



# Programme syllabus

## Forest Bioeconomy (MSc)

*Skoglig bioekonomi*

120.0 hp

Programme code: SM012

Finalized by: Utbildningsnämndens ordförande, 2023-06-15

Valid from: Autumn semester 2024 (2024-09-02)

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### Programme board

The programme board for education in forestry

### SLU ID

SLU.sfak.2023.3.1.1-210

### Revised

2024-03-01

### Revised by

The programme board for education in forestry

### Entry requirements

To be admitted to the Master's programme Forest Bioeconomy, the following criteria must be met:

general entry requirements: first-cycle (Bachelor's) qualification comprising a minimum 180 credits or equivalent degree from a higher education institution abroad;

specific entry requirements: a minimum of 60 credits from specialist study within one of the following subjects or main fields of study:

- Forestry Science
- Forest Science
- Forest Management
- Agricultural Science

30 credits in Economics and Business Administration, including at least 15 credits in Business Administration

In addition, knowledge equivalent to the Swedish upper secondary course English 6 is required. This requirement is met by those holding a Degree of Bachelor (180 credits) from a Swedish higher education institution. There are specific rules for applicants from certain English-speaking countries.

The specific entry requirements stated above can also be met by someone who has obtained equivalent knowledge through a corresponding qualification from abroad, or in some other way.

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

## Objectives

### General objectives

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

### Objectives for a Degree of Master (120 credits)

In accordance with the appendix to the Ordinance for the Swedish University of Agricultural Sciences, for a Degree of Master the student must meet the following objectives:

#### *Knowledge and understanding*

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

### *Competence and skills*

- demonstrated the ability to critically and systematically integrate knowledge and analyse, assess and deal with complex phenomena, issues and situations even with limited information
- demonstrated 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
- demonstrated 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
- demonstrated the skills required for participation in research and development work or autonomous employment in some other qualified capacity.

### *Judgement and approach*

- demonstrated 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
- demonstrated insight into the possibilities and limitations of research, its role in society and the responsibility of the individual for how it is used, and
- demonstrated the ability to identify the personal need for further knowledge and take responsibility for his or her ongoing learning.

## **Degree**

### **Degree awarded upon completion of the programme**

The Master's (120 credits) programme Forest Bioeconomy leads to a Degree of Master of Science (M.Sc) with a major in Bioeconomy Management. A Degree of Master is a general qualification.

Students who fulfil the qualification requirements for a Degree of Master (120 credits) in the main field of study will be issued a degree certificate on request. The degree certificate will specify the qualification as Degree of Master of Science (120 credits) with a major in Bioeconomy Management.

Other qualifications may be awarded provided that the requirements for them are fulfilled (see the SLU local System of Qualifications).

The programme contains courses which, depending on choice of courses and combination with previous studies in forestry at first-cycle level, may enable students to fulfil the requirements for the professional qualification Degree of Master of Science in Forestry, 300 credits. The outcomes for a Degree of Master of Science in Forestry are stipulated in the Ordinance for the Swedish University of Agricultural Sciences. The requirements for a Degree of Master of Science in Forestry are defined in SLU's system of qualifications.

### **Degree requirements**

A Degree of Master of Science (M.Sc.) with a major in Bioeconomy Management is awarded to students who have successfully completed 120 credits, of which at least 90 credits are from second-cycle courses, from the required courses as follows:

- a minimum of 30 credits from courses with specialised study in Bioeconomy Management (AIN, A1F)
- a minimum of 30 credits from a degree project in Bioeconomy Management (A2E).

Additionally, students must have successfully completed a Degree of Bachelor, a professional qualification comprising a minimum of 180 credits, or have an equivalent qualification from abroad.

The Degree of Master of Science (120 credits) may contain a maximum of 30 credits from first-cycle courses, provided these credits were not included in a Degree of Bachelor or its equivalent. All courses included in a degree must be at university level, have been successfully completed and may not overlap/have similar content.

## **Content**

### **Programme description**

Bioeconomy aims to push national and international society towards more sustainable and circular economic development. This structural change involves the transition from fossil to biobased materials. To give rise to structural changes, reform is needed in both society and industry. The Master's programme Forest Bioeconomy focuses on providing students with an in-depth understanding of the field, thus enabling them to contribute to and develop this reform. The perspectives and challenges of the forest industry are the focus of the programme's objectives, which in turn focuses on providing in-depth knowledge of bioeconomy, sustainability and circular processes. The forest sector spans from the biological raw materials to the final products and includes circular processes, in which

supply chain management – the process from raw materials to finished product and any reuse, alterations and recycling – is central. The objective is to work with sustainable solutions from forest/trees to finished product in order to find sustainable solutions for the forest industry and other players in the ongoing development of the bioeconomy.

The programme is based on interdisciplinary and transdisciplinary elements and has both an international and national focus. Students will develop in-depth knowledge of the forest industry sector and its products, processes and systems and its role in the bioeconomy of sustainable development by drawing on theories of Business Administration and Economics and basic Forestry Science. Students will also be given an insight into the entire forestry value chain, products and industries linked to forestry's raw materials and how forest contributes to the development of a sustainable circular bioeconomy from different perspectives.

The programme intends to equip students with the ability to contribute to sustainable development through their deepened knowledge of bioeconomy, circularity and sustainability with particular focus on knowledge of the entire forest value chain and how sustainability assessments are integrated into companies and/or organisations. Students train their ability to initiate, organise and lead processes for implementing sustainability, circularity and bioeconomy in the forest industrial sector. The programme's courses are based on the most recent scientific developments that draw upon several subject fields, such as technology, sustainable development and Business Administration. Students will develop analytical and critical approaches. Furthermore, students develop a good ability to create collaborations with various stakeholders, such as companies, public authorities, and organisations thanks to interactive course elements such as case studies, external lectures, study visits and project tasks focusing on current issues.

The programme is suitable for students with a firm interest in the forest sector, sustainability and bioeconomy. Students may have backgrounds in either the social or natural sciences.

### **Programme content**

During the first year, all students will take courses that provide a deeper understanding of sustainable development, circular bioeconomy and the international and national forestry sectors. They will also learn about raw materials, processes and characteristics as well as the forestry value chain. During their second year, students take courses within subjects such as sustainability, marketing, bioeconomy management, natural resources and markets, and trade theory. These courses focus on providing:

- a systematic understanding of the industrial forestry sector and its role in bioeconomy;
- detailed knowledge about the different refinement stages throughout the value chain, including the raw materials, processes and products;

- in-depth knowledge of the opportunities and obstacles related to sustainable development from a bioeconomics perspective;
- the ability to develop a contact network and collaborate with the forestry sector.

In accordance with SLU's overall guidelines for equal conditions, a well-functioning study environment is characterised by openness, equality, and inclusion. This promotes a climate that utilises the diversity that employees' and students' different backgrounds, life situations and skills bring.

The programme is offered in English.

### **Programme courses**

Main fields of study:

Bioeconomy Management = BM, Forestry Science = SV, Business Administration = FÖ, Economics = NA

Course (main field of study, level)

#### **Year 1**

The global Forest Sector, 7,5 credits (BM/SV, A1N)

Resources, Economics and Markets, 7,5 credits (SV/NA, A1N)

Marketing for Sustainable Development in Fibre and Food Systems, 15 credits (BM, A1N)

Wood Science and Technology, 15 credits (SV, A1N)

Operations Management of the Forest Supply chain, 15 credits (BM, A1N)

#### **Year 2 (preliminary)**

Research Methods, 7,5 credits (FÖ, GIF)

International Forest Policy, 7,5 credits (SV, G1N)

Ethics in Organisations and Society, 7,5 credits (FÖ, GIF)

Management of the Bioeconomy, 15 credits (BM, A1N)

Master thesis in Bioeconomy Management, 30/60 credits (BM, A2E)

The courses offered may change during the programme. This may result in a new version of the programme syllabus containing transitional provisions. Decisions on the courses offered are taken well in advance of the next academic year.

Each course on the programme has its own syllabus that describes the course content and other specifics. Information on when the courses are offered is available on the SLU student web.

During certain study periods (parts of a semester), SLU offers several programme courses from which the student can choose. Students are guaranteed a place on one of these courses, provided they meet the admission requirements and have applied before the deadline.

### **Transitional provisions**

The revised version of the programme syllabus applies from Autumn Semester 2025, but also covers students admitted in Autumn Semester 2024.

The programme syllabus has been clarified in the programme description and the course list (courses within the programme) has been updated. Students who began their studies in Autumn Semester 2024 or earlier may, without any special measures, continue into higher years in accordance with this syllabus.

## **Additional information about the programme**

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

For more information on semester dates, examination, credit transfer and admission to the latter part of a programme, please refer to the Education Planning and Administration Handbook available on the SLU student web.

### **Possibilities for further study**

Students who successfully complete the Master's (120 credits) Programme in Forest Bioeconomy and are awarded a degree have the opportunity to continue onto third-cycle (doctoral) studies.