Swedish University of Agricultural Sciences

Programme syllabus

EnvEuro - European Master in Environmental Science

EnvEuro - European Master in Environmental Science

120.0 hp

Programme code: NM025

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Programme board

The programme board for education in natural resources and agriculture

SLU ID

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Entry requirements

Admission to the EnvEuro - European Master in Environmental Science requires a first-cycle qualification comprising 180 credits and including specialised studies in natural sciences i.e. biology, agricultural science, forest science, geology, environmental science or another natural science discipline.

Applicants with equivalent qualifications obtained by means of a degree from another country, or with equivalent knowledge obtained in some other way, may also be regarded as fulfilling the specific entry requirements.

This programme is taught in English. The applicant must further have a level of English equivalent to upper secondary school English, called English 6. An applicant with a first-cycle qualification from SLU comprising 180 credits automatically fulfils this requirement. Special rules apply for applicants with qualifications from one of the Nordic countries and some English-speaking countries.

Specific requirements apply for admission to the individual courses included in the programme.

The programme at the Swedish University of Agricultural Sciences (when this is the home university) has three different tracks: *Water resources, Soil resources and land use* and *Environmental management*, where the constituent courses have differing specific entry requirements. A student who fulfils the specific entry requirements for the programme does not necessarily fulfil the entry requirements for all tracks. Further tracks are offered at the other universities within EnvEuro, where students study during year two.

To be admitted to the EnvEuro - European Master in Environmental Science, the student has to apply for and be accepted to the programme via the SLU application system.

Objectives

Objectives for a Degree

In accordance with the annex to the Ordinance for the Swedish University of Agricultural Sciences, for a degree of Master (120 credits) the student shall:

Knowledge and understanding

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

Competence and skills

- 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 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
- 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 employment in some other qualified capacity.

Judgement and approach

- demonstrate 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
- 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.

Degree

Degree awarded on completion of the programme

Upon completion of the programme, the degree of Master of Science is awarded. Other general qualifications may be awarded, provided that the requirements for them are fulfilled. More information can be found in SLU´s degree regulations.

Students who fulfil the qualification requirements for a degree will be issued a degree certificate upon request. The degree certificate will specify the qualification as *Degree of Master of Science (120 credits) with a Major in Environmental Science*.

In addition to a degree from SLU, the student may apply for a degree (double degree) from one of the other participating universities.

Degree requirements

A degree of Master of Science (120 credits) with a major in environmental science is awarded to students who fulfil the course requirements (courses with a Pass grade) of 120 credits, of which at least 90 credits at second-cycle level, according to the following:

- at least 30 credits of courses with specialised study in the main field environmental science (A1N; A1F),
- at least 30 credits from an independent project (degree project) in the main field environmental science (A2E).

In addition, the student must hold a degree of Bachelor or professional qualification of at least 180 credits or an equivalent qualification.

Requirements for a double degree:

To earn a degree from the EnvEuro consortium the following requirements must also be fulfilled:

- pass on the course Environmental Management in Europe, distance course, 7,5 credits,
- at least 30 credits of elective courses according to an approved study plan,
- at least 30 credits of courses at one of the other ELLS-universities,
- successfully completed an independent project within environmental science according to an approved study plan and instructions from the EnvEuro consortium.

Content

Programme description

The aim of the programme is to make students, following completion of their studies, well prepared to work on environmental and natural resource issues linked to one or several of the areas soil, water and biodiversity, based on knowledge about European ecosystems and management of environmental issues in Europe. The programme offers various opportunities for specialisation, both to students interested in management and policy issues and to students interested in deepening their knowledge in the direction of natural sciences, through the three specialisations *Water resources*, *Soil resources and land use* and *Environmental management*.

The programme is offered in cooperation with four partner universities:

- University of Copenhagen, Denmark (UCPH)
- University of Hohenheim, Germany (UHOH)
- Swedish University of Agricultural Science, Sweden (SLU)
- University of Natural Resources and Applied Life Science, Austria (BOKU)

The programme is divided into four semesters, each corresponding to 30 credits, of which the first semester is the "basic semester package" (BSP). Semesters two and three are "advanced semester packages" (ASPs), and the final semester consists of an independent project (master thesis). As part of the programme, all students study at two of the partner universities. The first year is at the home university, in this case SLU, and the second year at one of the other universities, the so-called host university.

Basic semester package (BSP)

The purpose of the basic semester package is to provide the students with a common base for and background to the courses in the advanced semester package, and to introduce and practice concepts, theories and tools that recur later on in the programme. The mandatory course Environmental management in Europe consists of modules where students and teachers from all partner universities meet up, but is mainly carried out at as distance learning. The purpose of the introductory course is to introduce the students to European circumstances in relation to natural resources and environments, including environmental legislation, environmental monitoring and policy issues, among other subjects. The remainder of the BSP consists of courses at SLU.

Advanced semester package (ASP)

Ahead of semesters two and three, students select their ASP and specialisation. At SLU, there is the opportunity to choose between three different specialisations: Water resources, Soil resources and land use, and Environmental management. Provided that the student fulfils the entry requirements for the individual courses, there is no limit to how a student can combine the two different ASPs. The student can choose two ASPs within the same specialisation, or within two different specialisations.

Independent project (master thesis)

The studies conclude with an independent project (master thesis), where the student can implement their knowledge, abilities and approach to a current issue within the subject area of the programme. The work is carried out at the host university, but with a supervisor from SLU as well.

Studies at SLU Scientific approaches and scientific methods are practiced through the use of SLU´s broad research in lectures, seminars, field exercises and laboratories as well as through supervision. The students' training in generic skills is an integral part of subject courses and the independent project. The ability to communicate orally and in writing is practised and developed in various ways throughout the programme, in dialogue with different groups within and outside SLU. The ability to critically and systematically integrate knowledge is developed through work on complex issues, with particular focus on environmental and natural resource issues from a European perspective.

Courses in the programme

Main fields of study MV=Soil Science, MX=Environmental science, BI=Biology, TN=Technology, LV=Food science, LU=Rural development, LB=Agricultural science

Specialisation: Environmental management

Year 1

Food waste - current situation and future opportunities, 7,5 cr, LV/MX, A1N

Introduction to environmental communication – society, social interactions and communicative skills, 15 cr, MX, A1N

Rurality, livelihood and gender, 15 cr, LU/MX, A1N

Sustainable technologies for agriculture in low- and medium income countries, 7,5 cr, TN/MX, A1N

Models for sustainable water management, 7,5 cr, MX, A1N

Environmental management in Europe, 7,5 cr, MX, A1N

Geographic information systems for environmental and natural science studies, 7,5 cr, TN, A1N

Governance of natural resources, 15 cr, LU, A1N

Communication theory and strategy, 15 cr, MX, A1F

Conflict, democracy and facilitation, 15 cr, MX, A1N

Environmental assessment, 15 cr, MX, A1N

Engaging critically with environmental governance practice, 15 cr, MX, A1N

Year 2

The context and process of research I: Theories and methods, 7,5 cr, LU/MX, A1N

The context and process of research II: Theories and methods, 7,5 cr, LU/MX, A1N

Soils of the world and sustainable water and soil management, 15 cr, MV/TN, A1N

Introduction to environmental communication – society, social interactions and communicative skills, 15 cr, MX, A1N

Land use and watershed management to reduce eutrophication, 7,5 cr, MV/MX, A1N

Models for sustainable water management, 7,5 cr, MX, A1N

The process of research: Qualitative methods, data analysis and academic writing, 15 cr, LU/MX, A1N

Governance of natural resources, 15 cr, LU, A1N

Communication theory and strategy, 15 cr, MX, A1F

Master thesis in environmental science, A2E, 30 cr, MX, A2E

Specialisation: Soil resources and land use

Year 1

Soil water processes in agroecosystems, 15 cr, MV/MX, A1N

Land use and watershed management to reduce eutrophication, 7,5 cr, MV/MX, A1N

Models for sustainable water management, 7,5 cr, MX, A1N

Environmental management in Europe, 7,5 cr, MX, A1N

Geographic information systems for environmental and natural science studies, 7,5 cr, TN, A1N

Environmental geochemistry, 15 cr, MV/MX, A1N

Soil biology and biogeochemical cycles, 15 cr, MV/BI, A1N

The ecology of cropping systems, 15 cr, BI/LB, A1N

Environmental assessment, 15 cr, MX, A1N

Year 2

Soils of the world and sustainable water and soil management, 15 cr, MV/TN, A1N

Soil water processes in agroecosystems, 15 cr, MV/MX, A1N

Sustainable technologies for agriculture in low- and medium income countries, 7,5 cr, MX/TN, A1N

Land use and watershed management to reduce eutrophication, 7,5 cr, MV/MX, A1N

Models for sustainable water management, 7,5 cr, MX, A1N

Geographic information systems for environmental and natural science studies, 7,5 cr, TN, A1N

Research internship 15 cr, MV/MX, A1F

Environmental geochemistry, 15 cr, MV/MX, A1N

Safe nutrient recycling, 15 cr, MX/BI, A1N

The ecology of cropping systems, 15 cr, BI/LB, A1N

Master thesis in environmental science, A2E, 30 cr, MX, A2E

Specialisation: Water resources

Year 1

Ecology for fish management and conservation, 15 cr, BI, A1N

Soil water processes in agroecosystems, 15 cr, MV/MX, A1N

Sustainable technologies for agriculture in low- and medium income countries, 7,5 cr, TN/MX, A1N

Land use and watershed management to reduce eutrophication, 7,5 cr, MV/MX, A1N

Models for sustainable water management, 7,5 cr, MX, A1N

Environmental management in Europe, 15 cr, MX, A1N

Geographic information systems for environmental and natural science studies, 7,5 cr, TN, A1N

Principles of fisheries science, 15 cr, BI, A1N

Environmental geochemistry, 15 cr, MV/MX, A1N

Soil biology and biogeochemical cycles, 15 cr, MV/BI, A1N Environmental assessment, 15 cr, MX, A1N

Year 2

Ecology for fish management and conservation, 15 hp, BI, A1N

Soils of the world and sustainable water and soil management, 15 hp, MV/TN, A1N

Soil water processes in agroecosystems, 15 hp, MV/MX, A1N

Land use and watershed management to reduce eutrophication, 7,5 hp, MV/MX, A1N

Models for sustainable water management, 7,5 hp, MX, A1N

Geographic information systems for environmental and natural science studies, 7,5 hp, TN, A1N

Principles of fisheries science, 15 hp, BI, A1N

Research internship, 15 hp, MV/MX, A1F

Environmental geochemistry, 15 hp, MV/MX, A1N

Safe nutrient recycling, 15 hp, MX/BI, A1N

Master thesis in environmental science, A2E, 30 hp, MX, A2E

The courses offered may change during the course of the programme. Decisions on the courses offered are taken well in advance of the next academic year.

For each course, there is a course syllabus providing more detailed course information. Information on when courses are offered is available on the SLU student web.

Additional information about the programme

General regulations for first- and second-cycle courses and programmes

For more information on semester dates, examination and credit transfer, see the Regulations for education at Bachelor´s and Master´s level available on the SLU student web.

Possibilities for further studies

Students who complete the programme and are awarded a degree of Master have the option to continue their studies at doctoral level.