

Department of Informatics

General Syllabus for Third-Cycle Studies in Informatics for the Degree of Doctor at Lund University School of Economics and Management

The syllabus for third-cycle studies in Informatics was adopted by the Board of the School of Economics and Management on 30 June 2016, revised on 1 June 2020. Replaces earlier syllabus with reg. no U 2016/316. See also *Regulations for third-cycle studies at the School of Economics and Management*, reg. no STYR 2018/1589.

The revised General Syllabus applies to postgraduate students admitted after June 1, 2020.

Third-cycle studies are offered to the extent that available resources allow.

1. Description of third-cycle subject area

Informatics is a social science and interdisciplinary subject that, through the use of theoretical and empirical tools, analyzes and studies the design, implementation and effects of information systems. Informatics focuses on the digital transformation of society and human activities.

2. Aim of the programme and learning outcomes

The third-cycle programme in Informatics will provide the doctoral student with in-depth knowledge of the subject, an in-depth training in research methodology and good insights into the problems that occur in research and its practical application.

Knowledge and understanding

For a Degree of Doctor, the doctoral student shall

- demonstrate broad knowledge and systematic understanding of the research field as well as advanced and up-to-date specialized 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

For a Degree of Doctor, the doctoral student shall

- demonstrate the capacity for scholarly analysis and synthesis as well as 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

For a Degree of Doctor, the doctoral student shall

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

The education leads to a degree of Doctor in Informatics (PhD).

3. Admission requirements

An applicant meets the general admission requirements for third-cycle studies if he or she has obtained a second cycle degree, completed at least 240 credits, including at least 60 second cycle credits, or has acquired equivalent knowledge in some other way, in Sweden or abroad.

An applicant is eligible to be admitted to the third-cycle programme in informatics if he or she meets the general admission requirements, and has completed at least 90 credits in informatics, and an independent project worth at least 30 credits, of which 15 credits are in informatics.

Students who have not been admitted to the third-cycle programme may still be granted the right to participate in the teaching.

4. Admission and selection

Admission to third-cycle studies can take place once a year. Information about admission and application periods is provided by the department. The time for admission is advertised well in advance to allow for an appropriate national and international dissemination. The call for applications is posted on the department's bulletin board and website. Students admitted to studies for a degree of licentiate must apply again to be admitted to studies for a degree of doctor.

Applications for third-cycle studies in informatics are to include the following (on which the selection is based):

- CV and certified copies
- research plan, including the issues, aim, theoretical framework and structure of the thesis as well as its relationship to previous research
- a summary of the research plan (max. 200 words)
- preliminary timetable

- preliminary financing plan
- previous independent projects in higher education including published papers, reports and degree projects

A financing plan must be submitted by the time of admission, stating the financial circumstances of the applicant for the duration of his or her studies. For admission, the student must be deemed to be financed to an extent allowing successful completion of the programme within eight years for a doctoral degree. Admission without adequate financing of studies is not permitted. The department's access to resources for supervision must also be taken into account.

Doctoral students must register at the beginning of each semester and in consultation with the supervisor specify the degree of activity at which they will be pursuing their studies over the semester.

5. Programme structure and content

The third-cycle programme consists of courses and thesis work, through teaching and supervision. The programme that leads to a doctoral degree normally demands four years of study, provided that the student pursues full-time studies and makes efficient use of the tuition offered.

The programme comprises 240 credits, divided into a course component of 90 credits and a thesis component of 150 credits.

5.1 Courses and other components

5.1.1 Courses

The course component consists of:

- Compulsory courses in methodology and theory corresponding to at least 22.5 credits including quantitative and qualitative methods, and the theory of science.
- Compulsory course in research ethics, 3 credits.
- If the doctoral student is financed by or associated with the national Research School Management and IT, 30 credits of the compulsory courses within the research school must also be completed.
- The remaining credits are to be taken from elective courses offered by the department, but may also be from other subjects. The selection of internal/ external courses is to be made in consultation with the supervisor.

Second cycle courses in informatics can be credited as part of independent study courses.

5.1.2 Research seminars

As a part of the studies and thesis work, the doctoral student is to participate in seminars on the research activities of the department and the thesis work of other doctoral students. The doctoral students are to be given an opportunity to present memoranda on theoretical and/or methodological issues of their project, as well as plans, papers and thesis drafts. Moreover, the doctoral students are to have the opportunity to critically review the papers and drafts of other students.

The doctoral student is to present his or her thesis project at no less than three seminars:

- Research proposal (RP) seminar, which is to take place at an early stage, where the doctoral student is to present a thorough research plan including the issues, method, preliminary theoretical framework of the thesis, as well as a plan for the work ahead. The seminar is to include at least two external reviewers, at least one of whom is to have a PhD.
- Midway seminar, when half of the work has been completed. The doctoral student is to present a draft for a theoretical framework and have started working with empirical data. The seminar is to include at least two external reviewers, at least one of whom is to have a PhD.
- Final seminar, at which a complete draft of the doctoral thesis is to be presented. The seminar is to include at least two external reviewers who have a PhD, at least one of whom is to have the qualifications of an associate professor.

The research proposal, the midway seminar draft and final draft can be either passed or failed.

5.2 Individual study plan

An individual study plan shall be drawn up for all doctoral students, stating the structure of the studies and the financing. The study plan is to be drawn up by the doctoral student and supervisor in consultation with the head of department. It is to be approved by the head of department and reviewed at least once every year.

5.3 Supervision

At least two supervisors shall be appointed for each doctoral student at the department. All supervisors are to have undergone training for supervision in third-cycle education. The doctoral student's wishes are to be taken into account as far as possible in the allocation of supervisors. The supervision is to provide the doctoral student with advice on his or her studies and thesis project, and support throughout the work.

Information regarding the change of supervisor is available in *Procedure for the change of supervisor at the School of Economics and Management*, reg. no STYR 2016/860.

5.4 Thesis

The doctoral thesis is the most important component of the third-cycle programme and is to be based on an independent research project. The doctoral thesis is to demonstrate the student's ability to address a research issue.

The doctoral thesis is to be presented and defended at a public defence, and will be graded either *Pass* or *Fail*. The assessment is based on both the content of the thesis and the public defence.

The grade is determined by an examining committee consisting of three or five members.

6. Teaching and examination

The teaching consists of courses and seminars. At the end of each semester, the courses offered at the department the following semester are presented, as well as information about courses in other subjects that could be included in the course component.

Doctoral students with teaching duties should complete at least two weeks of the University's teacher training and all doctoral students shall be offered the opportunity to take courses in teaching and learning in higher education.

The assessment is based on oral or written exams, or on research papers and reports. Exams will take place during or in connection with the courses, and the grades awarded are either *Pass* or *Fail*.

In addition, the doctoral student is expected to actively participate in public seminars, research seminars and visiting lectures.

For a degree of doctor, the student must have passed all assessed components included in the programme and the doctoral thesis.

Further information regarding the thesis, public defence and the examining committee is available in *Regulations for third-cycle studies at the School of Economics and Management*, reg. no STYR 2018/1589.

General Syllabus for Third-Cycle Studies in Informatics for the Degree of Licentiate at Lund University School of Economics and Management

The syllabus for third-cycle studies in Informatics was adopted by the Board of the School of Economics and Management on 30 June 2016, revised on 17 June 2020. See also *Regulations for third-cycle studies at the School of Economics and Management*, reg. no STYR 2018/1589.

The revised General Syllabus applies to postgraduate students admitted after June 1, 2020.

Third-cycle studies are offered to the extent that available resources allow.

1. Third-cycle subject area

Informatics is a social science and interdisciplinary subject that, through the use of theoretical and empirical tools, analyzes and studies the design, implementation and effects of information systems. Informatics focuses on the digital transformation of society and human activities.

2. Aim of the programme and learning outcomes

The third-cycle programme in Informatics will provide the research student with in-depth knowledge of the subject, an in-depth training in research methodology and good insights into the problems that occur in research and its practical application.

Knowledge and understanding

For a degree of Licentiate, the research student shall:

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

Competence and skills

For a degree of Licentiate, the research student shall:

- 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 skills required to participate autonomously in research and development work and to work autonomously in some other qualified capacity.

Judgement and approach

For a degree of Licentiate, the research student shall:

- 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.

The education leads to a degree of Licentiate in Informatics.

3. Admission requirements

An applicant meets the general admission requirements for third-cycle studies if he or she has obtained a second cycle degree, completed at least 240 credits, including at least 60 second cycle credits, or has acquired equivalent knowledge in some other way, in Sweden or abroad.

An applicant is eligible to be admitted to the third-cycle programme in informatics if he or she meets the general admission requirements, and has completed at least 90 credits in informatics, and an independent project worth at least 30 credits, of which 15 credits are in informatics.

Students who have not been admitted to the third-cycle programme may still be granted the right to participate in the teaching.

4. Admission and selection

Admission to third-cycle studies can take place once a year. Information about admission and application periods is provided by the department. The time for admission is advertised well in advance to allow for an appropriate national and international dissemination. The call for applications is posted on the department's bulletin board and website. Students admitted to studies for a degree of licentiate must apply again to be admitted to studies for a degree of doctor.

Applications for third-cycle studies in informatics are to include the following (on which the selection is based):

- CV and certified copies
- research plan, including the issues, aim, theoretical framework and structure of the thesis as well as its relationship to previous research
- a summary of the research plan (max. 200 words)
- preliminary timetable
- preliminary financing plan
- previous independent projects in higher education including published papers, reports and degree projects

A financing plan must be submitted by the time of admission, stating the financial circumstances of the applicant for the duration of his or her studies. For admission, the student must be deemed to be financed to an extent allowing successful completion of the programme within four years for a licentiate degree. Admission without adequate financing of studies is not permitted. The department's access to resources for supervision must also be taken into account.

Research students must register at the beginning of each semester and in consultation with the supervisor specify the degree of activity at which they will be pursuing their studies over the semester.

5. Programme structure and content

The third-cycle programme consists of courses and thesis work, through teaching and supervision. The programme that leads to a licentiate degree normally demands two years of study, provided that the student pursues full-time studies and makes efficient use of the tuition offered.

The programme comprises 120 credits, divided into a course component of 45 credits and a thesis component of 75 credits.

5.1 Courses and other components

5.1.1 Courses

The course component consists of:

- Compulsory courses in methodology and theory corresponding to at least 15 credits including quantitative and qualitative methods, and the theory of science.
- Compulsory course in research ethics, 3 credits.
- If the research student is financed by or associated with the national Research School Management and IT, 15 credits of the compulsory courses within the research school must also be completed.
- The remaining credits are to be taken from elective courses offered by the department, but may also be from other subjects. The selection of internal/external courses is to be made in consultation with the supervisor.

Second cycle courses in informatics can be credited as part of independent study courses.

5.1.2 Research seminars

As a part of the studies and thesis work, the research student is to participate in seminars on the research activities of the department and the thesis work of other research students. The students are to be given an opportunity to present memoranda on theoretical and/or methodological issues of their project, as well as plans, papers and thesis drafts. Moreover, the research students are to have the opportunity to critically review the papers and drafts of other students.

The research student is to present his or her thesis project at no less than two seminars:

- Research proposal (RP) seminar, which is to take place at an early stage, where the student is to present a thorough research plan including the issues, method, preliminary theoretical framework of the thesis, as well as a plan for the work ahead. The seminar is to include at least two external reviewers, at least one of whom is to have a PhD.
- Final seminar, at which a complete draft of the licentiate thesis is to be presented. The seminar is to include at least two external reviewers who have a PhD, at least one of whom is to have the qualifications of an associate professor.

The research proposal and final draft can be either passed or failed.

5.2 Individual study plan

An individual study plan shall be drawn up for all research students, stating the structure of the studies and the financing. The study plan is to be drawn up by the research student and supervisor in consultation with the head of department. It is to be approved by the head of department and reviewed at least once every year.

5.3 Supervision

At least two supervisors shall be appointed for each research student at the department. All supervisors are to have undergone training for supervision in third-cycle education. The research student's wishes are to be taken into account as far as possible in the allocation of supervisors. The supervision is to provide the research student with advice on his or her studies and thesis project, and support throughout the work.

Information regarding the change of supervisor is available in *Procedure for the change of supervisor at the School of Economics and Management*, reg. no STYR 2016/860.

5.4 Thesis

The licentiate thesis is the most important component of the third-cycle programme leading to a licentiate degree and is to be based on an independent research project. The thesis is to demonstrate the student's ability to use research methodology and present problems and results in a precise and purposeful manner.

The licentiate thesis is to be presented and defended at a public seminar, and will be graded either *Pass* or *Fail*. The assessment is based on both the content of the thesis and the public defence.

The thesis is to be reviewed by an external reviewer and an examiner. The examiner must have the qualifications of at least an associate professor and must not be one of the research student's supervisors.

6. Teaching and examination

The teaching consists of courses and seminars. At the end of each semester, the courses offered at the department the following semester are presented, as well as information about courses in other subjects that could be included in the course component.

Research students with teaching duties should complete at least two weeks of the University's teacher training and all research students shall be offered the opportunity to take courses in teaching and learning in higher education.

The assessment is based on oral or written exams, or on research papers and reports. Exams will take place during or in connection with the courses, and the grades awarded are either *Pass* or *Fail*.

In addition, the research student is expected to actively participate in public seminars, research seminars and visiting lectures.

For a degree of licentiate, the student must have passed all the assessed components included in the programme and the licentiate thesis.

Further information regarding the thesis, public defence and the examiner is available in *Regulations for third-cycle studies at the School of Economics and Management*, reg. no STYR 2018/1589.