

GOVERNING DOCUMENT

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General syllabus for the doctoral programme in the subject of:

CROP PRODUCTION SCIENCE

Valid as of 1 January 2013

Department to which the syllabus applies
AGRICULTURAL RESEARCH FOR NORTHERN SWEDEN
CROP PRODUCTION ECOLOGY

Subject code
NLVÅXT01
NLVÅOD00

The goals and design of the programme may vary between departments (see 4. Miscellaneous)

Regulations for third-cycle (doctoral) education at SLU

These can be found in the [Guidelines for third-cycle \(doctoral\) education](#) (reg. no SLU ua Fe.2012.40-3218) and [Admission regulations for third-cycle \(doctoral\) education at SLU](#) (reg. no. SLU ua Fe.2012.4.4-3467). These governing documents lay out rules and recommendations for *entry requirements, recruitment and admission, joint programmes leading to a double or joint degree, scope and content of the programme, planning and follow-up of the programme, procedure when a course or study programme is unsatisfactory, examination and degrees.*

General study plans for subjects within the doctoral studies can provide additional, subject-specific rules in addition to these joint rules. This document specifies the subject-specific rules for the subject crop production science. In other respects the third-cycle studies in this subject shall adhere to the Guidelines for third-cycle education and the Admission regulations for third-cycle education at the Swedish University of Agricultural Sciences.

1. Purpose and objectives

After completing the programme, the student should be familiar with the general tools of science as well as the research methods that are typical of the subject field crop production science. Research is carried out in the field of crop production

science in order to increase knowledge about the properties of the plants in the cropping systems, and how surrounding factors and cropping measures affect the quantity and quality of the crop. The subject field also includes the properties and function of the cropping system as a whole, and how cropping interacts with the surrounding ecosystem. The purpose is to meet the qualitative targets for third-cycle studies specified in the Higher Education Ordinance, Annex 2 – Qualifications ordinance.

2. Entry requirements

Those admitted shall meet the following specific entry requirements.

The specific entry requirements for crop production science are normally knowledge corresponding to at least 120 credits in biological subjects, which shall include passed advanced courses in crop production science or equivalent subjects.

3. Scope and content of the programme

The programme contains two main elements: research and coursework.

Research

While studying, the student shall conduct independent research work which is presented in a doctoral thesis or a licentiate thesis. The thesis is based on independent research work and shall be presented as a compilation thesis or in special cases as a monograph. The thesis should be written in English. A doctoral thesis normally corresponds to around 195 credits and includes 3-5 works. All the works shall be of such a standard that they may be published in refereed international scientific publications. It is normal for at least one paper to be accepted or published in such a journal. The summarising section of a compilation thesis shall place the student's work in an international academic context and provide a synthesis of the various works. A licentiate thesis corresponds to approximately 90 credits and is normally assumed to include two works.

The student shall, through individual literature studies, 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** credits for a Degree of Doctor, and at least **25** higher education credits for a Degree of Licentiate. These studies shall include suitable general courses as well as individually selected subject courses. Of the general courses, teaching in higher education, statistics and theory of knowledge 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. The courses should include at least one international course. The

studies should also include courses intended to prepare the student for the demands of working life and the ability to lead and organise work.

4. Miscellaneous

Further information about third-cycle studies is available in SFS 2006:1053, and information about grants can be found in SFS 1995:938 as amended by 1998:81 (reprint), 1998:161 and 2006:1053. Information about third-cycle studies at SLU is available in the Admission regulations for third-cycle (doctoral) education (reg. no SLU ua 41-1482/07) with the annex to the Board's decision of 26 April 2007, reg. no SLU ua 41-1482/07, the Vice-Chancellor's decision and the guidelines for doctoral education at the Faculty of Natural Resources and Agricultural Science (reg. no SLU ua 40-1244/08). Each department to which the third-cycle subject area is linked can choose to specify requirements in addition to those in this study plan. These requirements are to be specified in an annex.

5. Annexes

Annex 1 – Department of Crop Production Ecology, specific requirements

Annex 1

Specific requirements at the Department of Crop Production Ecology

In addition to carrying out the elements of specified above, the student should participate in and obtain experiences from other research and departmental activities. The student therefore should:

- Actively participate in the department's seminar and lecture activities.
- Be encouraged to apply for courses and seminars outside of their home department.
- Be encouraged to make international contacts.
- Write at least basic research grant applications.
- Actively participate in research activities such as work planning, work management, thesis supervision etc.
- Carry out certain teaching at first and second-cycle level.

Other compulsory elements in the doctoral studies

The progress of each doctoral project shall be followed up on annually, preferably in a seminar where the supervisory group is present. At these seminars, plans, ongoing work and completed work are presented. The seminars are organised at the department for researchers, doctoral students and other interested parties. The purpose is to discuss the student's plans and results in order for the wider thesis work to flow as well as possible. Achieved results are matched to the individual study plan and reported to the head of department via the director of studies. Continual reporting within the doctoral project in the form of written situation reports from the student to the supervisory group are recommended if regular contact with all members of the group is not possible. Completed elements that give credits shall continually be reported by the main supervisor to the director of studies for doctoral studies in order to be registered in the student registry (Ladok). The doctoral student is responsible for documenting seminars and other course-related teaching. The supervisor is ultimately responsible for the register information and the reporting thereof, and for ensuring that the student meets the requirements of the degree.

Mid-way review at the Department of Crop Production Ecology (VPE).

All students admitted to doctoral studies and registered at the Department of Crop Production Ecology shall carry out a half-time review. This evaluation shall be done at the point when the effective work hours correspond to two years of full-time studies (24 months) in the doctoral education. The date can be postponed due to a lower degree of activity or possibly for other reasons.

How is this done?

The half-time review consists of a public seminar at the Department of Crop Production Ecology and is part of the department's joint seminar series that is planned at the start of each semester. The seminar shall be advertised internally at the department and on the website at least two weeks before the date. The responsibility for the advertisement and for summoning the evaluation group is on the main supervisor, in consultation with the director of studies.

Implementation

At the half-time review, the following persons shall be present in the evaluation group:

- The supervisory group (the main supervisor and assistant supervisors).
- Department director of studies for doctoral programmes
- The subject co-ordinator (recommended) or other researcher with a PhD in the relevant field at the Department of Crop Production Ecology.
- One or several external evaluators, (of which at least one is a researcher who has defended their thesis and who is not part of the student's working group) of which one should be from outside of the department.
- A doctoral student at the Department of Crop Production Ecology, but outside of the evaluated project.

A proposal for a revised study plan shall be available at the mid-way review and is ultimately revised after the meeting according to proposals made at the meeting. Existing and relevant written materials such as manuscripts, drafts and test plans, as well as a preliminary completed evaluation form, shall be received by the evaluation group at least one week before the seminar. An English language summary of the seminar (maximum of one A4 page) shall be distributed within the department at least one week in advance. The seminar should not take longer than an hour. A summary of activities carried out so far shall be included, as well as opportunities for questions and discussion.

After the seminar, the Crop Production Ecology evaluation group convenes in the doctoral student's presence to discuss the seminar and the doctoral studies in general. The department's director of studies for doctoral programmes should chair the meeting. At the review, the scientific work and presentation shall be assessed, as well as the conditions for the continued work progressing well and ending in a public defence of the thesis within the time given. Both the doctoral student and supervisory group will be given opportunity to comment, without the other party present, on past and future cooperation in the doctoral studies. Minutes are kept during the meeting by an appointed person and are then sent for review and comments to all of the meeting's participants. A form designed by the faculty's directors of studies is used for the half-time review. The form shall be finalised by being filled out and signed by the head of department, main supervisor and doctoral student shortly after this meeting. The director of studies is responsible for ensuring that this is done. The signed original copy of the mid-way review is kept by the director of studies. The half-time review shall be registered in Ladok by the responsible department secretary and information about the outcome shall also be

submitted to the doctoral education council at the Department of Crop Production Ecology.

At 75% of the study period

The doctoral student shall hold a "Final seminar" when 75% of the net study period has passed. Here, the doctoral student presents their results so far and their plans for the thesis, in around 40 minutes, followed by a discussion. The supervisory group and doctoral studies coordinator(s) shall be present at the seminar. After the meeting, they discuss the time schedule up to the defence of the thesis with the doctoral student.

Individual study plan

The individual study plan shall be revised annually in consultation between the doctoral student and supervisor. The follow-up is done in consultation between the doctoral studies coordinator and the student. The plan shall state if the goal of the studies is a licentiate or doctoral degree.

Examination

Defence of a doctoral thesis

A "Count-down time table for PhD" shall be read well ahead of the public defence of the thesis. The doctoral student and supervisor review what needs to be done in the final six months leading up to the defence of the thesis.