MASTER’S DEGREE PROGRAMME IN LEARNING, EDUCATION AND TECHNOLOGY (LET)

CURRICULUM

2012-2014

Faculty of Education
Department of Educational Sciences and Teacher Education
Master’s Degree Programme in Learning, Education and Technology (LET)

The Master’s Degree Programme in Learning, Education and Technology (LET) educates experts in learning. The core of the education consists of three theoretical viewpoints: self-regulated learning, collaborative learning, and the learning of expertise. Each aspect requires strong individual learning skills, and understanding and developing these abilities are essential in this program. Expertise includes abilities to use technologies in pedagogically grounded manners in different learning contexts.

The objectives, contents, and study methods of the program are based on the latest research in the field of learning, as well as expectations set by the individual’s working life and the society. Graduates from the LET program are competent to work for example in professions such as teachers, educators, educational consultants, human resources developers, project leaders, coordinators, researchers, and administrators in both the private and public sectors.

Objectives - LET students are able to:

- make use of the essential learning theories in the contexts of individual and collaborative learning, human resources, and life-long learning
- pedagogically evaluate different technologies in interaction, learning, and content production
- explain the process of self-regulated learning and develop their self-regulated and co-regulated learning skills
- explicate practical and theoretical means for learning expertise, and can monitor and reflect their progress to be an expert
- work collaboratively in different learning communities
- use research literature and research methods from the field of the learning sciences and educational technologies, as well as conduct scientific research combining learning and technology
- recognize the role of educational technology in the structures of the higher education institution, the working life and the society, and are able to take it into consideration in their own working life
Contents

The contents of the program are based on central and recent research in the learning sciences and technology-enhanced learning. The core of the education consists of three theoretical viewpoints: self-regulated learning, collaborative learning, and the learning of expertise. In addition, the program includes the exploration of the significance of learning and educational technologies in the working life and the society both now and in the future.

Implementation

Technology-enhanced individual and collaborative learning methods are used in the practical implementation of the LET program. The studies are implemented in collaboration with domestic and international research and teaching partners. In addition, collaboration with the working life is central to the implementation of the program. The language of teaching is English. The studies will be completed in two academic years as both contact and online teaching. Teaching will be organized as full-time study.

Personal Study Plan and Reflection of Learning

The student forms a personal study plan, which specifies in detail the courses to be completed for the degree and the completion schedule. In addition, the level of the language studies that the student has completed in his or her previous degree is evaluated when making the personal study plan and a plan to complete supplementary language studies will be made if necessary. The attainment of the goals stated in the personal study plan will be assessed regularly during the studies. In addition, the student will reflect upon his or her learning throughout the studies by writing a personal expert profile.
Learning, Education and Technology (LET) is a full-time two-year international Master’s Program (120 ECTS credits). After completing the program, students are awarded a Master of Arts (Education) degree, which enables them to continue their academic studies at the doctoral level. This degree does not constitute a formal teaching qualification. The studies consist of language, communication, and orientation studies, major studies and minor studies, as well as multidisciplinary studies and other optional studies.

(Minor changes are possible in the following table)

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>General Studies: Language, Communication, and Orientation Studies</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Language Studies</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Communication and Orientation Studies</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td><strong>total</strong></td>
<td><strong>5</strong></td>
</tr>
<tr>
<td></td>
<td>Minor Subject Studies: Introductory Studies in Educational Technology</td>
<td></td>
</tr>
<tr>
<td>418019P</td>
<td>Introduction to Learning and Educational Technology</td>
<td>6</td>
</tr>
<tr>
<td>418020P</td>
<td>Learning Theory and Pedagogical Use of Technology</td>
<td>7</td>
</tr>
<tr>
<td>418021P</td>
<td>Designing Technology-Enhanced Learning</td>
<td>6</td>
</tr>
<tr>
<td>418022P</td>
<td>Educational Projects</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td><strong>total</strong></td>
<td><strong>25</strong></td>
</tr>
<tr>
<td></td>
<td>Major Subject Studies: Advanced Studies in Educational Sciences</td>
<td></td>
</tr>
<tr>
<td>413311S</td>
<td>Self-Regulated Learning</td>
<td>7.5</td>
</tr>
<tr>
<td>413312S</td>
<td>Collaborative Learning</td>
<td>7.5</td>
</tr>
<tr>
<td>413313S</td>
<td>Expertise and Learning</td>
<td>7.5</td>
</tr>
<tr>
<td>413314S</td>
<td>Evaluating Technology-Enhanced Learning in Global School Systems</td>
<td>7.5</td>
</tr>
<tr>
<td>413315S-02</td>
<td>Research Methodology: Quantitative Research</td>
<td>5</td>
</tr>
<tr>
<td>413315S-01</td>
<td>Research Methodology: Qualitative Research</td>
<td>5</td>
</tr>
<tr>
<td>413008S</td>
<td>Master's Thesis</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td><strong>total</strong></td>
<td><strong>80</strong></td>
</tr>
</tbody>
</table>

Timing – credits per semester

<table>
<thead>
<tr>
<th></th>
<th>Year 1</th>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Autumn</td>
<td>Spring</td>
<td>Autumn</td>
<td>Spring</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The responsible persons of the studies are Professor Sanna Järvelä and Post-doctoral Research Fellow Pirkko Hyvönen.
General Studies: Language, Communication, and Orientation Studies 5 cr

Students must complete 5 credits of general studies. The general studies form an orientation to the university studies in Finland and particularly to the LET program. The general studies are divided to language studies (2 credits) and communication and orientation studies (3 credits).

Language Studies 2 cr

Students must complete 2 credits of language studies:
- Foreign students must complete the Survival Finnish Course (offered by the Language Centre at the university, code 900017Y). If they have already completed the Survival Finnish course or an equivalent Finnish course, or already have basic skills in Finnish, they can choose a more advanced level Finnish course (min. 2 credits) or a course in another language (min. 2 credits) from the courses offered by the Language Centre at the university.
- Finnish citizens must complete the Swedish language course (offered by the Language Centre at the university, code 901002Y). If they have already completed an equivalent course as a part of their Bachelor’s degree, they must choose a min. 2 credits of other language studies from the courses offered by the Language Centre at the university. (If the student’s previous studies have not included studies in the Swedish language, she/he can be exempted from these studies on the basis of the application addressed to the faculty.)
Objective
In this course, students will learn the characteristics and assessment of scientific texts. The objective is for the students to improve their scientific communication skills and understand the central terminology in the area of the learning sciences.

Contents

- Academic communication and writing
- Characteristics and assessment of scientific texts
- Use of databases

Learning objectives
After this course, the student is able to
- search for scientific publications in databases and evaluate them
- identify a scientific text and what separates it from other publications
- use central referencing practices and the basic functions of bibliographic management software

Implementation
Contact teaching 8 h, practice sessions 16 h, collaborative and independent study in contact teaching sessions and online 56 h.

Study material
To be announced at the beginning of the module.

Assessment
Active participation in contact teaching, practice sessions, and the collaborative and independent work. Successful completion of the learning assignments and practice works.

Teaching language: English
Minor Subject Studies: Introductory Studies in Educational Technology 25 cr

All students must complete minor subject studies in Introductory Studies of Educational Technology. These studies consist of the following compulsory courses.

Introduction to Learning and Educational Technology 6 cr, (418019P)

Objective
The goal of the course is to examine the role of educational technology as a part of the possibilities and demands of the learning society in different learning contexts. In this course, the students familiarize themselves with the theoretical background, core concepts, and practical applications of learning and educational technology. In this course, the students become acquainted with the different constituents of expertise, in connection with which they reflect upon their own expertise path in a digital portfolio. One central goal of this course is to learn to use and evaluate information and communications technology pedagogically.

Contents
- Significance of educational technology in a learning society
- Basic concepts related to educational technology
- Introduction to the study of learning and educational technology: objectives, research subjects and the theoretical framework
- Expertise and reflecting upon one’s own expertise
- Central ICT applications

Learning objectives
After this module the student can
- describe the basic concepts of educational technology
- name some of the central research topics in the field of learning and educational technology
- identify societal trends and strategic policies affecting the research field of educational technology
- describe the central characteristics of collaborative expertise
- use core utility software and information networks and evaluate their pedagogical usability, as well as
- plan and implement a digital portfolio in a blog environment

**Implementation**
Contact teaching 50 h, practice sessions 25 h, collaborative and independent study 86 h.

**Study material**
To be announced at the beginning of the module.

**Assessment**
Active participation in contact teaching, practice sessions, and the collaborative and independent work. Successful completion of the learning assignments.

---

**Learning Theory and Pedagogical Use of Technology 7 cr, (418020P)**

**Teaching language:** English

**Objective**
The module includes three theoretical points of view on learning and the support of learning, i.e., self-regulated learning, collaborative learning, and the acquisition of expertise. A central topic of examination is the potential of different technologies to support learning and collaborative knowledge construction. In this course, the student will be introduced to different collaborative learning models and themes related to the guidance and evaluation of learning.

**Contents**
- Self-regulated learning: Motivation and learning strategies in technology-supported environments
- Collaborative learning, Computer-supported collaborative learning (CSCL) and collaborative learning models
- Learning of expertise
- Possibilities of supporting learning offered by technology
- Planning technology-supported learning, guiding, and evaluating learning

**Learning objectives**
After this course, the student can
- identify the theoretical learning-related principles that form the basis of technology-supported studying and teaching
• define self-regulated learning, collaborative learning, and the acquisition of expertise on a conceptual level, as well as describe the relationships of those concepts
• justify the utilization of technology as support for learning from the point of view of learning research
• evaluate various collaborative learning models as supports for the learning sciences
• describe the basics of planning, supporting, and evaluating a learning process in a technology-based learning environment

Implementation
Contact teaching 45 h, small group sessions 50 h, collaborative and independent study 92 h.

Study material
To be announced at the beginning of the module.

Assessment
Active participation in contact teaching, small group sessions, and the collaborative and independent work. Successful completion of learning assignments and examination.

Designing technology-enhanced learning 6 cr, (418021P)

Teaching language: English

Objective
Students become familiar with the key concepts, theories, and approaches of Technology-Enhanced Learning (TEL). Students will develop their skills of setting up, implementing, and evaluating TEL by creating a virtual course in small groups. The course will be implemented in collaboration with international universities.

Content
• Technology-Enhanced Learning (TEL) concept
• Designing TEL: design process, selection of technology, constructing TEL environment
• Implementing TEL
• Evaluating TEL

Learning objectives
• Students will be capable of describing the characteristics of TEL
• Students will be capable of defining the main stages of designing TEL
• Students will be proficient at designing and implementing a pedagogically well-grounded web-course
• Students will be competent to assess pedagogical use of Information and Communication Technology (ICT)

**Working methods**
Lectures 15 h, individual and collaborative studying in virtual learning environment 145 h.

**Study material**
To be announced at the beginning of the module.

**Assessment methods**
Active participation in the lectures and individual and collaborative studying in virtual learning environment.

---

**Educational Projects 6 cr, (418022P)**

**Language of instruction:** English

**Objective**
The goal of this course is to implement a project in which the students study the theory of project work and project management and participate in the implementation of a project as a part of the project team. The areas of application of the project are development challenges related to learning and educational technology. Different technological applications will be utilized in the project, and the use of those applications as learning tools will be evaluated and developed.

**Contents**
- Basics of project work
- Planning, practical realisation, and administration of project work
- Special characteristics of educational projects
- The utilization of technology in project work and educational projects
- Development challenges in the field of learning and educational technology

**Learning objectives**
After this course the student can
- plan and implement an educational project
- work responsibly as a part of the project team
- plan and evaluate educational projects utilizing current learning research information
- apply the special competence of his or her own field to the contents, planning, and implementation of projects
- work as an expert in his or her field in a multidisciplinary project team
Implementation
Contact teaching 40 h, independent and collaborative work in a project team, as well as practical project and reporting 120 h.

Study material
To be announced at the beginning of the module.

Assessment
Active participation in contact teaching and the work of the project team. Implementation of the project and reporting.

Teaching language: English
Major Subject Studies:
Advances Studies in Educational Sciences
80 cr

All students must complete 80 credits of major subject studies. The advanced level studies in the learning sciences consist of the following compulsory courses.

Self-Regulated Learning 7.5 cr, (413311S)

Objective
The student familiarizes himself/herself with research explaining the core processes related to self-regulated learning. With this knowledge, students analyze the prerequisites for being a skilled learner and the development into a life-long learner. In addition to this, she/he is able to explain the significance of working as a team to the emergence of new knowledge and understanding. The goal is that by knowing the learning process, the student will be able to use different technological applications in supporting the learning sciences and developing new learning and teaching models in schools and the working life.

Contents
- Cognitive learning strategies and motivational and emotional factors
- Self-regulation of learning
- Learning as a social phenomenon
- Learning as a situational activity

Learning objectives
After this course, the student is able to
- analyze the mutual interaction of cognitive, emotional, and motivational factors and their effect on learning
- compare and explain the significance of individual and group activity in learning
- predict, develop, and evaluate the connection of different technological applications to the process of self-regulating learning

Implementation
Contact teaching 20 h, collaborative and independent study 180 h.

Study material
To be announced at the beginning of the module.
Assessment
Active participation in contact teaching and collaborative and independent work. Completing learning assignments.

Teaching language: English

Collaborative Learning 7.5 cr, (413312S)

Objective
Computer-Supported Collaborative Learning (CSCL) is an emerging branch in the interdisciplinary field of the learning sciences that studies learning and teaching in technology-enhanced contexts. Students will comprehend and review the theoretical background for collaborative learning and evaluation of CSCL. Students will also deepen their understanding of particular CSCL themes in various educational and work life contexts from both theoretical and practical perspectives.

Content
- Learning communities
- Computer-Supported Collaborative Learning (CSCL)
- Distributed cognition
- Technological tools for distributing cognition
- Collaborative academic writing

Learning objectives
Students will
- understand the state-of-the-art theoretical basis for CSCL and learning communities in various educational and work-life contexts
- be capable of designing, evaluating, and assessing collaborative learning in technology-enhanced environments
- improve their collaborative academic writing and argumentation skills

Working methods
Lectures 40 h, individual and collaborative studying in virtual learning environment 160 h.

Study material
To be announced at the beginning of the module.

Assessment methods
Active participation in lectures, individual, and collaborative studying in a virtual learning environment.

Language of instruction: English
Expertise and Learning 7.5 cr, (413313S)

Objective
The student becomes acquainted with the concepts of expertise and social innovation and their relationship. The student studies in depth the development of expertise, affecting factors, and the meaning of social innovations for the sharing of expertise. In this course, students also familiarize themselves with developing an expert profile and analyze the meaning of expertise in the surrounding society.

Contents
- Education, working life and expertise
- Theoretical background of the learning of expertise
- Working strategies characteristic of an expert
- Social innovations as a part of expertise

Learning objectives
After this course, the student
- is able to examine the learning of expertise as a life-long process that one can pursue oneself
- understands the theoretical framework of the learning of expertise and is able to apply it in practice
- is able to explain and interpret the factors affecting the learning of expertise
- is able to monitor and reflect upon his/her own activity and the activity of the society in the framework of the acquisition of expertise
- understands the effect of education and the working life in supporting the learning of expertise

Implementation
Contact teaching 40 h, collaborative and independent study 160 h.

Study material
To be announced at the beginning of the module.

Assessment
Active participation in contact teaching and collaborative and independent work in an expert group. Completing learning assignments.

Teaching language: English
Designing technology-enhanced learning in global school systems 7.5 cr, (413314S)

Description
Students become familiar with versatile school systems in a multicultural context. Students will develop their skills in designing, realizing, and evaluating technology-enhanced learning in different school systems.

Content
- Concept of comparative education, school system, and technology-enhanced learning
- Introduction of school systems of participating countries
- Pedagogical use of technologies in learning and in different school systems

Learning objectives
After completing the module, students will be able to
- recognize the needs, problems, situations, and practices of pedagogical use of technologies in global school systems and find research-based solutions for the shortcomings
- analyze and compare education in different school systems and identify factors affecting education in global contexts
- evaluate technology-enhanced learning processes, in order to develop and analyze structures for the best practices

Working methods
Lectures 50 h, individual and collaborative studying in a virtual learning environment 150 h.

Study material
To be announced at the beginning of the module.

Assessment methods
Active participation in the lectures, individual, and collaborative studying in a virtual learning environment.

Language of instruction: English
Objective
The students examine the quantitative research methodology as a whole, from planning the research to the statistical analysis of the data and to the deduction phase in which theory is used. A central approach is examining critically the misconceptions related to quantitative research. Simultaneously, the students will use the central working methods necessary for quantitative research.

Contents
- Basics of quantitative research
- Significance of theory in quantitative research
- Operationalization and related problems
- Statistical deduction and statistical description, as well as making deductions from material to theory
- Questions of reliability in quantitative research

Learning objectives
After this course, the student can
- process and analyze quantitative data
- report the results from quantitative research material
- assess the reliability of a quantitative study
- apply the knowledge thus gained to his or her Master’s Thesis

Implementation
Contact teaching 15 h, practice works and familiarizing oneself with the preliminary material 70 h, and collaborative and independent study in contact teaching sessions and online 49 h.

Study material
To be announced at the beginning of the module.

Assessment
Active participation in contact teaching and practice sessions. Successful completion of the learning assignments.

Teaching language: English
Qualitative Research 5 cr, (413315S-01)

Objective
Students explore the tradition of qualitative research, particularly the methods used in learning research. The main focus of the course will be in perceiving the research process as a whole and working on the students’ own Master’s Theses.

Contents
- Basics and central concepts of qualitative research
- Qualitative research approaches
- Research plan
- Theoretical framework
- Research material and the analysis thereof
- Ethicality and reliability
- Writing a research publication

Learning objectives
After this course, the student is able to
- compile a research plan and report
- process and analyze qualitative data
- describe and report results from qualitative research data
- evaluate the ethicality and reliability of qualitative research
- apply the knowledge thus gained to his or her Master’s Thesis

Implementation
Contact teaching 50 h, seminar work 30 h and independent and collaborative study 54 h.

Study material
To be announced at the beginning of the module.

Assessment
Active participation in contact teaching and seminar work. Successful completion of the learning assignments.

Teaching language: English
Description
The course is linked to the contents of the previous modules, especially the quantitative research, and these contents will be studied in depth and applied to the Master’s Thesis work. In this course, the students are given support in order to expedite the completion of their Master’s Theses, especially through participation in research teams. Students carry on their final thesis as a research process and the demands and challenges related to writing it.

Contents
- Faculty research themes and objectives
- Research process, particularly the Master’s Thesis, as a final thesis
- Selecting a topic and planning the research
- Compiling a research plan
- Methodology
- Working in a research team

Learning objectives
After this course the student can
- compile a research plan: decide upon research goals, define research questions and select appropriate methods
- plan and implement the data collection
- analyze research data
- evaluate research scientifically and ethically
- master referencing practices and search for sources and evaluate them critically
- write a research publication

Implementation
Contact teaching 30 h, research teamwork 40 h and independent study 998 h.

Assessment
Write a Master’s Thesis and actively participate in contact teaching and research teamwork.

Study material
To be announced at the beginning of the module.
Optional Studies 10 cr, (A200090)

The student can select a total of 10 credits of optional studies from a selection of courses announced separately. The courses are implemented in collaboration with the other Master’s Programs at the University of Oulu and international partners. The available study module selection varies by academic year. Students can select their optional studies, e.g., on the basis of their previous studies, thesis topic, or personal interest.