Dnr: HNT2015/51

Faculty of Health, Science and Technology

Curriculum for Doctoral Studies in Risk and Environmental Studies

(Third-Cycle Education)

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Curriculum Approval
The curriculum was approved by the Faculty Board of Social and Life Sciences 2012-12-12 and is effective from the day of decision.
Revised by the Dean reg.no HNT 2014/1:32, 2014-02-17 and is effective from the day of decision.
Revised by the Faculty Board of Health, Science, and Technology 2015-09-24 and is effective from the day of decision.

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

1. General Information

Risk and Environmental Studies is an interdisciplinary subject, based on the research traditions of environmental studies, public health studies and risk management. Primarily, studies in the field centre on the societal needs of systematically managing various threats and risks to health, critical infrastructure or our environment. Risk and Environmental Studies involves analyses of threats as well as preparing for and promoting efforts to support sustainable development.

In accordance with Karlstad University's equal opportunities policy, gender issues are addressed throughout the programme. Doctoral students are also introduced to multi-, inter- and transdisciplinary approaches and involved in interdisciplinary experiences.

The doctoral programme is offered in cooperation with various research schools at Karlstad University and in conjunction with Karlstad University and other universities, for example, the research schools Region Building and Health at Karlstad University and the national Centre for Natural Disaster Science (CNDS), which is a cooperation between Karlstad University, Uppsala University and the Swedish Defence University. Cooperation is in the form of joint courses, seminars, and thesis supervision.

The doctoral programme in Risk and Environmental Studies is designed to prepare for an academic career as well as for qualified tasks in other professional areas, such as public service, industry and organisations, nationally and internationally.

Three areas of specialisation are offered:

- Climate safety
- Personal safety
- Environmental science

2. Aims and Objectives

The general objectives of licentiate or doctoral studies in terms of knowledge and understanding, competence and skills, and judgement and approach are specified as follows in the *Higher Education Ordinance, Annex 2, SFS* 2006:1053):

Degree of Licentiate
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.*

Competence and skills
*For a **Degree of Licentiate** the third-cycle student shall*

- *demonstrate the ability to identify and formulate issues with scholarly precision critically, independently 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 independently in research and development work and to work autonomously in some other qualified capacity.*

Judgement and approach
*For a **Degree of Licentiate** the third-cycle 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.*

Degree of Doctor
Knowledge and understanding
*For a **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 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, independently 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 third-cycle student shall*

- *demonstrate intellectual independence 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.*

Subject-Specific Objectives
The subject-specific objectives for third-cycle education in risk and Environmental Studies at Karlstad University are:

Knowledge and understanding
For a **Degree of Licentiate** the student shall

- demonstrate a sustainability perspective

For a Degree of Doctor the student shall

- demonstrate a sustainability perspective

3. Admission Requirements

A person who meets the general admission requirements as well as the specific admission requirements and is judged to have the ability otherwise required for pursuing the programme successfully is eligible for admission.

3.1 General eligibility

A person who has earned a master's degree of at least 240 ECTS credits of

which at least 60 ECTS cr are studies at master's level, or who in some other way in the country or abroad has acquired largely equivalent knowledge has general eligibility for admission. If there are special reasons for doing so, the faculty board may grant an individual applicant exemption from the general eligibility (Higher Education Ordinance, Ch.6).

3.2 Special eligibility
The special eligibility requirement for admission to doctoral studies in Risk and Environment Studies is a Master's Degree, or equivalent, in a field of study with relevance to the subject Risk and Environment Studies.

4. Admission Procedure
Applications for admission to doctoral studies are processed in accordance with the procedures prescribed by the Board of Karlstad University

5. Selection
Candidates will be selected on the basis of their assessed capacity to successfully complete a programme at the doctoral level.

In the ranking and selection of the candidates, special attention will be paid to previous study records, the quality of previously performed research or development work, especially at Master's level, language skills, the relevance of the proposed research area to the departmental research programme and supervision capacity.

6. Content and Outline
The doctoral programme can lead to a doctoral or licentiate degree. The licentiate degree requires two years of study, the equivalent of 120 ECTS cr. The doctoral degree requires four years of study, the equivalent of 240 ECTS cr. The studies include coursework and an independent project (licentiate thesis or doctoral thesis).

To earn a licentiate degree, the student is required to complete coursework of at least 30 ECTS credits and a thesis of at least 90 ECTS credits.

To earn a doctoral degree, the student is required to complete coursework of at least 60 ECTS credits and a thesis of at least 180 ECTS credits.

6.1 Courses
Mandatory courses for all doctoral students at Karlstad University must be included in the programme to the extent required by local regulations.

Cross-faculty courses
For the Degree of Licentiate
- The History and Philosophy of Science, 7.5 ECTS credits

For the *Doctor's* degree:

- The History and Philosophy of Science, 7.5 ECTS credits
- Communicating Science, 4.5 ECTS credits

Subject-specific courses

Subject specific courses for the Degree of Licentiate must total at least 12 ECTS cr and for the Degree of Doctor at least 22.5 ECTS cr. Methodology courses for the Degree of Licentiate must total at least 7.5 ECTS cr and at least 15 ECTS cr for the Degree of Doctor.

Subject-specific courses
- Problematization and Research Planning in Risk and Environmental Studies, 7.5 ECTS cr
- Theories, Concepts and Methods in Risk and Environmental Studies, 7.5 ECTS cr
- Active conference participation including presentation, 2-3.5 ECTS cr, extent and topic in consultation with supervisor and examiner.
- Active participation, including presentation, in the research seminars organized by Risk and Environmental Studies, 2.5-4 ECTS cr, extent and topic in consultation with advisor and examiner.

Methodological courses

- Preferably, the methods courses offered by the respective research schools.

Research School courses
Candidates enrolled in a graduate school take the appropriate courses offered there to meet the course work requirements. This applies to theoretical as well as methodological courses.

Optional courses
Optional courses are selected on the basis of the thesis area and/or methodological needs.

Other
The examiner decides if any of the general or subject-specific mandatory courses can be replaced by equivalent qualifications for the Licentiate or Doctor's degree. The examiner also decides the adjustments needed for students who are enrolled in a specific graduate school. Students choose relevant courses in consultation with the advisor and the examiner.

Doctoral seminars, at which students present their thesis plans and articles, are continuously arranged. The student is required to make presentations and to be a peer reviewer on several occasions and actively participate in seminars throughout the doctoral studies. The candidate is also expected to participate actively in national and international science conferences in their field.

6.2 Licentiate and Doctoral Theses

Third-cycle students are required to write a thesis for a licentiate or a doctoral degree, which may be a monograph or a compilation thesis. The latter alternative is recommended. The licentiate thesis is to be defended at a licentiate seminar and the doctoral thesis at a public examination. Further information is provided in the policy documents Regulations on the Licentiate Thesis and Regulations on Doctoral Thesis and Public Defence Procedures. The thesis topic for either degree is chosen in consultation with the advisor and examiner. The introductory chapter of a compilation thesis and a licentiate thesis should be written in a Scandinavian language or in English. The articles should be written in English and be published, or be ready for publication, in international research journals with peer-review procedures. Monographs or licentiate theses should be written in a Scandinavian language or English.

6.3 Supervision

Admitted students are entitled to advisors in accordance with the principles stated in the current policy document at Karlstad University.

6.4 Individual Study Plan

At the start of the studies, the student shall draw up an individual study plan (ISP) in consultation with the advisors. The plan shall include a realistic estimate of time for course work, thesis work and supervision. The plan shall also include a project description and relevant ethical considerations.

The plan shall also include an introduction to the proposed area, problem formulation, purpose, and methodological and theoretical frames.

The ISP is drawn up according to the form or system devised by the university.

The ISP is subject to continual revision (at least once a year) and shall be revised if changes in time or project plan are required.

For more information see the document “Procedures for Quality Assurance of Doctoral Studies in Risk and Environmental Studies at Karlstad University.”

Goal attainment in licentiate/doctoral studies shall be monitored on two occasions in the course of studies. After one year, an individual goal matrix is formulated and attached to the student’s individual study plan.

One year before the preliminary date of licentiate degree completion and two years before the preliminary date doctoral degree completion the outcome of the individual goal matrix is evaluated when the ISP is followed up. If the evaluation indicates that the goal attainment is not satisfactory, the study plan is revised to ensure that the national requirements are met at the time of the final examination. The revised goal matrix is attached to the individual study plan.

6.5 Examination

Licentiate/doctoral students are examined in accordance with the requirements of each individual course syllabus. Doctoral or licentiate theses are examined in

accordance with the *Higher Education Ordinance* (Ch.6, sections 33-35) and Karlstad University's current policy document.