Sveriges lantbruksuniversitet
Swedish University of Agricultural Sciences

SLUkurs

EnvEuro - European Master in Environmental Science

Version 1. Is valid between autumn 2011 and spring 2012

Programme code:
NM025

Scope:
120 ECTS

Level affiliation:
2 - Second cycle

Degree
Degree of Master of Science

Responsibe faculty:
Faculty of Natural Resources and Agricultural Sciences

Appendices

- Appendix for students admitted in 2011 autumn term

1. Decision

The Vice chancellor of the Swedish University of Agricultural Sciences (SLU) decided on 1 July 2010 to establish EnvEuro – European Master of Environmental Science.

The programme syllabus was approved by the Faculty Board at the Faculty of Natural Resources and Agricultural Sciences in 20 October 2010, to be valid from the 2011/2012 academic year.

Students who have fulfilled all the requirements for a degree on the EnvEuro - European Master of Environmental Science' programme, corresponding to 120 credits, will be awarded a Master of Science (120 credits) with a major in Environmental Science. The programme has the following programme code: NM025.

2. Prior knowledge and other requirements

2.1 Previous studies
Admission to the Master´s Programme EnvEuro - European master in Environmental Science requires a first-cycle qualification comprising 180 credits and specialised

studies in a natural science area such as biology, agriculture, forestry, soil, environmental science or other science.

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

The applicant must further have a level of English equivalent to upper secondary school English B. 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 various 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 "Ecosystems and Biodiversity", where the constituent courses have differing requirements for special qualifications. It is therefore not self-evident that students fulfil the requirements for previous knowledge for all tracks simply because they fulfil the requirements for special qualification to the programme itself. At the other universities within EnvEuro, where students study for year two, further tracks are offered.

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

3. Intended learning outcomes

3.1 General learning outcomes
According to the Swedish Higher Education Act, Chapter 1, Section 9 (Högskolelagen 1 kap, 9 §)
"Second-cycle courses and study programmes shall be based fundamentally on the knowledge acquired by students during first-cycle courses and study programmes, or its equivalent.

Second-cycle courses and study programmes shall involve the acquisition of specialist knowledge, competence and skills in relation to first-cycle courses and study programmes, and in addition to the requirements for first-cycle courses and study programmes shall:

- further develop the ability of students to integrate and make autonomous use of

their knowledge
- develop the students´ ability to deal with complex phenomena, issues and situations, and
- develop the students´ potential for professional activities that demand considerable autonomy, or for research and development work. Ordinance (2006:173)."

3.2 Specific learning outcomes for a Master of Science (120 credits)
The student must achieve the following learning outcomes, in accordance with the supplement to the Ordinance for Swedish University of Agricultural Sciences (SLU):

Knowledge and understanding
For a Master of Science (120 credits) students must
- demonstrate knowledge and understanding in the main field of study, including both broad knowledge of the field and a considerable degree of specialised knowledge of certain areas of the field, as well as deeper insight into current research and development work; and
- demonstrate specialised methodological knowledge in the main field of study.

Competence and skills
For a Master of Science (120 credits) students must
- demonstrate an ability to critically and systematically integrate knowledge and to analyse, assess and deal with complex phenomena, issues and situations, even when limited information is available;
- demonstrate an ability to critically, independently and creatively identify and formulate issues and to plan and, using appropriate methods, carry out advanced tasks within specified time limits, so as to contribute to the development of knowledge, and to evaluate this work;
- demonstrate an ability to clearly present and discuss their conclusions and the knowledge and arguments behind them, in dialogue with different groups, orally and in writing, in both national and international contexts; and
- demonstrate the skills required to participate in research and development work or to work independently in other advanced contexts.

Judgement and approach
For a Master of Science (120 credits) students must
- demonstrate an ability to make assessments in their main field of study, taking into account relevant scientific, social and ethical aspects, and demonstrate an awareness of ethical aspects of research and development work;
- demonstrate insight into the potential and limitations of science, its role in society and people's responsibility for how it is used; and

- demonstrate an ability to identify their need of further knowledge and to take responsibility for developing their knowledge.

3.3 Detailed learning outcomes for EnvEuro – European Master in Environmental Science

Within the general objectives of a Master of Science (120 hp), SLU has specified the following learning outcomes for Master´s Programme EnvEuro - European master in Environmental Science

Knowledge and understanding

For a Master of Science (120 credits) degree students must

- demonstrate understanding of and ability to analyse environmental science concepts, problems and connections in a European perspective,
- demonstrate insight into the chemical, physical and/or biological processes that impact on the material cycle in the ecosystems central to the specialisation chosen by the student,
- demonstrate ability and knowledge of handling and solving environmental problems in a European and global perspective,
- demonstrate understanding of the connections between natural resource use and water quality (Water Resources),
- demonstrate in-depth insight into the structure and function of natural and human-dominated ecosystems and into health and environmental effects that follow disruptions to the ecosystems (Ecosystems and Biodiversity),
- demonstrate understanding of the systemic and quantitative connections between land use and environmental quality, in particular in relation to water and land resources (Water Resources, Soil Resources and Land Use),
- demonstrate understanding of the fundamental principles for environmental conservation policy, environmental policy legislation and environmental policy measures in Europe

Competence and skills

For a Master of Science (120 credits) students must

- demonstrate ability to plan and carry out a research project at Master´s level, where the material and methodology have been selected and adapted to the questions and formulated hypotheses,
- demonstrate ability to present the results of the research task in a scientific report,
- demonstrate ability to apply mathematical models describing biological, physical and chemical processes for forecasting purposes and in conjunction with planning and environmental conservation,
- demonstrate ability to develop environmentally adapted techniques and measures

for sustainable production systems,
- demonstrate understanding of and ability to apply the methods used in environmental monitoring and in processing, statistical analysis and presentation of environmental data,
- demonstrate ability to develop ideas and strategies for environmental conservation techniques aimed at reducing pollution in soil and water,
- demonstrate ability to use video conferencing and other web-based techniques to communicate effectively and cooperate at a distance,
- demonstrate ability to speak and write about environmental conservation issues in English.

Judgement and approach
For a Master of Science (120 credits) students must
- demonstrate knowledge of the historical development of resource and land use and environmental conservation issues in Europe and how the concept of sustainable development has emerged from this,
- demonstrate ability to communicate effectively and cooperate across cultural and national borders,
- discuss and analyse statements of opinion on environmental conservation issues in a European perspective.

4. Possibilities for further study

A student who has completed Master´s Programme EnvEuro - European master in Environmental Science with a Master of Science (120 credits) meets the special entry requirements for admission to further studies at the third-cycle level at SLU.

Which third-cycle subject areas are available at the Faculty of Natural Resources and Agricultural Sciences is specified in a supplement to the programme syllabus approved by the study programme board.

5. Content and outline

5.1 Courses
Courses included in the Master´s Programme EnvEuro - European master in Environmental Science are approved by the study programmes board. They are presented in a supplement to the programme syllabus which also contains descriptions of the programme's structure (framework timetable). The intended learning outcomes and course content are presented in the course syllabus for each course. For the independent project (degree project) there are special instructions, which are approved by the study programmes board.

5.2 Outline The aim of the Master´s Programme EnvEuro 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 students interested in deepening their knowledge in the direction of natural sciences.

The Master´s Programme is offered in cooperation with four partner universities:
LIFE - Faculty of Sciences, University of Copenhagen, Denmark
UHOH - University of Hohenheim, Germany
SLU - Swedish University of Agricultural Science, Sweden
BOKU - University of Natural Resources and Applied Life Science Vienna, Austria

The programme is divided up into four semesters, each worth 30 credits, of which the first semester is designated as the basic block, or "basic semester package" (BSP). Semesters two and three are designated as advanced blocks, or "advanced semester packages" (ASP), and the final semester consists of an independent project ("thesis"). Under the programme, all students shall study at two of the partner universities. The first year is at the home university, which in this case is SLU, and the second year at one of the other universities, the so-called host university.

The introductory course Environmental Management in Europe (EME) and the summer course offered between semester two and three are to a great extent based on distance learning.

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 within the advanced semester package, and to introduce and practice concepts, theories and tools that recur later on in the programme. The introductory course (EME) consists of one week when students and teachers meet up, and is thereafter mainly carried out at a distance. 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 BSP consists of courses at SLU.

Advanced semester package (ASP)
Ahead of semester two and three, students select their ASP and specialisation. At

SLU, there is the opportunity to choose three different specialisations: Water Resources, Soil Resources and Land Use, Ecosystems and Biodiversity. On condition the student fulfils the entry criteria to 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 (degree project)
The studies conclude with an independent project (degree project), where the student can implement his/her knowledge, abilities and attitudes on a current issue within the subject area of the programme. The work shall be carried out at the host university, but with a supervisor also from SLU.

6. Examination

Each course includes one or several tests. The terms U, 3, 4 or 5 are used for grading the courses, unless there is an exemption decision. Grading criteria are described in a supplement to each syllabus.

Grades are determined by an examiner appointed by SLU. General rules and guidelines for assessment and grading can be found in the "Internal rules for grading and examination rights" and in "Regulations for education in first and second cycle at the Swedish University of Agricultural Sciences (SLU)".

Courses at the other universities are given grades according to the ECTS system.

7. Degree

7.1 Degree awarded after completion of the study programme (120 credits)
A Master of Science (120 credits) with environmental science as the main field, as described in the programme syllabus for EnvEuro - European master in Environmental Science, is awarded to students who complete the course requirements (pass courses) of 120 credits according to the following:

- at least 30 credits for courses with specialised study in the main field environmental science (A1N; A1F),
- at least 30 credits independent project (degree project / second cycle A2E) in environmental science
- maximum 15 credits may be for courses passed during the first cycle.

Course requirements further include:
- Environmental Management in Europe, distance course, 15 credits
- at least 30 credits elective courses according to approved study plan
- at least 30 credits courses at any of the other ELLS-universities
- independent project within environmental science according to approved study

plan and instructions for the programme

- In addition the student must have a Degree of Bachelor or professional qualification consisting of at least 180 credits.

A student that fulfils the requirements for a Master of Science (120 credits) will, upon request, receive a degree certificate. The degree certificate will state that the student has obtained a Master of Science (120 credits) with a major in Environmental Science.

A Master of Science (120 credits) with biology as the main field, as described in the programme syllabus for EnvEuro - European master in Environmental Science, is awarded to students who complete the course requirements (pass courses) of 120 credits according to the following:
- at least 30 credits for courses with specialised study in the main field biology (A1N; A1F),
- at least 30 credits independent project (degree project / second cycle A2E) in biology
- maximum 15 credits may be for courses passed during the first cycle.

Course requirements further include:
- Environmental Management in Europe, distance course, 15 credits
- at least 30 credits elective courses according to approved study plan
- at least 30 credits courses at any of the other ELLS-universities
- independent project within biology according to approved study plan and instructions for the programme

In addition the student must have a Degree of Bachelor or professional qualification consisting of at least 180 credits.

A student can only take a Master of Science (120 credits) with a major in biology at SLU. If a student want to take a double degree the degree must fulfill the requirements within the main field environmental science.

A student that fulfils the requirements for a Master of Science (120 credits) will, upon request, receive a degree certificate. The degree certificate will state that the student has obtained a Master of Science (120 credits) with a major in biology.

The degree certificate will also state that the requirements have been fulfilled

according to the programme syllabus for EnvEuro - European master in Environmental Science. Detailed course requirements are shown in the study plan, which is approved by the Education committee and is presented in an appendix to the programme syllabus.

7.2 Other degrees the student may be awarded after finishing the study programme
The courses included in Master's programme EnvEuro – European Master in Environmental Science also allow for the awarding of the following degrees on condition that SLU's demands for general qualifications are fulfilled:

- Master of Science (60 credits) with Environmental Science as the main field
- Master of Science (60 credits) with Biology as the main field
- Master of Science (120 credits) with Environmental Science as the main field (not linked to the programme)
- Master of Science (120 credits) with Biology as the main field (not linked to the programme).

8. Miscellaneous

8.1 Credit transfer
Credits for courses from another higher education institution, in Sweden or abroad, may be transferred and recognised in the degree. Credits may be deducted if there is significant overlap between the courses passed at SLU and the external courses the student wishes to include in the degree. Credit transfer cannot be done if there is a considerable difference between the courses.

Credit transfer requests are considered on an individual basis. Once transfer has been approved, equivalent knowledge and skills acquired professionally may also be recognised.