
General syllabus for the doctoral programme in the subject of:

CROP PRODUCTION SCIENCE

Valid as of 1 April 2019

Department to which the study plan applies	Subject code:
AGRICULTURAL RESEARCH FOR NORTHERN SWEDEN	NJxxx
CROP PRODUCTION ECOLOGY	Njxxx

The objectives and design of courses in this subject may vary between faculties (see point 3. Miscellaneous).

The subject of crop production science (“växtodlingslära”) includes knowledge about the properties of different crops as well as interactions between crops, environment and cultivation practices. The subject field also includes the properties and function of plant cropping systems, and how plant cultivation interacts with surrounding ecosystems.

Regulations for third-cycle (doctoral) education at SLU

Third-cycle (doctoral) education is regulated by the Higher Education Ordinance (SFS 1993:100) and the Ordinance for the Swedish University of Agricultural Sciences (SFS 1993:221).

In addition, SLU has regulations for the following:

- recruitment and admission, in Admission regulations for third-cycle (doctoral) education (SLUID: SLU ua 2018.1.1.1-930)
- joint programmes leading to a double or joint degree
- supervision
- scope and content of programmes
- planning and follow-up of programmes
- procedure when a course or study programme is unsatisfactory
- examination
- degreeS.

These can be found in Guidelines for third-cycle (doctoral) education (SLUID: SLU ua 2018.1.1.1-4677).

A general syllabus must indicate the following: the main content of the programme, specific entry requirements and any other regulations required. All general syllabuses must be approved by the faculty board.

The programme is organised in a way that allows doctoral students to meet the qualitative targets for third-cycle courses and programmes specified in the *Higher Education Ordinance's Annex 2 – Qualifications Ordinance*:

Qualitative targets according to the Qualifications Ordinance: Degree of Doctor

Outcomes

For the Degree of Doctor the third-cycle student shall

Knowledge and understanding

- *demonstrate broad knowledge and systematic understanding of the research field as well as advanced and up-to-date specialised knowledge in a limited area of this field, and*
- *demonstrate familiarity with research methodology in general and the methods of the specific field of research in particular.*

Competence and skills

- *demonstrate the capacity for scholarly analysis and synthesis as well to review and assess new and complex phenomena, issues and situations autonomously and critically;*
- *demonstrate the ability to identify and formulate issues with scholarly precision critically, autonomously and creatively, and to plan and use appropriate methods to undertake research and other qualified tasks within predetermined time frames and to review and evaluate such work;*
- *demonstrate through a dissertation the ability to make a significant contribution to the formation of knowledge through his or her own research;*
- *demonstrate the ability in both national and international contexts to present and discuss research and research findings authoritatively in speech and writing and in dialogue with the academic community and society in general;*
- *demonstrate the ability to identify the need for further knowledge and*
- *demonstrate the capacity to contribute to social development and support the learning of others both through research and education and in some other qualified professional capacity.*

Judgement and approach

- *demonstrate intellectual autonomy and disciplinary rectitude as well as the ability to make assessments of research ethics, and*
- *demonstrate specialised insight into the possibilities and limitations of research, its role in society and the responsibility of the individual for how it is used.*

Outcomes

For a Degree of Licentiate the third-cycle student shall

Knowledge and understanding

- *demonstrate knowledge and understanding in the field of research including current specialist knowledge in a limited area of this field as well as specialised knowledge of research methodology in general and the methods of the specific field of research in particular.*

Competence and skills

- *demonstrate the ability to identify and formulate issues with scholarly precision critically, autonomously and creatively, and to plan and use appropriate methods to undertake a limited piece of research and other qualified tasks within predetermined time frames in order to contribute to the formation of knowledge as well as to evaluate this work;*
- *demonstrate the ability in both national and international contexts to present and discuss research and research findings in speech and writing and in dialogue with the academic community and society in general, and*
- *demonstrate the proficiency required to participate autonomously in research and development work and to work autonomously in some other qualified capacity.*

Judgement and approach

- *demonstrate the ability to make assessments of ethical aspects of his or her own research;*
- *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.*

1. Programme content and scope

The programme contains two main elements: research and coursework.

Research

On this programme, the student will conduct independent research work which is presented in a doctoral thesis or a licentiate thesis. The thesis is based on independent research work and should be written in English. The thesis generally has the form of a summary of manuscripts and articles published or accepted for publication.

A doctoral thesis normally corresponds to around 195 higher education credits (HEC) and includes 3–5 papers. All the papers must be of such a standard that they may be published in peer-reviewed international scientific journals. It is normal for at least one paper to be accepted or published in such a journal. The summarising chapter (“kappa”) of a compilation thesis must place the student's work in an international academic context and provide a synthesis of the various papers. A licentiate thesis corresponds to approximately 95 credits and is normally assumed to include two papers.

The student is expected, through individual literature studies, to follow contemporary international research relevant to their field and is expected to actively participate in seminars, conferences etc. linked to their research.

Courses

The student is required to undertake coursework which corresponds to at least 45 HEC for a Degree of Doctor and at least 25 HEC for a Degree of Licentiate. This must include suitable general courses as well as elective subject courses. Among the general courses, those on teaching and learning in higher education and statistics are strongly recommended. Subject courses should be chosen so that the student, after completing their studies, has a wide foundation in the subject of crop production science, as well as significant in-depth knowledge.

According to the current guidelines for doctoral education (SLU ua 2018.1.1.1-4677), all doctoral and licentiate degrees at SLU must include credit awarding courses of philosophy of science and research ethics at PhD-level. These courses should also cover rules on cheating and plagiarism.

2. Specific entry requirements

Those admitted must meet the following specific entry requirements.

The specific entry requirement for crop production science is normally knowledge corresponding to at least 120 HEC in biological subjects. This must include completed specialisation courses in crop production science or equivalent subjects.

3. Miscellaneous

Each faculty offering the third-cycle subject can choose to specify specialisations or requirements in addition to the general syllabus. These requirements must be documented in an appendix.