

# SLUkurs

## The Master's Programme Sustainable Food Systems

**Version 2.** Is valid from autumn 2022

### DECISION

**Programme code:**

NM032

**Scope:**

120 ECTS

**Date:**

2021-05-21

**Decision by:**

Utbildningsnämnden

**Revised by:**

2022-01-14

Programnämnden för utbildning inom naturresurser och jordbruk (PN - NJ)

**SLU Id:**

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**Board responsible:**

Programnämnden för utbildning inom naturresurser och jordbruk (PN - NJ)

### PRIOR KNOWLEDGE AND OTHER ENTRY REQUIREMENTS

Admission to the Master's programme Sustainable Food Systems requires a first-cycle qualification comprising 180 credits and including:

- specialised studies comprising 90 credits within a single subject (e.g. Economics) within social science, and
- an independent project or equivalent worth a minimum of 7.5 credits.

Alternatively:

- specialised studies comprising 90 credits within a single subject (e.g. Biology) within natural science, and
- an independent project or equivalent worth a minimum of 7.5 credits.

Applicants with the equivalent qualifications obtained by means of a degree from another country, or with the 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.

## **INTENDED LEARNING OUTCOMES**

### **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).

### **Objectives for a Degree in XX**

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 specialized 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 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 Food Science.

### **Degree requirements**

A degree of Master of Science (120 credits) with a major in food 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 food science (A1N; A1F),
- at least 30 credits from an independent project (degree project) in the main field food science (A2E).

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

## **CONTENT AND OUTLINE**

### **Programme description**

The overall objective for the programme is to provide understanding of and skills for sustainable development in food systems in light of challenges in local and global contexts. Food systems ranges from primary production, processing, packaging, distribution, marketing, sales, cooking and consumption to waste treatment. Sustainable development solutions require multi-disciplinary perspectives in a resource-based view of circular systems. Hence, this programme includes students with both science and social science backgrounds.

Teaching approaches aim to develop dialogue and networks involving students, lecturers and guest lecturers. The overall competence in the group and the previous experience of the students, contributes to a deeper understanding of today's food

systems and what is needed for transition to a more sustainable food systems for the future. The pedagogic methods are therefore based on interaction and collaboration between the students through collaboration on case studies, seminars, report writing and oral presentations. Teamwork, collaborative and student-centred teaching are central to the courses. Opportunity to collaborate with stakeholders representing authorities, corporations and organisations is offered in interactive course modules based on cases, fieldwork and commissioned projects on current issues.

A central part of the programme has to do with product, process and system innovation and the role that development may play in sustainable development. Students gain understanding of resource needs as well as how they may serve as promoters in various roles in these food systems. Students on this programme are trained to initiate, organise and lead processes that are aimed at sustainable development in food systems. These skills include the capacity to assess and evaluate risks and handling conflicts of interest among stakeholders in various contexts. During the course of the programme, students face complex problems that offer training grounds for critically reviewing data, working independently as well as in groups, identifying key issues, reviewing, evaluating and arguing possible alternative solutions. The programme integrates contemporary approaches and research findings with food system related needs for sustainable development.

During the first year, courses are offered to provide an overview of sustainable development in food systems, knowledge about the prerequisites for ongoing and future development and skills to handle challenges linked to these areas. The content of these courses focuses on:

- developing an understanding of system perspectives on circular systems of production, processing and consumption of food,
- identifying options and challenges related to the development of sustainable and innovative food products, processes and systems,
- evaluating current and future food products and food systems from a sustainability perspective.

In the fourth course students get either a deeper knowledge of consumer behaviour, consumer food choices and food culture, and experiences of food or they can study global food systems and food security.

In the second year the programme includes elective courses which offer students the opportunity to specialize in an area of their choice. For example, can students focus on food waste, food ethics, sustainable agri-food value chains, choose a course in scientific methods and writing or focus more on qualitative methods. It is also possible to do an internship in a company, authority or NGO. Other elective courses may

be taken at SLU or at other universities, (a semester exchange program is possible for the fall semester, the second year of the program). The program concludes with an independent project (degree project) corresponding to 30 credits.

The programme prepares the students for continued academic studies or work in food companies, organisations or authorities.

### **Courses in the programme**

Main fields of study

BI=Biology, FÖ=Business Administration, LB=Agriculture Science, LK=Landscape Architecture, LU=Rural development, LV=Food Science, MP=Environmental Psychology, MX=Environmental Science, ÖV=Other subject

Course Main field of study/specialization

Year 1

Prospects and challenges of sustainable food systems 15 cr LV, A1N

Management perspectives for sustainable food systems 15 cr FÖ, A1N

Project management for innovation in sustainable food systems 15 cr LV, A1F

Global food systems and food security 15 cr LU, A1N

Consumer behavior, food choice and sustainable food consumption 15 cr FÖ/LV A1F

Year 2

Scientific methods, tools and thesis writing, 15 cr (every two years) LB, A1N

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

Food ethics, 7,5 cr LV, A1N

Sustainable agri-food value chains and bioeconomy, 15cr FÖ/TV, A1N

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

Environmental economics and management, 15 cr FÖ/TV A1N

Research methods for people and environment studies, 15 cr LK/MP, A1N

Master thesis in food science, A2E, 30 cr LV, A2E

Master thesis in food science, A2E, 60 cr LV, A2E

Additional courses

Qualified work placement 2, 7,5 cr ÖV, AXX

Qualified work placement 2, 15 cr ÖV, AXX

Interdisciplinary practice, 15 cr HU, AXX

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.

## **OTHER INFORMATION**

### **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.