,
  - humanities or
  - engineering
- 15 ECTS credits passed in Environmental Sciences, Sustainable Development or equivalent
- English corresponding to the level of English in Swedish upper secondary education (Engelska 6)
  Exemption from Swedish

Threshold requirements

The student must have passed at least 45 ECTS credits of the first year, including the courses Critical Perspectives on Sustainable Development (7.5 ECTS credits) and Environmental and Resource Use Challenges (7.5 ECTS credits), 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 Sustainable Development (7.5 ECTS credits) in order to be allowed to start the course Master's Thesis in Science for Sustainable Development.

Degree requirements

The student will be awarded the degree of Master of Science (120 credits) with a major 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 will be listed in the degree certificate.

Course requirements to achieve a degree can be found in Appendix 2 to the Higher Education Ordinance (1993:100). Precise requirements for general degrees at first-cycle and second-cycle level can be found in LiU's current regulations.

A degree certificate will be issued by the faculty board on application by the student. A diploma supplement will be included as an appendix to the degree certificate.

Degree in Swedish

Filosofie masterexamen med huvudområde Miljövetenskap

Degree in English

Degree of Master of Science (120 credits) with a major in Environmental Science

Specific information

Teaching language

The teaching language is English.

Transferred credits

Decisions about transferring credit are taken by the faculty board, or by a person designated by the board, after application from the student.

Other information

If special circumstances prevail, the vice-chancellor may in a special decision specify the preconditions for temporary deviations from this programme syllabus, and delegate the right to take such decisions.

Curriculum

Semester 1 (Autumn 2023)

Course code	Course name	Credits	Level	Weeks	ECV
746A80	Critical Perspectives on Sustainable Development	7.5	A1N	v202334-202338	C
746A61	Environmental and Resource Use Challenges	7.5	A1N	v202339-202343	C
746A89	Our Changing Planet	7.5	A1N	v202344-202348	C
746A90	Environmental Politics and Governance	7.5	A1N	v202349-202403	C

Semester 2 (Spring 2024)

Course code	Course name	Credits	Level	Weeks	ECV
746A91	Climate Science and Climate Change	7.5	A1N	v202404-202408	C
746A92	Societal Transformations towards Sustainability	7.5	A1N	v202409-202413	C
746A93	Sustainable Resources Management	7.5	A1N	v202414-202418	C
746A71	Designing Environmental Studies in Sustainable Development	7.5	A1N	v202419-202423	C

Semester 3 (Autumn 2024)

Course code	Course name	Credits	Level	Weeks	ECV
746A78	Research Skills in Environmental Science I	7.5	A1F	v202434-202438	E
746A95	Internship in Environmental Science and Sustainable Development	15	A1F	v202434-202443	E
746A94	Internship in Environmental Science and Sustainable Development	30	A1F	v202434-202503	E
746A78	Research Skills in Environmental Science I	7.5	A1F	v202439-202443	E
746A79	Research Skills in Environmental Science II	7.5	A1F	v202439-202443	E
746A88	Visualizing Sustainability Challenges and Pathways	7.5	A1F	v202439-202443	E
746A74	Sustainability in the Urban Realm: City/Neighbourhood/Home	7.5	A1N	v202444-202448	E
746A78	Research Skills in Environmental Science I	7.5	A1F	v202444-202448	E
746A79	Research Skills in Environmental Science II	7.5	A1F	v202444-202448	E
746A95	Internship in Environmental Science and Sustainable Development	15	A1F	v202444-202503	E
709A03	Strategic Planning of Urban Climate Transitions	7.5	A1N	v202449-202503	E
746A78	Research Skills in Environmental Science I	7.5	A1F	v202449-202503	E
746A79	Research Skills in Environmental Science II	7.5	A1F	v202449-202503	E

Semester 4 (Spring 2025)

Course code	Course name	Credits	Level	Weeks	ECV
746A96	Master Thesis in Science for Sustainable Development	30	A2E	v202504-202523	

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