

Programme syllabus

Agroecology - Master's Programme

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120.0 hp

Programme code: LM005

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Programme board

The programme board for education in landscape and horticulture

SLU ID

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Revised

2022-12-07

Revised by

The programme board for education in landscape and horticulture

Entry requirements

Admission to the Agroecology Master's programme requires a first-cycle qualification of at least 180 credits in natural sciences, social sciences or technology. These requirements can also be met by applicants who have a corresponding qualification from abroad or have obtained the equivalent knowledge in another way.

In addition, knowledge equivalent to the Swedish upper secondary course English 6 is required. According to a local SLU decision, this requirement is fulfilled by applicants who have a first-cycle degree (180 credits) from a Swedish university or have completed 120 credits at SLU. The English 6 requirement can also be obtained in other ways, more information is available at antagning.se/universityadmissions.se.

There are specific entry requirements for each course included in the programme. These are described in the respective course syllabus.

Objectives

Objectives for a Degree

a) General objectives

The general objectives for first- and second-cycle courses and programmes are specified in the Swedish Higher Education Act (Chapter 1, Sections 8–9).

b) Objectives for a Degree of master

In accordance with the appendix to the Ordinance for the Swedish University of Agricultural Sciences, for a Degree of Master, the student shall have:

Knowledge and understanding

For the master's degree the student shall

- 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 specialized methodological knowledge in the main field of study.

Competence and skills

For the master's degree 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 appropriate methods, undertake specialised 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 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 autonomous employment in some other qualified capacity.

Judgment and approach

For the master's degree the student shall

- demonstrate the ability to make assessments in the main field of study informed by relevant disciplinary, social and ethical considerations 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

Agroecology – Master's Programme aims at a Degree of Master of Science with a major in Agricultural Science, a general qualification. See local instructions.

Students who fulfill the qualification requirements for the Degree of Master of Science (120 credits) will be provided with a degree certificate upon request. The degree certificate will specify the qualification as Degree of Master of Science (120 credits) with a major in Agricultural Science.

Degree requirements

A Degree of Master of Science (120 credits) with Agricultural Science as the main field of study is awarded to students who complete the course requirements (courses with a Pass grade) of 120 credits, according to the following:

- at least 30 credits courses shall concern in-depth study within Agricultural Science (A1N; A1F),

- at least 30 credits shall concern independent work (degree project) within Agricultural Science (A2E).

A Degree of Master of Science (120 credits) with Agricultural Science, specialisation in agroecology as the main field of study, is awarded to students who complete the course requirements (courses with a Pass grade) of 120 credits, according to the following:

- 30 credits for the specialisation specified programme courses (A1N)
- at least 15 credits for the specialisation elective programme courses (A1N, AXX)
- at least 30 credits shall concern independent work (degree project) within Agricultural Science, specialisation in agroecology (A2E).

In the master's degree, a maximum of 30 credits may constitute courses at the first cycle level, provided that these are not included in the bachelor's degree or equivalent.

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

Content

Programme description

The Agroecology – Master's Programme strives to provide a holistic understanding of how biological processes, biophysical and socio-economic conditions interact and influence sustainable development of farming and food systems. Agroecology is an interdisciplinary subject, with foundations in biology (with emphasis on ecology), economics, sociology and technology, as well as interdisciplinary sciences such as agricultural, horticultural and environmental sciences. The programme combines research-based and scientific knowledge with experiential knowledge obtained through interactions with e.g. farmers and, as well as issues related to practical applications.

The programme emphasizes opportunities and obstacles for sustainable development of agricultural production, with a system perspective that integrates the economic, environmental and social sustainability dimensions. Therefore, ecosystem services, economics, environmental factors, resource use, social interactions and incentives that influence the agroecosystem are important elements of the studies.

The programme begins with courses that provide basic knowledge in agroecology and sustainability assessment of agricultural production systems. Thereafter, students can choose to deepen their knowledge in environmental economics, environmental impacts in crop production, project management, business management, stakeholder collaboration, scientific methods and insight into research work and the possibility to study abroad at one

of SLU's partner universities. The programme ends with an independent project in which the student chooses a topic that is investigated in relation to agroecological knowledge, system thinking and sustainable development in an agricultural and/or food system perspective.

The courses within the Agroecology – Master's Programme utilize many different teaching methods to stimulate the students' learning and self-activity throughout the programme. Both teacher- and student led knowledge mediation and discussion take place at lectures, literature studies, seminars, study visits, case studies, project work, assignments, essays and thesis work. Knowledge and understanding achieved by using models and tools play a key role in the programme. The teaching methods are applied in practical terms that reflect the unique conditions of different situations and are followed up by methodological interpretation and analysis. Students may use both digital case studies (e-cases) and real-world case studies in which an agricultural system - often an agricultural enterprise - is analyzed with the aim of being able to propose improvements.

After the programme, the student should have skills related to system thinking in an interdisciplinary perspective and be able to identify actions that promote sustainable development. Students should be able to initiate or participate in multi-actor collaboration with the aim to develop and implement solutions for enhanced sustainability at farming or food system levels. The Master's Programme has a clear link to current research and global issues, which provides good possibilities for employment both nationally and internationally after graduation.

The programme is taught in English.

Courses in the programme

Main subject area:

TD = Horticultural science,

BI = Biology,

FÖ = Business Administration,

LB = Agricultural science,

LK = Landscape Architecture,

FS = Food studies

Year 1

Agroecology Basics (1), 15 credits (LB/TD, AIN);

Agroecology and Sustainability of Production Systems (1), 15 credits (LB/BI, AIN);

Environmental Economics and Management (2), 15 credits (FÖ/LB, AIN);

Project Management and Process Facilitation (2), 15 credits (LB/TD, AXX)

Year 2 (required course in bold)

Integrated Pest Management in Sustainable Production Systems, 15 credits (BI/TD, AIN);

Foodscapes 1, 15 credits (FS/LK, AIN);

Scientific Methods, Tools and Thesis Writing (2), 15 credits (LB/TD, AIN);

Environmental Issues in Crop Production, 15 credits (BI/TD, AIN);

Advanced project based course in horticulture and agriculture, 15 credits (TD/LB, AIF);

Urban Ecology for the Development of Sustainable Living, 15 credits (BI/LK, AIN);

Project Based Research Training, 15 credits (LB/TD, AIF);

Advanced Practice, 15 credits (LB, AIF);

Independent Project in Agricultural Science (1), 30 credits (LB, A 2E)

- (1) Required for a Master's degree in agricultural science, specialising in agroecology.
- (2) Elective programme courses, at least 15 credits required for a Master's degree in agricultural science specialising in agroecology.

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.

Course syllabus – detailed information is available on the SLU student web.

Transitional provisions

Transitional regulations

Until 2019 autumn term, the programme name was: Agroecology - master's programme. The programme then aimed at a master's degree with the main field of agricultural science (without specialisation). Students enrolled through 2019 autumn term can obtain a degree with specialisation in agroecology if they

- 1) not yet graduated from the program,
- 2) meets the requirements set out above for the degree with specialisation.

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 Agroecology – Master's Programme and are awarded a degree have the possibility to continue their studies at doctoral level.