



Programme syllabus

Faculty of Social Sciences

Digitalisering som stöd för lärande, inriktning pedagogik, masterprogram, 120 högskolepoäng

Educational Technology, with specialisation in Pedagogy, master program, 120 credits

Level

Second Level

Date of Ratification

Approved 2019-02-07

Revised 2019-02-07 by the Faculty Board within the Faculty of Social Sciences

The programme syllabus is valid from autumn semester 2019

Prerequisites

General entry requirements for second-cycle studies, and specific entry requirements as follows:

- 90 credits in the main field of study Pedagogy, including an independent project comprising 15 credits, alternatively a Bachelor of Arts in Education including an independent project comprising 15 credits, or a Bachelor of Arts in Education and an independent project comprising 15 credits conducted outside of the programme, or the equivalent.
- Swedish B and English A, or the equivalent.

Description of Programme

The Master's programme offers the student the opportunity to graduate with a Degree of Master's with a specialisation in pedagogy. There must be a clear connection with teaching practice involving digital technology, or development of digital technology as support for teaching and learning. The programme is interdisciplinary and is organised by the Faculty of Social Sciences (FSV) and the Faculty of Technology (FTK). FSV is responsible for the specialisation in pedagogy and FTK is responsible for the specialisation in media technology.

The aim of the programme is for students to acquire the advanced knowledge, skills and approaches required for the development of technology and education in school. This takes place by means of participation in interdisciplinary courses co-designed by lecturers and researchers from both faculties. The aim is that students with different specialisations shall work together across the boundary of the disciplinary domains in order to be able to handle the challenges within the school environment and the education sector that arise from the development and learning by the use of digital technology. Active collaboration with EdTech companies and organisations within the education sector are key features in the programme.

Students at the Master's level may engage in specialised studies in one of the main fields of study, Pedagogy and Media Technology, including a degree project comprising 30 credits at the end of the second year of study. Students may also apply for a Degree of Master (60 credits), which includes a degree project comprising 15 credits. Students are also given the opportunity to gain professional experience through a semester of internship. A relevant placement may for instance be at an EdTech company (Linnaeus University is engaged in cooperation with the companies IST, Swedish EdTech Industry and EdTech sydost).

Possible employment prospects include the public, private or the non-profit sectors that involve qualified ICT educational development or evaluation work in the field. The programme qualifies for studies at the third-cycle level.

Objectives

Qualitative Targets in accordance with the Higher Education Ordinance

Knowledge and Understanding

For a Degree of Master, students shall:

- demonstrate knowledge and understanding of the main field of study, including general knowledge of the field as well as specialised knowledge in certain areas of the field, and insight into current research and development work,
- demonstrate advanced knowledge of methodology within the main field of study.

Competence and Skills

For a Degree of Master, students shall:

- demonstrate the ability to critically and systematically integrate knowledge and analyse, evaluate and handle complex phenomena, issues and situations, also with limited information available,
- demonstrate the ability to critically, autonomously and creatively identify and formulate problems as well as plan and complete advanced tasks by the use of adequate methods and within given time frames, and thereby contribute to the knowledge development as well as evaluate this work,
- in national as well as international contexts, demonstrate the ability to orally as well as in writing clearly account for and discuss their conclusions as well as the knowledge and reasonings on which they are based, in dialogue with various groups,
- demonstrate the skills required to participate in research and development work, or skills required for employment in some other professional practice.

Judgement and Approach

For a Degree of Master, students shall:

- demonstrate the ability to make assessments in the main field of study with reference to relevant disciplinary, social and ethical issues, and demonstrate awareness of ethical aspects on research and development work,
- 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 to develop the individual competence.

The above objectives are specified in each course syllabus included in the programme.

Programme Specific Objectives

After completing the programme, students shall be able to:

- apply digital technology and systems as support for teaching and learning processes
- develop their own competence in relation to the rapidly changing educational and technical landscapes
- understand structures and functions of digital socio-technical systems
- plan and design activities related to digitalisation as support for teaching and learning
- analyse and evaluate the applicability of technical solutions as support for the educational processes
- adopt a comprehensive view of the development and use of digital technology as support for the above-mentioned teaching and learning processes.

Content

There is a programme council connected with the programme, responsible for the long-term and strategic development of the programme. The programme council consists of a programme coordinator from FSV, two deputy programme coordinators from FSV and FTK respectively, representatives from both main fields of study, student representatives, and representatives from EdTech companies and education organisations. The programme coordinator is responsible for the administration of the specialisation and the contact with the students.

Programme Overview

The Master's programme comprises two years of studies, but is given in four years on part-time, equivalent to 120 credits. The programme includes courses comprising a total of 90 credits, and a degree project comprising a total of 30 credits.

A Degree of Master (60 credits) comprises a total of 60 credits, of which the degree project comprises 15 credits. The intended learning outcomes, content, course literature, examination formats etc. of the courses are described in the course syllabuses.

Pedagogy and Media Technology are the two main fields of study within the programme. The majority of the courses are joint courses for both main fields. One significant fundamental idea of the programme is the interdisciplinary perspective which reaches beyond the established structures of the academic subjects. The aim is that students with different specialisations shall work together across the boundaries of the disciplinary domains, in order to be able to handle the challenges they encounter within schools and the education sector, that come with development and learning by the use of digital technology. The interaction of students and their different specialisations is thus an important feature in all courses. By maximising complementary learning, students with different professions/specialisations are given the opportunity to learn from one another. Current educational studies and research into the field of digital technology for learning are studied and analysed in relation to implementation and design of interactive and creative learning environments.

During their first year of study, the students acquire comprehensive knowledge and a deep understanding of the basics of pedagogy and digital technology as support for learning. Studies during the first year include different areas and aspects within these two fields, such as philosophy of science, current fields of research, research methods within learning and digital technology, and educational and technical theory construction. Research methods within the field of learning, technology and technical platforms as well as computational thinking for learning are also included. Students shall also in relation to their individual competencies specialise in either programming and storytelling methods in the digital format, or web and social media technology. All courses have a practical approach.

The second year studies are continued during the third and fourth year by means of advanced courses in design, interaction, computer science and computational thinking for learning. The main focus is placed on the important changes that challenge the interaction of pedagogy and digital technology. There is also a connection made to research into the conditions and influential factors of evidence-based teaching. The Master's programme is completed with a degree project comprising 30 credits. 75 credits out of 90 credits in the courses are mandatory courses within both specialisations, Pedagogy and Media Technology. The remaining 15 credits consist of elective courses within the specialisations, which the students choose in consultation with the programme coordinator.

Programme Courses

The programme combines courses in the disciplinary domains from two faculties, but it has been developed with an interdisciplinary practice in mind. The aim of the Master's programme is that it shall also offer professional training in view of the rapid and extensive infrastructural investments made during the past few years in relation to digitalisation in schools and educational environments. The programme offers the possibility for collaboration with the university's collaboration partners within the local government and private sectors.

(P* and MT* refers to courses within the main fields of study, Pedagogy and Media Technology; a number of courses are included in both these main fields. P and MT refers to elective courses in the main fields of study Pedagogy and Media Technology; a number of elective courses can be studied in both specialisations).

Year 1

Scientific Theory and Method (P) (MT*) (A1N), 7.5 credits*

The aim of the course is for students to gain a deeper understanding of the correlation between knowledge interest, research question and methodology, and acquire advanced knowledge of research ethical issues from an educational as well as a technical point of view. Students shall also demonstrate an understanding of different methodological approaches, be able to conduct relevant statistical analyses as well as analyses of text-based materials.

Teaching and Learning with Digital Technologies (P) (MT*) (A1N), 7.5 credits*

The aim of the course is for students to be able to reflect critically on the issues of education, and put these in relation to the developments within an educational practice by the use of digital media, and be able to problematise previous and current educational theories and practices.

Computational Thinking and Programming in School (P) (MT*) (A1N), 7.5 credits*

Computational Thinking refers to competencies and knowledge required for problem solving when creating a computer programme. In this course, students learn different methods for using programming in their teaching, including being able to identify components and contents of the course syllabus where programming is a useful tool. Students will also learn how to use different programming techniques to break down, analyse and interpret the content of different subjects.

Social Media Ecosystems (MT) (A1F), 7.5 credits*

The aim of the course is to introduce and discuss concepts and fields of application related to current development and research activities within social media.

Introduction to Programming for Teachers (P) (G1N), 7.5 credits*

The aim of the course is to introduce teachers to programming in various environments, with the emphasis on the aspects required to learn programming in primary and secondary school. The course explains different concepts of programming.

Digital Storytelling Lab (P) (MT) (A1N), 7.5 credits*

The aim of the course is to introduce the students to the essential aspects of good educational storytelling in a digital format. Students learn the core of sound production: recording, editing, mixing and splitting. Students then proceed to storyboarding and the entire creative process. Important tools are also introduced, such as concept maps and visual models. Students combine sounds with visual models to create efficient learning experiences.

Web and Mobile Development (MT) (A1N), 7.5 credits*

The aim of the course is for students to acquire the technical basics, knowledge and skills related to various web and mobile development frameworks used for development and distribution of web and mobile services.

Innovation and Design of Educational Tools for School (P) (MT*) (A1N), 15 credits*

Students are given the opportunity to in a learning project work together with a small design and programming team at an EdTech company in order to respond to an actual educational need in school. Students who choose to complete their education after one year will conduct a degree project at the Master's level instead of this course.

Elective Courses, Year 1

Elective Course MT, 7.5 credits

Elective courses are intended to provide the students with complementary knowledge and skills as well as create room for individual specialisations within the programme. These courses are selected in consultation with the programme coordinator.

Elective Course P, 7.5 credits

Elective courses are intended to provide the students with complementary knowledge and skills as well as create room for individual specialisations within the programme. These courses are selected in consultation with the programme coordinator.

Degree Project, Master's level (P) (MT) 15 credits

Students who choose to complete their education after one year shall conduct a Degree Project, Master's level. The course includes independent research where the students shall define and formulate a research question, conduct advanced research, compile and present a written thesis and defend the degree project and review another project at a public discussion and examination seminar.

Year 2

Practice of Design for Learning (P) (MT*) (A1N), 15 credits*

Students shall look into how to adapt and apply methods for curriculum design in the 21st century classroom. Students shall focus on efficient techniques used to increase commitment, develop authentic assessments, encourage fulfilling cooperation and individualised learning for 1:1, flipped, mixed and online. Students shall draw up a plan for an entirely restructured course, which shall subsequently be made into an actual course syllabus ready for distribution, through design thinking. Students shall also be able to relate their technology competence to the intended learning outcomes.

Advanced subjects in EdTech (P) (MT*) (G1N), 7.5 credits*

The aim of the course is for students to develop the skills required in order to systematically identify and analyse subjects of current interest within the field of digitalisation as support for learning, on the basis of media technology and pedagogy. Students will work together in groups and look into, study and synthesize interesting and topical subjects within EdTech.

Degree Project, Master's level (P) (MT*) (AE2), 15/30 credits*

The aim of the course is for students to conduct a degree project based on a scientific approach and present their own findings in a stringent and interesting manner as well as present the academic studies of others and act as the external reviewer in a public discussion and examination. The course contains the following elements: Supervision and seminar discussions in connection with writing the report, data processing techniques, presentation of findings and information search in connection with the degree project.

Elective Courses, Year 2

Project Based Learning with Smart Objects (P) (MT) (A1N), 7.5 credits

The aim of the course is for students to acquire advanced knowledge and understanding of the integration of smart objects, such as DIY electronics, to solve specific educational challenges in a project based format. Students will examine and gain an understanding of why certain technologies seem more adequate for a certain educational purpose, and how one can shape the pupils' explorations in order to consider available options.

Learning Analytics for Students, Classes and Schools (P) (MT) (A1N), 7.5 credits

The aim of the course is for students to acquire knowledge of how quantitative and qualitative data can be collected and analysed in order to see patterns and trends related to the pupils' learning. Students are given the tools required to account for the different levels: students (micro), classroom (meso) and school (the macro perspective).

Elective Course MT (G1N), 7.5 credits

Elective courses are intended to provide the students with complementary knowledge and skills as well as create room for individual specialisations within the programme. These courses are selected in consultation with the programme coordinator.

Elective Course P (G1N), 7.5 credits

Elective courses are intended to provide the students with complementary knowledge and skills as well as create room for individual specialisations within the programme. These courses are selected in consultation with the programme coordinator.

Societal Relevance

This programme is primarily intended for professionals within the educational sector or who have educational assignments, and people with an education in computer science or media technology, or the equivalent. Students are expected to have an interest in working in different educational environments or practices related to education and digital media. Students in the programme shall also interact with the surrounding society on a regular basis. Where applicable, the student's own professional practice may form the basis of the studies. Cooperation is applied between different disciplines at the advanced level at Linnaeus University as well as with the international network of the university.

Individuals from the EdTech industry may be involved in the programme as guest lecturers in different courses, and possibly as assisting supervisors for the degree projects. Students are also encouraged to complete various course assignments in cooperation with different EdTech companies and organisations within this sector.

Internationalisation

Workplaces are becoming increasingly international, which is an important aspect reflected in the course content, and in the choice of course literature and themes, with the aim to in the future work within and across nation borders. Students may thus choose to study parts of the programme abroad during the third semester, or conduct the degree project during the fourth semester at another university in Sweden or abroad. Any credit transfers should be evaluated before leaving for studies abroad, and the period of studies abroad is decided on in consultation with the programme coordinator.

Programme Perspectives

Sustainable Development

Students encounter and improve their understanding of several of the social challenges of the programme, not the least within the field of sustainable development. This concerns for instance the ability to critically examine and challenge truth claims such as "alternative facts" or knowledge required to validate the development of sustainable digital products. Through studies based on research and practice, the contemporary demand for educational and technical knowledge is met as well as the learning and technology of future generations in a sustainable manner. Another way of contributing to a sustainable development is by encouraging students with different backgrounds to cooperate and test technical solutions in order to improve the knowledge of the need and possibilities for digitalisation. Many of these questions concern future professional roles as teachers, ICT educators and IT consultants.

Equal Terms

One of the key aspects of the programme is to create opportunities for all humans to learn and develop. The IT industry and the education sector are dominated by men respectively women. This is generally reflected in the educations available in these areas. The challenges concerning inequality and injustice in the education sector as well as the IT sector are part of the key content of the programme, and are discussed on the basis of different value related perspectives. Equal terms are also part of the attitudes and values that serve as a guidance and characterize the entire programme.

Entrepreneurial Approach

The studies prepare the students for the development of an entrepreneurial approach. Through the cooperation with the participating companies, students learn how to reflect on the possibilities for organisational development and knowledge-based change processes.

Quality Development

The programme is evaluated annually through recurrent written and oral evaluations. Discussions held with course participants, schools and representatives from the industry provide further information about the students' employability. The quality and possible quality development measures of the programme are discussed at special evaluation meetings held. A course evaluation is also conducted for each course. Compilations of course and programme evaluations are filed by the departments and are available for students as well as teachers. The programme is also evaluated by the programme council, where external members are included.

Degree Certificate

After completed studies in accordance with the objectives specified by the Higher Education Ordinance and the Linnaeus University Degree Ordinance, the student can apply for a degree certificate. Those having completed the Educational Technology, with specialisation in Pedagogy, Master's Programme, , 120 credits, can obtain the following degree:

Master of Science (120 credits) with specialisation in Educational Technology

Main field of study: Pedagogy

Students who apply for the Degree of Master (60 credits) and who thus complete their studies after 1 year, can obtain the following degree:

One-year Master of Science (60 credits) with specialisation in Educational Technology

Main field of study: Pedagogy

The degree certificate is written in Swedish and English. The degree certificate also comes with a Diploma Supplement (in English).

Other Information

Students who do not attain 45 credits before the start of the third semester shall contact the programme coordinator or a student and career counsellor in order to draw up an individual study plan for their future studies.