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This is a translation of the approved general syllabus that is written in Swedish

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General syllabus for doctoral studies in Innovation and entrepreneurship

Field and subject

Field

Innovation science denotes a field where knowledge and understanding of processes and the dynamics around innovation is developed and thus supports business and society. The focus is on the development of new products and services, new technology, new business models, establishment in new markets, emergence of new knowledge-intensive industries and through renewal of societal functions.

Innovation science is a field of research and teaching where knowledge from different subject traditions work together around the common phenomenon of innovation. Examples of subjects that deal with innovation science issues[1] are Business Administration, Industrial Organization, Engineering Sciences, History, Environmental Science, Health Science, Economic Geography, National Economy, Political Science, and Sociology.

Innovation science is an applied research field where proximity to practice and empirical phenomena and events are of central importance for research and knowledge development. Innovations are seen in a broad perspective, including different types or forms of innovation (e.g., new products, services, processes, markets, and ways of organizing) that can vary in degree of novelty (e.g., from incremental to radical) and lead to different outcomes (e.g., from supportive to destructive) at different levels (e.g., organizational, industry, society).

Subject description

The subject of Innovation and entrepreneurship includes studies of how internal and external conditions affect innovation processes and how ideas develop and achieve success in markets and with users. Innovation and entrepreneurship is about generating ideas, managing change and development processes, as well as studies of markets or other external conditions for the innovation capacity of entrepreneurs, organizations, industries, regions or countries. It includes studies of business development, institutional development, technological development, new enterprises, industrial renewal, business dynamics, growth, and transformations. Within the doctoral education subject, international perspectives as

[1] For an overview, see e.g Ávila-Robinson, A., Islam, N. Sengoku, S. (2022) Exploring the knowledge base of innovation research: Towards an emerging innovation model, Technological Forecasting and Social Change, 182, https://doi.org/10.1016/j.techfore.2022.121804.

well as gender equality and sustainable development are treated. The research intends to lead to knowledge about, and understanding of, organization and strategies for innovation, the interaction between different actors in innovative processes, as well as political interventions and the institutional frameworks that entrepreneurs and organizations operate within and that affect the innovative ability. Based on the knowledge and understanding developed in the research, recommendations are conveyed that can be directed to leaders in companies and public administration, as well as to political decision makers.

The research subject Innovation and entrepreneurship has subject-related connections to business economics and industrial organization, stemming from common research interests in societal events and development processes such as technological development, entrepreneurship, industrial renewal, business dynamics and growth.[2] The theoretical base, research methods and scientific approaches within industrial organization and business economics are similar and complementary when studying innovation, which means that it is natural to integrate them into a common postgraduate subject. At the University, business administration and industrial organization are placed within the same academy with long-term cooperation in both education and research.

Eligibility

Basic Eligibility

Basic eligibility to doctoral education is stated in the Higher Education Ordinance (chapter 7, paragraph 39):

Basic eligibility to education on doctoral level if the prospective student has:

1. Graduated with a master's degree,

2. Completed course requirements of at least 240 credits (ECTS), where at least 60 credits (ECTS) at master level, or

3. In some other way, within or outside the country, gained equivalent knowledge to 1) or 2).

The university can give an exception for individual applicants from the requirement of Basic eligibility, if there are special reasons (2010:1064).

Special Eligibility

The Higher Education Ordinance (chapter 7, paragraph 40) stipulates:

The special eligibility requirements that are needed are absolutely necessary for the student to undertake the education programme.

The requirements apply to:

1. knowledge from a university education or an equivalent education.

2. professional experience, and

[2] For an overview of how research on innovation and entrepreneurship positions itself within innovation sciences studies, see e.g Fagerberg, J., & Verspagen, B. (2009). Innovation studies—The emerging structure of a new scientific field. Research policy, 38(2), 218-233. and Fagerberg, J., Fosaas, M., & Sapprasert, K. (2012). Innovation: Exploring the knowledge base. Research policy, 41(7), 1132-1153.

3. the necessary linguistic skills or other aspects required for the education programme.

To be accepted as a doctoral student in Innovation Sciences, it is required that the student has completed a master's degree in a field relevant to the research subject. However, it is possible that the student is required to obtain additional qualifications before starting the programme. The requirements regarding prior knowledge, as stated above, is considered fulfilled in cases where equivalent knowledge has been obtained, either in Sweden or abroad. Good knowledge of English is required both orally and in written communication. Admission to the doctoral programme is done on a continuous basis. The basis for the selection among eligible applicants to the doctoral education is the level of ability to carry out an education at postgraduate level.

Learning Goals

Licentiate degree

Knowledge and understanding

For degree of licentiate the doctoral 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 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 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 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,
- demonstrate the ability to identify the personal need for further knowledge and take responsibility for his or her on-going learning.

Doctoral degree

Knowledge and understanding

For the Degree of Doctor the doctoral student shall:

- demonstrate broad knowledge and systematic understanding of the research field as well as advance 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 the 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 the 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 specialised insight into the possibilities and limitations of research, its role in society and the responsibility of the individual for how it is used

Overview of the disposition and requirements of the education

Overview of the disposition and requirements of the education	Obligatory courses (credits)	Optional courses (credits)	Thesis (credits)	Sum (credits)
Doktoral degree	34,5	37,5	168	240
Licentiate degreee	25	20	75	120

Table 1. Overview of credits for doctoral degree and licentiate degree.

Degree requirements

Education on doctoral level is ended with doctoral degree or licentiate degree. The doctoral student also has the possibility to get a licentiate degree as a partial stage in the education.

Licentiate degree

For licentiate degree the following is required:

- approved courses of at least 45 credits (ECTS) and
- approved academic papers to the equivalent of at least 75 credits (ECTS).

Academic papers and courses must total together at least 120 credits (ECTS)

Courses

Compulsory courses

- 7.5 credits Introductory course for doctoral students (includes 3 credits philosophy of science)
- 10 credits Scientific Methods (includes quantitative and qualitative methods)
- 7.5 credits Introduction to Innovation Science

Examples of optional courses:

- International entrepreneurship and marketing
- Classics in Innovation Processes and Business Creation
- Scientific Communication
- Higher seminars in Innovation Sciences

The doctoral student is allowed to choose optional courses freely, after consultation with his or her principal supervisor. Courses can be chosen in the student's area of research and in specialised courses in relation to the student's thesis. Postgraduate courses given outside Halmstad University, at other universities both in Sweden and abroad, can be credited upon approval of the student's principal supervisor.

Seminars

The doctoral student shall, during the time of study, participate actively in seminars. A socalled "RP" seminar (where the student presents his / her plans regarding their scientific thesis) and a final seminar (where the cohesive script is presented) are compulsory. The doctoral student and principal supervisor may agree upon participation of additional seminar(s). The doctoral students shall present their research annually in front of independent researchers, within the research environments seminar series and Ph.D days.

Other optional activities

For participation and presentation of own article in a field of relevance at an international scientific conference, 1 credit (ECTS) is awarded. In total, a maximum of 5 credits (ECTS) can be awarded for conference participation. Conference participation must be planned in advance together with the principal supervisor. It needs to be planned and documented in the individual study plan (ISP).

Scientific thesis

The scientific thesis for the licentiate degree comprises of 75 credits (ECTS).

The scientific thesis may be a monograph or a compilation thesis. The compilation thesis consists of at least two papers with a related thesis frame. The licentiate thesis shall show that the student can demonstrate the methods and results in a logical and scientific manner. The licentiate thesis and the articles included must meet the requirements for publication in a scientific forum.

The requirement of independent work does not exclude that the scientific thesis / articles can be part of a larger research project.

The thesis is to be defended at a publicly announced seminar. The thesis will be graded either Pass or Fail

When grading, both the content of the work and the defence of the thesis will be taken into account. The thesis is graded by the Examiner. The purpose of doctoral education courses is that the student shall acquire the wide and specialised knowledge as stated earlier.

Doctoral degree

For a doctoral degree the following is required:

- approved courses of at least 72 credits (ECTS) and
- approved scientific thesis to the equivalent of at least 168 credits (ECTS).

Thesis and courses must total together at least 240 credits (ECTS)

Courses

Compulsory courses:

- 7.5 credits Introductory Course for doctoral students (includes 3 credits philosophy of
- science)
- 15 credits: Scientific Methods (includes quantitative and qualitative methods)
- 4.5 credits Scientific Theory
- 7.5 credits Innovation Science

Examples of optional courses:

- International Entrepreneurship and Marketing
- Classics in Innovation Processes and Business Creation
- Scientific Communication
- Higher seminars in Innovation Sciences

The doctoral student is allowed to choose freely, after consultation with their supervisor, which courses to take. These courses can be chosen in the student´s area of research and in specialised courses in relation to the student´s scientific thesis. Postgraduate courses given outside Halmstad University, at other universities both in Sweden and abroad, can be credited upon approval of the student´s supervisor.

Seminars

The doctoral student shall, during the time of study, participate actively in seminars. A socalled "RP" seminar (where the student presents his / her plans regarding their scientific thesis) and a final seminar (where the cohesive script is presented) are compulsory. The doctoral student and principal supervisor may agree upon participation of additional seminar(s). The doctoral students shall present their research annually in front of independent researchers, within the research environments seminar series and Ph.D days

Other optional activities

For participation and presentation of own article in a field of relevance at an international scientific conference, 1 credit (ECTS) is awarded. In total, a maximum of 5 credits (ECTS) can be awarded for conference participation. Conference participation must be planned together with the principal supervisor. It needs to be planned and documented in the course syllabus.

Scientific Thesis

The scientific thesis for the doctoral degree comprises of 168 credits (ECTS). The scientific thesis is the most important part of the education and based on independent scientific research. The scientific thesis may be a monograph or a compilation thesis in a field concerning innovation science. Furthermore, the thesis shall be written in accordance to the rules and guidelines stated by the Higher Education Ordinance. An examining committee grades the thesis.

The requirement of independent work does not exclude that the scientific thesis can be part of a larger research project.

If the thesis is written in English, a Swedish summary needs to be included and if the thesis is written in Swedish, an English summary needs to be included.

Degree title

After completed education a degree certificate is awarded (after application) with the following degree title:

Licentiate degree	
Ekonomie, Filosofie *eller* Teknologie licentiatexamen inom ämnet innovation och företagande	Degree of Licentiate of Science in Business and Economics, Degree of Licentiate of Philosophy *or* Degree of Licentiate of Engineering in the subject Innovation and entrepreneurship
Doctoral degree	
Ekonomie, Filosofie *eller* Teknologie doktorsexamen inom ämnet innovation och företagande	Degree of Doctor of Philosophy in the subject Innovation and entrepreneurship

Transition

Doctoral students that have been admitted before the general syllabus is valid may after consultation with the main supervisor and director of studies, request to transition to this syllabus. The individual study plan shall then be updated.