



Faculty of Arts and Social Sciences

General syllabus for third-cycle programme in Information Systems

(Studieplan för utbildning på forskarnivå i informatik)

Decision	HS FN 2025-05-08	Reg. no.	HS2025/884	Replaces:	HS2015/176
Effective from	8 May 2025	until	further notice	Officer	Monica Eriksson

Syllabus approval

The syllabus was approved by the Faculty Board of Arts and Social Sciences on 29 January 2015 and revised on 8 May 2025.

General stipulations for third-cycle education are provided in the Higher Education Act and the Higher Education Ordinance. The doctoral programme is offered to the extent permitted by available funding.

1. General information

Information Systems was introduced as an academic discipline at Karlstad University College in 1982 and was approved as a doctoral discipline in connection with the inauguration of Karlstad University in 1999. Research development has since then been based on areas of special interest to researchers and doctoral students. Research and third-cycle education are conducted in several different areas of application based on four perspectives:

– ***Business-driven IT design***

Focuses on the connection between enterprises and IT systems from a *relational perspective* in different organisations in the value chain.

– ***User-oriented interaction design***

Focuses on the connection between people and IT systems from a *user perspective* in different types of computer interactions.

– ***Business and systems development in e-service design***

Focuses on the connection between people, organisations and IT systems from an *operational perspective*.

– ***Project as method***

Focuses on the connection between people and enterprises from a *management perspective* on projects in the organisation with an emphasis on professional operations.

Doctoral courses have been designed to align with the subject's research domains. The doctoral student's knowledge development is supported by supervision as well as regular seminars on basic research issues in information systems studies and project management. The subject groups in information systems and project management cooperate with other subjects at the university and with other universities in graduate schools and joint projects.

2. Programme outcomes

2.1 General outcomes

The general outcomes of licentiate or doctoral studies in terms of knowledge and understanding, competence and skills, and judgement and approach are specified as follows in the System of Qualifications (*Higher Education Ordinance, Annex 2*):

Knowledge and understanding

For a Degree of Licentiate, the third-cycle 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 specialised knowledge of*

research methodology in general and the methods of the specific field of research in particular.

*For the **Degree of Doctor**, the third-cycle student shall*

- 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

*For a **Degree of Licentiate**, the doctoral 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.*

*For the **Degree of Doctor**, the third-cycle 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 Licentiate**, the doctoral 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.*

For the **Degree of Doctor**, the third-cycle student shall

- *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.*

Licentiate thesis/Doctoral thesis

For a **Degree of Licentiate**, the third-cycle student shall have been awarded a pass grade for a research thesis of at least 60 credits.

For a **Degree of Doctor**, the third-cycle student shall have been awarded a pass grade for a doctoral thesis of at least 120 credits.

2.2 Subject-specific outcomes

An essential part of the doctoral programme is that the doctoral students gain experience in collaborating with other researchers, allowing them to establish both national and international connections. Such experience and networking provide broad and deep knowledge of research and development work in the discipline and adjacent fields. Doctoral studies in information systems prepare students for a further academic career as well as for professional work in the field such as analytical and consultative work for private and public organisations.

Doctoral students should also gain insights into multidisciplinary working methods and experience of meetings across traditional subject boundaries.

3. Entry requirements

To be admitted to third-cycle education, applicants must meet both the general and specific entry requirements, and demonstrate the ability to successfully complete the programme.

3.1 General entry requirements

To meet the general entry requirements, the applicant must have been awarded a master's level qualification; satisfied the requirements for courses comprising at least 240 credits of which at least 60 credits were at master's level; or acquired substantially equivalent knowledge in some other way in Sweden or abroad. The faculty board may permit an exemption from the general entry requirements for an individual applicant if there are special grounds. (*Higher Education Ordinance, Chap. 7, Sect. 39*)

3.2 Specific entry requirements

To meet the specific entry requirements, the applicant must hold a Degree of Master (60 credits) in the main field of Information Systems or Project Management. An applicant can also be eligible after having acquired equivalent knowledge in some other way, in the country or abroad.

4. Admission

Applications for admission to third-cycle programmes are processed in accordance with the procedures prescribed by the Board of Karlstad University.

5. Selection

Candidates will be selected based on their assessed capacity to successfully complete a programme at the doctoral level. The selection is based on the applicant's previous study results with an emphasis on the quality of independent written work of a scholarly and investigatory nature, particularly at the master's level. Weight will also be given to the applicant's language skills, the extent to which the applicant intends to be a physically present and active member of the research environment of the subject, as well as the capacity of available supervisors in the department.

6. Programme curriculum and structure

The doctoral programme can lead to a Degree of Doctor or a Degree of Licentiate. The doctoral degree requires four years of study, the equivalent of 240 credits, and the licentiate degree two years or 120 credits. The studies include coursework as well as an independent project (licentiate or doctoral thesis). To earn a doctoral degree, the candidate must complete 90 credits of coursework. To earn a licentiate degree, the candidate is required to complete 60 credits of coursework.

6.1 Courses

Mandatory courses

For a Degree of Doctor, the following courses are mandatory (49.5 credits):

- Qualitative methods, 7.5 credits
- Quantitative methods, 7.5 credits
- Philosophy of science, 7.5 credits
- Communicating science, 7.5 credits
- The structure and content of a doctoral thesis (criteria of originality, credibility and communicability are addressed along with the writing process), 7.5 credits
- Information systems as an academic discipline, 7.5 credits
- User-centred systems development and project management, 7.5 credits

For a Degree of Licentiate, the following courses are mandatory (30 credits):

- Qualitative or quantitative methods, 7.5 credits
- Philosophy of science, 7.5 credits
- Information systems as an academic discipline, 7.5 credits
- User-centred systems development and project management, 7.5 credits

The two mandatory subject-specific courses provide a broad coverage of the field of information systems. The course *Information systems as an academic discipline* explores the academic foundations of information systems and defines its key subfields. The development of the subject is studied in relation to the history of ideas. Research development in the field is addressed, especially in relation to the research specialisations at Karlstad University.

The course *User-oriented systems development and project management* looks at systems development models from a historical perspective. The concept of user-oriented systems development is introduced and methodological implications are discussed. Project management models and methods are examined. Similarities and dissimilarities in design, structure and content of methods are clarified. The course also addresses why, what and how methods support development efforts.

The examiner decides if any of the mandatory courses can be replaced with an equivalent course offered within a graduate school or in collaboration with other subjects and departments.

Elective courses

For a Degree of Doctor, elective courses totalling 40.5 credits are selected in consultation with the supervisor and examiner. These courses should be selected to support the thesis project and provide the specialised knowledge it requires.

For a Degree of Licentiate, elective courses totalling 30 credits are selected in consultation with the supervisor and examiner. They should also support the work on the licentiate thesis.

6.2 Doctoral and licentiate thesis

Doctoral students are required to write a thesis for a doctoral or a licentiate degree, either as a monograph or as a compilation thesis. The topic of the licentiate or doctoral thesis is chosen in consultation with the supervisor and the examiner. Candidates are required to defend their licentiate thesis at a seminar and their doctoral thesis at a public examination. Licentiate degree holders may continue their research toward a doctoral thesis, provided they have been admitted to the doctoral programme. Theses may be written in Swedish, Norwegian, Danish, English, German or French. If a thesis is written in a language other than English, a summary in English must be included.

Before the thesis is presented, the supervisor, doctoral student and examiner should discuss quality criteria according to SISA (Swedish Information Systems Academy)¹:

- Relevance: Well-formulated, -delimited and -founded research questions
- Well-articulated and considered research design
- Cumulativity: Selected and well-described theoretical frame which is used
- Well-described empirical base
- The validity of knowledge contributions (empirically and theoretically well-founded)
- The transferability of knowledge contributions (abstraction)
- Innovative value of knowledge contributions
- Independence of the thesis work
- Communicability: Clarity, transparency and conceptual acumen
- Internal conferences: Integrated and consistent argumentation
- Subject consistency
- Exemplarity
- International exposure/appraisal

Further information is provided in the policy documents “Regulations for Doctoral Theses and Public Defence Procedures” and “Regulations for the Licentiate Theses”.

¹https://sisa-org.se/wp-content/uploads/2016/10/Regelverk_Langeforspriset.pdf

Seminars and reviews – milestones towards a degree

(1) The first version of the individual study plan (Sect. 6.4) must be submitted for approval no later than six months after the start of third-cycle studies (HS 2024/972, Sect. 4.1.4.5). The research content referred to in section 6.4 is peer-reviewed at a research seminar before the study plan is submitted.

(2) Each doctoral student is expected to present at least one research seminar per semester as part of the regular seminar series for the information systems group. This applies regardless of the study pace (as long as it exceeds 0%), although exceptions can be made in consultation with the supervisor. The doctoral student presents challenges in their research or findings from literature reviews and empirical work.

(3) Mid-way review: A doctoral student who is not scheduled for a licentiate thesis seminar within the equivalent of two years of full-time study must attend a review at the end of the second year. At the review, a person appointed by the examiner to read the draft of the thesis discusses the text with the author.

(4) Final review for doctoral students aiming for a Degree of Doctor: As preparation for the public defence, a seminar is held 4–6 months before the planned defence date, during which the entire manuscript is reviewed. Normally, an external reader is appointed by the department. After the review, the doctoral student, supervisor and examiner discuss which parts need improvement before the thesis is submitted for printing.

6.3 Supervision

Students admitted to a third-cycle programme are entitled to supervision in accordance with the principles stated in the current policy document at Karlstad University.

6.4 Individual study plan

Within six months of admission to the third-cycle programme, each doctoral student must draw up an individual study plan in consultation with their supervisor. The plan should include a realistic time plan for coursework, thesis work and supervision. It should also include an introduction to the proposed research field, problem, aim, methodological and theoretical frames, and relevant ethical considerations.

The individual study plan is subject to continual revision (at least once a year), with potential written comments and corrections.

6.5 Examination

Doctoral students are assessed in accordance with the requirements of each individual course syllabus. Licentiate and doctoral theses are examined in accordance with the Higher Education Ordinance (Chap. 6, Sect. 33–35) and Karlstad University's current regulations.