# Opasraportti

## FEdu - Learning, Education and Technology, MA (Education) (2020 - 2021)

**University's new study guide for academic year 2020-2021 is published at https://opas.peppi.oulu.fi.**

**The study guide includes information on degrees, curriculums, courses and course timetables. Course registrations are still done in Oodi.**

**If you have questions on information in the study guide, please contact the study field's Academic Affairs Service Team https://www.oulu.fi/forstudents/faculty-study-affairs.**

Learning, Education and Technology (LET) is a full-time two-year international master's programme. After completing the programme, students are awarded a Master of Arts (Education) degree. The core of the education consists of three theoretical viewpoints: self-regulated learning, collaborative learning, and technology-enhanced learning. Each of these aspects is discussed both in theory and in practice.

The programme aims to develop knowledge and competencies needed in modern education, namely skills for designing, conducting, assessing and analysing versatile learning situations both in face-to-face and technology-enhanced learning contexts. Working-life connections are highlighted throughout the programme. The studies are implemented in collaboration with national and international research and teaching partners.

LET programme is built on over 20 years of groundbreaking research in the Learning and Educational Technology Research Unit. The unit performs top research on learning sciences in collaboration with international networks by investigating how people learn. LET students are in close connection with the latest research in their everyday studies.

# Tutkintorakenteet

## LET - Master's Programme in Learning, Education and Technology

Tutkintorakenteen tila: archived

Lukuvuosi: 2020-21

Lukuvuoden alkamispäivämäärä: 01.08.2020

### General Studies: Orientation Studies (10 ECTS cr) (10 op)

405519Y: LET Scientific Grounding, 5 op
413069S: Orientation to Master's Studies, 5 op

## Major Subject Studies: Advanced Studies in Educational Sciences (80 ECTS cr) (80 op)

In the LET programme, all students must complete 80 credits
of major subject studies (code H250511).

H250511: Advanced Studies in Educational Sciences (LET), 80 op
  *Mandatory studies*
    413323S: Computer Supported Collaborative Learning, 5 op
    413324S: Socially Shared Regulation of Learning, 5 op
    413325S: Emergent Technologies, 5 op
    413326S: Collaborative Learning Designs , 5 op
    413327S: Collaborative Problem Solving in Working Life, 10 op
    413328S: Research Methodologies in Learning Sciences, 10 op
    408044S: Thesis Seminar, 5 op
    408043S: Master's Thesis, 30 op
    408045S: Abstract / Maturity Test, 0 op
    413329S: Internship, 5 op

## Minor Subject (25 ECTS cr) (vähintään 25 op)

In the LET programme, all students must complete minor subject studies in Minor Subject Studies: Learning, Education and Technology 25 credits (code A255301).

A255301: Digital Technologies in Teaching and Learning, 25 op
  *Compulsory*
    418027P: Self-Regulation and Collaborative Learning, 5 op
    418028P: Learning Environments and Technologies, 10 op
    418029P: Educational Technology Project, 10 op

## Optional Studies (5 ECTS cr) (vähintään 5 op)

In the LET programme, students can select a total of 5 credits of optional studies. Students can select their optional studies, e.g., on the basis of their previous studies, thesis topic, or personal interest.

*Kindly note that in order to complete courses by other departments or Languages and Communications Center, etc. students might need to apply for a study right or they might be required to register by certain annual deadline. Students are advised to familiarise themselves with the policies and procedures of the department in question.*

413330S: Entrepreneurial Mindset in Education, 5 op

# Opintojaksojen kuvaukset

# Tutkintorakenteisiin kuuluvien opintokohteiden kuvaukset

## 405519Y: LET Scientific Grounding, 5 op

**Voimassaolo:** 01.08.2020 -
**Opiskelumuoto:** General Studies
**Laji:** Course
**Vastuuyksikkö:** Faculty of Education
**Arvostelu:** 1 - 5, pass, fail
**Opettajat:** Essi Vuopala

**Opintokohteen kielet:** English

**ECTS Credits:**
5
**Language of instruction:**
English
**Timing:**
1st year
**Learning outcomes:**
After completion of this course, the student is able to
- describe the basic concepts of learning sciences,
- name the main theories in learning and instruction,
- explain educational use of technology over time, and
- work in various multicultural groups.

**Contents:**

- Basic concepts and theories of learning and instruction
- Introduction to how people learn individually and in groups
- History and current trends of technology-enhanced learning
- Current trends in learning sciences and LET research

**Mode of delivery:**
Mode of delivery is online learning which consists of
- Flipped Classroom Introductory materials, 10h
- Individual and collaborative learning online activities, 75h
- Individual reading/ writing tasks, 50h

**Learning activities and teaching methods:**
Learning activities consists of flipped classroom lectures followed by collaborative discussions in online environment.
Students reflect individually those topics of the course which they found especially interesting/ useful.

**Target group:**
1st year LET students

**Recommended or required reading:**
How People Learn: Brain, Mind, Experience, and School: Expanded dition. (2000). Washington, DC: The National Academies Press.
The Cambridge Handbook of the Learning Sciences. (2006). New York: Cambridge University Press.
and/or other contemporary readings in the field of learning and educational technology, to be announced at the beginning of the course.

**Assessment methods and criteria:**
Completion of the course requires active participation in all course activities online and independently.   It also requires successful completion of all the learning assignments and exercises. Learning outcomes are assessed through group and individual assignments.

5: All course assignments are comprehensive in terms of the contents of the course, and they represent very deep and wide familiarity with course materials. The student is able to express that s/he has understood and is able to combine key concepts and theories of the learning sciences. The learning assignments are reflective in nature. The student participates very actively in group work, and contributes to the group assignments.

4: All course assignments are comprehensive in terms of the contents of the course, and they represent good familiarity with course materials. The student is able to express that s/he has understood and is able to combine key concepts and theories of the learning sciences. S/he participates actively in group work, and contributes to the group assignments.

3: All course assignments are comprehensive in terms of the main contents of the course, and they represent familiarity with course materials. The student is able to express that s/he has understood the key concepts and theories of learning sciences. S/he participates very actively in group work, and contributes to the group assignments.

2: The student has done most course assignments, but they do not cover all contents of the course and the use of course materials is mostly superficial. The student is able to express her/his understanding about some of the key concepts and theories in the learning sciences. S/he participates in most of the group meetings, but his contribution to the group activities is not clearly indicated.

1: The student hasn't done all course assignments or the assignments are superficial in terms of the main course contents and the use of course materials. S/he is able to express his understanding of a few concepts and theories in the field of learning sciences, but on a very superficial level. The student's participation in group work is passive, and his/her contribution to the group activities is not clearly indicated.

**Grading:**
0-5
**Person responsible:**
Essi Vuopala
**Working life cooperation:**
Authentic research projects are presented and discussed during the course.


# 413069S: Orientation to Master's Studies, 5 op

**Voimassaolo:** 01.08.2020 -

**Opiskelumuoto:** Advanced Studies

**Laji:** Course

**Vastuuyksikkö:** Faculty of Education

**Arvostelu:** 1 - 5, pass, fail

**Opintokohteen kielet:** Finnish

**ECTS Credits:**
5 cr
**Language of instruction:**
Finnish and English
**Timing:**
1st year of master studies
**Learning outcomes:**
The course equips the student as a future expert of education and learning. It combines two themes obvious to master level studies – the questions connected to work life and scientific production of knowledge. The course helps the student to recognize and strengthen their own expertise. It also provides experiences of finding, reading and producing scientific knowledge.
Having passed the course, the student is able to:
- find information regarding their own studies and future career, as well as to plan them
- analyze and produce scientific text
- perceive different ways of conducting educational research and producing academic knowledge
-  present and compare different kinds of educational expertise and profile oneself in relation to them
- concern oneself as a future conductor of research and as a professional acting based on scientific knowledge

**Contents:**
- Study and career planning and counselling
- Presenting faculty research
- Expert talks
- General master's thesis information
- Master's thesis groups' information
- Information services
- Seminars and teacher tutor sessions
- Independent work
- STEAM in master studies

**Mode of delivery:**
Blended teaching
**Learning activities and teaching methods:**
Contact lessons minimum 20h, including lectures 16h. Independent study 100-115, depending on the amount of contact teaching. Total amount of work 135h.
**Target group:**
All master level students (with the exception of students from music education proramme
**Prerequisites and co-requisites:**
no
**Recommended or required reading:**
Active participation in the joint sessions, assessment is done in the seminar groups and depends on the working methods of the seminar

**Assessment methods and criteria:**
Active participation in the joint sessions, assessment is done in the seminar groups and depends on the working methods of the seminar
**Grading:**
Pass/Fail
**Person responsible:**
TOV (Mirka Hintsanen), SUV (seminars
**Working life cooperation:**
The course is implemented in cooperation with different experts and organizations in and outside of the university

# H250511: Advanced Studies in Educational Sciences (LET), 80 op

**Voimassaolo:** 01.08.2017 -

**Opiskelumuoto:** Advanced Studies

**Laji:** Study module

**Vastuuyksikkö:** Faculty of Education

**Arvostelu:** 1 - 5, pass, fail

**Opintokohteen kielet:** English

**ECTS Credits:**
80 cr
**Language of instruction:**
English
**Target group:**
1st and 2nd year students on the LET Master's Programme.
**Other information:**
In the LET programme, all students must complete 80 credits
of major subject studies.

*Mandatory studies*

### 413323S: Computer Supported Collaborative Learning, 5 op

**Voimassaolo:** 01.08.2020 -

**Opiskelumuoto:** Advanced Studies

**Laji:** Course

**Vastuuyksikkö:** Faculty of Education

**Arvostelu:** 1 - 5, pass, fail

**Opettajat:** Pirkko Siklander

**Opintokohteen kielet:** English

**ECTS Credits:**

5 cr

**Language of instruction:**

English

**Timing:**

2nd year

**Learning outcomes:**

After completion of this course, the student is able to
- Define the concept of Computer-Supported Collaborative Learning
- Apply theoretical ideas of collaborative learning in the context of computer-supported learning environments.
- Recognize the role of orchestration and scripting in CSCL
- Use emerging technologies as CSCL tools
- Use contemporary analytical approaches for analysing learning activities within CSCL learning contexts

**Contents:**

- The concept of computer-supported collaborative learning
- Theoretical models of CSCL
- Disruptive and emergent technologies for supporting CSCL
- Design and set up of CSCL environment
- Learning analytics for analysing collaborative learning activities

**Mode of delivery:**

Face-to-face and online teaching 30h, lectures 10h, practice 20h
Individual and online studying, 105h

**Learning activities and teaching methods:**

Learning activities consist of both flipped classroom lectures with meetings where lectures are being discussed and hands-on CSCL workshops where emergent and disruptive technologies are applied to design CSCL activities.

**Target group:**

2nd year students on the LET Master's Programme

**Recommended or required reading:**

Jeong, H., & Hmelo-Silver, C. E. (2016). Seven Affordances of Computer-Supported Collaborative Learning: How to Support Collaborative Learning? How Can Technologies Help?. *Educational Psychologist* , 1-19.

Järvelä, S., & Hadwin, A. F. (2013). New frontiers: Regulating learning in CSCL. *Educational Psychologist*, *48*(1), 25-39.
Ludvigsen, S., Lund, A., Rasmussen, I., & Säljö, R. (2011). Learning across sites. *New Tools, Infrastructures and Practices. Abingdon: Routledge (New perspectives on learning and instruction). Online verfügbar unter http://www.* gbv. de/dms/zbw/619420359. pdf.

**Assessment methods and criteria:**

Completion of the course requires active participation in face-to-face teaching, and collaborative and independent work. It also requires successful completion of all the learning assignments and exercises, and writing posts for the personal digital portfolio.
Learning outcomes are assessed through group and individual assignments.
5: All course assignments are comprehensive in terms of the contents of the course, and they represent very deep and wide familiarity with course materials, environments and technologies. The student is able to express that s/he has understood and is able to combine technological tools and theories of collaborative learning. Learning assignments are reflective in nature. The student participates very actively in group work, and contributes to the group assignments. Individual products represent very deep knowledge and are exceptional contribution to the field of the CSCL.
4: All course assignments are comprehensive in terms of the contents of the course, and they represent good familiarity with course materials, environments and technologies. The student is able to express that s /he has understood and is able to combine technological tools and theories of collaborative learning. S/he participates very actively in group work and contributes to the group assignments. Individual products represent deep knowledge and are very contribution to the  field of the CSCL.
3: All course assignments are comprehensive in terms of the main contents of the course, and they represent familiarity with course materials, environments and technologies. The student is able to express that s/he has understood the key concepts and theories in the context of CSCL. The student participates actively in group work, and contributes to the group assignments. Individual products represent good knowledge and are a good contribution to the  CSCL.
2: The student has done most of the course assignments, but they do not cover all the contents of the course and the use of course materials, environments and technologies is mostly superficial. The student is able to express his understanding of some of the key concepts and theories in CSCL. S/he participates in most of the group meetings, but his/her contribution to the group activities is not clearly indicated. Individual products represent mostly superficial expertise and are not a clear contribution to the  field of the CSCL.
1: The student has not done all the course assignments, or the assignments are superficial in terms of the main course contents and the use of course materials, environments and technologies. The student is able to express his understanding of a few concepts and theories of the CSCL, but on a very superficial level. His/her participation in group work is passive, and his/her contribution to the group activities is not clearly indicated. The student participates in most of the group meetings, but his/her contribution to the group activities is not clearly indicated. Individual products represent superficial expertise and do not contribute to the  field of the CSCL.

**Grading:**

0-5

**Person responsible:**

Pirkko Siklander

**Other information:**

1) Course participants will use online professional development communities and networks as support function for their learning activities.
2) Technology choices in the CSCL course reflect the socio-technical context in the average workplace of an educational expert.


**413324S: Socially Shared Regulation of Learning, 5 op**

**Voimassaolo:** 01.08.2020 -

**Opiskelumuoto:** Advanced Studies

**Laji:** Course

**Vastuuyksikkö:** Faculty of Education

**Arvostelu:** 1 - 5, pass, fail

**Opettajat:** Jonna Malmberg

**Opintokohteen kielet:** English


**ECTS Credits:**

5 cr

**Language of instruction:**

English

**Timing:**

First year LET master students

**Learning outcomes:**

After completion of this course, the student will be able to:
- identify and define the social forms of regulated learning and
- define targets of regulated learning in social interaction.
- knows how to transform theoretical knowledge into practise for supporting social forms of regulated learning

**Contents:**

- Socially shared regulation of learning
- Co-regulation of learning
- Technology to support regulation in collaboration

**Mode of delivery:**

Online course

**Learning activities and teaching methods:**

The course will be arranged by utilizing activating teaching methods related the contents consisting of 10 hours of lecturing (online), 20 hours of practise events agreed together with the students and 105 hours of individual work.
Variable teaching and learning methods: a) Independent learning method: A) Learning Diary b) Collaborative group task (105 hours) b) Teaching (10 hours) c) Practise sessions 20 hours  (online)

**Target group:**

Second year LET Master students

**Prerequisites and co-requisites:**

418027P Self-Regulation and Collaborative Learning

**Recommended or required reading:**

Hadwin, A., Järvelä, S., & Miller, M. (2017). Self-regulation, co-regulation, and shared regulation in collaborative learning environments. In Handbook of self-regulation of learning and performance (pp. 99-122). Routledge.
Järvenoja, H., & Järvelä, S. (2013). Regulating emotions together for motivated collaboration. In M. Baker, J. Andriessen & S. Järvelä (Eds.), Affective learning together: Social and emotional dimensions of collaborative learning (pp. 162–181). London, UK: Routledge. doi:10.4324/9780203069684

Hadwin, A., & Oshige, M. (2011). Self-regulation, co-regulation, and socially shared regulation: Exploring perspectives of social in self-regulated learning theory. Teachers College Record, 113(2), 240-264.

**Assessment methods and criteria:**

The course utilizes continuous assessment by A) evidencing active participation for the online teaching and practise sessions. B) Each student independent learning diaries will be assessed. The contents of the learning diaries reflect the students understanding about the contents of the teaching and practise sessions. Also, the students C) collaborative work task will be assessed. Each of the assessment method for each three components shall be stated separately.

**Grading:**

The course utilizes numerical grading scale 0-5. The grading is composed of A) Individual learning diary (40%), B) Collaborative group task (40%) and C) Active participation for the online teaching and practise sessions (20%).

**Person responsible:**

Jonna Malmberg

**413325S: Emergent Technologies, 5 op**

**Voimassaolo:** 01.08.2020 -
**Opiskelumuoto:** Advanced Studies
**Laji:** Course
**Vastuuyksikkö:** Faculty of Education
**Arvostelu:** 1 - 5, pass, fail
**Opettajat:** Jari Laru
**Opintokohteen kielet:** English

**ECTS Credits:**

5 cr

**Language of instruction:**

English

**Timing:**

1st. year of LET studies

**Learning outcomes:**

After completetion of this course, the student is able to:
- recognize how emergent technologies are used in the educational context and what are related research topics.
- recognize and evaluate ethical questions which may raise in the context of educational and societal use of emergent technologies.
- design and implement education, where newest tools, applications and methods are used
- to work as an early adopter in technology-rich and technology mediated learning environments as an educational technologist, teacher or student

**Contents:**

- Basic concepts, ideas and theories of using emergent technologies in the context of learning and instruction.
- Educational use of (examples) a) blockchain technologies; b) artificial intelligence; c) learning analytics; d) internet-of-things; e) extended reality (vr, ar, mr); f) simulations and games
- New (automated) methods and practises in giving feedback, assessment and scaffolding
- Design, implementation, dissemination and evaluation of the learning material / environment, which will be based on using or presenting educational use of emerging technologies

**Mode of delivery:**

Mode of delivery is blended learnign which consist of
- Flipped Classroom Introductory materials, 10h
- Workshop lessons: 24h
- Individual and collaborative learning activities in online and/or face-toface contexts: 80h

**Learning activities and teaching methods:**

Latest scientific research results and practical hands-on experiments form the basis for the course. Tools which will be used in the course context are either modern (lately) commercialized technologies or demonstrating equipment from research laboratories.

In this course students will get familiar with the literature about emerging technologies and will explore how to integrate such technologies as a tools in the insrructional and learning contexts.

In the practise, students will design, implement and peer-asses e.g. learning material, course design or learning environment, where emergent technologies are presented and used in the context.

### Target group:

LET master's students and other applicable students, who can show that they are in the level of the knowledge needed for the participation.

### Prerequisites and co-requisites:

Technology enhanced learning and digital fabrication, 10 ETCS done, or applicable studies whcih can be used to show expertise.

### Recommended optional programme components:

- Technology enhanced learning and digital fabrication, 10 ETCS
- 407061A Open workshop, 5 ETCS credits

### Recommended or required reading:

Chen, N. S., Cheng, I. L., & Chew, S. W. (2016). Evolution is not enough: Revolutionizing current learning environments to smart learning environments. International Journal of Artificial Intelligence in Education, 26(2), 561-581.

Chew, S. W., Cheng, I. L., & Chen, N. S. (2018). Exploring challenges faced by different stakeholders while implementing educational technology in classrooms through expert interviews. Journal of Computers in Education, 5(2), 175-197.

Volpe, G., & Gori, M. (2019). Multisensory interactive technologies for primary education: from science to technology. Frontiers in psychology, 10, 1076.

Wise, A. F., & Schwarz, B. B. (2017). Visions of CSCL: Eight provocations for the future of the field. International Journal of Computer-Supported Collaborative Learning, 12(4), 423-467.

and/or other contemporary readings in the field of learning and emergent technologies, to be announced at the beginning of the course.

### Assessment methods and criteria:

Completion of the course requires active participation in all course activities faceto-face, online and independently.   It also requires successful completion of all the learning assignments and exercises. Learning outcomes are assessed through group and individual assignments.

5: All course assignments are comprehensive in terms of the contents of the course, and they represent very deep and wide familiarity with course materials. The student is able to express that s/he has understood and is able to combine key concepts and theories of the emergent technologies. The learning assignments are reflective in nature. The student participates very actively in group work, and contributes to the group assignments.

4: All course assignments are comprehensive in terms of the contents of the course, and they represent good familiarity with course materials. The student is able to express that s/he has understood and is able to combine key concepts and theories of the emergent technologies. S/he participates actively in group work, and contributes to the group assignments.

3: All course assignments are comprehensive in terms of the main contents of the course, and they represent familiarity with course materials. The student is able to express that s/he has understood the key concepts and theories of emergent technologies. S/he participates very actively in group work, and contributes to the group assignments.

2: The student has done most course assignments, but they do not cover all contents of the course and the use of course materials is mostly superficial. The student is able to express her/his understanding about some of the key concepts and theories in the emergent technologies. S/he participates in most of the group meetings, but his contribution to the group activities is not clearly indicated.

1: The student hasn't done all course assignments or the assignments are superficial in terms of the main course contents and the use of course materials. S/he is able to express his understanding of a few concepts and theories in the field of emergent technologies, but on a very superficial level. The student's participation in group work is passive, and his/her contribution to the group activities is not clearly indicated.

### Grading:

0-5

### Person responsible:

Jari Laru

### Working life cooperation:

Authentic research projects are presented and discussed, and (possible) demonstrators are used during the course

## 413326S: Collaborative Learning Designs , 5 op

**Voimassaolo:** 01.08.2020 -
**Opiskelumuoto:** Advanced Studies
**Laji:** Course
**Vastuuyksikkö:** Faculty of Education
**Arvostelu:** 1 - 5, pass, fail
**Opettajat:** Pirkko Siklander
**Opintokohteen kielet:** English

**ECTS Credits:**

5 cr

**Language of instruction:**

English

**Timing:**

LET-students 2nd year

**Learning outcomes:**

After completion of this course, the student is able to
  • Describe the central concepts: play, playfulness, and creativity
  • Comprehend how and why playfulness can foster learning and reflect the knowledge for own learning
  • Design playful research methods
  • Design playful or gamified learning and teaching processes
  • Assess personal playful competences

**Contents:**
  • Play, playfulness, creativity, gamification
  • Playful learning and teaching
  • Playful learning designs
  • Researching playfulness and playful research methods
  • Playful learning environments
  • Outdoor learning
  • Enhancing creativity and playfulness
  • Assessment of playful learning

**Mode of delivery:**

Contact Contact meetings 20 h
IndividuIndividual and group learning activities 115 h

**Learning activities and teaching methods:**

Solo: For showing understanding of the course topics and elaborating personal playful competences, students create a "stock portfolio".
Collaborative: On the basis of theoretical knowledge and practical experiences students design a playful learning process, which they present as a creative performance.

**Target group:**

LET master's students

**Recommended or required reading:**

Literature will be informed in the beginning of the course

**Assessment methods and criteria:**

Stock portfolio: self-assessment (0-5)
Criteria will be defined as a part of the course content.
Performance (0-5) by peer-assessment and teacher-assessment.
Criteria will be presented and discussed in the beginning of the course.

**Grading:**

0-5

**Person responsible:**

Pirkko Siklander

## 413327S: Collaborative Problem Solving in Working Life, 10 op

**Voimassaolo:** 01.08.2020 -

**Opiskelumuoto:** Advanced Studies

**Laji:** Course

**Vastuuyksikkö:** Faculty of Education

**Arvostelu:** 1 - 5, pass, fail

**Opettajat:** Niina Impiö

**Opintokohteen kielet:** English

**ECTS Credits:**

10 cr

**Language of instruction:**

English

**Timing:**

2nd year

**Learning outcomes:**

Part 1: Working life case
- After completion of this part, the student is able to
- Interpret multidiciplinary educational challenges
- Apply theoretical knowledge of the learning sciences when solving educational challenges
- Define and design open collaborative problem-solving process
- Select and apply relevant technologies in collaborative problem-solving
- Work efficiently in a multidisciplinary team

Part 2: Career plan

After completion of this part, the student is able to
- Reflect and analyse personal learning in LET
- Describe the interrelation between future working life competencies and LET expertise
- Apply the LET competencies in working life contexts
- Produce career plan

**Contents:**

- Collaborative problem-solving
- Multidisciplinary teamwork
- Pedagogical and technological design
- Development of working life competencies and career planning
- Authentic working life case related contents

**Mode of delivery:**

Face-to-face and online teaching 50h: lectures 10h, workshops 40h
Individual, collaborative and on-line studying, 220h

**Learning activities and teaching methods:**

In this course the students work with the authentic working life cases. They are working in student teams and communicating with the working life client/-s. Design of the working is based on collaborative problem-solving. Course activities are included both solo and collaborative phases.
Students are reflecting they learning in LET Learning Profile 4 (LLP).

**Target group:**

LET 2nd year students

**Prerequisites and co-requisites:**

418029P Educational Technology Project
413329S Internship
413330S Entrepreneurial Mindset in Education

**Recommended or required reading:**

Key literature related to each authentic working life case will be defined in the beginning of the course.

**Assessment methods and criteria:**

Students are showing their learning through digital open badges. Badge labels and more detailed criterias are introduced beginning of the course.
Criteria for passing the course: The student participates actively in all the learning activities. The student participates collaborative activities, and is able to contribute to the collaboration task significantly. His or her contribution indicates good familiarity with the learning materials. The student has accomplished all individual tasks.
Criteria for failing the course: The student is passive or absent from face-to-face meetings and collaborative activities. The student participates infrequently collaborative activities, and his/her contribution to the team task is minor. S/he has not accomplished all individual tasks, and s/he cannot prove his or her familiarity with the learning materials of the course.

**Grading:**

Pass/fail

**Person responsible:**

Niina Impiö

**Working life cooperation:**

Course design simulates working life requirements and conditions. It is also implemented in collaboration with the working life client/-s.

**Other information:**

This course can be arranged together with multidisciplinary product development


**413328S: Research Methodologies in Learning Sciences, 10 op**

**Voimassaolo:** 01.08.2020 -
**Opiskelumuoto:** Advanced Studies
**Laji:** Course
**Vastuuyksikkö:** Faculty of Education
**Arvostelu:** 1 - 5, pass, fail
**Opettajat:** Piia Näykki
**Opintokohteen kielet:** English

**ECTS Credits:**

10 cr

**Language of instruction:**

English

**Timing:**

1st year

**Learning outcomes:**

Upon completion students are expected to be able to:
- Describe and compare different methodological orientations,
- Justify and use appropriate methodological solutions based on the research problem (data collection and data analysis),
- Plan research process and write a research plan,
- Analyze qualitative and quantitative research data
- Interpret and evaluate quality and meaning of research
- Implement different tools and software in data collection and data analysis

**Contents:**

- Foundations, traditions and concepts in qualitative, quantitative and mixed methods research,
- Learning science as a research paradigm,
- Process orientation and Design Based Research,
- Qualitative, quantitative and mixed method approach,
- Main phases in a research process,

- Types of data collection and data analysis, tools and software,
- Evaluating validity, reliability and ethics in learning sciences,
- Research reporting, research plan

**Mode of delivery:**

Face-to-face teaching: lectures and practices

**Learning activities and teaching methods:**

Lectures (40h), practices (40h), and independent work including reading assignments and a research plan to guide the master's thesis process (55h).

**Target group:**

LET students

**Recommended optional programme components:**

Master thesis

**Recommended or required reading:**

Creswell, J. W. (ed.) (2013). Qualitative Inquiry and Research Design: Choosing Among Five Approaches.  Thousand Oaks, CA, Sage publications ;Lichtman, M. (2013). Qualitative Research in Education. A User's Guide. Thousand Oaks, Sage publications. Other material will be informed in the beginning of the course.

**Assessment methods and criteria:**

- Research plan
- Practice work

**Grading:**

0-5

**Person responsible:**

Piia Näykki

**Working life cooperation:**

Expert lectures


**408044S: Thesis Seminar, 5 op**

**Voimassaolo:** 01.08.2015 -
**Opiskelumuoto:** Advanced Studies
**Laji:** Course
**Vastuuyksikkö:** Faculty of Education
**Arvostelu:** 1 - 5, pass, fail
**Opintokohteen kielet:** Finnish


**ECTS Credits:**

5 ECTS + 30 ECTS Thesis

**Language of instruction:**

Finnish and English (especially in the ITE programme)

**Timing:**

1th and 2th years

**Learning outcomes:**

Ther student
- gets practice in using the basic concepts of his/her branch of science and knows how to determine and analyze the main research results in his/her fierld of science and how to evaluate them in relation to his/her own research
- masters the research methods chosen by him/herself and is able to describe the scientific traditions of the educational and social sciences, especially education and educational psychology
- knows how to compose alone, in pairs or in a group an educational thesis that show familiarity with its topic and proves a readiness for scientific thinking
- knows how to evaluate studies made by others and take part in scientific debate and defend his/her own thesis

**Contents:**

5 credits: seminar session and 30 credits: writing a thesis
1. Composing your own research plan and presenting it in a seminar.
2. Presenting an international (or domestic) refereed article related to your own thesis in a seminar (to be agreed on with the supervisor)
3. Presenting an intermediate stage of your own thesis (e.g. methodological solutions/basis of analysis - to be agreed on with the supervisor)
4. Presenting your Master's thesis and responding to an opponent's criticisms.
5. Acting as on opponent to another stduent's thesis
6. Other activivties in the seminars
7. Finishing your own thesis

**Mode of delivery:**

Seminar and supervision meetings agreed on with the supervisor

**Learning activities and teaching methods:**

Seminars and supervision

**Target group:**

Students in the Faculty of Education

**Recommended or required reading:**

To be agreed on at the start of the study module.

**Assessment methods and criteria:**

Method: Active participation in seminars, completion of individual assignments and successful completion of the assignments connected with the seminar (5 credits). A major effort is the Master's thesis (30 credits), with criteria on the faculty website http://www.oulu.fi/ktk/opinnaytetyot.

**Grading:**

0-5
For the assessment criteria, see the faculty website http://www.oulu.fi/edu/theses.

**Person responsible:**

Hannu Heikkinen and the leaders of thesis groups


**408043S: Master's Thesis, 30 op**

**Voimassaolo:** 01.08.2015 -
**Opiskelumuoto:** Advanced Studies
**Laji:** Diploma thesis
**Vastuuyksikkö:** Faculty of Education
**Arvostelu:** 1 - 5, pass, fail
**Opintokohteen kielet:** Finnish
**Voidaan suorittaa useasti:** Kyllä

**Other information:**
"See 408044S Thesis Seminar"


**408045S: Abstract / Maturity Test, 0 op**

**Voimassaolo:** 01.08.2015 -
**Opiskelumuoto:** Advanced Studies
**Laji:** Course
**Vastuuyksikkö:** Faculty of Education
**Arvostelu:** 1 - 5, pass, fail
**Opintokohteen kielet:** Finnish


**413329S: Internship, 5 op**

**Voimassaolo:** 01.08.2020 -

**Opiskelumuoto:** Advanced Studies

**Laji:** Course

**Vastuuyksikkö:** Faculty of Education

**Arvostelu:** 1 - 5, pass, fail

**Opettajat:** Niina Impiö

**Opintokohteen kielet:** English

**ECTS Credits:**

5 cr

**Language of instruction:**

English

**Timing:**

1st and 2nd year

**Learning outcomes:**

After completing this course students are able to:
- Define personal professional goals
- Apply the skills required for the tasks in the working life (e.g. communication, co-operation, collaboration, creativity, problem-solving, project management, ongoing learning, technical skills, international skills)
- Take responsibility for the tasks in a responsible manner
- Evaluate working-life skills
- Evaluate personal professional development and competencies
- Develop personal employability
- Clarify career goals and alternatives

**Contents:**
- Work-life relevance and employability
- Professional goals and development
- Combining theory and practice in a working environment
- Ongoing learning
- Internship period in a relevant setting (e.g. intergovernmental agencies, non-governmental organisations or educational institutions). Internship may also be a relevant project (e.g. Demola/Business Kitchen), which needs to be accepted by responsible teacher.

**Mode of delivery:**

Info lecture 2h, seminars 8h, tutoring 2h, 123h internship/project work and independent work (internship/project and report).

**Learning activities and teaching methods:**

Course will start with the info lecture (autumn semester). Students will participate orientation seminar before the internship/project (autumn or spring semester) and conclusion seminar after the internship/project (autumn or spring semester).
The student is responsible for finding the internship position that can be a summer job, some other salaried position or work experience, or a position without salary in an organization. In LET studies recommendation timing for the internship are in 1st year summer months from May to August or 2nd year spring semester.

**Target group:**

1st - 2nd year students in the Master's Degree Programme in Learning, education and technology

**Prerequisites and co-requisites:**

Completion of 1st year autumn semester courses in the  Master's Degree Programme in Learning, education and technology (LET):
413069S Orientation to Master's Degree Studies
405519Y LET Scientific Grounding
418027P Self-Regulation and Collaborative Learning
418029P Technology Enhanced Learning  and Digital Fabrication

**Recommended or required reading:**

Key literature related to internship or project. Other study material will be confirmed in the first seminar meeting.

**Assessment methods and criteria:**

An internship plan, an internship period min. 1 ½ months or project work, multimedia learning diary or a project report.

**Grading:**

Pass/fail

**Person responsible:**

Niina Impiö

**Working life cooperation:**

The student will work in an organization or project improving professional skills related to the major subject.

**Other information:**

More information about the traineeship guidelines at the university of Oulu https://www.oulu.fi/forstudents/traineeship

# A255301: Digital Technologies in Teaching and Learning, 25 op

**Opiskelumuoto:** Basic Studies

**Laji:** Study module

**Vastuuyksikkö:** Faculty of Education

**Arvostelu:** 1 - 5, pass, fail

**Opettajat:** Essi Vuopala

**Opintokohteen kielet:** Finnish

**ECTS Credits:**
25 cr
**Language of instruction:**
English
**Timing:**
1st to 5th years
**Learning outcomes:**
Minor subject studies (25 ects) set up the foundations for the studies in Digital Technologies in Teaching and Learning. The studies are also open for other bachelor and master level students interested in developing their expertise in the contents of learning and educational technology.
In this programme, the students pursue their studies as a part of a multicultural group to learn the basics of learning sciences and technology-enhanced learning. One of the aims is to know how to apply this theoretical knowledge in different educational settings in a strong connection to working life. Collaboration, self-regulation and technology-enhanced learning are key elements of the minor studies both in theory and in practise.
After completion of the introductory studies in Digital Technologies in Teaching and Learning (25 ects), the student is able to
- define and explain the key concepts and theories related to learning sciences, especially self-regulated learning, collaborative learning, and technology-enhanced learning
- apply their theoretical knowledge of learning in different educational contexts
- use emerging technologies as teaching and learning tools, and justify their use based on current scientific knowledge about learning
- work efficiently in teams

**Contents:**
- Collaborative learning and problem-solving
- Self-regulated learning
- Technology-enhanced learning
- Learning environments and technologies
- Using theoretical knowledge of learning for real educational cases

**Mode of delivery:**
Face-to-face and online teaching
**Learning activities and teaching methods:**
The studies in educational tehcnology focus on self-direction, collaborative knowledge construction and approaches surpassing science boundaries. Both face-to-face and online working methods are used, including small group sessions, self-study, lectures, expert sessions, discussions and workshops.
**Target group:**
Minor subject students in Digital Technologies in Teaching and Learning
Master's programme students in Learning, Education and Technology
**Recommended or required reading:**

The learning materials to be used in the courses are evaluated and selected annually. The materials represent both the most central theoretical background in the field and its most recent scientific research. The students choose some of the materials themselves depending on the content of the learning assignments.

**Grading:**
0-5
**Person responsible:**
Sanna Järvelä
**Working life cooperation:**
Yes

*Compulsory*

### 418027P: Self-Regulation and Collaborative Learning, 5 op

**Voimassaolo:** 01.08.2020 -

**Opiskelumuoto:** Basic Studies

**Laji:** Course

**Vastuuyksikkö:** Faculty of Education

**Arvostelu:** 1 - 5, pass, fail

**Opettajat:** Essi Vuopala

**Opintokohteen kielet:** English

**ECTS Credits:**

5 ECTS

**Language of instruction:**

English

**Timing:**

1st year LET student

**Learning outcomes:**

After completion of this course, the student is able to
- define the concepts of self-regulated learning (SRL) and collaborative learning (CL)
- define and describe concepts and theories related to SRL and CL,
- identify the interaction processes in collaborative learning situations,
- describe how a teacher can enhance collaborative learning, and
- apply theoretical knowledge of SRL and CL to learning situations.

**Contents:**

- Concept of self-regulated learning and collaborative learning
- Theoretical models of self-regulated learning
- The role of motivation, emotions, cognition and metacognition in learning
- Socio-cognitive and socio-cultural perspectives on collaborative learning
- Interaction, teacher's role and assessment in collaborative learning situations

**Mode of delivery:**

- Face-to-face and online teaching, 40h: lecture 15h, practice 30h
- Online, individual and collaborative learning, 95h

**Learning activities and teaching methods:**

Learning activities consist of collaborative activities supported by technology.

**Target group:**

1st year students on the LET Master's Programme and students in minor subject studies in Digital Technologies in Teaching and Learning

**Recommended or required reading:**

Dillenbourg, P. (1999). What do you mean by 'collaborative learning? In P. Dillenbourg (Ed.), Collaborative Learning: Cognitive and computational approaches. Oxford UK, Elsevier, 1–19.

Järvenoja, Hanna & Järvelä, Sanna & Malmberg, Jonna. (2017). Supporting groups' emotion and motivation regulation during collaborative learning. Learning and Instruction. 10.1016/j.learninstruc. 2017.11.004.

Vuopala, E., Näykki, P., Isohätälä, J. & Järvelä, S. (2019). Knowledge Co-Construction Activities and Task-Related Monitoring in Scripted Collaborative Learning. Learning, Culture, and Social Interaction, 21, 234-249.

Vuopala, E., Hyvönen, P. & Järvelä, S. (2016). Interactional features in successful collaborative learning in virtual learning spaces. Active Learning in Higher Education 1/2016.

Zimmerman, B. J., & Schunk, D. H. (Eds.). (2001). Self-regulated learning and academic achievement: Theoretical perspectives. Routledge

Zimmerman, B. J. (2008). Investigating self-regulation and motivation: Historical background, methodological developments, and future prospects. American Educational Research Journal, 45(1), 166–183. DOI: 10.3102/0002831207312909.

**Assessment methods and criteria:**

Completion of the course requires active participation in face-to-face teaching and collaborative work. It also requires successful completion of all the learning assignments and exercises.

5: The student has participated very actively in face-to-face meetings and in collaborative work. S/he is able to express a deep and wide understanding of all the course contents in group assignments. All assignments are reflective in nature, and they represent deep familiarity with all course materials.

4: The student has participated very actively in face-to-face meetings and in collaborative work. S/he is able to express a deep understanding of all course contents both in group assignments. All assignments are reflective in nature, and they represent familiarity with all course materials.

3: The student has participated actively in face-to-face meetings and in collaborative work. S/he is able to express an understanding of the core course contents both in group assignments. All assignments represent familiarity with the main course materials.

2: The student has participated in most of the face-to-face meetings and in collaborative work. S/he is able to express an understanding of some of course contents in the group assignments. The assignments represent familiarity with the main course materials, but on a superficial level.

1: The student has been passive in face-to-face meetings and in collaborative work. S/he is able to express the understanding of some of the course contents, but only on a superficial level. The assignments represent familiarity with some of the course materials.

**Grading:**

0-5

**Person responsible:**

Essi Vuopala

**Working life cooperation:**

Case examples how the idea of self regulation and collaborative learning is applied.


**418028P: Learning Environments and Technologies, 10 op**

**Voimassaolo:** 01.08.2020 -
**Opiskelumuoto:** Basic Studies
**Laji:** Course
**Vastuuyksikkö:** Faculty of Education
**Arvostelu:** 1 - 5, pass, fail
**Opettajat:** Jari Laru
**Opintokohteen kielet:** English

**ECTS Credits:**
5 ECTS
**Language of instruction:**
English
**Timing:**

1st year

**Learning outcomes:**

After completetion of this course, the student is able to:

- recognize most important research areas, methods and tools in technology enhanced learning, computational thinking and digital fabrication
- evaluate and compare applications, devices and other educational technologies as a tools which can be used to scaffold learning and support teaching
- Design and fabricate artefacts in the context of maker education and digital fabrication
- work in technology rich learning environments as an educational technologist, teacher or learner

**Contents:**

- Concepts of technology enhanced learning, computational thinking and digital fabrication
- STEAM (science, technology, engineering, arts, mathematics)
- Technologies, which can be used to scaffold learning and support teaching
- Modern technologies in learning and teaching: a) cloud services and social media; b) digital storytelling; c) learning infrastructure and av-technology; d) robotics, making and digital fabrication; e) games, augmented reality and virtual reality; f) learning environments and distance learning
- Design of learning materials andpedagogical  design and using  of learning environments

**Mode of delivery:**

- Flipped learning and other online learning methods
- Workshop lessons
- individual work: individual learning and collaborative learning

**Learning activities and teaching methods:**

Expert talks and lectures as a flipped classroom lecture videos: 16h
Hands-on workshops in digital learning lab or e.g. in Fab Lab, where students learn methods and techniques,but also explore technologies and produce materials in collaborative groups: 64h
Independent work: during the course students design, implement and report collaborative project work. In addition to that they will produce learning material and other digital artfacts and update their own portfolio: 190h

**Target group:**

LET master's students, digital technologies education and learning -students and exchange students.

**Recommended or required reading:**

Bayne, S. (2015). What's the matter with 'technology-enhanced learning'?. Learning, Media and Technology, 40 (1), 5-20.
Chew, S. W., Cheng, I. L., & Chen, N. S. (2018). Exploring challenges faced by different stakeholders while implementing educational technology in classrooms through expert interviews. Journal of Computers in Education, 5(2), 175-197.
Denning, P. J., & Tedre, M. (2019). Computational thinking. MIT Press.
Goodchild, T., & Speed, E. (2019). Technology enhanced learning as transformative innovation: a note on the enduring myth of TEL. Teaching in Higher Education, 24(8), 948-963.
Iwata, M., Pitkänen, K., Laru, J., & Mäkitalo, K. (2019). Developing Computational Thinking Practices through Digital Fabrication Activities. in  Kong, S.C et. al. (Eds.). (2019). Proceedings of International Conference on Computational Thinking Education 2019. Hong Kong: The Education University of Hong Kong.CoolThink@ JC, 223.
Khine, M., Areepattamannil, S. (Eds). (2019). STEAM Education. Springer Berlilin. Heidelberg.
Näykki, P., Laru, J., Vuopala, E., Siklander, P., & Järvelä, S. (2019). Affective Learning in Digital Education–Case Studies of Social Networking Systems, Games for Learning and Digital Fabrication. In Frontiers in Education (Vol. 4, p. 128). Frontiers.
Pitkänen, K., Iwata, M., & Laru, J. (2019, May). Supporting Fab Lab facilitators to develop pedagogical practices to improve learning in digital fabrication activities. In Proceedings of the FabLearn Europe 2019 Conference (pp. 1-9).

**Assessment methods and criteria:**

Completion of the course requires active participation in all course activities faceto-face, online and

independently.   It also requires successful completion of all the learning assignments and exercises.

Learning outcomes are assessed through group and individual assignments.

5: All course assignments are comprehensive in terms of the contents of the course, and they represent

very deep and wide familiarity with course materials. The student is able to express that s/he has

understood and is able to combine key concepts and theories of the technology enhanced learning,

computational thinking and digital fabrication. The learning assignments are reflective in nature. The student participates very actively in group work, and contributes to the group assignments.

4: All course assignments are comprehensive in terms of the contents of the course, and they represent good familiarity with course materials. The student is able to express that s/he has understood and is able to combine key concepts and theories of the technology enhanced learning, computational thinking and digital fabrication. S/he participates actively in group work, and contributes to the group assignments.

3: All course assignments are comprehensive in terms of the main contents of the course, and they represent familiarity with course materials. The student is able to express that s/he has understood the key concepts and theories of technology enhanced learning, computational thinking and digital fabrication. S/he participates very actively in group work, and contributes to the group assignments.

2: The student has done most course assignments, but they do not cover all contents of the course and the use of course materials is mostly superficial. The student is able to express her/his understanding about some of the key concepts and theories in the technology enhanced learning, computational thinking and digital fabrication. S/he participates in most of the group meetings, but his contribution to the group activities is not clearly indicated.

1: The student hasn't done all course assignments or the assignments are superficial in terms of the main course contents and the use of course materials. S/he is able to express his understanding of a few concepts and theories in the field of technology enhanced learning, computational thinking and digital fabrication, but on a very superficial level. The student's participation in group work is passive, and his/her contribution to the group activities is not clearly indicated.

**Grading:**

0-5

**Person responsible:**

Jari Laru

**Working life cooperation:**

In this course we will use professional learning communities and networks also as a material.
A part of studies can be also done in the afterschool clubs, school projects or other relevant working life contexts.
Solutions, applications and methods used in the course equals modern working life.


**418029P: Educational Technology Project, 10 op**

**Voimassaolo:** 01.08.2020 -
**Opiskelumuoto:** Basic Studies
**Laji:** Course
**Vastuuyksikkö:** Faculty of Education
**Arvostelu:** 1 - 5, pass, fail
**Opettajat:** Essi Vuopala
**Opintokohteen kielet:** English

**ECTS Credits:**

10 ECTS

**Language of instruction:**

English

**Timing:**

1st year (LET students)

**Learning outcomes:**

Part 1: Project work
 After completion of this part, the student is able to
- Utilize theoretical knowledge of learning sciences in authentic educational challenges.

- Plan, implement and assess an educational project
- Design technology-enhanced learning (courses, projects, products etc.)
- Work efficiently in a team to solve a problem and/or create a learning design.

Part 2: Competence profile

After completion of this part, the student is able to

- Recognize and reflect personal learning in LET/or other major subject studies
- Recognize and analyse working life competencies
- Describe the development of personal working life competencies part of the LET/ other major subject studies

**Contents:**

- Basics of project work
- Special characteristics of educational projects
- Designing technology-enhanced teaching and learning
- Pedagogical and technological decisions in authentic educational settings
- Teacher learning and collaboration
- Collaborative problem solving
- Working life competencies
- Recognizing personal working life competencies as a part of study and career planning

**Mode of delivery:**

Face-to-face and online teaching 50h: lectures 10h, practice 40h
Individual, collaborative and on-line studying, 220h

**Learning activities and teaching methods:**

In this course the students work on an authentic educational project or case for a local company, school or other organization. The students design, implement and report on the project in a project team under the teacher's guidance. They learn about project work in theory and practice. Students are also recognizing general working life competencies. They will reflecting development of personal competencies related to major subject studies.
Students are reflecting they learning in LET Learning Profile 2 (LLP).

**Target group:**

1st year students on the LET Master's Programme and students in Digital technology in teaching and learning

**Prerequisites and co-requisites:**

418027P Self-Regulation and Collaborative Learning
418028P Technology Enhanced Learning and Digital Fabrication

**Recommended or required reading:**

Key literature related to one's own project is defined in the beginning of the course.

**Assessment methods and criteria:**

Students are showing their learning through digital open badges. Badge labels and more detailed criterias are introduced in the beginning of the course.
Criteria for passing the course:
The student is able to work responsibly as a part of the group to successfully complete the project in hand. The student is able to utilize theoretical knowledge of learning and his/her technological skills to advance the group work. The individual student is able to show and reflect on his/her individual learning during the teamwork through the reflective assignments given by the teacher, and express his or her competence development in the field of learning and educational technology.
Criteria for failing the course:
The student is not able to work in a group or utilize his/her skills and knowledge for collaboration and problem-solving. The reflective assignments do not express learning or competence in the field of learning and educational technology.

**Grading:**

Pass/fail

**Person responsible:**

Essi Vuopala

**Working life cooperation:**

The course is implemented in collaboration with local or global organizations in the field of education.

# 413330S: Entrepreneurial Mindset in Education, 5 op

**Voimassaolo:** 01.08.2020 -

**Opiskelumuoto:** Advanced Studies

**Laji:** Course

**Vastuuyksikkö:** Faculty of Education

**Arvostelu:** 1 - 5, pass, fail

**Opettajat:** Niina Impiö

**Opintokohteen kielet:** English

**ECTS Credits:**
5 cr
**Language of instruction:**
English
**Timing:**
1st year
**Learning outcomes:**
After completion of this course, the student is able to
- Define the key concepts related to entrepreneurship and entrepreneurship education
- Connect entrepreneurship education to the theoretical perspectives of learning sciences and technology-enhanced learning
- Identify and evaluate their own entrepreneurial competences
- Recognize the potential and opportunities for educational entrepreneurship
- Recognize the possibilities for supporting entrepreneurial competences in different educational settings
**Contents:**
- Entrepreneurial competences and recognizing one's own expertise and potential
- Different perspectives and key concepts of entrepreneurship in education
- Educational experts as entrepreneurs
- Educators and teachers as promoters of entrepreneurial competences
**Mode of delivery:**
Face-to-face coaching sessions 24 h, teamworking 87h and individual working 24h
**Learning activities and teaching methods:**
Course is the consists of coaching, teamwork and individually reflection.
**Target group:**
1st year LET Master's Degree students
**Prerequisites and co-requisites:**
418029P Educational Technology Project
413327S Collaborative Problem Solving in Working Life
413329S Internship
**Recommended or required reading:**
Literature will be informed in the beginning of the course.
**Assessment methods and criteria:**
Criteria for passing the course: The student participates actively in all the learning activities. The student participates in team activities, and is able to contribute to the team task significantly.
His or her contribution indicates good familiarity with the learning materials. The student has accomplished all individual tasks.
Criteria for failing the course: The student is passive or absent from face-to-face meetings and team activities. The student participates infrequently in team activities, and his/her contribution to the team task is minor. S/he has not accomplished all individual tasks, and s/he cannot prove his or her familiarity with the learning materials of the course.
**Grading:**
Pass/ fail
**Person responsible:**
Niina Impiö
**Working life cooperation:**
The course is implemented in co-operation with the experts and organizations in the field of entrepreneurship inside and outside of the university.