Lukuvuoden 2017 – 2018 opetussuunnitelma
Tuotantotalouden laitoksen kursit (T3070) Taso: maisteritaso, tohtoritaso
Kurssitiedot: suomi, ruotsi, englanti

TU-91.2012 Kansantaloustieteen vaihtuvasisältäinen opintojakso(V) (1-8 op)
Vastuuopettaja: Hannele Wallenius
Opetusperiodi: I, II, III, IV, V (Kurssi järjestetään viimeisen kerran syksyllä 2017)
Työmäärä toteutustavoin: Riippuu suoritustavasta
Toteutus, työmuodot ja arvosteluperusteet: Vaihtelee
Oppimateriaali: Sopimuksen mukaan
Korvaavuudet: Korvaa kurssin TU-91.115.
Arvosteluasteikko: 1-5 · Opintojakso
Opetuskieli: Suomi ja englanti

TU-91.2012 Föränderlig studieperiod i nationalekonomi(V) (1-8 sp)
Ansvarig lärare: Hannele Wallenius
Arbetsmängd: Beror på innehåll
Metoder, arbetsätt och bedömningsgrunder: Varierar
Studiematerial: Enligt avtal
Bedömningsskala: 1-5 · Studieperioder
Undervisningsspråk: Finska och engelska

TU-91.2012 Elective Studies in Economics(V) (1-8 cr)
Responsible teacher: Hannele Wallenius
Teaching Period: I, II, III, IV, V (Course to be given for the last time in the Autumn 2017)
Workload: Depends on the content
Content: Essays or examinations by agreement
Assessment Methods and Criteria: Depends on the content
Study Material: By agreement
Substitutes for Courses: Replaces the course TU-91.115
Prerequisites: TU-91.1001/TU-91.111 Introduction to Economics, other studies in economics recommended.
Evaluation: 1-5 · Courses
Language of Instruction: Finnish and English

TU-91.9910 Strategian vaihtuvasisältöinen opintojakso(V) (1-20 op)
TU-91.9910 Studier med varierande innehåll i strategi(V) (1-20 sp)

Responsible teacher: Mikko Jääskeläinen; Marina Biniari; Robin Gustafsson; Hannele Wallenius; Timo Vuori; Ilkka Kauranen

Teaching Period: I, II, III, IV, V (academic year 2017-2018)

Learning Outcomes: The course combines a strong focus on advanced concepts in strategic management with a focus on developing skills in strategic analysis and formulating strategy. The course focuses on business model analysis and strategies, business ecosystem, platform analysis and strategies, analysis and outlining of strategic moves of firms such as mergers and acquisitions, and analysis firm competitive, technological, and institutional environments and strategy implications thereof. Students will get exposed to recent research in strategic management and work with several analytical tools for strategic analysis and engage in exploring how these can be utilized in real world circumstances through cases. The course will develop the strategic analytical skills of the participants, proficiency in the main theories and advanced concepts in strategic management, and deepen the participants’ understanding of different empirical phenomena in strategic management. The learning methods used in this course include lectures, in-class discussion, case assignments, articles, mini case exercises, and an examination. The orientation of the course combines a strong focus on advanced theoretical concepts with a managerial orientation. Students will get exposed to recent research in strategic management and discuss how these can be utilized in real world circumstances. By using the case-oriented teaching approach to situate concepts, frameworks and analytical tools, students are placed in simulated managerial roles where they can experience the application of the concepts of strategy in management situations.

Content: Lectures, assignments, class exercises, and course readings on selected topics.
advanced topics in strategic management.

Assessment Methods and Criteria: Written assignments, examination and class activity.


Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E1010


Evaluation: 1-5 · Opintojaksot

Registration for Courses: The number of students is limited (boundaries set by the case teaching approach). Students are given priority as follows: 1) students of the Master’s Programme in Industrial Engineering and Management, and Master’s Programme in Strategy, 2) students of the Master’s Programme in Information Networks (four (4) slots reserved), 3) students minoring Strategy and Corporate Renewal and 4) exchange students. Note that all students belonging to categories 2-4 need to apply separately to the course, i.e. it is not sufficient to enroll in Oodi. For more information about the application procedure, please see course website. Please note that we are primarily not accepting students to the course that do not have a Bachelor’s degree. A bachelor student who has over 150 ECTS and has strong reasons to take the course can apply separately to the course as described above.

Language of Instruction: English

Further Information: Although a variety of pedagogical methods will be used, classroom time will revolve primarily around application of the theoretical concepts and strategy frameworks (assigned readings) through cases. As in all such case-oriented classes, class attendance and participation are not only desired, but required for the successful completion of the course.

TU-E1010 Advanced Strategic Management (5 sp)

Ansvarig lärare: Robin Gustafsson

Kursens status: Master’s Programme in Industrial Engineering and Management, compulsory course. Optional course in minor of Strategy and Corporate Renewal. Optional course for Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks.

Kursnivå: Master’s level

Undervisningsperiod: I (Autumn 2017)

Lärandemål: The course combines a strong focus on advanced concepts in strategic management with a focus on developing skills in strategic analysis and formulating strategy. The course focuses on business model analysis and strategies, business ecosystem, platform analysis and strategies, analysis and outlining of strategic moves of firms such as mergers and acquisitions, and analysis firm competitive, technological, and institutional environments and strategy implications thereof. Students will get exposed to recent research in strategic management and work with several analytical tools for strategic analysis and engage in exploring how these can be utilized in real world circumstances through cases. The course will develop the strategic analytical skills of the participants, proficiency in the main theories and advanced concepts in strategic management, and deepen the participants’ understanding of different empirical phenomena in strategic management. The learning methods used in this course include lectures, in-class discussion, case assignments, articles, mini case exercises, and an examination. The orientation of the course combines a strong focus on advanced theoretical concepts with a managerial orientation. Students will get exposed to recent research in strategic management and discuss how these can be utilized in real world circumstances. By using the case-oriented teaching approach to situate concepts, frameworks and analytical tools, students are placed in simulated managerial roles where they can experience the application of the concepts of strategy in management situations.

Innehåll: Lectures, assignments, class exercises, and course readings on selected
advanced topics in strategic management.  

**Metoder, arbetssätt och bedömningsgrunder**: Written assignments, examination and class activity.  


**Bedömningsskala**: 1-5 · Studieperioder  

**Anmälning**: The number of students is limited (boundaries set by the case teaching approach). Students are given priority as follows: 1) students of the Master’s Programme in Industrial Engineering and Management, and Master’s Programme in Strategy, 2) students of the Master’s Programme in Information Networks (four (4) slots reserved), 3) students minoring Strategy and Corporate Renewal and 4) exchange students. Note that all students belonging to categories 2-4 need to apply separately to the course, i.e. it is not sufficient to enroll in Oodi. For more information about the application procedure, please see course website. Please note that we are primarily not accepting students to the course that do not have a Bachelor’s degree. A bachelor student who has over 150 ECTS and has strong reasons to take the course can apply separately to the course as described above.  

**Undervisningsspråk**: English  

**Tilläggsinformation**: Although a variety of pedagogical methods will be used, classroom time will revolve primarily around application of the theoretical concepts and strategy frameworks (assigned readings) through cases. As in all such case-oriented classes, class attendance and participation are not only desired, but required for the successful completion of the course.  

**TU-E1010 Advanced Strategic Management (5 cr)**  

**Responsible teacher**: Robin Gustafsson  

**Status of the Course**: Master’s Programme in Industrial Engineering and Management, compulsory course. Optional course for Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks.  

**Level of the Course**: Master’s level  

**Teaching Period**: I (Autumn 2017)  

**Learning Outcomes**: The course combines a strong focus on advanced concepts in strategic management with a focus on developing skills in strategic analysis and formulating strategy. The course focuses on business model analysis and strategies, business ecosystem, platform analysis and strategies, analysis and outlining of strategic moves of firms such as mergers and acquisitions, and analysis firm competitive, technological, and institutional environments and strategy implications thereof. Students will get exposed to recent research in strategic management and work with several analytical tools for strategic analysis and engage in exploring how these can be utilized in real world circumstances through cases. The course will develop the strategic analytical skills of the participants, proficiency in the main theories and advanced concepts in strategic management, and deepen the participants’ understanding of different empirical phenomena in strategic management. The learning methods used in this course include lectures, in-class discussion, case assignments, articles, mini case exercises, and an examination. The orientation of the course combines a strong focus on advanced theoretical concepts with a managerial orientation. Students will get exposed to recent research in strategic management and discuss how these can be utilized in real world circumstances. By using the case-oriented teaching approach to situate concepts, frameworks and analytical tools, students are placed in simulated managerial roles where they can experience the application of the concepts of strategy in management situations.  

**Content**: Lectures, assignments, class exercises, and course readings on selected
advanced topics in strategic management.

Assessment Methods and Criteria: Written assignments, examination and class activity.


Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E1010


Evaluation: 1-5 - Courses

Registration for Courses: The number of students is limited (boundaries set by the case teaching approach). Students are given priority as follows: 1) students of the Master’s Programme in Industrial Engineering and Management, and Master's Programme in Strategy, 2) students of the Master’s Programme in Information Networks (four (4) slots reserved), 3) students minoring Strategy and Corporate Renewal and 4) exchange students. Note that all students belonging to categories 2-4 need to apply separately to the course, i.e. it is not sufficient to enroll in Oodi. For more information about the application procedure, please see course website. Please note that we are primarily not accepting students to the course that do not have a Bachelor’s degree. A bachelor student who has over 150 ECTS and has strong reasons to take the course can apply separately to the course as described above.

Language of Instruction: English

Further Information: Although a variety of pedagogical methods will be used, classroom time will revolve primarily around application of the theoretical concepts and strategy frameworks (assigned readings) through cases. As in all such case-oriented classes, class attendance and participation are not only desired, but required for the successful completion of the course.

TU-E1021 Strategies for Growth and Renewal (5 cr)

Responsible teacher: Marina Biniari


Level of the Course: Master’s level

Teaching period: III - IV (Spring 2018)

Learning Outcomes:

The course focuses on the analytical framework of dynamic capabilities, and on the tools needed to access and design the internal environment of a company so that it is able to a) sense and shape opportunities, b) seize opportunities, and c) reconfigure its assets. Such tools include the development of new businesses and innovation capabilities, the development of an entrepreneurial strategy and an ambidextrous structure, the reconfiguration of a company's innovation portfolio, and the introduction of appropriate human resource practices. Students are introduced to recent research in strategy and organizational innovation, with a particular interest in designing ambidextrous companies and in building blocks of dynamic capabilities. At the same time, the course focuses on those managerial capabilities needed to support organizational renewal. On the practice side, students are able to apply these tools and frameworks through a company-based group project, advising a Finnish company on how to tackle its innovation, renewal, or growth challenges.

Upon completion of this course, students should be able to:

a) understand why established companies lose their growth momentum, and their innovative and renewal capabilities over time;

b) understand why building dynamic capabilities can foster the growth and renewal potential of a company;
c) understand how companies can assess their organizational preparedness to develop dynamic capabilities;
d) understand how companies can start building dynamic capabilities by
1. creating processes and practices to sense opportunities (i.e., through corporate venturing, incubators, corporate venture capital, open innovation, university collaborations)
2. developing a strategy and a culture to seize opportunities through a portfolio approach to innovation and the exploration of new business models, and
3. reconfiguring their resources and human resource practices, as well as their systems in order to achieve growth and continuous renewal
e) understand what types of managerial capabilities and leadership styles are needed for a company to devise a growth or renewal strategy.
Furthermore, through completion of this course, students will have practiced the following:
1. Analytical skills in defining and solving problems
2. Decision making skills
3. Research skills
4. Ability to learn from a real business experience through reflection
5. Group management and team work skills
6. Communication and presentation skills
7. Development of social capital among Finnish companies

Content:
Despite massive investments of resources, achieving growth and renewal remains a puzzle for many companies. The ever growing number of popular books on this topic by management gurus suggests strong interest from practitioners in improving their abilities. Ordinary (technical) capabilities permit a degree of sufficiency and excellence in the performance of well-delineated tasks. However, they narrow the strategic options that companies have at their disposal, as they cannot permit the company to achieve congruence with changing customer needs, and with technological and business opportunities. If companies need to develop their strategic options for growth and renewal they need to be adaptable, flexible, innovative, and opportunity driven. In other words, they need to be capable of sensing opportunities, seizing them, and re-configuring their assets to renew. Companies that possess such dynamic capabilities are intensely entrepreneurial.
However, building such capabilities is not an easy task. In this course, the focus is on developing knowledge and skills in strategic analysis and strategy formulation through theory and company-based group projects around two fundamental challenges companies face in building capabilities:
a. the “top down” challenge concerns how top managers can (re)design companies that are able to extend or modify their assets, as they sense and seize opportunities, while simultaneously managing competitive threats; and
b. the “bottom up” challenge concerns how middle managers can contribute proactively in building capabilities by championing new initiatives and exploring new opportunities.

Assessment Methods and Criteria:
- Group project (50% of the final mark – involving a report and primary research)
- Class contribution and participation (50% of the final mark both within the class and through participation in online forums equal to 10 essays of max 400 words each).

Substitutes for Courses: Replaces the course TU-91.2014, TU-91.2034, TU-91.2038 and TU-E1020

Evaluation: 1-5 · Opintojaksot

Registration for Courses: The number of students is limited (boundaries set by the case teaching approach and the requirements of the group project). Students are given priority as follows: 1) students of the Master’s Programme in Industrial Engineering and Management, 2) students of the Master’s Programme in Information Networks 3) students minoring in Creativity and Venturing, Strategy and Corporate Renewal, Entrepreneurial
Leadership and Startup Minor. All other students will be chosen through a separate application process at the end of November and before the course starts. Bachelor students will be considered only if they have completed their bachelor thesis. More information on the application process can be found at the website of the course. Please note that it is not sufficient to enroll in Oodi.

**Language of Instruction:** English

**Further Information:** Although a variety of pedagogical methods will be used, classroom time will revolve primarily around the critical reflection on theoretical concepts and frameworks (assigned readings per teaching session), and around the critical analysis of case studies. As a result, class attendance and participation are highly advised. Further, two coaching sessions will be offered to all group projects during the length of the course to advance their progress. Groups are highly recommended to engage with the responsible teacher and seek feedback while working on the group project.

**TU-E1021 Strategies for Growth and Renewal (5 sp)**

**Ansvarig lärare:** Marina Biniari

**Kursens status:** Master’s Programme in Industrial Engineering and Management, compulsory course. Compulsory course in minor of Creativity & Venturing. Optional course in minors of Strategy and Corporate Renewal, Entrepreneurial Leadership and Startup minor. Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course.

**Kursnivå:** Master’s level

**Undervisningsperiod:** III - IV (Spring 2018)

**Lärandemål:**

The course focuses on the analytical framework of dynamic capabilities, and on the tools needed to access and design the internal environment of a company so that it is able to a) sense and shape opportunities, b) seize opportunities, and c) reconfigure its assets. Such tools include the development of new businesses and innovation capabilities, the development of an entrepreneurial strategy and an ambidextrous structure, the reconfiguration of a company’s innovation portfolio, and the introduction of appropriate human resource practices. Students are introduced to recent research in strategy and organizational innovation, with a particular interest in designing ambidextrous companies and in building blocks of dynamic capabilities. At the same time, the course focuses on those managerial capabilities needed to support organizational renewal. On the practice side, students are able to apply these tools and frameworks through a company-based group project, advising a Finnish company on how to tackle its innovation, renewal, or growth challenges.

Upon completion of this course, students should be able to:

a) understand why established companies lose their growth momentum, and their innovative and renewal capabilities over time;

b) understand why building dynamic capabilities can foster the growth and renewal potential of a company;

c) understand how companies can assess their organizational preparedness to develop dynamic capabilities;

d) understand how companies can start building dynamic capabilities by

1. creating processes and practices to sense opportunities (i.e., through corporate venturing, incubators, corporate venture capital, open innovation, university collaborations)

2. developing a strategy and a culture to seize opportunities through a portfolio approach to innovation and the exploration of new business models, and

3. reconfiguring their resources and human resource practices, as well as their systems in order to achieve growth and continuous renewal

e) understand what types of managerial capabilities and leadership styles are needed for a company to devise a growth or renewal strategy.

Furthermore, through completion of this course, students will have practiced the
following:
1. Analytical skills in defining and solving problems
2. Decision making skills
3. Research skills
4. Ability to learn from a real business experience through reflection
5. Group management and team work skills
6. Communication and presentation skills
7. Development of social capital among Finnish companies

Innehåll:
Despite massive investments of resources, achieving growth and renewal remains a puzzle for many companies. The ever growing number of popular books on this topic by management gurus suggests strong interest from practitioners in improving their abilities. Ordinary (technical) capabilities permit a degree of sufficiency and excellence in the performance of well-delineated tasks. However, they narrow the strategic options that companies have at their disposal, as they cannot permit the company to achieve congruence with changing customer needs, and with technological and business opportunities. If companies need to develop their strategic options for growth and renewal they need to be adaptable, flexible, innovative, and opportunity driven. In other words, they need to be capable of sensing opportunities, seizing them, and re-configuring their assets to renew. Companies that possess such dynamic capabilities are intensely entrepreneurial.

However, building such capabilities is not an easy task. In this course, the focus is on developing knowledge and skills in strategic analysis and strategy formulation through theory and company-based group projects around two fundamental challenges companies face in building capabilities:
a. the “top down” challenge concerns how top managers can (re)design companies that are able to extend or modify their assets, as they sense and seize opportunities, while simultaneously managing competitive threats; and
b. the “bottom up” challenge concerns how middle managers can contribute proactively in building capabilities by championing new initiatives and exploring new opportunities.

Metoder, arbetssätt och bedömningsgrunder:
- Group project (50% of the final mark – involving a report and primary research)
- Class contribution and participation (50% of the final mark both within the class and through participation in online forums equal to 10 essays of max 400 words each).


Bedömningsskala: 1-5 · Studieperiader
Anmälning: The number of students is limited (boundaries set by the case teaching approach and the requirements of the group project). Students are given priority as follows: 1) students of the Master’s Programme in Industrial Engineering and Management, 2) students of the Master’s Programme in Information Networks 3) students minoring in Creativity and Venturing, Strategy and Corporate Renewal, Entrepreneurial Leadership and Startup Minor. All other students will be chosen through a separate application process at the end of November and before the course starts. Bachelor students will be considered only if they have completed their bachelor thesis. More information on the application process can be found at the website of the course. Please note that it is not sufficient to enroll in Oodi.

Undervisningsspråk: English
Tilläggsinformation: Although a variety of pedagogical methods will be used, classroom time will revolve primarily around the critical reflection on theoretical concepts and frameworks (assigned readings per teaching session), and around the critical analysis of case studies. As a result, class attendance and participation are highly advised. Further, two coaching sessions will be offered to all group projects during the length of the course to advance their progress. Groups are highly recommended to engage with the responsible teacher and seek feedback while working on the group project.
TU-E1021 Strategies for Growth and Renewal (5 cr)

Responsible teacher: Marina Biniari


Level of the Course: Master’s level

Teaching Period: III - IV (Spring 2018)

Learning Outcomes:
The course focuses on the analytical framework of dynamic capabilities, and on the tools needed to access and design the internal environment of a company so that it is able to a) sense and shape opportunities, b) seize opportunities, and c) reconfigure its assets. Such tools include the development of new businesses and innovation capabilities, the development of an entrepreneurial strategy and an ambidextrous structure, the reconfiguration of a company’s innovation portfolio, and the introduction of appropriate human resource practices. Students are introduced to recent research in strategy and organizational innovation, with a particular interest in designing ambidextrous companies and in building blocks of dynamic capabilities. At the same time, the course focuses on those managerial capabilities needed to support organizational renewal. On the practice side, students are able to apply these tools and frameworks through a company-based group project, advising a Finnish company on how to tackle its innovation, renewal, or growth challenges.

Upon completion of this course, students should be able to:

a) understand why established companies lose their growth momentum, and their innovative and renewal capabilities over time;
b) understand why building dynamic capabilities can foster the growth and renewal potential of a company;
c) understand how companies can assess their organizational preparedness to develop dynamic capabilities;
d) understand how companies can start building dynamic capabilities by
   1. creating processes and practices to sense opportunities (i.e., through corporate venturing, incubators, corporate venture capital, open innovation, university collaborations)
   2. developing a strategy and a culture to seize opportunities through a portfolio approach to innovation and the exploration of new business models, and
   3. reconfiguring their resources and human resource practices, as well as their systems in order to achieve growth and continuous renewal
e) understand what types of managerial capabilities and leadership styles are needed for a company to devise a growth or renewal strategy.

Furthermore, through completion of this course, students will have practiced the following:

1. Analytical skills in defining and solving problems
2. Decision making skills
3. Research skills
4. Ability to learn from a real business experience through reflection
5. Group management and teamwork skills
6. Communication and presentation skills
7. Development of social capital among Finnish companies

Content:
Despite massive investments of resources, achieving growth and renewal remains a puzzle for many companies. The ever growing number of popular books on this topic by management gurus suggests strong interest from practitioners in improving their abilities. Ordinary (technical) capabilities permit a degree of sufficiency and excellence in the
performance of well-delineated tasks. However, they narrow the strategic options that companies have at their disposal, as they cannot permit the company to achieve congruence with changing customer needs, and with technological and business opportunities. If companies need to develop their strategic options for growth and renewal they need to be adaptable, flexible, innovative, and opportunity driven. In other words, they need to be capable of sensing opportunities, seizing them, and re-configuring their assets to renew. Companies that possess such dynamic capabilities are intensely entrepreneurial.

However, building such capabilities is not an easy task. In this course, the focus is on developing knowledge and skills in strategic analysis and strategy formulation through theory and company-based group projects around two fundamental challenges companies face in building capabilities:

a. the “top down” challenge concerns how top managers can (re)design companies that are able to extend or modify their assets, as they sense and seize opportunities, while simultaneously managing competitive threats; and

b. the “bottom up” challenge concerns how middle managers can contribute proactively in building capabilities by championing new initiatives and exploring new opportunities.

Assessment Methods and Criteria:
- Group project (50% of the final mark – involving a report and primary research)
- Class contribution and participation (50% of the final mark both within the class and through participation in online forums equal to 10 essays of max 400 words each).

Substitutes for Courses: Replaces the course TU-91.2014, TU-91.2034, TU-91.2038 and TU-E1020

Evaluation: 1-5 · Courses

Registration for Courses: The number of students is limited (boundaries set by the case teaching approach and the requirements of the group project). Students are given priority as follows: 1) students of the Master’s Programme in Industrial Engineering and Management, 2) students of the Master’s Programme in Information Networks 3) students minoring in Creativity and Venturing, Strategy and Corporate Renewal, Entrepreneurial Leadership and Startup Minor. All other students will be chosen through a separate application process at the end of November and before the course starts. Bachelor students will be considered only if they have completed their bachelor thesis. More information on the application process can be found at the website of the course. Please note that it is not sufficient to enroll in Oodi.

Language of Instruction: English

Further Information: Although a variety of pedagogical methods will be used, classroom time will revolve primarily around the critical reflection on theoretical concepts and frameworks (assigned readings per teaching session), and around the critical analysis of case studies. As a result, class attendance and participation are highly advised. Further, two coaching sessions will be offered to all group projects during the length of the course to advance their progress. Groups are highly recommended to engage with the responsible teacher and seek feedback while working on the group project.

TU-E1030 Advanced Case-seminar in Strategy (5 op)

Vastuuopettaja: Timo Vuori
Kurssin asema: Master's Programme in Industrial Engineering and Management, compulsory course. Optional course in minor of Strategy and Corporate Renewal.
Kurssin taso: Master's level.
Opetusperiodi: I (Autumn 2017)
Osaamistavoitteet: After the course, the participant should (1) have an improved ability to make sense of the most important issues in different strategy-making situations, (2) be able to carry out a structured analytical thinking process for solving a firm’s strategic problems, (3) have the ability to come up with tangible recommendations for different kinds of firms in different kinds of situations, and (4) be able to present the recommendations as a well-structured presentation to the management team of a firm.
Sisältö: Solving in teams of four to five participants selected Harvard Business School type strategy cases and presenting case solutions for different audiences.

Toteutus, työmuodot ja arvosteluperusteet: Mandatory attendance in seminar sessions and presentations of case solutions prepared in student teams. Essays and peer feedback.

Korvaavuudet: Replaces the course TU-91.135 and TU-91.2015


Arvosteluasteikko: 1-5 · Opintojaksot

Ilmoittautuminen: Due to limited size of the course, the priority is given to 1) students of the Master’s Programme in Industrial Engineering and Management or in Strategy, 2) students of the Strategy and Corporate Renewal minor. Please confirm that you qualify before enrolling to the course.

Opetuskieli: English

TU-E1030 Advanced Case-seminar in Strategy (5 sp)

Ansvarig lärare: Timo Vuori

Kursens status: Master’s Programme in Industrial Engineering and Management, compulsory course. Optional course in minor of Strategy and Corporate Renewal.

Kursnivå: Master’s level.

Undervisningsperiod: I (Autumn 2017)

Lärandemål: After the course, the participant should (1) have an improved ability to make sense of the most important issues in different strategy-making situations, (2) be able to carry out a structured analytical thinking process for solving a firm’s strategic problems, (3) have the ability to come up with tangible recommendations for different kinds of firms in different kinds of situations, and (4) be able to present the recommendations as a well-structured presentation to the management team of a firm.

Innehåll: Solving in teams of four to five participants selected Harvard Business School type strategy cases and presenting case solutions for different audiences.

Metoder, arbetssätt och bedömningsgrunder: Mandatory attendance in seminar sessions and presentations of case solutions prepared in student teams. Essays and peer feedback.

Ersättande prestationer: Replaces the course TU-91.135 and TU-91.2015


Bedömningssskala: 1-5 · Studieperioder

Anmäling: Due to limited size of the course, the priority is given to 1) students of the Master’s Programme in Industrial Engineering and Management or in Strategy, 2) students of the Strategy and Corporate Renewal minor. Please confirm that you qualify before enrolling to the course.

Undervisningsspråk: English

TU-E1030 Advanced Case-seminar in Strategy (5 cr)

Responsible teacher: Timo Vuori

Status of the Course: Master’s Programme in Industrial Engineering and Management, compulsory course. Optional course in minor of Strategy and Corporate Renewal.

Level of the Course: Master’s level.

Teaching Period: I (Autumn 2017)

Learning Outcomes: After the course, the participant should (1) have an improved ability
to make sense of the most important issues in different strategy-making situations, (2) be able to carry out a structured analytical thinking process for solving a firm’s strategic problems, (3) have the ability to come up with tangible recommendations for different kinds of firms in different kinds of situations, and (4) be able to present the recommendations as a well-structured presentation to the management team of a firm.

**Content:** Solving in teams of four to five participants selected Harvard Business School type strategy cases and presenting case solutions for different audiences.

**Assessment Methods and Criteria:** Mandatory attendance in seminar sessions and presentations of case solutions prepared in student teams. Essays and peer feedback.

**Substitutes for Courses:** Replaces the course TU-91.135 and TU-91.2015

**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E1030


**Evaluation:** 1-5 · Courses

**Registration for Courses:** Due to limited size of the course, the priority is given to 1) students of the Master’s Programme in Industrial Engineering and Management or in Strategy, 2) students of the Strategy and Corporate Renewal minor. Please confirm that you qualify before enrolling to the course.

**Language of Instruction:** English

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**TU-E1090 Research Assignment in Strategy and Venturing (5 cr)**

**Responsible teacher:** Markku Maula

**Status of the Course:** Master’s Programme in Industrial Engineering and Management, compulsory course in majors of Strategy and Venturing and Strategy.

**Level of the Course:** Master's level

**Teaching period:** I-II, III-V (Autumn 2017, Spring 2018)

**Workload:** Lectures 10-14 hours, individual work and assignments 40-44 hours, group work and assignments 81 hours.

**Learning Outcomes:** Students will learn how to apply research methods and scientific thinking in problem solving. Students will learn how to define and specify adequate research objectives and research questions in the subject area “strategy and venturing”. Students will learn how to make a sound research plan for a small-scale empirical study. Students will understand how to make theoretical claims and compile data to support those claims. Students will be able to analyze empirical data, report the results, and evaluate the quality (reliability and validity) of empirical research.

**Content:** Course includes designing a study that is based on empirical data. Students will do hands-on exercises of the different phases of a scientific research (e.g. designing an instrument for collecting data, data collection, data analysis, etc.). The course prepares the students for conducting scientific research (e.g. Master’s thesis).

**Assessment Methods and Criteria:** Lectures, seminars, exam, empirical assignment

**Substitutes for Courses:** TU-0.2000, TU-91.2037

**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E1090

**Prerequisites:** Bachelor’s Seminar

**Evaluation:** 1-5 · Opintojaksot

**Registration for Courses:** Due to limited size, the course is mainly for students majoring in Strategy or Strategy and Venturing.

**Language of Instruction:** English

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**TU-E1090 Research Assignment in Strategy and Venturing (5 sp)**

**Ansvarig lärare:** Markku Maula

**Kursens status:** Master’s Programme in Industrial Engineering and Management, compulsory course in majors of Strategy and Venturing and Strategy.

**Kursnivå:** Master’s level
**Undervisningsperiod:** I-II, III-V (Autumn 2017, Spring 2018)

**Arbetsmängd:** Lectures 10-14 hours, individual work and assignments 40-44 hours, group work and assignments 81 hours.

**Lärandemål:** Students will learn how to apply research methods and scientific thinking in problem solving. Students will learn how to define and specify adequate research objectives and research questions in the subject area “strategy and venturing”. Students will learn how to make a sound research plan for a small-scale empirical study. Students will understand how to make theoretical claims and compile data to support those claims. Students will be able to analyze empirical data, report the results, and evaluate the quality (reliability and validity) of empirical research.

**Innehåll:** Course includes designing a study that is based on empirical data. Students will do hands-on exercises of the different phases of a scientific research (e.g. designing an instrument for collecting data, data collection, data analysis, etc.). The course prepares the students for conducting scientific research (e.g. Master’s thesis).

**Metoder, arbetssätt och bedömningsgrunder:** Lectures, seminars, exam, empirical assignment

**Ersättande prestationer:** TU-0.2000, TU-91.2037

**Kursens webbplats:** https://mycourses.aalto.fi/course/search.php?search=TU-E1090

**Förkunskaper:** Bachelor’s Seminar

**Bedömningsskala:** 1-5 · Studieperioder

**Anmälaning:** Due to limited size, the course is mainly for students majoring in Strategy or Strategy and Venturing.

**Undervisningsspråk:** English

**TU-E1090 Research Assignment in Strategy and Venturing (5 cr)**

**Responsible teacher:** Markku Maula

**Status of the Course:**
Master’s Programme in Industrial Engineering and Management, compulsory course in majors of Strategy and Venturing and Strategy.

**Level of the Course:** Master’s level

**Teaching Period:** I-II, III-V (Autumn 2017, Spring 2018)

**Workload:** Lectures 10-14 hours, individual work and assignments 40-44 hours, group work and assignments 81 hours.

**Learning Outcomes:** Students will learn how to apply research methods and scientific thinking in problem solving. Students will learn how to define and specify adequate research objectives and research questions in the subject area “strategy and venturing”. Students will learn how to make a sound research plan for a small-scale empirical study. Students will understand how to make theoretical claims and compile data to support those claims. Students will be able to analyze empirical data, report the results, and evaluate the quality (reliability and validity) of empirical research.

**Content:** Course includes designing a study that is based on empirical data. Students will do hands-on exercises of the different phases of a scientific research (e.g. designing an instrument for collecting data, data collection, data analysis, etc.). The course prepares the students for conducting scientific research (e.g. Master’s thesis).

**Assessment Methods and Criteria:** Lectures, seminars, exam, empirical assignment

**Substitutes for Courses:** TU-0.2000, TU-91.2037

**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E1090

**Prerequisites:** Bachelor’s Seminar

**Evaluation:** 1-5 · Courses

**Registration for Courses:** Due to limited size, the course is mainly for students majoring in Strategy or Strategy and Venturing.

**Language of Instruction:** English

**TU-E1120 Strategic Management of Technology and Innovation (5 cr)**

**Responsible teacher:** Ilkka Kauranen
Level of the Course: Master’s level.
Teaching period: III-V (Spring 2018)

Learning Outcomes: The course will enhance the students’ skills in strategic management of technology and innovation within the firm-level. The students will gain new insight in analyzing the technological environment of the firm. The students will better understand the dynamics of technological development and drivers of innovation and their mutual relationships. They will be able to better design technology and innovation strategies that increase the performance of the firm in a changing environment. The teaching methods are chosen so that the students will enhance their professional presentation skills and group working skills.

Content: The course is about increasing firm performance by creating value from new technologies. Consequently, the following topics will be emphasized: frameworks concerning the development of technology; impact of the technological environment on the strategic choices of the firm; designing, implementing, and adopting firm-level technology and innovation strategies; serving the mission, vision and, over-all strategy of the firm by technology and innovation strategies.

Assessment Methods and Criteria: Exams; group assignments.

Study Material: Scientific articles and other study material assigned by the professor.

Substitutes for Courses: Replaces the course TU-91.2005

Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E1120


Evaluation: 1-5 · Opintojaksot

Registration for Courses: The course is available for students who have a major or minor in Industrial Engineering and Management; other students (who meet the prerequisites) can be accepted to the course only if the maximum number of students allows taking more students. Other students will be accepted in order of registration. If other students can be accepted, it will be done in order of registration in Oodi

Language of Instruction: English

TU-E1120 Strategic Management of Technology and Innovation (5 sp)

Ansvarig lärare: Ilkka Kauranen


Kursnivå: Master’s level.

Undervisningsperiod: III-V (Spring 2018)

Lärandemål: The course will enhance the students’ skills in strategic management of technology and innovation within the firm-level. The students will gain new insight in analyzing the technological environment of the firm. The students will better understand the dynamics of technological development and drivers of innovation and their mutual relationships. They will be able to better design technology and innovation strategies that increase the performance of the firm in a changing environment. The teaching methods are chosen so that the students will enhance their professional presentation skills and group working skills.

Innehåll: The course is about increasing firm performance by creating value from new technologies. Consequently, the following topics will be emphasized: frameworks concerning the development of technology; impact of the technological environment on the strategic choices of the firm; designing, implementing, and adopting firm-level
technology and innovation strategies; serving the mission, vision and, over-all strategy of the firm by technology and innovation strategies.

**Metoder, arbetssätt och bedömningsgrunder:** Exams; group assignments.

**Studiematerial:** Scientific articles and other study material assigned by the professor.

**Ersättande prestationer:** Replaces the course TU-91.2005

**Kursens webbplats:** https://mycourses.aalto.fi/course/search.php?search=TU-E1120


**Bedömningsskala:** 1-5 · Studieperioder

**Anmälning:** The course is available for students who have a major or minor in Industrial Engineering and Management; other students (who meet the prerequisites) can be accepted to the course only if the maximum number of students allows taking more students. Other students will be accepted in order of registration. If other students can be accepted, it will be done in order of registration in Oodi

**Undervisningsspråk:** English

**TU-E1120 Strategic Management of Technology and Innovation (5 cr)**

**Responsible teacher:** Ilkka Kauranen

**Status of the Course:** Master’s Programme in Industrial Engineering and Management, optional course. Minor in Strategy and Corporate Renewal, optional course. Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course.

**Level of the Course:** Master’s level.

**Teaching Period:** III-V (Spring 2018)

**Learning Outcomes:** The course will enhance the students’ skills in strategic management of technology and innovation within the firm-level. The students will gain new insight in analyzing the technological environment of the firm. The students will better understand the dynamics of technological development and drivers of innovation and their mutual relationships. They will be able to better design technology and innovation strategies that increase the performance of the firm in a changing environment. The teaching methods are chosen so that the students will enhance their professional presentation skills and group working skills.

**Content:** The course is about increasing firm performance by creating value from new technologies. Consequently, the following topics will be emphasized: frameworks concerning the development of technology; impact of the technological environment on the strategic choices of the firm; designing, implementing, and adopting firm-level technology and innovation strategies; serving the mission, vision and, over-all strategy of the firm by technology and innovation strategies.

**Assessment Methods and Criteria:** Exams; group assignments.

**Study Material:** Scientific articles and other study material assigned by the professor.

**Substitutes for Courses:** Replaces the course TU-91.2005

**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E1120


**Evaluation:** 1-5 · Courses

**Registration for Courses:** The course is available for students who have a major or minor in Industrial Engineering and Management; other students (who meet the prerequisites) can be accepted to the course only if the maximum number of students allows taking more students. Other students will be accepted in order of registration. If other students can be accepted, it will be done in order of registration in Oodi

**Language of Instruction:** English

**TU-E1131 Financial Modeling in Strategy and Venturing (5 cr)**
Responsible teacher: Markku Maula
Status of the Course: Master's Programme in Industrial Engineering and Management, optional course.
Teaching period: II (Autumn 2017)
Learning Outcomes: After the course students will be able to conduct quantitative analyses and financial modeling needed in new business development, venture capital and private equity investments, mergers and acquisitions, strategy consulting, and investment banking.
Content: Valuation and structuring of different types of investments and transactions based on readings and real life cases that are solved in small groups and presented and discussed during seminar sessions.
Assessment Methods and Criteria: Entry exam, mandatory attendance in seminar sessions, and presentations of case solutions prepared in groups of students.
Substitutes for Courses: Replaces the course TU-91.2017, TU-91.2035 and TU-E1130
Prerequisites: TU-C1030 Managerial accounting and finance for decision-makers, TU-E4030 Entrepreneurial Finance or other basic course in corporate finance.
Evaluation: 1-5 · Opintojaksot
Registration for Courses: Limited to max 20 students based on entry exam.
Language of Instruction: English

TU-E1131 Financial Modeling in Strategy and Venturing (5 sp)
Ansvarig lärare: Markku Maula
Kursens status: Master’s Programme in Industrial Engineering and Management, optional course.
Undervisningsperiod: II (Autumn 2017)
Lärandemål: After the course students will be able to conduct quantitative analyses and financial modeling needed in new business development, venture capital and private equity investments, mergers and acquisitions, strategy consulting, and investment banking.
Innehåll: Valuation and structuring of different types of investments and transactions based on readings and real life cases that are solved in small groups and presented and discussed during seminar sessions.
Metoder, arbetssätt och bedömningsgrunder: Entry exam, mandatory attendance in seminar sessions, and presentations of case solutions prepared in groups of students.
Ersättande prestationer: Replaces the course TU-91.2017, TU-91.2035 and TU-E1130
Förkunskaper: TU-C1030 Managerial accounting and finance for decision-makers, TU-E4030 Entrepreneurial Finance or other basic course in corporate finance.
Bedömningsskala: 1-5 · Studieperioder
Anmäling: Limited to max 20 students based on entry exam.
Undervisningarsspråk: English

TU-E1131 Financial Modeling in Strategy and Venturing (5 cr)
Responsible teacher: Markku Maula
Status of the Course: Master’s Programme in Industrial Engineering and Management, optional course.
Teaching Period: II (Autumn 2017)
Learning Outcomes: After the course students will be able to conduct quantitative analyses and financial modeling needed in new business development, venture capital and private equity investments, mergers and acquisitions, strategy consulting, and investment banking.
Content: Valuation and structuring of different types of investments and transactions based on readings and real life cases that are solved in small groups and presented and discussed during seminar sessions.
Assessment Methods and Criteria: Entry exam, mandatory attendance in seminar
sessions, and presentations of case solutions prepared in groups of students.

**Substitutes for Courses:** Replaces the course TU-91.2017, TU-91.2035 and TU-E1130

**Prerequisites:** TU-C1030 Managerial accounting and finance for decision-makers, TU-E4030 Entrepreneurial Finance or other basic course in corporate finance.

**Evaluation:** 1-5 · Courses

**Registration for Courses:** Limited to max 20 students based on entry exam.

**Language of Instruction:** English

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**TU-E1140 Contracting in Strategy and Venturing (2 cr)**

**Responsible teacher:** Markku Maula

**Status of the Course:** Master’s Programme in Industrial Engineering and Management, optional course.

**Teaching period:** IV (Spring 2018)

**Learning Outcomes:** After the course students will have an understanding of the key legal issues of venture capital transactions and M&A’s such as analyzing term-sheets, formulating and drafting the representations and warranties, investment agreements, convertible loan agreements, merger agreements, purchase agreements and their derivatives.

**Content:** Introduction to current practice of legal structuring related to venture capital investments as well as mergers and acquisitions through lectures and real life cases that are solved in small groups and presented and discussed during seminar sessions.

**Assessment Methods and Criteria:** There will be no written examination in this course. The course evaluation will be based on individual participation and contribution (10%) and three group assignments (90%).

**Substitutes for Courses:** Replaces the course TU-91.2022 and TU-91.2036

**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E1140

**Prerequisites:** TU-E4030 Entrepreneurial Finance and TU-E1131 Financial Modeling in Strategy and Venturing recommended

**Evaluation:** 1-5 · Opintojakso

**Registration for Courses:** Limited to max 20 students. Students majoring in Strategy and Venturing are given priority.

**Language of Instruction:** English

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**TU-E1140 Contracting in Strategy and Venturing (2 sp)**

**Ansvarig lärare:** Markku Maula

**Kursens status:** Master’s Programme in Industrial Engineering and Management, optional course.

**Undervisningsperiod:** IV (Spring 2018)

**Lärandemål:** After the course students will have an understanding of the key legal issues of venture capital transactions and M&A’s such as analyzing term-sheets, formulating and drafting the representations and warranties, investment agreements, convertible loan agreements, merger agreements, purchase agreements and their derivatives.

**Innehåll:** Introduction to current practice of legal structuring related to venture capital investments as well as mergers and acquisitions through lectures and real life cases that are solved in small groups and presented and discussed during seminar sessions.

**Metoder, arbetssätt och bedömningsgrunder:** There will be no written examination in this course. The course evaluation will be based on individual participation and contribution (10%) and three group assignments (90%).

**Ersättande prestationer:** Replaces the course TU-91.2022 and TU-91.2036

**Kursens webbplats:** https://mycourses.aalto.fi/course/search.php?search=TU-E1140

**Förkunskaper:** TU-E4030 Entrepreneurial Finance and TU-E1131 Financial Modeling in Strategy and Venturing recommended

**Bedömningsskala:** 1-5 · Studieperioder

**Anmäling:** Limited to max 20 students. Students majoring in Strategy and Venturing are given priority.
**Undervisningsspråk:** English

**TU-E1140 Contracting in Strategy and Venturing (2 cr)**

**Responsible teacher:** Markku Maula

**Status of the Course:** Master's Programme in Industrial Engineering and Management, optional course.

**Teaching Period:** IV (Spring 2018)

**Learning Outcomes:** After the course students will have an understanding of the key legal issues of venture capital transactions and M&A's such as analyzing term-sheets, formulating and drafting the representations and warranties, investment agreements, convertible loan agreements, merger agreements, purchase agreements and their derivatives.

**Content:** Introduction to current practice of legal structuring related to venture capital investments as well as mergers and acquisitions through lectures and real life cases that are solved in small groups and presented and discussed during seminar sessions.

**Assessment Methods and Criteria:** There will be no written examination in this course. The course evaluation will be based on individual participation and contribution (10%) and three group assignments (90%).

**Substitutes for Courses:** Replaces the course TU-91.2022 and TU-91.2036

**Course Homepage:** [https://mycourses.aalto.fi/course/search.php?search=TU-E1140](https://mycourses.aalto.fi/course/search.php?search=TU-E1140)

**Prerequisites:** TU-E4030 Entrepreneurial Finance and TU-E1131 Financial Modeling in Strategy and Venturing recommended

**TU-E2000 Aalto Introduction to Services (3-6 cr)**

**Responsible teacher:** Paul Lillrank

**Status of the Course:** Compulsory course of the Aalto Service Minor. Optional course in the minors of Operations and Service Management and Software Engineering and Services.

**Level of the Course:** Master's level

**Teaching period:** I (Autumn 2017)

**Workload:** 6 credits version: Lectures 18hours (9x2h) + 18h reflection. Group assignment 85h (independent group work 54h + group work sessions 8h+ group work seminar 8h). Exam preparation 45h.

3 credits version: Lectures 18hours (9x2h) + 18h reflection. Exam preparation 45h.

**Learning Outcomes:** After the course, the student has a comprehension of the multidisciplinary dynamics of the service economy and its role in global networked economy.

After the course the student can describe, define, and identify services and what is considered as value in services. The student can also describe the basics of service economy, service business and innovation, and also service design, development, and production processes and methods in them. Further, the student can also identify differences between service industries and the methods used in them. The student also understands the challenges in the design and operation of service systems spanning multiple technical systems, organizations, and human actors.

Further, the student will learn how to apply service methods to high level design of service business and cooperation of different actors in the networked service economy and understand the role of different disciplines in the service ecosystem. Also, the student will learn practical group work skills in multidisciplinary teams formed across Aalto schools.

**Content:** Service economy. Definition of services. Basics of service business models, ecosystems, and networks. Customer and user viewpoint in services. Value-in-use and
relationship marketing in services. Service design, development, production and operation processes and tools and methods used in them in different service industries.  
**Assessment Methods and Criteria:** For 6 cr: Assessment methods and criteria: Exam 50% + assignment 50%. Both graded 0-5. For 3 cr: Assessment methods and criteria: Exam, graded 0-5.  
**Study Material:** Lecture notes and articles. Articles listed at the beginning of the course.  
**Substitutes for Courses:** TU-22.1309  
**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E2000  
**Evaluation:** 1-5 ⋅ Opintojakso  
**Registration for Courses:** Participation requires that the course is included in the personal study plan of the student (HOPS) - the more extensive course version must be included in either 1) major or 2) minor studies of the student. The number of the participants can be limited on these grounds.  
**Language of Instruction:** English  

**TU-E2000 Aalto Introduction to Services (3-6 sp)**  
**Ansvarig lärare:** Paul Lillrank  
**Kursens status:** Compulsory course of the Aalto Service Minor. Optional course in the minors of Operations and Service Management and Software Engineering and Services.  
**Kursnivå:** Master's level  
**Undervisningsperiod:** I (Autumn 2017)  
**Arbetsmängd:** 6 credits version: Lectures 18hours (9x2h) + 18h reflection. Group assignment 85h (independent group work 54h + group work sessions 8h+ group work seminar 8h). Exam preparation 45h.  
3 credits version: Lectures 18hours (9x2h) + 18h reflection. Exam preparation 45h.  
**Lärandemål:** After the course, the student has a comprehension of the multidisciplinary dynamics of the service economy and its role in global networked economy. After the course the student can describe, define, and identify services and what is considered as value in services. The student can also describe the basics of service economy, service business and innovation, and also service design, development, and production processes and methods in them. Further, the student can also identify differences between service industries and the methods used in them. The student also understands the challenges in the design and operation of service systems spanning multiple technical systems, organizations, and human actors. Further, the student will learn how to apply service methods to high level design of service business and cooperation of different actors in the networked service economy and understand the role of different disciplines in the service ecosystem. Also, the student will learn practical group work skills in multidisciplinary teams formed across Aalto schools.  
**Innehåll:** Service economy. Definition of services. Basics of service business models, ecosystems, and networks. Customer and user viewpoint in services. Value-in-use and relationship marketing in services. Service design, development, production and operation processes and tools and methods used in them in different service industries.  
**Metoder, arbetssätt och bedömningsgrunder:** For 6 cr: Assessment methods and criteria: Exam 50% + assignment 50%. Both graded 0-5. For 3 cr: Assessment methods and criteria: Exam, graded 0-5.  
**Studiematerial:** Lecture notes and articles. Articles listed at the beginning of the course.  
**Ersättande prestation:** TU-22.1309  
**Bedömningskala:** 1-5 ⋅ Studieperioder  
**Anmärkning:** Participation requires that the course is included in the personal study plan of the student (HOPS) - the more extensive course version must be included in either 1) major or 2) minor studies of the student. The number of the participants can be limited on these grounds.  
**Undervisningsspråk:** English
TU-E2000 Aalto Introduction to Services (3-6 cr)

Responsible teacher: Paul Lillrank


Level of the Course: Master’s level

Teaching Period: I (Autumn 2017)

Workload: 6 credits version: Lectures 18 hours (9x2h) + 18h reflection. Group assignment 85h (independent group work 54h + group work sessions 8h+ group work seminar 8h). Exam preparation 45h.

3 credits version: Lectures 18 hours (9x2h) + 18h reflection. Exam preparation 45h.

Learning Outcomes: After the course, the student has a comprehension of the multidisciplinary dynamics of the service economy and its role in global networked economy.

After the course the student can describe, define, and identify services and what is considered as value in services. The student can also describe the basics of service economy, service business and innovation, and also service design, development, and production processes and methods in them. Further, the student can also identify differences between service industries and the methods used in them. The student also understands the challenges in the design and operation of service systems spanning multiple technical systems, organizations, and human actors.

Further, the student will learn how to apply service methods to high level design of service business and cooperation of different actors in the networked service economy and understand the role of different disciplines in the service ecosystem. Also, the student will learn practical group work skills in multidisciplinary teams formed across Aalto schools.

Content: Service economy. Definition of services. Basics of service business models, ecosystems, and networks. Customer and user viewpoint in services. Value-in-use and relationship marketing in services. Service design, development, production and operation processes and tools and methods used in them in different service industries.

Assessment Methods and Criteria: For 6 cr: Assessment methods and criteria: Exam 50% + assignment 50%. Both graded 0-5. For 3 cr: Assessment methods and criteria: Exam, graded 0-5.

Study Material: Lecture notes and articles. Articles listed at the beginning of the course.

Substitutes for Courses: TU-22.1309


Evaluation: 1-5 · Courses

Registration for Courses: Participation requires that the course is included in the personal study plan of the student (HOPS) - the more extensive course version must be included in either 1) major or 2) minor studies of the student. The number of the participants can be limited on these grounds.

Language of Instruction: English

TU-E2012 Service Operations Management (5 cr)

Responsible teacher: Risto Rajala

Status of the Course: Master’s Programme in Industrial Engineering and Management, compulsory course. Optional course in minor of the Operations and Service Management. Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course.

Level of the Course: Master’s level

Teaching period: III-IV (Spring 2018)

Workload: Lectures 24 h; Visiting lectures 8 h; Case-work 30 h; Game-session 4 h; Individual work 91 h; exam 5 h.

Learning Outcomes: The student learns 1) how to analyze industrial service operations
from both the service user and service provider perspectives; 2) how to design industrial service operations that effectively improve asset management and productivity for both service users and providers.

**Content:** Service systems, service adoption, maintenance services, asset management, service supply networks, performance management, service planning and fulfillment, information systems, industrial internet. Variable contents: visiting lectures, updated article selection.

**Assessment Methods and Criteria:** Case assignments, exam and term paper.

**Study Material:** Lecture material, articles, cases.

**Substitutes for Courses:** Replaces courses TU-22.1321/2/5, TU-E2010 and TU-E2011.

**Prerequisites:** TU-A1100 Tuotantotalous 1/TU-A1200 Grundkurs i Produktionssekonomi. Other industrial management courses are recommended.

**Evaluation:** 1-5 · Opintojaksot

**Registration for Courses:** Participation requires that the course is included in the personal study plan of the student (HOPS) - the more extensive course version must be included in either 1) major or 2) minor studies of the student. The number of the participants can be limited on these grounds.

**Language of Instruction:** English

**TU-E2012 Service Operations Management (5 sp)**

**Ansvargig lärare:** Risto Rajala

**Kursens status:** Master’s Programme in Industrial Engineering and Management, compulsory course. Optional course in minor of the Operations and Service Management. Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course.

**Kursnivå:** Master’s level

**Undervisningsperiod:** III-IV (Spring 2018)

**Arbetsmängd:** Lectures 24 h; Visiting lectures 8 h; Case-work 30 h; Game-session 4 h; Individual work 91 h; exam 5 h.

**Lärandemål:** The student learns 1) how to analyze industrial service operations from both the service user and service provider perspectives; 2) how to design industrial service operations that effectively improve asset management and productivity for both service users and providers.

**Innehåll:** Service systems, service adoption, maintenance services, asset management, service supply networks, performance management, service planning and fulfillment, information systems, industrial internet. Variable contents: visiting lectures, updated article selection.

**Metoder, arbetsätt och bedömningsgrunder:** Case assignments, exam and term paper.

**Studiematerial:** Lecture material, articles, cases.

**Ersättnande prestationer:** Replaces courses TU-22.1321/2/5, TU-E2010 and TU-E2011.

**Förkunskaper:** TU-A1100 Tuotantotalous 1/TU-A1200 Grundkurs i Produktionssekonomi. Other industrial management courses are recommended.

**Bedömningskala:** 1-5 · Studieperioder

**Anmäning:** Participation requires that the course is included in the personal study plan of the student (HOPS) - the more extensive course version must be included in either 1) major or 2) minor studies of the student. The number of the participants can be limited on these grounds.

**Undervisningsspråk:** English

**TU-E2012 Service Operations Management (5 cr)**

**Responsible teacher:** Risto Rajala

**Status of the Course:** Master’s Programme in Industrial Engineering and Management, compulsory course. Optional course in minor of the Operations and Service Management. Master’s Programme in Information Networks, Major Information Networks,
Track Knowledge and Business Networks, optional course.

**Level of the Course:** Master's level

**Teaching Period:** III-IV (Spring 2018)

**Workload:** Lectures 24 h; Visiting lectures 8 h; Case-work 30 h; Game-session 4 h; Individual work 91 h; exam 5 h.

**Learning Outcomes:** The student learns 1) how to analyze industrial service operations from both the service user and service provider perspectives; 2) how to design industrial service operations that effectively improve asset management and productivity for both service users and providers.

**Content:** Service systems, service adoption, maintenance services, asset management, service supply networks, performance management, service planning and fulfillment, information systems, industrial internet. Variable contents: visiting lectures, updated article selection.

**Assessment Methods and Criteria:** Case assignments, exam and term paper.

**Study Material:** Lecture material, articles, cases.

**Substitutes for Courses:** Replaces courses TU-22.1321/2/5, TU-E2010 and TU-E2011.

**Prerequisites:** TU-A1100 Tuotantotalous 1/TU-A1200 Grundkurs i Produktionsekonomi. Other industrial management courses are recommended.

**Evaluation:** 1-5 · Courses

**Registration for Courses:** Participation requires that the course is included in the personal study plan of the student (HOPS) - the more extensive course version must be included in either 1) major or 2) minor studies of the student. The number of the participants can be limited on these grounds.

**Language of Instruction:** English

**TU-E2020 Advanced Operations Management (3-5 cr)**

**Responsible teacher:** Jan Holmström

**Status of the Course:** Master's Programme in Industrial Engineering and Management, compulsory course. Optional course in minor of Operations and Service Management.

**Level of the Course:** Master's level.

**Teaching Period:** II (Autumn 2017)

**Workload:** Lectures and preparing for the lectures 24h, simulation exercises incl. reports 44h, game and reporting 8h; book evaluation and calculation exercises 28-48h, exam and preparing for the exam 11h. The 3 credit version does not include the game, and the requirements for the book evaluation are reduced.

**Learning Outcomes:** This course takes a focal company perspective on global value and production networks. The students learn how to design, plan, and control advanced operations in global demand/supply chains taking advantage of digitalization and coping with legacy system constraints.

**Content:** The key contents of this course include operations strategy, visibility & forecasting, sales and operations planning & execution, master data management, lean manufacturing, and digitalization of manufacturing (additive manufacturing and internet of things).

**Assessment Methods and Criteria:** Exam, Lean Manufacturing game (group activity), Simulation Exercises (in class activity)

**Study Material:** The student studies a book describing advanced operations management practices and then evaluates and reports the practices in a written report.

**Substitutes for Courses:** TU-22.1179

**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E2020

**Prerequisites:** TU-C2020 Operations Management

**Evaluation:** 1-5 · Opintojakso

**Registration for Courses:** Participation requires that the course is included in the personal study plan of the student (HOPS) - the more extensive course version must be included in either 1) major or 2) minor studies of the student. The number of the participants can be limited on these grounds.
Language of Instruction: English

TU-E2020 Advanced Operations Management (3-5 sp)

Ansvarig lärare: Jan Holmström

Kursens status: Master’s Programme in Industrial Engineering and Management, compulsory course. Optional course in minor of Operations and Service Management.

Kursnivå: Master’s level.

Undervisningsperiod: II (Autumn 2017)

Arbetsmängd: Lectures and preparing for the lectures 24h, simulation exercises incl. reports 44h, game and reporting 8h; book evaluation and calculation exercises 28-48h, exam and preparing for the exam 11h. The 3 credit version does not include the game, and the requirements for the book evaluation are reduced.

Lärandemål: This course takes a focal company perspective on global value and production networks. The students learn how to design, plan, and control advanced operations in global demand/supply chains taking advantage of digitalization and coping with legacy system constraints.

Innehåll: The key contents of this course include operations strategy, visibility & forecasting, sales and operations planning & execution, master data management, lean manufacturing, and digitalization of manufacturing (additive manufacturing and internet of things).

Metoder, arbetsätt och bedömningsgrunder: Exam, Lean Manufacturing game (group activity), Simulation Exercises (in class activity)

Studiematerial: The student studies a book describing advanced operations management practices and then evaluates and reports the practices in a written report.

Ersättande prestationer: TU-22.1179


Förkunskaper: TU-C2020 Operations Management

Bedömningsskala: 1-5 · Studieperioder

Anmälning: Participation requires that the course is included in the personal study plan of the student (HOPS) - the more extensive course version must be included in either 1) major or 2) minor studies of the student. The number of the participants can be limited on these grounds.

Undervisningsspråk: English

TU-E2020 Advanced Operations Management (3-5 cr)

Responsible teacher: Jan Holmström

Status of the Course: Master’s Programme in Industrial Engineering and Management, compulsory course. Optional course in minor of Operations and Service Management.

Level of the Course: Master’s level.

Teaching Period: II (Autumn 2017)

Workload: Lectures and preparing for the lectures 24h, simulation exercises incl. reports 44h, game and reporting 8h; book evaluation and calculation exercises 28-48h, exam and preparing for the exam 11h. The 3 credit version does not include the game, and the requirements for the book evaluation are reduced.

Learning Outcomes: This course takes a focal company perspective on global value and production networks. The students learn how to design, plan, and control advanced operations in global demand/supply chains taking advantage of digitalization and coping with legacy system constraints.

Content: The key contents of this course include operations strategy, visibility & forecasting, sales and operations planning & execution, master data management, lean manufacturing, and digitalization of manufacturing (additive manufacturing and internet of things).

Assessment Methods and Criteria: Exam, Lean Manufacturing game (group activity), Simulation Exercises (in class activity)

Study Material: The student studies a book describing advanced operations
management practices and then evaluates and reports the practices in a written report.

**Substitutes for Courses:** TU-22.1179

**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E2020

**Prerequisites:** TU-C2020 Operations Management

**Evaluation:** 1-5 · Courses

**Registration for Courses:** Participation requires that the course is included in the personal study plan of the student (HOPS) - the more extensive course version must be included in either 1) major or 2) minor studies of the student. The number of the participants can be limited on these grounds.

**Language of Instruction:** English

**TU-E2030 Advanced Project-based Management (3-5 cr)**

**Responsible teacher:** Karlos Artto

**Status of the Course:** Master’s Programme in Industrial Engineering and Management, compulsory course. Optional course in minor of Operations and Service Management. Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course.

**Level of the Course:** Master’s level.

**Teaching period:** I-II (Autumn 2017)

**Workload:**

- 3 cr. version: Lectures 6 x 4 h = 24 h, case assignments 4 x 5 h = 20 h, lecture preparations (reading the articles) 6 x 2 h = 12 h, exam preparations 22 h, exam 3 h, in total 81 h
- 5 cr. version: Lectures 6 x 4 = 24 h, case assignments 4 x 5 =20 h, lecture preparations (reading the articles) 6 x 2 h =12 h, exam preparations 22 h, exam 3 h, empirical group assignment 44 h, guidance lectures 2 x 1 h = 2 h, workshop sessions 4 x 2 h = 8, in total 135 hours

**Learning Outcomes:**

The objective of the course is to deepen knowledge in the project management and to increase understanding of different management processes in projects and in project-based firms.

After the 3 cr. course students:

- Can identify contextual factors, dimensions and uncertainties affecting management of project and project-based firms
- Know different management processes and methodologies and can evaluate their suitability to divergent project business environments
- Understands temporal dimension in project business and can position project on a systems life cycle
- Understands the networked nature of project business and can acknowledge perspectives of differing actors when analyzing a single project and its management

Additionally, after the 5 cr. course students:

- Can evaluate, analyze and distinct between approaches and processes to manage real-life projects, project-based firms and project networks
- Can evaluate and choose appropriate management approach for a real-life project

**Content:** The course discusses practical application of project management in different types of projects, in different organizations and industries. Course covers advanced project management approaches and methodologies in specific core areas, including organizing, scheduling and management of time on project and system life cycles, management of risk and uncertainty, management of stakeholders and multi-firm networks. Additionally, 5 cr. version provides a wider viewpoint of multi-project and multi-firm business contexts. For this purpose, the ‘project business framework’ is used in the empirical assignment for analyzing a real life project and project-based firm. The project business framework includes four distinctive management areas: management of a project, management of a project-based firm, management of a project network, and management of a business network.
Assessment Methods and Criteria:
3 cr. version: Exam (50%) and case assignments (50%)
Exam is based on the reading material and the course lectures.
Four case assignments are conducted in student groups sequentially during the lecturing period. The themes of the case assignments are connected to lectures and course material themes
5 cr. version: Exam (30%), case assignments (30%), empirical assignment (40%)
In the 5 cr. version the additional empirical assignment is conducted in student groups in the 2nd period. The assignment includes an empirical analysis of a selected project and a firm conducting the project as well as the wider business context and multi-firm network. The assignment is reported and presented in several cycles in a vivid interaction between the student groups and course staff.

Study Material: The course material consists of selected articles, book chapters and case assignments that are distributed to students via MyCourses.

Substitutes for Courses: TU-22.1425

Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E2030

Prerequisites: TU-C3010 Introduction to Project Management or similar

Evaluation: 1-5 · Opintojaksot

Registration for Courses: Registration via WebOodi before the first lecture. Participation to the 5 cr. course requires that the course is included in the personal study plan of the student (HOPS) either in major or minor studies. The number of the participants can be limited on these grounds.

Language of Instruction: English

TU-E2030 Advanced Project-based Management (3-5 sp)

Ansvarg lärare: Karlos Artto

Kursens status: Master’s Programme in Industrial Engineering and Management, compulsory course. Optional course in minor of Operations and Service Management. Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course.

Kursnivå: Master’s level.

Undervisningsperiod: I-II (Autumn 2017)

Arbetsmängd: 3 cr. version: Lectures 6 x 4 h = 24 h, case assignments 4 x 5 h = 20 h, lecture preparations (reading the articles) 6 x 2 h = 12 h, exam preparations 22 h, exam 3 h, in total 81 h
5 cr. version: Lectures 6 x 4 = 24 h, case assignments 4 x 5 =20 h, lecture preparations (reading the articles) 6 x 2 =12 h, exam preparations 22 h, exam 3 h, empirical group assignment 44 h, guidance lectures 2 x 1 = 2 h, workshop sessions 4 x 2 h = 8, in total 135 hours

Lärandemål:
The objective of the course is to deepen knowledge in the project management and to increase understanding of different management processes in projects and in project-based firms.

After the 3 cr. course students:
• Can identify contextual factors, dimensions and uncertainties affecting management of project and project-based firms
• Know different management processes and methodologies and can evaluate their suitability to divergent project business environments
• Understands temporal dimension in project business and can position project on a systems life cycle
• Understands the networked nature of project business and can acknowledge perspectives of differing actors when analyzing a single project and its management

Additionally, after the 5 cr. course students:
• Can evaluate, analyze and distinct between approaches and processes to manage real-life projects, project-based firms and project networks.
Can evaluate and choose appropriate management approach for a real-life project

**Innehåll:** The course discusses practical application of project management in different types of projects, in different organizations and industries. Course covers advanced project management approaches and methodologies in specific core areas, including organizing, scheduling and management of time on project and system life cycles, management of risk and uncertainty, management of stakeholders and multi-firm networks. Additionally, 5 cr. version provides a wider viewpoint of multi-project and multi-firm business contexts. For this purpose, the ‘project business framework’ is used in the empirical assignment for analyzing a real life project and project-based firm. The project business framework includes four distinctive management areas: management of a project, management of a project-based firm, management of a project network, and management of a business network.

**Metoder, arbetssätt och bedömningsgrunder:**
3 cr. version: Exam (50%) and case assignments (50%)
Exam is based on the reading material and the course lectures.
Four case assignments are conducted in student groups sequentially during the lecturing period. The themes of the case assignments are connected to lectures and course material themes
5 cr. version: Exam (30%), case assignments (30%), empirical assignment (40%)
In the 5 cr. version the additional empirical assignment is conducted in student groups in the 2nd period. The assignment includes an empirical analysis of a selected project and a firm conducting the project as well as the wider business context and multi-firm network. The assignment is reported and presented in several cycles in a vivid interaction between the student groups and course staff.

**Studiematerial:** The course material consists of selected articles, book chapters and case assignments that are distributed to students via MyCourses.

**Ersättande prestationer:** TU-22.1425

**Kursens webbplats:** https://mycourses.aalto.fi/course/search.php?search=TU-E2030

**Förkunskaper:** TU-C3010 Introduction to Project Management or similar

**Bedömningsskala:** 1-5

**Anmäning:** Registration via WebOodi before the first lecture. Participation to the 5 cr. course requires that the course is included in the personal study plan of the student (HOPS) either in major or minor studies. The number of the participants can be limited on these grounds.

**Undervisningsspråk:** English

**TU-E2030 Advanced Project-based Management (3-5 cr)**

**Responsible teacher:** Karlos Artto

**Status of the Course:** Master’s Programme in Industrial Engineering and Management, compulsory course. Optional course in minor of Operations and Service Management. Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course.

**Level of the Course:** Master’s level.

**Teaching Period:** I-II (Autumn 2017)

**Workload:** 3 cr. version: Lectures 6 x 4 h = 24 h, case assignments 4 x 5 h = 20 h, lecture preparations (reading the articles) 6 x 2 h = 12 h, exam preparations 22 h, exam 3 h, in total 81 h 5 cr. version: Lectures 6 x 4 = 24 h, case assignments 4 x 5 =20 h, lecture preparations (reading the articles) 6 x 2 h =12 h, exam preparations 22 h, exam 3 h, empirical group assignment 44 h, guidance lectures 2 x 1 h = 2 h, workshop sessions 4 x 2 h = 8, in total 135 hours

**Learning Outcomes:**
The objective of the course is to deepen knowledge in the project management and to increase understanding of different management processes in projects and in project-based firms.
After the 3 cr. course students:

- Can identify contextual factors, dimensions and uncertainties affecting management of project and project-based firms
- Know different management processes and methodologies and can evaluate their suitability to divergent project business environments
- Understands temporal dimension in project business and can position project on a systems life cycle
- Understands the networked nature of project business and can acknowledge perspectives of differing actors when analyzing a single project and its management

Additionally, after the 5 cr. course students:

- Can evaluate, analyze and distinct between approaches and processes to manage real-life projects, project-based firms and project networks
- Can evaluate and choose appropriate management approach for a real-life project

Content: The course discusses practical application of project management in different types of projects, in different organizations and industries. Course covers advanced project management approaches and methodologies in specific core areas, including organizing, scheduling and management of time on project and system life cycles, management of risk and uncertainty, management of stakeholders and multi-firm networks. Additionally, 5 cr. version provides a wider viewpoint of multi-project and multi-firm business contexts. For this purpose, the ‘project business framework’ is used in the empirical assignment for analyzing a real life project and project-based firm. The project business framework includes four distinctive management areas: management of a project, management of a project-based firm, management of a project network, and management of a business network.

Assessment Methods and Criteria:

3 cr. version: Exam (50%) and case assignments (50%)
Exam is based on the reading material and the course lectures.
Four case assignments are conducted in student groups sequentially during the lecturing period. The themes of the case assignments are connected to lectures and course material themes

5 cr. version: Exam (30%), case assignments (30%), empirical assignment (40%)
In the 5 cr. version the additional empirical assignment is conducted in student groups in the 2nd period. The assignment includes an empirical analysis of a selected project and a firm conducting the project as well as the wider business context and multi-firm network. The assignment is reported and presented in several cycles in a vivid interaction between the student groups and course staff.

Study Material: The course material consists of selected articles, book chapters and case assignments that are distributed to students via MyCourses.

Substitutes for Courses: TU-22.1425
Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E2030
Prerequisites: TU-C3010 Introduction to Project Management or similar
Evaluation: 1-5 · Courses
Registration for Courses: Registration via WebOodi before the first lecture. Participation to the 5 cr. course requires that the course is included in the personal study plan of the student (HOPS) either in major or minor studies. The number of the participants can be limited on these grounds.

Language of Instruction: English

TU-E2040 Management of External Resources (3-5 cr)

Responsible teacher: Kari Tanskanen
Status of the Course: Master’s Programme in Industrial Engineering and Management, compulsory course. Optional course in minor of Operations and Service Management.
Level of the Course: Master’s level.
Teaching period: I (Autumn 2017)
Workload: Preparing for the exam and the exam: 45 hours, lectures and lecture assignments: 35 hours, group assignments and workshops: 55 hours (5 cr course only)
Learning Outcomes: The purpose of the course is to familiarize the students with opportunities, challenges, principles and tools of managing resources which are outside a firm’s organizational boundaries for improved effectiveness, efficiency, and innovation. After passing the course the students knows how to 1) make outsourcing decisions, 2) design supply management strategies, 3) analyze firm’s external spend, 4) find and select external partners, 5) initiate and manage interorganizational relationships, 6) utilize external partners in innovation and learning, and has got a good and comprehensive understanding of modern purchasing and supply management practices and the underlying theories.
Content: Basic principles of managing external resources, systematic sourcing process, make or buy decisions and outsourcing, analysing firms’ external spend, total cost of ownership, sourcing strategies, supply market intelligence, supplier selection, managing interorganizational relations, service purchasing and supply management, public procurement.
Assessment Methods and Criteria: 5 cr course: exam (30%), lectures and lecture assignments (30%) and group assignment (40%). 3 cr course: exam (50%), lectures and lecture assignments (50%).
Substitutes for Courses: TU-22.1206 (5 cr version) or TU-22.1208 (3 cr version)
Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E2040
Prerequisites: TU-C2020 Operations Management
Training: 1-5 · Opintoyksot
Registration for Courses: Participation requires that the course is included in the personal study plan of the student (HOPS) - the more extensive course version must be included in either 1) major or 2) minor studies of the student. The number of the participants can be limited on these grounds.
Language of Instruction: English

TU-E2040 Management of External Resources (3-5 sp)

Ansvarig lärare: Kari Tanskanen
Kursens status: Master’s Programme in Industrial Engineering and Management, compulsory course. Optional course in minor of Operations and Service Management.
Kurssnivå: Master’s level.
Undervisningsperiod: I (Autumn 2017)
Arbetsmängd: Preparing for the exam and the exam: 45 hours, lectures and lecture assignments: 35 hours, group assignments and workshops: 55 hours (5 cr course only)
Lärandemål: The purpose of the course is to familiarize the students with opportunities, challenges, principles and tools of managing resources which are outside a firm’s organizational boundaries for improved effectiveness, efficiency, and innovation. After passing the course the students knows how to 1) make outsourcing decisions, 2) design supply management strategies, 3) analyze firm’s external spend, 4) find and select external partners, 5) initiate and manage interorganizational relationships, 6) utilize external partners in innovation and learning, and has got a good and comprehensive understanding of modern purchasing and supply management practices and the underlying theories.
Innehåll: Basic principles of managing external resources, systematic sourcing process, make or buy decisions and outsourcing, analysing firms’ external spend, total cost of ownership, sourcing strategies, supply market intelligence, supplier selection, managing interorganizational relations, service purchasing and supply management, public procurement.
Metoder, arbetssätt och bedömningsgrunder: 5 cr course: exam (30%), lectures and lecture assignments (30%) and group assignment (40%). 3 cr course: exam (50%), lectures and lecture assignments (50%).
**Ersättande prestationer:** TU-22.1206 (5 cr version) or TU-22.1208 (3 cr version)  
**Kursens webbplats:** https://mycourses.aalto.fi/course/search.php?search=TU-E2040  
**Förkunskaper:** TU-C2020 Operations Management  
**Bedömningsskala:** 1-5 · Studieperioder  
**Anmälning:** Participation requires that the course is included in the personal study plan of the student (HOPS) - the more extensive course version must be included in either 1) major or 2) minor studies of the student. The number of the participants can be limited on these grounds  
**Undervisningsspråk:** English

**TU-E2040 Management of External Resources (3-5 cr)**  
**Responsible teacher:** Kari Tanskanen  
**Status of the Course:** Master’s Programme in Industrial Engineering and Management, compulsory course. Optional course in minor of Operations and Service Management.  
**Level of the Course:** Master’s level.  
**Teaching Period:** I (Autumn 2017)  
**Workload:** Preparing for the exam and the exam: 45 hours, lectures and lecture assignments: 35 hours, group assignments and workshops: 55 hours (5 cr course only)  
**Learning Outcomes:** The purpose of the course is to familiarize the students with opportunities, challenges, principles and tools of managing resources which are outside a firm’s organizational boundaries for improved effectiveness, efficiency, and innovation. After passing the course the students knows how to 1) make outsourcing decisions, 2) design supply management strategies, 3) analyze firm’s external spend, 4) find and select external partners, 5) initiate and manage interorganizational relationships, 6) utilize external partners in innovation and learning, and has got a good and comprehensive understanding of modern purchasing and supply management practices and the underlying theories.  
**Content:** Basic principles of managing external resources, systematic sourcing process, make or buy decisions and outsourcing, analysing firms’ external spend, total cost of ownership, sourcing strategies, supply market intelligence, supplier selection, managing interorganizational relations, service purchasing and supply management, public procurement.  
**Assessment Methods and Criteria:** 5 cr course: exam (30%), lectures and lecture assignments (30%) and group assignment (40%). 3 cr course: exam (50%), lectures and lecture assignments (50%).  
**Substitutes for Courses:** TU-22.1206 (5 cr version) or TU-22.1208 (3 cr version)  
**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E2040  
**Prerequisites:** TU-C2020 Operations Management  
**Evaluation:** 1-5 · Courses  
**Registration for Courses:** Participation requires that the course is included in the personal study plan of the student (HOPS) - the more extensive course version must be included in either 1) major or 2) minor studies of the student. The number of the participants can be limited on these grounds  
**Language of Instruction:** English  
**Further Information:**  

**TU-E2090 Research Assignment in Operations and Service Management (5-7 cr)**  
**Responsible teacher:** Kari Tanskanen  
**Status of the Course:** Master’s Programme in Industrial Engineering and Management, compulsory course in major of Operations and Service Management.  
**Level of the Course:** Master’s level.  
**Teaching period:** I-II, III-V (Autumn 2017 and Spring 2018)  
**Workload:**  
PART I  
Lectures, readings & exam: 54 hours in total
PART II
In OM&S, students may choose to work in a group with given data set (5 cr), or individually or in pairs with their own data (7 cr)
Research project and seminars: 81-135 hours in total. Course includes two kinds of readings
1) Mandatory readings that cover exam questions
2) Optional readings that are needed for designing and carrying out the empirical research

Learning Outcomes: Students will learn how to apply research methods and scientific thinking in problem solving. Students will learn how to define and specify adequate research objectives and research questions in the subject area of Operations Management and Services. Students will learn how to make a sound research plan for a small-scale empirical study. Students will understand the basics of gathering data and how to systematically conduct the research. Students will be able to analyze empirical data, report the results, and evaluate the quality (reliability and validity) of empirical research.

Content: Course includes designing a study that is based on empirical data. Students will do hands-on exercises of the different phases of a scientific research (e.g. designing an instrument for collecting data, data collection, data analysis, etc.). The course prepares the students for conducting scientific research (e.g. Master’s thesis).

Assessment Methods and Criteria: Lectures, seminars, exam, empirical assignment
Study Material: To be announced later
Substitutes for Courses: TU-22.1155, TU-22.1345
Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E2090
Prerequisites: Bachelor’s Seminar
Evaluation: 1-5 · Opintojaksot
Registration for Courses: Only for those students that intend to write a Master’s Thesis on a subject from the field of Operations and Service Management.

Language of Instruction: English

TU-E2090 Research Assignment in Operations and Service Management (5-7 sp)
Ansvarig lärare: Kari Tanskanen
Kursens status: Master’s Programme in Industrial Engineering and Management, compulsory course in major of Operations and Service Management.
Kursnivå: Master’s level.
Arbetsmängd:
PART I
Lectures, readings & exam: 54 hours in total
PART II
In OM&S, students may choose to work in a group with given data set (5 cr), or individually or in pairs with their own data (7 cr)
Research project and seminars: 81-135 hours in total. Course includes two kinds of readings
1) Mandatory readings that cover exam questions
2) Optional readings that are needed for designing and carrying out the empirical research
Lärandemål: Students will learn how to apply research methods and scientific thinking in problem solving. Students will learn how to define and specify adequate research objectives and research questions in the subject area of Operations Management and Services. Students will learn how to make a sound research plan for a small-scale empirical study. Students will understand the basics of gathering data and how to systematically conduct the research. Students will be able to analyze empirical data, report the results, and evaluate the quality (reliability and validity) of empirical research.
Innehåll: Course includes designing a study that is based on empirical data. Students will
do hands-on exercises of the different phases of a scientific research (e.g. designing an instrument for collecting data, data collection, data analysis, etc.). The course prepares the students for conducting scientific research (e.g. Master’s thesis).

**Metoder, arbetsätt och bedömningsgrunder:** Lectures, seminars, exam, empirical assignment

**Studiematerial:** To be announced later

**Ersättande prestationer:** TU-22.1155, TU-22.1345

**Kursens webbplats:** https://mycourses.aalto.fi/course/search.php?search=TU-E2090

**Förkunskaper:** Bachelor’s Seminar

**Bedömningskala:** 1-5 · Studieperioder

**Anmälning:** Only for those students that intend to write a Master’s Thesis on a subject from the field of Operations and Service Management.

**Undervisningsspråk:** English

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**TU-E2090 Research Assignment in Operations and Service Management (5-7 cr)**

**Responsible teacher:** Kari Tanskanen

**Status of the Course:** Master’s Programme in Industrial Engineering and Management, compulsory course in major of Operations and Service Management.

**Level of the Course:** Master’s level.

**Teaching Period:** I-II, III-V (Autumn 2017 and Spring 2018)

**Workload:**

**PART I**
Lectures, readings & exam: 54 hours in total

**PART II**
In OM&S, students may choose to work in a group with given data set (5 cr), or individually or in pairs with their own data (7 cr).

Research project and seminars: 81-135 hours in total. Course includes two kinds of readings

1) Mandatory readings that cover exam questions
2) Optional readings that are needed for designing and carrying out the empirical research

**Learning Outcomes:** Students will learn how to apply research methods and scientific thinking in problem solving. Students will learn how to define and specify adequate research objectives and research questions in the subject area of Operations Management and Services. Students will learn how to make a sound research plan for a small-scale empirical study. Students will understand the basics of gathering data and how to systematically conduct the research. Students will be able to analyze empirical data, report the results, and evaluate the quality (reliability and validity) of empirical research.

**Content:** Course includes designing a study that is based on empirical data. Students will do hands-on exercises of the different phases of a scientific research (e.g. designing an instrument for collecting data, data collection, data analysis, etc.). The course prepares the students for conducting scientific research (e.g. Master’s thesis).

**Assessment Methods and Criteria:** Lectures, seminars, exam, empirical assignment

**Study Material:** To be announced later

**Substitutes for Courses:** TU-22.1155, TU-22.1345

**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E2090

**Prerequisites:** Bachelor’s Seminar

**Evaluation:** 1-5 · Courses

**Registration for Courses:** Only for those students that intend to write a Master’s Thesis on a subject from the field of Operations and Service Management.

**Language of Instruction:** English

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**TU-E2110 Innovation in Operations and Services (3-5 cr)**

**Responsible teacher:** Jan Holmström
**Status of the Course:** Master’s Programme in Industrial Engineering and Management, optional course. Optional course in minors of Operations and Service Management and Strategy and Corporate Renewal. Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course.

**Level of the Course:** Master’s level.

**Teaching period:** III-IV (Spring 2018)

**Workload:**
- Introductory session 3 h (3/135)
- Individual study 57 h (60/135)
- Thematic sessions, including visiting lectures and student presentations 28h (88/135)
- Group activity 14h (102/135)
- Concluding individual assignment 33h (102/135) The 3 credit version does not include the concluding individual assignment.

**Learning Outcomes:**
The purpose of the course is to provide the participants with an understanding of innovation practice and theory in the context of operations and service management. To this end, the course pursues two objectives: 1) identify areas and opportunities for innovation in operations and service management, and 2) present approaches to organizing and managing for innovation in operations and service management. The course investigates opportunities for the innovative use of emerging technological tools, such as direct manufacturing, internet of things, and service platforms. The course compares the roles and available approaches of users, incumbents, startups and other actors in the innovation activity. Moreover, the course enhances the understanding of how to manage and influence factors affecting innovation outcomes, such as conflicts of interest among the actors.

The course supports the learning objectives of student teaching specific skills how to identify, configure and implement innovative solutions in production and service systems.

**Content:**
The course combines two perspectives: 1) A design science perspective based on solving practical problems in operations and services; 2) A theoretical perspective developing understanding of operations and service innovation. The main content of work is in individual study of research papers describing innovation, design based methods, and approaches. The understanding from individual study is then applied and further developed in group work.

The group work on design assignments are introduced in thematic sessions by visiting lecturers who present practical problems in need of innovative solutions. The design assignment is analyzing the problem and outlining potential solutions.

The theoretical perspective is developed through group work analyzing scientific articles and presenting the analysis.

The learning is concluded by writing an individual assignment summarizing theory and practice on innovation in operations and services.

The learning is focused on understanding innovation for service as a process, and the antecedents, influencing factors and outcomes of this process. Newest findings in the field of innovation are pointed out in this part of the course, including topics of user-driven innovation, open innovation and service design.

**Assessment Methods and Criteria:** For 5 credit students the evaluation is based on pre-assignment (20%), design assignment presentation (20%), paper review presentation (20%) and concluding assignment (40%).

For 3 credit students the evaluation is based on pre-assignment (33%), design assignment presentation (33%) and paper review presentation (33%).

**Study Material:** A collection of articles in the design science research and innovation management is provided as the basis for individual activity and article reviews. In addition, the course makes use of teaching cases and research-based material that the students are guided to identify on topics and approaches covered in the course.

**Substitutes for Courses:** TU-22.1335

**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E2110
Prerequisites: TU-A1100 Tuotantotalous 1/TU-A1200 Grundkurs i Produktionsekonomi
AND TU-C2020 Operations Management

Evaluation: 1-5 · Opintojakosot

Registration for Courses: Participation requires that the course is included in the personal study plan of the student (HOPS) - the more extensive course version must be included in either 1) major or 2) minor studies of the student. The number of the participants can be limited on these grounds.

Language of Instruction: English

TU-E2110 Innovation in Operations and Services (3-5 sp)

Ansvarig lärare: Jan Holmström


Kursnivå: Master’s level.

Undervisningsperiod: III-IV (Spring 2018)

Arbetsmängd: Introductory session 3 h (3/135)

Individual study 57 h (60/135)

Thematic sessions, including visiting lectures and student presentations 28h (88/135)

Group activity 14h (102/135)

Concluding individual assignment 33h (102/135) The 3 credit version does not include the concluding individual assignment.

Lärandemål:
The purpose of the course is to provide the participants with an understanding of innovation practice and theory in the context of operations and service management. To this end, the course pursues two objectives: 1) identify areas and opportunities for innovation in operations and service management, and 2) present approaches to organizing and managing for innovation in operations and service management.

The course investigates opportunities for the innovative use of emerging technological tools, such as direct manufacturing, internet of things, and service platforms. The course compares the roles and available approaches of users, incumbents, startups and other actors in the innovation activity. Moreover, the course enhances the understanding of how to manage and influence factors affecting innovation outcomes, such as conflicts of interest among the actors.

The course supports the learning objectives of student teaching specific skills how to identify, configure and implement innovative solutions in production and service systems.

Innehåll:
The course combines two perspectives: 1) A design science perspective based on solving practical problems in operations and services; 2) A theoretical perspective developing understanding of operations and service innovation.

The main content of work is in individual study of research papers describing innovation, design based methods, and approaches. The understanding from individual study is then applied and further developed in group work.

The group work on design assignments are introduced in thematic sessions by visiting lecturers who present practical problems in need of innovative solutions. The design assignment is analyzing the problem and outlining potential solutions.

The theoretical perspective is developed through group work analyzing scientific articles and presenting the analysis.

The learning is concluded by writing an individual assignment summarizing theory and practice on innovation in operations and services.

The learning is focused on understanding innovation for service as a process, and the antecedents, influencing factors and outcomes of this process. Newest findings in the field of innovation are pointed out in this part of the course, including topics of user-driven innovation, open innovation and service design.
Metoder, arbetssätt och bedömningsgrunder: For 5 credit students the evaluation is based on pre-assignment (20%), design assignment presentation (20%), paper review presentation (20%) and concluding assignment (40%). For 3 credit students the evaluation is based on pre-assignment (33%), design assignment presentation (33%) and paper review presentation (33%).

Studiematerial: A collection of articles in the design science research and innovation management is provided as the basis for individual activity and article reviews. In addition, the course makes use of teaching cases and research-based material that the students are guided to identify on topics and approaches covered in the course.

Ersättande prestationer: TU-22.1335

Bedömningsskala: 1-5 · Studieperioder
Anmälning: Participation requires that the course is included in the personal study plan of the student (HOPS) - the more extensive course version must be in included in either 1) major or 2) minor studies of the student. The number of the participants can be limited on these grounds.

Undervisningsspråk: English

TU-E2110 Innovation in Operations and Services (3-5 cr)

Responsible teacher: Jan Holmström


Level of the Course: Master’s level.

Teaching Period: III-IV (Spring 2018)

Workload: Introductory session 3 h (3/135)

Individual study 57 h (60/135)

Thematic sessions, including visiting lectures and student presentations 28h (88/135)

Group activity 14h (102/135)

Concluding individual assignment 33h (102/135) The 3 credit version does not include the concluding individual assignment.

Learning Outcomes:
The purpose of the course is to provide the participants with an understanding of innovation practice and theory in the context of operations and service management. To this end, the course pursues two objectives: 1) identify areas and opportunities for innovation in operations and service management, and 2) present approaches to organizing and managing for innovation in operations and service management.

The course investigates opportunities for the innovative use of emerging technological tools, such as direct manufacturing, internet of things, and service platforms. The course compares the roles and available approaches of users, incumbents, startups and other actors in the innovation activity. Moreover, the course enhances the understanding of how to manage and influence factors affecting innovation outcomes, such as conflicts of interest among the actors.

The course supports the learning objectives of student teaching specific skills how to identify, configure and implement innovative solutions in production and service systems.

Content:
The course combines two perspectives: 1) A design science perspective based on solving practical problems in operations and services; 2) A theoretical perspective developing understanding of operations and service innovation.

The main content of work is in individual study of research papers describing innovation, design based methods, and approaches. The understanding from individual study is then applied and further developed in group work.
The group work on design assignments are introduced in thematic sessions by visiting lecturers who present practical problems in need of innovative solutions. The design assignment is analyzing the problem and outlining potential solutions. The theoretical perspective is developed through group work analyzing scientific articles and presenting the analysis. The learning is concluded by writing an individual assignment summarizing theory and practice on innovation in operations and services. The learning is focused on understanding innovation for service as a process, and the antecedents, influencing factors and outcomes of this process. Newest findings in the field of innovation are pointed out in this part of the course, including topics of user-driven innovation, open innovation and service design.

**Assessment Methods and Criteria:** For 5 credit students the evaluation is based on pre-assignment (20%), design assignment presentation (20%), paper review presentation (20%) and concluding assignment (40%). For 3 credit students the evaluation is based on pre-assignment (33%), design assignment presentation (33%) and paper review presentation (33%).

**Study Material:** A collection of articles in the design science research and innovation management is provided as the basis for individual activity and article reviews. In addition, the course makes use of teaching cases and research-based material that the students are guided to identify on topics and approaches covered in the course.

**Substitutes for Courses:** TU-22.1335
**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E2110
**Prerequisites:** TU-A1100 Tuotantotalous 1/TU-A1200 Grundkurs i Produktionsekonomi AND TU-C2020 Operations Management
**Evaluation:** 1-5 · Courses
**Registration for Courses:** Participation requires that the course is included in the personal study plan of the student (HOPS) - the more extensive course version must be included in either 1) major or 2) minor studies of the student. The number of the participants can be limited on these grounds.

**Language of Instruction:** English

**TU-E2120 Project Business (3-5 cr)**

**Responsible teacher:** Karlos Artto

**Status of the Course:** Master’s Programme in Industrial Engineering and Management, optional course. Optional course in minor of Operations and Service Management.

**Level of the Course:** Master’s level.

**Teaching period:** III-IV (Spring 2018)

**Workload:** 3cr course: Seminar sessions 8 * 3h = 24, Independent studying of course materials 8 * 4h = 32h, Exam plus preparation or learning diary track 25h (total 81h). 5cr course: 3cr course contents and assignment carried out in student groups 52h (total 133h).

**Learning Outcomes:** Student is familiar with knowledge areas and concepts that are relevant for managing project-based firms, student can compare and contrast alternative courses of action in the management of project-based firms, student is able to apply course contents to solve complex practical challenges encountered by project-based firms.

**Content:** Project sales and marketing, project procurement, management of inter-organizational relationships and project networks, creation of value in project business, project strategy, managing change and the unexpected in project business, project negotiations.

**Assessment Methods and Criteria:** 3cr course: Exam or learning diaries. 5cr course: Exam or learning diaries (student chooses either option) and assignment carried out in student groups (mandatory for all students).

**Study Material:** Cova, Bernard, Pervez Ghauri, and Robert Salle. Project marketing:
beyond competitive bidding. Wiley, 2002, selected journal articles, seminar session contents

Substitutes for Courses: TU-22.1442/5
Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E2120
Prerequisites: TU-C3010 Introduction to Project Management
Evaluation: 1-5 · Opintojaksot
Registration for Courses: Registration via WebOodi before the first lecture. Participation to the 5. Cr course requires that the course is included in the personal study plan of the student (HOPS) either in major or minor studies. The number of the participants can be limited on these grounds.
Language of Instruction: English

TU-E2120 Project Business (3-5 sp)

Ansvarig lärare: Karlos Artto
Kursens status: Master’s Programme in Industrial Engineering and Management, optional course. Optional course in minor of Operations and Service Management.
Kursnivå: Master’s level.
Undervisningsperiod: III-IV (Spring 2018)
Arbetsmängd: 3cr course: Seminar sessions 8 * 3h = 24, Independent studying of course materials 8 * 4h = 32h, Exam plus preparation or learning diary track 25h (total 81h). 5cr course: 3cr course contents and assignment carried out in student groups 52h (total 133h).
Lärandemål: Student is familiar with knowledge areas and concepts that are relevant for managing project-based firms, student can compare and contrast alternative courses of action in the management of project-based firms, student is able to apply course contents to solve complex practical challenges encountered by project-based firms
Innehåll: Project sales and marketing, project procurement, management of inter-organizational relationships and project networks, creation of value in project business, project strategy, managing change and the unexpected in project business, project negotiations.
Metoder, arbetssätt och bedömningsgrunder: 3cr course: Exam or learning diaries. 5cr course: Exam or learning diaries (student chooses either option) and assignment carried out in student groups (mandatory for all students).
Ersättande prestationer: TU-22.1442/5
Förkunskaper: TU-C3010 Introduction to Project Management
Bedömningsskala: 1-5 · Studieperioder
Anmäining: Registration via WebOodi before the first lecture. Participation to the 5. Cr course requires that the course is included in the personal study plan of the student (HOPS) either in major or minor studies. The number of the participants can be limited on these grounds.
Undervisningsspråk: English

TU-E2120 Project Business (3-5 cr)

Responsible teacher: Karlos Artto
Status of the Course: Master’s Programme in Industrial Engineering and Management, optional course. Optional course in minor of Operations and Service Management.
Level of the Course: Master’s level.
Teaching Period: III-IV (Spring 2018)
Workload: 3cr course: Seminar sessions 8 * 3h = 24, Independent studying of course materials 8 * 4h = 32h, Exam plus preparation or learning diary track 25h (total 81h). 5cr course: 3cr course contents and assignment carried out in student groups 52h (total
Learning Outcomes: Student is familiar with knowledge areas and concepts that are relevant for managing project-based firms, student can compare and contrast alternative courses of action in the management of project-based firms, student is able to apply course contents to solve complex practical challenges encountered by project-based firms.

Content: Project sales and marketing, project procurement, management of inter-organizational relationships and project networks, creation of value in project business, project strategy, managing change and the unexpected in project business, project negotiations.

Assessment Methods and Criteria: 3cr course: Exam or learning diaries. 5cr course: Exam or learning diaries (student chooses either option) and assignment carried out in student groups (mandatory for all students).


Substitutes for Courses: TU-22.1442/5

Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E2120

Prerequisites: TU-C3010 Introduction to Project Management

Evaluation: 1-5 · Courses

Registration for Courses: Registration via WebOodi before the first lecture. Participation to the 5. Cr course requires that the course is included in the personal study plan of the student (HOPS) either in major or minor studies. The number of the participants can be limited on these grounds.

Language of Instruction: English

TU-E2130 Operations Management for New Ventures (3-5 cr)

Responsible teacher: Jouko Karjalainen

Status of the Course: Master’s Programme in Industrial Engineering and Management, optional course. Optional course in the minors of Operations and Service Management, Creativity and Venturing and Startup Minor.

Level of the Course: Master’s level

Teaching period: III-IV (Spring 2018)

Workload: In both 3- and 5-credit versions, 20 h of lectures and other contact teaching, plus 60 h of independent work including preparation to contact teaching and examination, as well as writing a course essay. In addition, the 5-credit version requires 50 h of work on assignments.

Learning Outcomes: After completing the course, you can i) describe the generic features of the operating environment of technology-based new ventures; ii) describe how new technologies may disrupt established business models and respective system architectures; iii) describe the basic risks related to the market, technology and production system during the enterprise life cycle. Furthermore, you can describe (3 cr version) or explain (5 credit version) how operations management principles and methods support the design and control of high performance operations in technology-based new ventures and the respective demand-supply chain.

Content: The contents of this course reflect the entire scope of operations management. However, the course focuses on key operations management issues in technology-based new ventures. These include, for example, identifying and managing critical capacity, customization of the offering, coping with increased volume and variety, managing delivery and distribution, controlling outsourced and insourced operations. The objective is to give an introduction to managing scalable operations over the different stages of product, and enterprise life cycles. Contemporary technologies and production concepts are considered from the perspective of their capability to disrupt business models.

Assessment Methods and Criteria: In both 3- and 5-credit versions: active participation in teaching, performance in the examination, and displaying comprehension in the course.
essay. In the 5-credit version, assignments are evaluated, as well.

**Study Material:** To be announced later. Selected articles. Partially developed during the course.


**Prerequisites:** TU-C2020 Operations Management is preferred. For the 5-credit version, the following courses (equivalent knowledge) are also highly recommended: (i) TU-C3010 Introduction to Project Management, and (ii) TU-C1030 Managerial accounting and finance for decision-makers or TU-A1100 Introduction to Industrial Management.

**Evaluation:** 1-5 · Opintojaksot

**Registration for Courses:** WebOodi. The number of participants is limited to 48. The target groups are (1) the degree students of the Master’s programme in Industrial, Engineering and Management (IEM), and (2) students having in their accepted personal study plan the minor in Operations and Service Management or Aalto Ventures Program. The selection of minor students is based on the pre-requisite knowledge and the order of registration.

**Language of Instruction:** English

**TU-E2130 Operations Management for New Ventures (3-5 sp)**

**Ansvarig lärare:** Jouko Karjalainen

**Kursens status:** Master’s Programme in Industrial Engineering and Management, optional course. Optional course in the minors of Operations and Service Management, Creativity and Venturing and Startup Minor.

**Kursnivå:** Master’s level

**Undervisningsperiod:** I-IV (Spring 2018)

**Arbetsmängd:** In both 3- and 5-credit versions, 20 h of lectures and other contact teaching, plus 60 h of independent work including preparation to contact teaching and examination, as well as writing a course essay. In addition, the 5-credit version requires 50 h of work on assignments.

**Lärandemål:** After completing the course, you can i) describe the generic features of the operating environment of technology-based new ventures; ii) describe how new technologies may disrupt established business models and respective system architectures; iii) describe the basic risks related to the market, technology and production system during the enterprise life cycle. Furthermore, you can describe (3 cr version) or explain (5 credit version) how operations management principles and methods support the design and control of high performance operations in technology-based new ventures and the respective demand-supply chain.

**Innehåll:** The contents of this course reflect the entire scope of operations management. However, the course focuses on key operations management issues in technology-based new ventures. These include, for example, identifying and managing critical capacity, customization of the offering, coping with increased volume and variety, managing delivery and distribution, controlling outsourced and insourced operations. The objective is to give an introduction to managing scalable operations over the different stages of product, and enterprise life cycles. Contemporary technologies and production concepts are considered from the perspective of their capability to disrupt business models.

**Metoder, arbetssätt och bedömningsgrunder:** In both 3- and 5-credit versions: active participation in teaching, performance in the examination, and displaying comprehension in the course essay. In the 5-credit version, assignments are evaluated, as well.

**Studiematerial:** To be announced later. Selected articles. Partially developed during the course.


**Förkunskaper:** TU-C2020 Operations Management is preferred. For the 5-credit version, the following courses (equivalent knowledge) are also highly recommended: (i) TU-C3010 Introduction to Project Management, and (ii) TU-C1030 Managerial accounting and finance for decision-makers or TU-A1100 Introduction to Industrial Management.

**Bedömningsskala:** 1-5 · Studieperioder
TU-E2130 Operations Management for New Ventures (3-5 cr)

Responsible teacher: Jouko Karjalainen

Status of the Course: Master’s Programme in Industrial Engineering and Management, optional course. Optional course in the minors of Operations and Service Management, Creativity and Venturing and Startup Minor.

Level of the Course: Master’s level

Teaching Period: III-IV (Spring 2018)

Workload: In both 3- and 5-credit versions, 20 h of lectures and other contact teaching, plus 60 h of independent work including preparation to contact teaching and examination, as well as writing a course essay. In addition, the 5-credit version requires 50 h of work on assignments.

Learning Outcomes: After completing the course, you can i) describe the generic features of the operating environment of technology-based new ventures; ii) describe how new technologies may disrupt established business models and respective system architectures; iii) describe the basic risks related to the market, technology and production system during the enterprise life cycle. Furthermore, you can describe (3 cr version) or explain (5 credit version) how operations management principles and methods support the design and control of high performance operations in technology-based new ventures and the respective demand-supply chain.

Content: The contents of this course reflect the entire scope of operations management. However, the course focuses on key operations management issues in technology-based new ventures. These include, for example, identifying and managing critical capacity, customization of the offering, coping with increased volume and variety, managing delivery and distribution, controlling outsourced and insourced operations. The objective is to give an introduction to managing scalable operations over the different stages of product, and enterprise life cycles. Contemporary technologies and production concepts are considered from the perspective of their capability to disrupt business models.

Assessment Methods and Criteria: In both 3- and 5-credit versions: active participation in teaching, performance in the examination, and displaying comprehension in the course essay. In the 5-credit version, assignments are evaluated, as well.

Study Material: To be announced later. Selected articles. Partially developed during the course.

Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E2130

Prerequisites: TU-C2020 Operations Management is preferred. For the 5-credit version, the following courses (equivalent knowledge) are also highly recommended: (i) TU-C3010 Introduction to Project Management, and (ii) TU-C1030 Managerial accounting and finance for decision-makers or TU-A1100 Introduction to Industrial Management.

Evaluation: 1-5 · Courses

Registration for Courses: WebOodi. The number of participants is limited to 48. The target groups are (1) the degree students of the Master’s programme in Industrial, Engineering and Management (IEM), and (2) students having in their accepted personal study plan the minor in Operations and Service Management or Aalto Ventures Program. The selection of minor students is based on the pre-requisite knowledge and the order of registration.

Language of Instruction: English

TU-E2210 Financial Engineering I (3-6 cr)

Responsible teacher: Ruth Kaila

Level of the Course: M.Sc. Can be included to post-graduate studies

Teaching period: I-II (Autumn 2017)

Workload: 3 cr version: Lectures 24 h, exercises 24 h, preparation for the exercises and exam 33 h; 5 cr version: Lectures 24 h, exercises 24 h, assignment 54 h, preparation for the exercises and exam 33 h; 6 cr version: Lectures 24 h, exercises 24 h, assignment 54 h, written assignment 27 h, preparation for the exercises and exam 33 h.

Learning Outcomes: After completing the course the student should: understand the underlying mathematical theory in finance; have a clear understanding of the intuition behind derivatives; be familiar on how models are implemented, how they are used in practice, and what are the strengths and weaknesses of different models; be able to apply tools from engineering mathematics and computational methods to market data, and be able to analyze the data.

Content: Options and other derivatives: mathematical foundation of option theory, arbitrage; option pricing and hedging, exotic options, volatility estimation; interest rate term structure and interest rate derivatives; credit risk.

Assessment Methods and Criteria: Lectures, exercises, assignment, exam. More specific criteria will be announced at the beginning of the course.

Substitutes for Courses: Replaces course TU-22.1600

Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E2210


Evaluation: 1-5 · Opintojaksot

Registration for Courses: The amount of participants may be limited with respect to the following bases: major students, minor students, success.

Language of Instruction: English

TU-E2210 Financial Engineering I (3-6 sp)

Ansvarig lärare: Ruth Kaila


Kursnivå: M.Sc. Can be included to post-graduate studies

Undervisningsperiod: I-II (Autumn 2017)

 Arbetsmängd: 3 cr version: Lectures 24 h, exercises 24 h, preparation for the exercises and exam 33 h; 5 cr version: Lectures 24 h, exercises 24 h, assignment 54 h, preparation for the exercises and exam 33 h; 6 cr version: Lectures 24 h, exercises 24 h, assignment 54 h, written assignment 27 h, preparation for the exercises and exam 33 h.

Lärandemål: After completing the course the student should: understand the underlying mathematical theory in finance; have a clear understanding of the intuition behind derivatives; be familiar on how models are implemented, how they are used in practice, and what are the strengths and weaknesses of different models; be able to apply tools from engineering mathematics and computational methods to market data, and be able to analyze the data.

Innehåll: Options and other derivatives: mathematical foundation of option theory, arbitrage; option pricing and hedging, exotic options, volatility estimation; interest rate term structure and interest rate derivatives; credit risk.

Metoder, arbetsåtta och bedömningssunder: Lectures, exercises, assignment, exam. More specific criteria will be announced at the beginning of the course.

Ersättande prestationer: Replaces course TU-22.1600


Bedömningsskala: 1-5 · Studieperioder
Anmälning: The amount of participants may be limited with respect to the following bases: major students, minor students, success.

Undervisningsspråk: English

TU-E2210 Financial Engineering I (3-6 cr)

Responsible teacher: Ruth Kaila


Level of the Course: M.Sc. Can be included to post-graduate studies

Teaching Period: I-II (Autumn 2017)

Workload: 3 cr version: Lectures 24 h, exercises 24 h, preparation for the exercises and exam 33 h; 5 cr version: Lectures 24 h, exercises 24 h, assignment 54 h, preparation for the exercises and exam 33 h; 6 cr version: Lectures 24 h, exercises 24 h, assignment 54 h, written assignment 27 h, preparation for the exercises and exam 33 h.

Learning Outcomes: After completing the course the student should: understand the underlying mathematical theory in finance; have a clear understanding of the intuition behind derivatives; be familiar on how models are implemented, how they are used in practice, and what are the strengths and weaknesses of different models; be able to apply tools from engineering mathematics and computational methods to market data, and be able to analyze the data.

Content: Options and other derivatives: mathematical foundation of option theory, arbitrage; option pricing and hedging, exotic options, volatility estimation; interest rate term structure and interest rate derivatives; credit risk.

Assessment Methods and Criteria: Lectures, exercises, assignment, exam. More specific criteria will be announced at the beginning of the course.

Substitutes for Courses: Replaces course TU-22.1600

Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E2210


Evaluation: 1-5 · Courses

Registration for Courses: The amount of participants may be limited with respect to the following bases: major students, minor students, success.

Language of Instruction: English

TU-E2220 Financial Engineering II (3-6 cr)

Responsible teacher: Ruth Kaila

Status of the Course: Master’s Programme in Industrial Engineering and Management, optional course. Optional course in the minor of Financial Engineering.

Level of the Course: M.Sc. Can be included to post-graduate studies

Teaching period: III (Spring 2018)

Workload: 3 cr version: Lectures 12 h, exercises 12 h, preparation for the exercises and exam 57 h; 5 cr version: Lectures 12 h, exercises 12 h, assignment 54 h, preparation for the exercises and exam 57 h; 6 cr version: Lectures 12 h, exercises 12 h, assignment 54 h, written assignment 27 h, preparation for the exercises and exam 57 h.
Learning Outcomes: This course complements the theoretical content of TU-E2210 Financial Engineering I. After completing this course the student should understand how options and other derivatives are used in risk management and understand the practical limitations; be familiar with interest rate models and yield curve calibration; have a routine to solve simple problems in Ito calculus; understand the most important trends in fintech.

Content: Interest rate models, foreign currency instruments, option sensitivities, market microstructure, credit risk, regulation, fintech and high-frequency trading.

Assessment Methods and Criteria: Lectures, exercises, assignment, exam. More specific criteria will be announced at the beginning of the course.

Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E2220

Prerequisites: mandatory: TU-E2210 Financial Engineering I or TU-22.1600 Financial Engineering

Evaluation: 1-5 · Opintojaksot

Registration for Courses: The amount of participants will be limited to 20 with respect to the following bases: major students, minor students, success in studies.

Language of Instruction: English

TU-E2220 Financial Engineering II (3-6 sp)

Ansvarig lärare: Ruth Kaila

Kursens status: Master’s Programme in Industrial Engineering and Management, optional course. Optional course in the minor of Financial Engineering.

Kursnivå: M.Sc. Can be included to post-graduate studies

Undervisningsperiod: III (Spring 2018)

Arbetsmängd: 3 cr version: Lectures 12 h, exercises 12 h, preparation for the exercises and exam 57 h; 5 cr version: Lectures 12 h, exercises 12 h, assignment 54 h, preparation for the exercises and exam 57 h; 6 cr version: Lectures 12 h, exercises 12 h, assignment 54 h, written assignment 27 h, preparation for the exercises and exam 57 h.

Lärandemål: This course complements the theoretical content of TU-E2210 Financial Engineering I. After completing this course the student should understand how options and other derivatives are used in risk management and understand the practical limitations; be familiar with interest rate models and yield curve calibration; have a routine to solve simple problems in Ito calculus; understand the most important trends in fintech.

Innehåll: Interest rate models, foreign currency instruments, option sensitivities, market microstructure, credit risk, regulation, fintech and high-frequency trading.

Metoder, arbetssätt och bedömningsgrunder: Lectures, exercises, assignment, exam. More specific criteria will be announced at the beginning of the course.


Bedömningsskala: 1-5 · Studieperioder

Anmäning: The amount of participants will be limited to 20 with respect to the following bases: major students, minor students, success in studies.

Undervisningsspråk: English

TU-E2220 Financial Engineering II (3-6 cr)

Responsible teacher: Ruth Kaila

Status of the Course: Master’s Programme in Industrial Engineering and Management, optional course. Optional course in the minor of Financial Engineering.

Level of the Course: M.Sc. Can be included to post-graduate studies

Teaching Period: III (Spring 2018)

Workload: 3 cr version: Lectures 12 h, exercises 12 h, preparation for the exercises and exam 57 h; 5 cr version: Lectures 12 h, exercises 12 h, assignment 54 h, preparation for the exercises and exam 57 h; 6 cr version: Lectures 12 h, exercises 12 h, assignment 54 h, written assignment 27 h, preparation for the exercises and exam 57 h.

Learning Outcomes: This course complements the theoretical content of TU-E2210
Financial Engineering I. After completing this course the student should understand how
options and other derivatives are used in risk management and understand the practical
limitations; be familiar with interest rate models and yield curve calibration; have a routine
to solve simple problems in Ito calculus; understand the most important trends in fintech.

**Content:** Interest rate models, foreign currency instruments, option sensitivities, market
microstructure, credit risk, regulation, fintech and high-frequency trading.

**Assessment Methods and Criteria:** Lectures, exercises, assignment, exam. More
specific criteria will be announced at the beginning of the course.

**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E2220

**Prerequisites:** mandatory: TU-E2210 Financial Engineering I or TU-22.1600 Financial
Engineering

**Evaluation:** 1-5 · Courses

**Registration for Courses:** The amount of participants will be limited to 20 with respect to
the following bases: major students, minor students, success in studies.

**Language of Instruction:** English

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**TU-E3010 Leading as practice (5 cr)**

**Responsible teacher:** Matti Vartiainen

**Status of the Course:** Master’s Programme in Industrial Engineering and Management,
compulsory course. Optional course in the minors of Entrepreneurial Leadership and
Strategy and Corporate Renewal. Master’s Programme in Information Networks, Major
Information Networks, Track Knowledge and Business Networks, optional course.

**Level of the Course:** Master’s level.

**Teaching period:** III - V (Spring 2018)

**Workload:** Lectures 27 + 27 h; preparatory readings, exercises and assignments: 80 h.

**Learning Outcomes:** After the course a student 1) understands the constructive view on
leadership and social practices, 2) recognizes and is able to analyze various leadership
related social practices and phenomena, 3) understands how leadership related skills and
practices can be learned and developed both individually and collectively, and 4) has
constructed (and/or updated) a version of personal leadership philosophy.

**Content:** The course familiarizes the students with contemporary leadership theories and
frameworks. Different approaches to leadership are critically examined by the students
both separately through their own thinking and collectively in group discussions. These
frameworks and their different aspects are utilized in analyzing and interpreting
leadership related phenomena and leading practices. The course emphasizes the
student’s personal development through relational discourse, appreciative argumentation,
and feedback. Towards the end of the course the students are expected to have
constructed a personalized view on leadership and leadership related skills.

**Assessment Methods and Criteria:** Lectures, workshops, written assignments.

**Substitutes for Courses:** Substitutes the course TU-53.1211 or TU-53.1220.

**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E3010

**Prerequisites:** TU-C1010 Individual in groups and TU-C3021 Managing knowledge and
knowledge-intensive organizations or similar.

**Evaluation:** 1-5 · Opintojakso

**Registration for Courses:** The number of participants will be limited. Students are given
priority as follows: 1) students of the Master’s Programme in Industrial Engineering and
Management 2) students of the Master’s Programme in Information Networks, 3) students
minoring in Entrepreneurial Leadership and Strategy and Corporate Renewal. Bachelor
student can be admitted only if space remains.

**Language of Instruction:** English

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**TU-E3010 Leading as practice (5 sp)**

**Ansvarig lärare:** Matti Vartiainen

**Kursens status:** Master’s Programme in Industrial Engineering and Management,
compulsory course. Optional course in the minors of Entrepreneurial Leadership and
Strategy and Corporate Renewal. Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course.

**Kursnivå:** Master’s level.

**Undervisningsperiod:** III - V (Spring 2018)

**Arbetsmängd:** Lectures 27 + 27 h; preparatory readings, exercises and assignments: 80 h.

**Lärandemål:** After the course a student 1) understands the constructive view on leadership and social practices, 2) recognizes and is able to analyze various leadership related social practices and phenomena, 3) understands how leadership related skills and practices can be learned and developed both individually and collectively, and 4) has constructed (and/or updated) a version of personal leadership philosophy.

**Innehåll:** The course familiarizes the students with contemporary leadership theories and frameworks. Different approaches to leadership are critically examined by the students both separately through their own thinking and collectively in group discussions. These frameworks and their different aspects are utilized in analyzing and interpreting leadership related phenomena and leading practices. The course emphasizes the student’s personal development through relational discourse, appreciative argumentation, and feedback. Towards the end of the course the students are expected to have constructed a personalized view on leadership and leadership related skills.

**Metoder, arbetssätt och bedömningsgrunder:** Lectures, workshops, written assignments.

**Ersättande prestationer:** Substitutes the course TU-53.1211 or TU-53.1220.


**Förkunskaper:** TU-C1010 Individual in groups and TU-C3021 Managing knowledge and knowledge-intensive organizations or similar.

**Bedömningsskala:** 1-5 · Studieperioder

**Anmärkning:** The number of participants will be limited. Students are given priority as follows: 1) students of the Master’s Programme in Industrial Engineering and Management 2) students of the Master’s Programme in Information Networks, 3) students minoring in Entrepreneurial Leadership and Strategy and Corporate Renewal. Bachelor student can be admitted only if space remains.

**Undervisningsspråk:** English

**TU-E3010 Leading as practice (5 cr)**

**Responsible teacher:** Matti Vartiainen

**Status of the Course:** Master’s Programme in Industrial Engineering and Management, compulsory course. Optional course in the minors of Entrepreneurial Leadership and Strategy and Corporate Renewal. Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course.

**Level of the Course:** Master’s level.

**Teaching Period:** III - V (Spring 2018)

**Workload:** Lectures 27 + 27 h; preparatory readings, exercises and assignments: 80 h.

**Learning Outcomes:** After the course a student 1) understands the constructive view on leadership and social practices, 2) recognizes and is able to analyze various leadership related social practices and phenomena, 3) understands how leadership related skills and practices can be learned and developed both individually and collectively, and 4) has constructed (and/or updated) a version of personal leadership philosophy.

**Content:** The course familiarizes the students with contemporary leadership theories and frameworks. Different approaches to leadership are critically examined by the students both separately through their own thinking and collectively in group discussions. These frameworks and their different aspects are utilized in analyzing and interpreting leadership related phenomena and leading practices. The course emphasizes the student’s personal development through relational discourse, appreciative argumentation, and feedback. Towards the end of the course the students are expected to have constructed a personalized view on leadership and leadership related skills.
Assessment Methods and Criteria: Lectures, workshops, written assignments.
Substitutes for Courses: Substitutes the course TU-53.1211 or TU-53.1220.
Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E3010
Prerequisites: TU-C1010 Individual in groups and TU-C3021 Managing knowledge and knowledge-intensive organizations or similar.
Evaluation: 1-5 · Courses
Registration for Courses: The number of participants will be limited. Students are given priority as follows: 1) students of the Master’s Programme in Industrial Engineering and Management 2) students of the Master’s Programme in Information Networks, 3) students minoring in Entrepreneurial Leadership and Strategy and Corporate Renewal. Bachelor student can be admitted only if space remains.
Language of Instruction: English

TU-E3020 Knowledge Management in Practice (5 cr)
Responsible teacher: Eerikki Mäki
Status of the Course: Master’s Programme in Industrial Engineering and Management, compulsory course. Optional course in minor of Entrepreneurial Leadership. Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course.
Level of the Course: Master’s level.
Teaching period: I – II (Autumn 2017)
Workload: Lectures and contact teaching 10-30 hours, individual work 30-50 hours, group work 55-95 hours.
Learning Outcomes: The students will learn how to analyze real-world knowledge and competence management problems in knowledge-intensive organizations, design and construct solutions for these problems, and evaluate how these solutions can be implemented. The students will be able to evaluate how different kinds of knowledge management methods, approaches, and strategies enhance knowledge exploitation and exploration in different kinds of knowledge-intensive organizations.
Content: Course introduces various methods and approaches that can be applied to improve usage of organizational knowledge and competences. Course focuses on knowledge-intensive organizations where information and knowledge are the main inputs and outputs of work. Course focus is on small, agile, technology based companies as well as larger industrial or service organizations.
Assessment Methods and Criteria: Lectures, assignments, readings.
Substitutes for Courses: TU-53.1310
Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E3020
Prerequisites: TU-C3021 Managing knowledge and knowledge-intensive organizations or similar.
Evaluation: 1-5 · Opintojaksot
Language of Instruction: English

TU-E3020 Knowledge Management in Practice (5 sp)
Ansvarig lärare: Eerikki Mäki
Kursens status: Master’s Programme in Industrial Engineering and Management, compulsory course. Optional course in minor of Entrepreneurial Leadership. Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course.
Kursnivå: Master’s level.
Undervisningsperiod: I – II (Autumn 2017)
Arbetsmängd: Lectures and contact teaching 10-30 hours, individual work 30-50 hours, group work 55-95 hours.
Lärandemål: The students will learn how to analyze real-world knowledge and competence management problems in knowledge-intensive organizations, design and construct solutions for these problems, and evaluate how these solutions can be
implemented. The students will be able to evaluate how different kinds of knowledge management methods, approaches, and strategies enhance knowledge exploitation and exploration in different kinds of knowledge-intensive organizations.

**Innehåll:** Course introduces various methods and approaches that can be applied to improve usage of organizational knowledge and competences. Course focuses on knowledge-intensive organizations where information and knowledge are the main inputs and outputs of work. Course focus is on small, agile, technology based companies as well as larger industrial or service organizations.

**Metoder, arbetssätt och bedömningsgrunder:** Lectures, assignments, readings.

**Ersättande prestationer:** TU-53.1310

**Kursens webbplats:** https://mycourses.aalto.fi/course/search.php?search=TU-E3020

**Förkunskaper:** TU-C3021 Managing knowledge and knowledge-intensive organizations or similar.

**Bedömningskala:** 1-5 · Studieperioder

**Undervisningsspråk:** English

**TU-E3020 Knowledge Management in Practice (5 cr)**

**Responsible teacher:** Eerikki Mäki

**Status of the Course:** Master’s Programme in Industrial Engineering and Management, compulsory course. Optional course in minor of Entrepreneurial Leadership. Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course.

**Level of the Course:** Master’s level.

**Teaching Period:** I – II (Autumn 2017)

**Workload:** Lectures and contact teaching 10-30 hours, individual work 30-50 hours, group work 55-95 hours.

**Learning Outcomes:** The students will learn how to analyze real-world knowledge and competence management problems in knowledge-intensive organizations, design and construct solutions for these problems, and evaluate how these solutions can be implemented. The students will be able to evaluate how different kinds of knowledge management methods, approaches, and strategies enhance knowledge exploitation and exploration in different kinds of knowledge-intensive organizations.

**Content:** Course introduces various methods and approaches that can be applied to improve usage of organizational knowledge and competences. Course focuses on knowledge-intensive organizations where information and knowledge are the main inputs and outputs of work. Course focus is on small, agile, technology based companies as well as larger industrial or service organizations.

**Assessment Methods and Criteria:** Lectures, assignments, readings.

**Substitutes for Courses:** TU-53.1310

**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E3020

**Prerequisites:** TU-C3021 Managing knowledge and knowledge-intensive organizations or similar.

**Evaluation:** 1-5 · Courses

**Language of Instruction:** English

**TU-E3031 Collaboration in Teams and Networks (5 cr)**

**Responsible teacher:** Eila Järvenpää

**Status of the Course:** Master’s Programme in Industrial Engineering and Management, compulsory course. Optional course in minor of Entrepreneurial Leadership. Master’s Programme in Information Networks, compulsory course in Knowledge and Business Networks track.

**Level of the Course:** Master’s level.

**Teaching period:** I – II (Autumn 2017)

**Workload:** Lectures about 20 h, learning diaries about 38 h, group assignment about 23 h, essays about 54 h.
Learning Outcomes: Students learn to understand definitions and structures of organizations and social networks, different types of collaboration, as well as benefits and challenges of collaboration. Furthermore, students learn to understand and analyze organization’s collaboration processes by familiarizing with essential research and using conceptual tools offered by existing theories in the field of organizational psychology, social network analysis and organization science.

Content: Different forms of collaboration: dyads, teamwork, intra-organizational projects, inter-organizational networks, inter-group processes, intra-group processes in both face-to-face groups and in new technological working environments, distributed ‘virtual’ teams, global collaboration, group phenomena, collaboration outcomes.

Assessment Methods and Criteria: Lectures, assignments and later announced articles, possible exam.

Substitutes for Courses: Replaces the courses TU-53.1320, TU-53.1351, TU-53.1360 and TU-E3030

Prerequisites: Bachelor’s degree

Evaluation: 1-5 · Opintojaksot

Registration for Courses: WebOodi

Language of Instruction: English

TU-E3031 Collaboration in Teams and Networks (5 sp)

Ansvarig lärare: Eila Järvenpää

Kursens status: Master’s Programme in Industrial Engineering and Management, compulsory course. Optional course in minor of Entrepreneurial Leadership. Master’s Programme in Information Networks, compulsory course in Knowledge and Business Network track.

Kursnivå: Master’s level.

Undervisningsperiod: I – II (Autumn 2017)

Arbetsmängd: Lectures about 20 h, learning diaries about 38 h, group assignment about 23 h, essays about 54 h.

Lärandemål: Students learn to understand definitions and structures of organizations and social networks, different types of collaboration, as well as benefits and challenges of collaboration. Furthermore, students learn to understand and analyze organization’s collaboration processes by familiarizing with essential research and using conceptual tools offered by existing theories in the field of organizational psychology, social network analysis and organization science.

Innehåll: Different forms of collaboration: dyads, teamwork, intra-organizational projects, inter-organizational networks, inter-group processes, intra-group processes in both face-to-face groups and in new technological working environments, distributed ‘virtual’ teams, global collaboration, group phenomena, collaboration outcomes.

Metoder, arbetsätt och bedömningsgrunder: Lectures, assignments and later announced articles, possible exam.


Förkunskaper: Bachelor’s degree

Bedömningsskala: 1-5 · Studieperioder

Anmäning: WebOodi

Undervisningsspråk: English

TU-E3031 Collaboration in Teams and Networks (5 cr)

Responsible teacher: Eila Järvenpää

Status of the Course: Master’s Programme in Industrial Engineering and Management, compulsory course. Optional course in minor of Entrepreneurial Leadership. Master’s Programme in Information Networks, compulsory course in Knowledge and Business Network track.

Level of the Course: Master’s level.
**Teaching Period:** I – II (Autumn 2017)
**Workload:** Lectures about 20 h, learning diaries about 38 h, group assignment about 23 h, essays about 54 h.
**Learning Outcomes:** Students learn to understand definitions and structures of organizations and social networks, different types of collaboration, as well as benefits and challenges of collaboration. Furthermore, students learn to understand and analyze organization’s collaboration processes by familiarizing with essential research and using conceptual tools offered by existing theories in the field of organizational psychology, social network analysis and organization science.
**Content:** Different forms of collaboration: dyads, teamwork, intra-organizational projects, inter-organizational networks, inter-group processes, intra-group processes in both face-to-face groups and in new technological working environments, distributed ‘virtual’ teams, global collaboration, group phenomena, collaboration outcomes.
**Assessment Methods and Criteria:** Lectures, assignments and later announced articles, possible exam.
**Substitutes for Courses:** Replaces the courses TU-53.1320, TU-53.1351, TU-53.1360 and TU-E3030
**Prerequisites:** Bachelor’s degree
**Evaluation:** 1-5 · Courses
**Registration for Courses:** WebOodi
**Language of Instruction:** English

**TU-E3040 Human Potential (5 cr)**
**Responsible teacher:** Niina Nurmi
**Status of the Course:** Master’s Programme in Industrial Engineering and Management, compulsory course. Optional course in minors of Entrepreneurial Leadership and Strategy and Corporate Renewal. Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course.
**Level of the Course:** Master’s level.
**Teaching period:** III – IV (Spring 2018)
**Workload:** Lectures 20 h, learning assignments 90 h, team assignment 25 h.
**Learning Outcomes:** Students learn to understand human potential in organizations, methods to analyze job demands and resources, and how to develop and sustain a positive worklife.
**Content:** Job resources and demands, work engagement, work-life balance, stress, well-being, individual resources, human growth potential, development.
**Assessment Methods and Criteria:** Lectures, individual and team assignments.
**Study Material:** Journal articles, book chapters, cases and a movie.
**Substitutes for Courses:** Replaces the course TU-53.1251.
**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E3040
**Prerequisites:** Recommended TU-A1140 Leading and Understanding Oneself.
**Evaluation:** 1-5 · Opintojakso
**Language of Instruction:** English

**TU-E3040 Human Potential (5 sp)**
**Ansvarig lärare:** Niina Nurmi
**Kursens status:** Master’s Programme in Industrial Engineering and Management, compulsory course. Optional course in minors of Entrepreneurial Leadership and Strategy and Corporate Renewal. Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course.
**Kursnivå:** Master’s level.
**Undervisningsperiod:** III – IV (Spring 2018)
**Arbetsmängd:** Lectures 20 h, learning assignments 90 h, team assignment 25 h.
**Lärandemål:** Students learn to understand human potential in organizations, methods to analyze job demands and resources, and how to develop and sustain a positive worklife.
Innehåll: Job resources and demands, work engagement, work-life balance, stress, well-being, individual resources, human growth potential, development.

Metoder, arbetssätt och bedömningsgrunder: Lectures, individual and team assignments.

Studiematerial: Journal articles, book chapters, cases and a movie.

Ersättande prestationer: Replaces the course TU-53.1251.


Förkunskaper: Recommended TU-A1140 Leading and Understanding Oneself.

Bedömningsskala: 1-5 · Studieperioder

Undervisningsspråk: English

TU-E3040 Human Potential (5 cr)

Responsible teacher: Niina Nurmi

Status of the Course: Master’s Programme in Industrial Engineering and Management, compulsory course. Optional course in minors of Entrepreneurial Leadership and Strategy and Corporate Renewal. Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course.

Level of the Course: Master’s level.

Teaching Period: III – IV (Spring 2018)

Workload: Lectures 20 h, learning assignments 90 h, team assignment 25 h.

Learning Outcomes: Students learn to understand human potential in organizations, methods to analyze job demands and resources, and how to develop and sustain a positive worklife.

Content: Job resources and demands, work engagement, work-life balance, stress, well-being, individual resources, human growth potential, development.

Assessment Methods and Criteria: Lectures, individual and team assignments.

Study Material: Journal articles, book chapters, cases and a movie.

Substitutes for Courses: Replaces the course TU-53.1251.

Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E3040

Prerequisites: Recommended TU-A1140 Leading and Understanding Oneself.

Evaluation: 1-5 · Courses

Language of Instruction: English

TU-E3090 Research Assignment in Leadership and Knowledge Management (5 cr)

Responsible teacher: Eerikki Mäki

Status of the Course: Master’s Programme in Industrial Engineering and Management, compulsory course. Optional course in minor of Entrepreneurial Leadership. Master’s Programme in Information Networks, compulsory course of the major. Master’s Programme in International Design Business Management, compulsory course of the major.

Level of the Course: Master’s level.

Teaching period: I-II (Autumn 2017), III-V (Spring 2018)

Workload: Lectures 10-14 hours, individual work and assignments 40-44 hours, group work and assignments 81 hours.

Learning Outcomes: Students will learn how to apply scientific methods and scientific thinking in problem solving. Students will learn how to define and specify adequate research objectives and research questions in the subject area “leadership and knowledge management”. Students will learn how to make a sound research plan for a small-scale empirical study. Students will be able to collect and analyze empirical data, report the results, and evaluate the quality (reliability and validity) of empirical research.

Content: Course includes designing a study that is based on empirical data. Students will do hands-on exercises of the different phases of a scientific research (e.g. designing an instrument for collecting data, data collection, data analysis, etc.). The course prepares the students for conducting scientific research (e.g. Master’s thesis).

Assessment Methods and Criteria: Lectures, seminars, exam, empirical assignment.
Substitutes for Courses: TU-0.2000, TU-53.1510.
Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E3090
Prerequisites: Bachelor’s Seminar
Evaluation: 1-5 · Opintojaksot
Language of Instruction: English

TU-E3090 Research Assignment in Leadership and Knowledge Management (5 sp)
Ansvarig lärare: Eerikki Mäki
Kursens status: Master’s Programme in Industrial Engineering and Management, compulsory course. Optional course in minor of Entrepreneurial Leadership. Master’s Programme in Information Networks, compulsory course of the major. Master’s Programme in International Design Business Management, compulsory course of the major.
Kursnivå: Master’s level.
Undervisningstid: I-II (Autumn 2017), III-V (Spring 2018)
Arbetsmängd: Lectures 10-14 hours, individual work and assignments 40-44 hours, group work and assignments 81 hours.
Lärandemål: Students will learn how to apply scientific methods and scientific thinking in problem solving. Students will learn how to define and specify adequate research objectives and research questions in the subject area “leadership and knowledge management”. Students will learn how to make a sound research plan for a small-scale empirical study. Students will be able to collect and analyze empirical data, report the results, and evaluate the quality (reliability and validity) of empirical research.
Innehåll: Course includes designing a study that is based on empirical data. Students will do hands-on exercises of the different phases of a scientific research (e.g. designing an instrument for collecting data, data collection, data analysis, etc.). The course prepares the students for conducting scientific research (e.g. Master’s thesis).
Metoder, arbetssätt och bedömningsgrunder: Lectures, seminars, exam, empirical assignment.
Förkunskaper: Bachelor’s Seminar
Bedömningsskala: 1-5 · Studieperioder
Undervisningspråk: English

TU-E3090 Research Assignment in Leadership and Knowledge Management (5 cr)
Responsible teacher: Eerikki Mäki
Status of the Course: Master’s Programme in Industrial Engineering and Management, compulsory course. Optional course in minor of Entrepreneurial Leadership. Master’s Programme in Information Networks, compulsory course of the major. Master’s Programme in International Design Business Management, compulsory course of the major.
Level of the Course: Master’s level.
Teaching Period: I-II (Autumn 2017), III-V (Spring 2018)
Workload: Lectures 10-14 hours, individual work and assignments 40-44 hours, group work and assignments 81 hours.
Learning Outcomes: Students will learn how to apply scientific methods and scientific thinking in problem solving. Students will learn how to define and specify adequate research objectives and research questions in the subject area “leadership and knowledge management”. Students will learn how to make a sound research plan for a small-scale empirical study. Students will be able to collect and analyze empirical data, report the results, and evaluate the quality (reliability and validity) of empirical research.
Content: Course includes designing a study that is based on empirical data. Students will do hands-on exercises of the different phases of a scientific research (e.g. designing an instrument for collecting data, data collection, data analysis, etc.). The course prepares
the students for conducting scientific research (e.g. Master’s thesis).

**Assessment Methods and Criteria:** Lectures, seminars, exam, empirical assignment.

**Substitutes for Courses:** TU-0.2000, TU-53.1510.

**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E3090

**Prerequisites:** Bachelor’s Seminar

**Evaluation:** 1-5 · Courses

**Language of Instruction:** English

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**TU-E3110 Work Design in Organizations (5 cr)**

**Responsible teacher:** Matti Vartiainen

**Status of the Course:** Master’s Programme in Industrial Engineering and Management, optional course.

**Level of the Course:** Master’s level.

**Teaching period:** III – IV (Spring 2018)

**Workload:** Lectures 22 h, learning diaries 22 h, group assignment 40 h, individual work 49 h.

**Learning Outcomes:** Students understand the concept and requirements of knowledge work. Students understand the fundamentals of job and work analyses. They learn how to design work to motivate and engage employees. Students know the design features in knowledge work and the elements of knowledge work productivity and well-being. Finally, students connect and are able to apply the aforementioned theoretical concepts in practice.

**Content:** Knowledge work, sociomaterial theory, systems thinking, action research, workspaces, work characteristics, job demands in knowledge work, resources in work systems, analysis methods for knowledge work, job design, motivation, engagement, individual and collective job crafting, knowledge work development, productivity, well-being.

**Assessment Methods and Criteria:** Participation in lectures, assignment, essay.

**Substitutes for Courses:** Replaces the courses TU-53.1211, TU-53.1410, and TU-53.1421.

**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E3110

**Prerequisites:** Recommended TU-C3021 Managing knowledge and knowledge-intensive organizations.

**Evaluation:** 1-5 · Opintojaksot

**Language of Instruction:** English

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**TU-E3110 Work Design in Organizations (5 sp)**

**Ansvarig lärare:** Matti Vartiainen

**Kursens status:** Master’s Programme in Industrial Engineering and Management, optional course.

**Kursnivå:** Master’s level.

**Undervisningsperiod:** III – IV (Spring 2018)

**Arbetsmängd:** Lectures 22 h, learning diaries 22 h, group assignment 40 h, individual work 49 h.

**Lärandemål:** Students understand the concept and requirements of knowledge work. Students understand the fundamentals of job and work analyses. They learn how to design work to motivate and engage employees. Students know the design features in knowledge work and the elements of knowledge work productivity and well-being. Finally, students connect and are able to apply the aforementioned theoretical concepts in practice.

**Innehåll:** Knowledge work, sociomaterial theory, systems thinking, action research, workspaces, work characteristics, job demands in knowledge work, resources in work systems, analysis methods for knowledge work, job design, motivation, engagement, individual and collective job crafting, knowledge work development, productivity, well-being.
Metoder, arbetssätt och bedömningsgrunder: Participation in lectures, assignment, essay.
Förkunskaper: Recommended TU-C3021 Managing knowledge and knowledge-intensive organizations.
Bedömningsskala: 1-5 · Studieperioder
Undervisningsspråk: English

TU-E3110 Work Design in Organizations (5 cr)
Responsible teacher: Matti Vartiainen
Status of the Course: Master’s Programme in Industrial Engineering and Management, optional course.
Level of the Course: Master’s level.
Teaching Period: III – IV (Spring 2018)
Workload: Lectures 22 h, learning diaries 22 h, group assignment 40 h, individual work 49 h.
Learning Outcomes: Students understand the concept and requirements of knowledge work. Students understand the fundamentals of job and work analyses. They learn how to design work to motivate and engage employees. Students know the design features in knowledge work and the elements of knowledge work productivity and well-being. Finally, students connect and are able to apply the aforementioned theoretical concepts in practice.
Content: Knowledge work, sociomaterial theory, systems thinking, action research, workspaces, work characteristics, job demands in knowledge work, resources in work systems, analysis methods for knowledge work, job design, motivation, engagement, individual and collective job crafting, knowledge work development, productivity, well-being.
Assessment Methods and Criteria: Participation in lectures, assignment, essay.
Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E3110
Prerequisites: Recommended TU-C3021 Managing knowledge and knowledge-intensive organizations.
Evaluation: 1-5 · Courses
Language of Instruction: English

TU-E3121 People in Service Operations (5 cr)
Responsible teacher: Matti Vartiainen
Status of the Course: Master’s Programme in Industrial Engineering and Management, optional course. Optional course in minor of Entrepreneurial Leadership.
Level of the Course: Master’s level.
Teaching period: II (Autumn 2017)
Workload: Lectures 35 h, literature 50 h, term paper 50 h.
Learning Outcomes: Getting to know the role of human resources in service business.
Content: This course shows the role of intangible (human, relational and structural) capital in service businesses and provides basics to organize and develop human resources in service processes and networks related to customers’ needs. Topics cover the following items among others: services as systems, human resources in service innovation and design, developing and implementing new services and service changes, organizational bases for service operations, knowledge and competences in services, change management in service context, developing and using distributed workspaces in networks, leadership and management of service teams, projects, inter-team collaboration, motivation and reward systems, developing and managing sustainable
socio-technical service systems, measuring and evaluating employee and customer wellbeing and satisfaction.

**Assessment Methods and Criteria:** Lectures, company cases, term paper.

**Study Material:** Collection of articles on the topic, these will be announced during lectures.

**Substitutes for Courses:** Replaces the course TU-53.1112 and TU-E3120 Human Resources in Service Operations.

**Prerequisites:** Recommended TU-C1010 Individual in groups, TU-C3021 Managing knowledge and knowledge-intensive organizations.

**Evaluation:** 1-5 · Opintojaksot

**Language of Instruction:** English

TU-E3121 People in Service Operations (5 sp)

**Ansvarig lärare:** Matti Vartiainen

**Kursens status:** Master’s Programme in Industrial Engineering and Management, optional course. Optional course in minor of Entrepreneurial Leadership.

**Kursnivå:** Master’s level.

**Undervisningsperiod:** II (Autumn 2017)

**Arbetsmängd:** Lectures 35 h, literature 50 h, term paper 50 h.

**Lärandemål:** Getting to know the role of human resources in service business.

**Innehåll:** This course shows the role of intangible (human, relational and structural) capital in service businesses and provides basics to organize and develop human resources in service processes and networks related to customers’ needs. Topics cover the following items among others: services as systems, human resources in service innovation and design, developing and implementing new services and service changes, organizational bases for service operations, knowledge and competences in services, change management in service context, developing and using distributed workspaces in networks, leadership and management of service teams, projects, inter-team collaboration, motivation and reward systems, developing and managing sustainable socio-technical service systems, measuring and evaluating employee and customer wellbeing and satisfaction.

**Metoder, arbetssätt och bedömningsgrunder:** Lectures, company cases, term paper.

**Studiematerial:** Collection of articles on the topic, these will be announced during lectures.

**Ersättande prestationer:** Replaces the course TU-53.1112 and TU-E3120 Human Resources in Service Operations.

**Förkunskaper:** Recommended TU-C1010 Individual in groups, TU-C3021 Managing knowledge and knowledge-intensive organizations.

**Bedömningsskala:** 1-5 · Studieperioder

**Undervisningsspråk:** English

TU-E3121 People in Service Operations (5 cr)

**Responsible teacher:** Matti Vartiainen

**Status of the Course:** Master’s Programme in Industrial Engineering and Management, optional course. Optional course in minor of Entrepreneurial Leadership.

**Level of the Course:** Master’s level.

**Teaching Period:** II (Autumn 2017)

**Workload:** Lectures 35 h, literature 50 h, term paper 50 h.

**Learning Outcomes:** Getting to know the role of human resources in service business.

**Content:** This course shows the role of intangible (human, relational and structural) capital in service businesses and provides basics to organize and develop human resources in service processes and networks related to customers’ needs. Topics cover the following items among others: services as systems, human resources in service innovation and design, developing and implementing new services and service changes, organizational bases for service operations, knowledge and competences in services,
change management in service context, developing and using distributed workspaces in networks, leadership and management of service teams, projects, inter-team collaboration, motivation and reward systems, developing and managing sustainable socio-technical service systems, measuring and evaluating employee and customer well-being and satisfaction.

**Assessment Methods and Criteria:** Lectures, company cases, term paper.

**Study Material:** Collection of articles on the topic, these will be announced during lectures.

**Substitutes for Courses:** Replaces the course TU-53.1112 and TU-E3120 Human Resources in Service Operations.

**Prerequisites:** Recommended TU-C1010 Individual in groups, TU-C3021 Managing knowledge and knowledge-intensive organizations.

**Evaluation:** 1-5 · Courses

**Language of Instruction:** English

**TU-E3130 Luovan ongelmanratkaisun seminaari(V) (5-8 op)**

**Vastuuopettaja:** Esa Saarinen


**Kurssin taso:** Maisteritaso.

**Opetusperiodi:** I – II (syksy 2017)

**Osaamistavoitteet:** Kurssin tavoitteena on laajentaa ja moniulotteistaa osallistujien ajattelua ja kirjallista ilmaisua, antaa työvälineitä henkilökohtaisen henkisen muutoksen hallintaan, itsensä tuntemiseen ja luovaan vuorovaikutukseen sekä lisätä systeemiälyä koskevaa ymmärrystä.

**Sisältö:** Perus- sekä jatko-opiskelijoille tarkoitettu vaihtuvasisältöinen seminaari, jossa paneudutaan luovan ongelmanratkaisun kysymyksiin eri metodisilla lähestymistavoilla.

**Toteutus, työmuodot ja arvosteluperusteet:** Esitelmä, aktiivinen osallistuminen ja kirjalliset työt.

**Korvaavuudet:** Korvaa kurssin TU-53.1160, TU-53.1162 ja MS-E2198.

**Kurssin kotisivu:** https://mycourses.aalto.fi/course/search.php?search=TU-E3130

**Esitiedot:** TU-A1150 Filosofia ja systeemiajattelu (V)

**Arvosteluasteikko:** 1-5 · Opintojakson

**Ilmoittautuminen:** Osallistujajamäärä on rajoitettu ja kurssilaisten valintamenettely ilmoitetaan esitietokurssin suorittaneille sähköpostitse.

**Opetuskieli:** Suomi

**Lisätietoja:** Vaihtuvasisältöinen.

**TU-E3130 Seminarium i kreativ problemlösning(V) (5-8 sp)**

**Ansvarig lärare:** Esa Saarinen

**Kursens status:** Master’s Programme in Industrial Engineering and Management, valfri kurs. Valfri kurs inom biämnet Entrepreneurial Leadership. Informationsnätverk, valfri kurs inom huvudämnet Informationsnätverk, Track Knowledge and Business Networks. Master’s Programme in Mathematics and Operations Research, valfri kurs inom huvud- och biämnet Systems and Operations Research

**Kursnivå:** Magisternivå.

**Undervisningsperiod:** I – II (hösten 2017)

**Lärandemål:** Målet med kursen är att utvilda och göra mera mångsidigt deltagarnas tänkande och skriftligt uttryck, ge verktyg för personlig växt, självkännedom och kreativ interaktion, och öka förståelsen av systemintelligens.

**Innehåll:** Seminarium för grund- och fortsättningsstuderande. Betoning på frågor i kreativ
problemlösning och relevanta metoder för dessa.

**Metoder, arbetssätt och bedömningsgrunder:** Föredrag, aktivt deltagande och essä.

**Ersättande prestationer:** Ersätter kursen TU-53.1160, TU-53.1162 och MS-E2198.

**Kursens webbplats:** https://mycourses.aalto.fi/course/search.php?search=TU-E3130

**Förkunskaper:** TU-A1150 Filosofi och system tänkande(V)

**Bedömningsskala:** 1-5 · Studieperioder

**Anmälningsperiod:** Registrering är begränsad.

**Undervisningsspråk:** Finska

**Tilläggsinformation:** Innehåll varieras.

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**TU-E3130 Seminar on Creative Problem Solving(V) (5-8 cr)**

**Responsible teacher:** Esa Saarinen

**Status of the Course:** Master’s Programme in Industrial Engineering and Management, optional course. Optional course in minor of Entrepreneurial Leadership. Master’s Programme in Information Networks, optional course in major of Information Networks, Track Knowledge and Business Networks. Master’s Programme in Mathematics and Operations Research, optional course in major and minor of Systems and Operations Research.

**Level of the Course:** Master’s level.

**Teaching Period:** I - II (Autumn 2017)

**Learning Outcomes:** The aim of the course is to expand and deepen participant’s thinking and capabilities for written expression. It provides tools for participant's mental growth and change management, improving self-knowledge and abilities for creative interaction, and brings about understanding regarding systems intelligence.

**Content:** The course is arranged for undergraduate and graduate students, and the contents vary yearly. Themes deal with creative problem solving and systems intelligence.

**Assessment Methods and Criteria:** Presentation, active participation and written assignments.

**Substitutes for Courses:** Replaces the course TU-53.1160, TU-53.1162 and MS-E2198.

**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E3130

**Prerequisites:** TU-A1150 Philosophy and Systems Thinking (V)

**Evaluation:** 1-5 · Courses

**Registration for Courses:** Registration is restricted.

**Language of Instruction:** Finnish

**Further Information:** Content varies.

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**TU-E3150 Safety Management in Complex Sociotechnical Systems (5 cr)**

**Responsible teacher:** Matti Vartiainen

**Status of the Course:** Aalto Nuclear Safety Minor, optional course

**Level of the Course:** Master’s level.

**Teaching period:** IV – V (Spring 2018)

**Workload:** Lectures 22 h, assignment 20 h, individual work 93 h.

**Learning Outcomes:** Students learn the most essential general properties of dynamic and complex safety critical organizations. The course specifies the problems and development challenges related to managing safety critical organizations and deals with the central theoretical approaches to analyzing and developing them. During the course several accident cases are reviewed from the point of view of what they have taught us about safety critical organizations and how to investigate incidents in safety critical organizations.

**Content:** Human and organizational factors, safety and accident models, new safety paradigms, safety management and safety culture. The course also illustrates the different approaches of managing safety as well as the different types of safety present in modern complex organizations.

**Assessment Methods and Criteria:** Assignments and lectures.

Substitutes for Courses: Replaces the course TU-53.1451.

Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E3150

Evaluation: 1-5 · Opintojaksot

Language of Instruction: English

TU-E3150 Safety Management in Complex Sociotechnical Systems (5 sp)

Ansvairig lärare: Matti Vartiainen
Kursens status: Aalto Nuclear Safety Minor, optional course
Kursnivå: Master’s level.
Undervisningsperiod: IV – V (Spring 2018)
Arbetsmängd: Lectures 22 h, assignment 20 h, individual work 93 h.
Lärandemål: Students learn the most essential general properties of dynamic and complex safety critical organizations. The course specifies the problems and development challenges related to managing safety critical organizations and deals with the central theoretical approaches to analyzing and developing them. During the course several accident cases are reviewed from the point of view of what they have taught us about safety critical organizations and how to investigate incidents in safety critical organizations.

Innehåll: Human and organizational factors, safety and accident models, new safety paradigms, safety management and safety culture. The course also illustrates the different approaches of managing safety as well as the different types of safety present in modern complex organizations.

Metoder, arbetssätt och bedömningsgrunder: Assignments and lectures.

Ersättande prestationer: Replaces the course TU-53.1451.
Bedömningsskala: 1-5 · Studieperioder
Undervisningsspråk: English

TU-E3150 Safety Management in Complex Sociotechnical Systems (5 cr)

Responsible teacher: Matti Vartiainen
Status of the Course: Aalto Nuclear Safety Minor, optional course
Level of the Course: Master’s level.
Teaching Period: IV – V (Spring 2018)
Workload: Lectures 22 h, assignment 20 h, individual work 93 h.
Learning Outcomes: Students learn the most essential general properties of dynamic and complex safety critical organizations. The course specifies the problems and development challenges related to managing safety critical organizations and deals with the central theoretical approaches to analyzing and developing them. During the course several accident cases are reviewed from the point of view of what they have taught us about safety critical organizations and how to investigate incidents in safety critical organizations.

Content: Human and organizational factors, safety and accident models, new safety paradigms, safety management and safety culture. The course also illustrates the different approaches of managing safety as well as the different types of safety present in modern complex organizations.

Assessment Methods and Criteria: Assignments and lectures.

Substitutes for Courses: Replaces the course TU-53.1451.
Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E3150
Evaluation: 1-5 · Courses
Language of Instruction: English

TU-E3160 Leadership and Knowledge Management, Special Topics (V)(V) (1-10 cr)
Responsible teacher: Matti Vartiainen
Status of the Course: Optional course in minor of Entrepreneurial Leadership.
Teaching period: I, II, III, IV or V (academic year 2017-2018). Varies, check the course website for details
Workload: Varies based on the course details.
Learning Outcomes: Students learn the most current issues in knowledge and competence management and in knowledge and digital work. Students learn what the future of work and organizations is.
Content: Various topical themes of knowledge and competence management such as knowledge work, digital labor, new ways of working, mind and mindfulness, well-being, ideation, innovations, creativity and social media.
Assessment Methods and Criteria: Announced at the beginning of the course.
Study Material: Announced at the beginning of the course.
Substitutes for Courses: Replaces the course TU-53.1390.
Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E3160
Prerequisites: Varies.
Evaluation: hyv · Opintojaksot
Language of Instruction: English

TU-E3160 Leadership and Knowledge Management, Special Topics (V)(V) (1-10 sp)
Ansvarig lärare: Matti Vartiainen
Kursens status: Optional course in minor of Entrepreneurial Leadership.
Undervisningsperiod: I, II, III, IV or V (academic year 2017-2018). Varies, check the course website for details
Arbetsmängd: Varies based on the course details.
Lärandemål: Students learn the most current issues in knowledge and competence management and in knowledge and digital work. Students learn what the future of work and organizations is.
Innehåll: Various topical themes of knowledge and competence management such as knowledge work, digital labor, new ways of working, mind and mindfulness, well-being, ideation, innovations, creativity and social media.
Metoder, arbetssätt och bedömningsgrunder: Announced at the beginning of the course.
Studiematerial: Announced at the beginning of the course.
Ersättande prestationer: Replaces the course TU-53.1390.
Förkunskaper: Varies.
Bedömningsskala: hyv · Studieperioder
Undervisningsspråk: English

TU-E3160 Leadership and Knowledge Management, Special Topics (V)(V) (1-10 cr)
Responsible teacher: Matti Vartiainen
Status of the Course: Optional course in minor of Entrepreneurial Leadership.
Teaching Period: I, II, III, IV or V (academic year 2017-2018). Varies, check the course website for details
Workload: Varies based on the course details.
Learning Outcomes: Students learn the most current issues in knowledge and competence management and in knowledge and digital work. Students learn what the future of work and organizations is.
Content: Various topical themes of knowledge and competence management such as knowledge work, digital labor, new ways of working, mind and mindfulness, well-being, ideation, innovations, creativity and social media.
Assessment Methods and Criteria: Announced at the beginning of the course.
Study Material: Announced at the beginning of the course.
Substitutes for Courses: Replaces the course TU-53.1390.
Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E3160
Prerequisites: Varies.
Evaluation: hyv · Courses
Language of Instruction: English

TU-E4011 High Growth Entrepreneurship with varying content (1-20 cr)
Responsible teacher: Marina Biniari; Mikko Jääskeläinen
Status of the Course: Optional course of the Creativity & Venturing minor and Aalto Ventures Program Minor/Startup minor.
Level of the Course: Master's level. The course can be included into post graduate programs.
Evaluation: 1-5 · Opintojaksot
Language of Instruction: English

TU-E4011 High Growth Entrepreneurship with varying content (1-20 sp)
Ansvarig lärare: Marina Biniari; Mikko Jääskeläinen
Kursens status: Optional course of the Creativity & Venturing minor and Aalto Ventures Program Minor/Startup minor.
Kursnivå: Master’s level. The course can be included into post graduate programs.
Bedömningsskala: 1-5 · Studieperioder
Undervisningsspråk: English

TU-E4011 High Growth Entrepreneurship with varying content (1-20 cr)
Responsible teacher: Marina Biniari; Mikko Jääskeläinen
Status of the Course: Optional course of the Creativity & Venturing minor and Aalto Ventures Program Minor/Startup minor.
Level of the Course: Master's level. The course can be included into post graduate programs.
Evaluation: 1-5 · Courses
Language of Instruction: English

TU-E4030 Entrepreneurial Finance (5 cr)
Responsible teacher: Peter Kelly
Status of the Course: Master’s Programme in Industrial Engineering and Management, optional course. Optional course in minors of Creativity & Venturing and Aalto Ventures Program Minor/Startup minor.
Level of the Course: Master’s level.
Teaching period: IV (Spring 2018)
Learning Outcomes: To gain an understanding of where and how to raise entrepreneurial finance.
Content: Bootstrapping, Debt finance, Business Angel equity, Venture Capital, Deal
Structuring, Valuation, Negotiation, Shareholders Agreements, Investor & Board Relationships, Exits.

**Assessment Methods and Criteria:** Individual case write-ups, take home exam, group assignment.

**Study Material:** Cases and notes delivered in class.

**Substitutes for Courses:** Replaces to course TU-91.2009

**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E4030

**Prerequisites:** TU-91.2103 Opportunity Prototyping

**Evaluation:** 1-5 · Opintojakso

**Registration for Courses:** The course is intended mainly for students majoring Industrial Engineering and Management, those participating in minors of Creativity & Venturing, Aalto Ventures Program Minor/Startup minor and other students who have completed the prerequisite course.

**Language of Instruction:** English

**TU-E4030 Entrepreneurial Finance (5 sp)**

**Ansvarig lärande:** Peter Kelly

**Kursens status:** Master’s Programme in Industrial Engineering and Management, optional course. Optional course in minors of Creativity & Venturing and Aalto Ventures Program Minor/Startup minor.

**Kursnivå:** Master’s level.

**Undervisningsperiod:** IV (Spring 2018)

**Lärandemål:** To gain an understanding of where and how to raise entrepreneurial finance.

**Innehåll:** Bootstrapping, Debt finance, Business Angel equity, Venture Capital, Deal Structuring, Valuation, Negotiation, Shareholders Agreements, Investor & Board Relationships, Exits.

**Metoder, arbetssätt och bedömningsgrunder:** Individual case write-ups, take home exam, group assignment.

**Studiematerial:** Cases and notes delivered in class.

**Ersättande prestationer:** Replaces to course TU-91.2009

**Kursens webbplats:** https://mycourses.aalto.fi/course/search.php?search=TU-E4030

**Förkunskaper:** TU-91.2103 Opportunity Prototyping

**Bedömningsskala:** 1-5 · Opintojakso

**Anmäling:** The course is intended mainly for students majoring Industrial Engineering and Management, those participating in minors of Creativity & Venturing, Aalto Ventures Program Minor/Startup minor and other students who have completed the prerequisite course.

**Undervisningsspråk:** English

**TU-E4030 Entrepreneurial Finance (5 cr)**

**Responsible teacher:** Peter Kelly

**Status of the Course:** Master’s Programme in Industrial Engineering and Management, optional course. Optional course in minors of Creativity & Venturing and Aalto Ventures Program Minor/Startup minor.

**Level of the Course:** Master’s level.

**Teaching Period:** IV (Spring 2018)

**Learning Outcomes:** To gain an understanding of where and how to raise entrepreneurial finance.

**Content:** Bootstrapping, Debt finance, Business Angel equity, Venture Capital, Deal Structuring, Valuation, Negotiation, Shareholders Agreements, Investor & Board Relationships, Exits.

**Assessment Methods and Criteria:** Individual case write-ups, take home exam, group assignment.

**Study Material:** Cases and notes delivered in class.
Substitutes for Courses: Replaces to course TU-91.2009
Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E4030
Prerequisites: TU-91.2103 Opportunity Prototyping
Evaluation: 1-5 · Courses
Registration for Courses: The course is intended mainly for students majoring Industrial Engineering and Management, those participating in minors of Creativity & Venturing, Aalto Ventures Program Minor/Startup minor and other students who have completed the prerequisite course.
Language of Instruction: English

TU-E4040 Opportunity Prototyping (3 cr)
Responsible teacher: Peter Kelly
Level of the Course: Master’s level.
Teaching period: I (Autumn 2017)
Learning Outcomes: To gain an understanding of the process of identifying, exploring, and developing an entrepreneurial opportunity that best leverages your experience, interests, passions and networks. Working in teams, students are expected to develop a “prototype” of their prospective offering.
Content: Process overview through the lens of effectuation.
Assessment Methods and Criteria: Masterclasses, workshops, studio work
Substitutes for Courses: Replaces the courses TU-91.120, TU-91.2003 and TU-91.2103
Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E4040
Evaluation: 1-5 · Opintojakso
Registration for Courses: The number of participants will be limited to 120 and the course is open to all students of Aalto. Students minoring in Creativity & Venturing and Aalto Ventures Program Minor/Startup minor are given priority.
Language of Instruction: English

TU-E4040 Opportunity Prototyping (3 sp)
Ansvarig lärare: Peter Kelly
Kursnivå: Master’s level.
Undervisningstid: I (Autumn 2017)
Lärandemål: To gain an understanding of the process of identifying, exploring, and developing an entrepreneurial opportunity that best leverages your experience, interests, passions and networks. Working in teams, students are expected to develop a “prototype” of their prospective offering.
Innehåll: Process overview through the lens of effectuation.
Metoder, arbetssätt och bedömningsgrunder: Masterclasses, workshops, studio work
**TU-E4040 Opportunity Prototyping (3 cr)**

**Responsible teacher:** Peter Kelly  
**Status of the Course:** Master’s Programme in Industrial Engineering and Management, optional course. Optional course in minors of Creativity & Venturing and Aalto Ventures Program Minor/Startup minor. Master’s Programme in International Design Business Management, optional course. Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course.  
**Level of the Course:** Master’s level.  
**Teaching Period:** I (Autumn 2017)  
**Learning Outcomes:** To gain an understanding of the process of identifying, exploring, and developing an entrepreneurial opportunity that best leverages your experience, interests, passions and networks. Working in teams, students are expected to develop a “prototype” of their prospective offering.  
**Content:** Process overview through the lens of effectuation.  
**Assessment Methods and Criteria:** Masterclasses, workshops, studio work  
**Study Material:** Saras Sarasvathy “What Makes Entrepreneurs Entrepreneurial?”, Chris Guillebeau The Art of Non-Conformity Turnaround Books (2010) and other resource materials available on the course website.  
**Substitutes for Courses:** Replaces the courses TU-91.120, TU-91.2003 and TU-91.2103  
**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E4040  
**Evaluation:** 1-5 · Courses  
**Registration for Courses:** The number of participants will be limited to 120 and the course is open to all students of Aalto. Students minoring in Creativity & Venturing and Aalto Ventures Program Minor/Startup minor are given priority.  
**Language of Instruction:** English

**TU-E4050 Entrepreneurial Leadership (5 cr)**

**Responsible teacher:** Aino Tenhiälä  
**Status of the Course:** Master’s Programme in Industrial Engineering and Management, optional course. Optional course in minors of Entrepreneurial Leadership, Creativity & Venturing and Aalto Ventures Program Minor/Startup minor. Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course.  
**Level of the Course:** Master’s level.  
**Teaching period:** V (Spring 2018)  
**Learning Outcomes:** This course is targeted at students who are interested in joining or founding new ventures. While other entrepreneurship courses focus on ideation and opportunity spotting, this course focuses on the process of building a high growth venture. During this course, you will develop your knowledge of leadership in an entrepreneurial setting, your ability to design efficient entrepreneurial teams and your interpersonal skills in areas such as team working, negotiation, and networking as well as critical thinking and presentation skills.  
**Content:** Based on research spanning over ten years and covering almost 10,000 startups in the U.S., Harvard Professor Noam Wasserman has identified important decisions that most founders face, and outcomes that are typically related with those
decisions. Most often these decisions are related to people: starting from making the
decision to become a founder, debating on whether to partner with other people, who
they might be, dividing roles and rewards within the founding team, and acquiring the
needed human, social and/or financial capital for growth. Each time new players become
involved in the venture, new decisions have to be made which might have significant
influence on the future outcomes. Wasserman refers to the most critical decisions as the
founder’s dilemmas: The Founder’s dilemmas are decisions that involve a tradeoff, hence
they are painful to make, and often the easy decision is the wrong one in the long run.
These dilemmas form the basis of the case-based learning on the course. Using these
cases as examples, we will discuss issues such as how to get the right people engaged
in your business idea, how to develop implementation capacity networks through global
partnerships, how to grow without losing a start-up culture, and thus, how to building a
high-growth, long-term, sustainable firm from scratch.

Assessment Methods and Criteria: The course assessment includes written individual
case assignments prior to each teaching session (33%), active participation during
teaching sessions (33%), and a group project (33%). Before each session, a short written
case assignment is handed in. During teaching sessions, multiple activating methods will
be used, including founder visits (Q&A sessions), simulation and role play. You will also
prepare a short case as a group project, either based on own experience or by
interviewing a founder or founders. Please note that in most of the teaching sessions,
founders of new ventures will be invited as guest speakers so you are expected to
participate in all sessions and your activity will be graded.

Study Material: The primary course material will be a series of short cases available
when the course starts. As main reference, we will use Wasserman, Noam (2012) The
Founder’s Dilemmas: Anticipating and Avoiding the Pitfalls That Can Sink a Startup.
need the course book throughout the course. There will be some additional readings that
will be listed in the course syllabus.

Substitutes for Courses: Replaces the course TU-53.1291.

Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E4050

Prerequisites: An introductory course in entrepreneurship is highly recommended.

Evaluation: 1-5 · Opintojakso

Registration for Courses: WebOodi. A maximum of 40 students will be admitted to the
course. Students will be selected based on their motivation letters and academic
performance. Students who are further along in studies have precedence.

Language of Instruction: English
decisions that most founders face, and outcomes that are typically related with those
decisions. Most often these decisions are related to people: starting from making the
decision to become a founder, debating on whether to partner with other people, who
they might be, dividing roles and rewards within the founding team, and acquiring the
needed human, social and/or financial capital for growth. Each time new players become
involved in the venture, new decisions have to be made which might have significant
influence on the future outcomes. Wasserman refers to the most critical decisions as the
founder’s dilemmas: The Founder’s dilemmas are decisions that involve a tradeoff, hence
they are painful to make, and often the easy decision is the wrong one in the long run.
These dilemmas form the basis of the case-based learning on the course. Using these
cases as examples, we will discuss issues such as how to get the right people engaged
in your business idea, how to develop implementation capacity networks through global
partnerships, how to grow without losing a start-up culture, and thus, how to building a
high-growth, long-term, sustainable firm from scratch.

**Metoder, arbetssätt och bedömningsgrunder:**
The course assessment includes written
individual case assignments prior to each teaching session (33%), active participation
during teaching sessions (33%), and a group project (33%). Before each session, a short
written case assignment is handed in. During teaching sessions, multiple activating
methods will be used, including founder visits (Q&A sessions), simulation and role play.
You will also prepare a short case as a group project, either based on own experience or
by interviewing a founder or founders. Please note that in most of the teaching sessions,
founders of new ventures will be invited as guest speakers so you are expected to
participate in all sessions and your activity will be graded.

**Studiematerial:**
The primary course material will be a series of short cases available
when the course starts. As main reference, we will use Wasserman, Noam (2012) The
Founder’s Dilemmas: Anticipating and Avoiding the Pitfalls That Can Sink a Startup.
need the course book throughout the course. There will be some additional readings that
will be listed in the course syllabus.

**Ersättande prestationer:**
Replaces the course TU-53.1291.

**Kursens webbplats:**

**Förkunskaper:**
An introductory course in entrepreneurship is highly recommended.

**Bedömningsskala:** 1-5.

**Studieperioder**

**Anmäning:**
WebOodi. A maximum of 40 students will be admitted to the course.
Students will be selected based on their motivation letters and academic performance.
Students who are further along in studies have precedence.

**Undervisningsspråk:** English

**TU-E4050 Entrepreneurial Leadership (5 cr)**

**Responsible teacher:** Aino Tenhiälä

**Status of the Course:** Master’s Programme in Industrial Engineering and Management,
optional course. Optional course in minors of Entrepreneurial Leadership, Creativity &
Venturing and Aalto Ventures Program Minor/Startup minor. Master’s Programme in
Information Networks, Major Information Networks, Track Knowledge and Business
Networks, optional course.

**Level of the Course:** Master’s level.

**Teaching Period:** V (Spring 2018)

**Learning Outcomes:** This course is targeted at students who are interested in joining or
founding new ventures. While other entrepreneurship courses focus on ideation and
opportunity spotting, this course focuses on the process of building a high growth
venture. During this course, you will develop your knowledge of leadership in an
entrepreneurial setting, your ability to design efficient entrepreneurial teams and your
interpersonal skills in areas such as team working, negotiation, and networking as well as
critical thinking and presentation skills.

**Content:** Based on research spanning over ten years and covering almost 10,000
startups in the U.S., Harvard Professor Noam Wasserman has identified important decisions that most founders face, and outcomes that are typically related with those decisions. Most often these decisions are related to people: starting from making the decision to become a founder, debating on whether to partner with other people, who they might be, dividing roles and rewards within the founding team, and acquiring the needed human, social and/or financial capital for growth. Each time new players become involved in the venture, new decisions have to be made which might have significant influence on the future outcomes. Wasserman refers to the most critical decisions as the founder’s dilemmas: The Founder’s dilemmas are decisions that involve a tradeoff, hence they are painful to make, and often the easy decision is the wrong one in the long run. These dilemmas form the basis of the case-based learning on the course. Using these cases as examples, we will discuss issues such as how to get the right people engaged in your business idea, how to develop implementation capacity networks through global partnerships, how to grow without losing a start-up culture, and thus, how to building a high-growth, long-term, sustainable firm from scratch.

**Assessment Methods and Criteria:** The course assessment includes written individual case assignments prior to each teaching session (33%), active participation during teaching sessions (33%), and a group project (33%). Before each session, a short written case assignment is handed in. During teaching sessions, multiple activating methods will be used, including founder visits (Q&A sessions), simulation and role play. You will also prepare a short case as a group project, either based on own experience or by interviewing a founder or founders. Please note that in most of the teaching sessions, founders of new ventures will be invited as guest speakers so you are expected to participate in all sessions and your activity will be graded.

**Study Material:** The primary course material will be a series of short cases available when the course starts. As main reference, we will use Wasserman, Noam (2012) The Founder’s Dilemmas: Anticipating and Avoiding the Pitfalls That Can Sink a Startup. Princeton Univ, (488p) ISBN 978-0-691-14913-4; Ebook 978-1-4008-4193-6. You will need the course book throughout the course. There will be some additional readings that will be listed in the course syllabus.

**Substitutes for Courses:** Replaces the course TU-53.1291.

**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E4050

**Prerequisites:** An introductory course in entrepreneurship is highly recommended.

**Evaluation:** 1-5 · Courses

**Registration for Courses:** WebOodi. A maximum of 40 students will be admitted to the course. Students will be selected based on their motivation letters and academic performance. Students who are further along in studies have precedence.

**Language of Instruction:** English

TU-E4060 Design & Innovation in Context (6 cr)

**Responsible teacher:** Peter Kelly

**Status of the Course:** Master’s Programme in Industrial Engineering and Management, optional course. Optional course in minors of Creativity & Venturing and Aalto Ventures Program Minor/Startup minor. Master’s Programme in International Design Business Management, optional course. Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course.

**Level of the Course:** Master’s level.

**Teaching period:** II (Autumn 2017)

**Learning Outcomes:** To provide an overview of design methods and design-driven innovation and deepen understanding of what strategic, user-driven design and innovation are all about.

**Content:** Topics covered include effectual entrepreneurship, design thinking, strategic design, creativity, trendspotting, ideation, prototyping, experience design and presenting with impact.

**Assessment Methods and Criteria:** Lectures, workshops, exercises and field study.
Individual essay, individual challenge and a group challenge.

**Substitutes for Courses:** Replaces the courses TU-91.2045

**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E4060

**Evaluation:** 1-5 · Opintojaksot

**Registration for Courses:** The number of participants will be limited to 60 and the course is open to all students of Aalto.

**Language of Instruction:** English

**TU-E4060 Design & Innovation in Context (6 sp)**

**Ansvarig lärare:** Peter Kelly

**Kursens status:** Master’s Programme in Industrial Engineering and Management, optional course. Optional course in minors of Creativity & Venturing and Aalto Ventures Program Minor/Startup minor. Master’s Programme in International Design Business Management, optional course. Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course.

**Kursnivå:** Master’s level.

**Undervisningsperiod:** II (Autumn 2017)

**Lärandemål:** To provide an overview of design methods and design-driven innovation and deepen understanding of what strategic, user-driven design and innovation are all about.

**Innehåll:** Topics covered include effectual entrepreneurship, design thinking, strategic design, creativity, trendspotting, ideation, prototyping, experience design and presenting with impact.

**Metoder, arbetssätt och bedömningsgrunder:** Lectures, workshops, exercises and field study. Individual essay, individual challenge and a group challenge.

**Ersättande prestationer:** Replaces the courses TU-91.2045

**Kursens webbplats:** https://mycourses.aalto.fi/course/search.php?search=TU-E4060

**Bedömningsskala:** 1-5 · Studieperioder

**Anmälning:** The number of participants will be limited to 60 and the course is open to all students of Aalto.

**Undervisningen språk:** English

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**TU-E4060 Design & Innovation in Context (6 cr)**

**Responsible teacher:** Peter Kelly

**Status of the Course:** Master’s Programme in Industrial Engineering and Management, optional course. Optional course in minors of Creativity & Venturing and Aalto Ventures Program Minor/Startup minor. Master’s Programme in International Design Business Management, optional course. Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course.

**Level of the Course:** Master’s level.

**Teaching Period:** II (Autumn 2017)

**Learning Outcomes:** To provide an overview of design methods and design-driven innovation and deepen understanding of what strategic, user-driven design and innovation are all about.

**Content:** Topics covered include effectual entrepreneurship, design thinking, strategic design, creativity, trendspotting, ideation, prototyping, experience design and presenting with impact.

**Assessment Methods and Criteria:** Lectures, workshops, exercises and field study. Individual essay, individual challenge and a group challenge.

**Substitutes for Courses:** Replaces the courses TU-91.2045

**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E4060

**Evaluation:** 1-5 · Courses

**Registration for Courses:** The number of participants will be limited to 60 and the course is open to all students of Aalto.

**Language of Instruction:** English
TU-E4070 Entrepreneurial Marketing (5 cr)

Responsible teacher: Jukka Partanen

Status of the Course: Master's Programme in Industrial Engineering and Management, optional course. Optional course in minors of Creativity & Venturing and Aalto Ventures Program Minor/Startup minor.

Level of the Course: Master's level.

Teaching period: V (Spring 2018)

Workload:
- Lectures: 24 hours
- Individual reflection papers: 4 hours
- Assignments/cases: 30 hours
- Final project: 77 hours
- Total: 135 hours

Learning Outcomes: After the course students understand the distinctive elements and conceptual frameworks/tools of entrepreneurial marketing and can apply their own business initiatives. The course will also improve students' team-work, problem-solving, and negotiation skills.

Content: The course will cover the core areas of entrepreneurial marketing such as identifying market opportunities, analyzing market environment (special focus on customer needs), assessing promotional possibilities, as well as building partnerships and networks. These issues are discussed especially from the perspective of technology-based and growth-oriented firms.

Assessment Methods and Criteria:
- Mandatory 9/12 attendance in lectures
- Four individual reflection papers: 3% each = 12%
- Five individual/team assignments: 6% each = 30%
- A final project (done in teams for a real life startup); 58% (including 15%. peer-evaluation on team contribution)

Study Material: To be announced separately.

Substitutes for Courses: Replaces the course TU-91.2044

Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E4070

Prerequisites: Principles of Marketing or equivalent course.

Evaluation: 1-5 · Opintojakso

Registration for Courses: The number of participants will be limited to max 40 students. The students that are participating in the Creativity & Venturing minor and Aalto Ventures Program Minor/Startup minor will be prioritized first. After this, all students are prioritized based on registration order.

Language of Instruction: English

TU-E4070 Entrepreneurial Marketing (5 sp)

Ansvarig lärare: Jukka Partanen

Kursens status: Master's Programme in Industrial Engineering and Management, optional course. Optional course in minors of Creativity & Venturing and Aalto Ventures Program Minor/Startup minor.

Kursnivå: Master's level.

Undervisningsperiod: V (Spring 2018)

Arbetsmängd:
- Lectures: 24 hours
- Individual reflection papers: 4 hours
- Assignments/cases: 30 hours
- Final project: 77 hours
- Total: 135 hours

Lärandemål: After the course students understand the distinctive elements and conceptual frameworks/tools of entrepreneurial marketing and can apply their own business initiatives. The course will also improve students' team-work, problem-solving, and negotiation skills.

Innehåll: The course will cover the core areas of entrepreneurial marketing such as
identifying market opportunities, analyzing market environment (special focus on
customer needs), assessing promotional possibilities, as well as building partnerships
and networks. These issues are discussed especially from the perspective of
technology-based and growth-oriented firms.

**Metoder, arbetssätt och bedömningsgrunder:** Mandatory 9/12 attendance in lectures

Four individual reflection papers: 3% each = 12%

Five individual/team assignments: 6% each= 30%

A final project (done in teams for a real life startup); 58% (including 15%. peer-evaluation
on team contribution)

**Studiematerial:** To be announced separately.

**Ersättande prestationer:** Replaces the course TU-91.2044

**Kursens webbplats:** https://mycourses.aalto.fi/course/search.php?search=TU-E4070

**Förkunskaper:** Principles of Marketing or equivalent course.

**Bedömningsskala:** 1-5 · Studieperioder

**Anmäling:** The number of participants will be limited to max 40 students. The students
that are participating in the Creativity & Venturing minor and Aalto Ventures Program
Minor/Startup minor will be prioritized first. After this, all students are prioritized based on
registration order.

**Undervisningsspråk:** English

**TU-E4070 Entrepreneurial Marketing (5 cr)**

**Responsible teacher:** Jukka Partanen

**Status of the Course:** Master's Programme in Industrial Engineering and Management,
optional course. Optional course in minors of Creativity & Venturing and Aalto Ventures
Program Minor/Startup minor.

**Level of the Course:** Master's level.

**Teaching Period:** V (Spring 2018)

**Workload:** Lectures: 24 hours

Individual reflection papers: 4 hours

Assignments/cases: 30 hours

Final project: 77 hours

Total: 135 hours

**Learning Outcomes:** After the course students understand the distinctive elements and
conceptual frameworks/tools of entrepreneurial marketing and can apply their own
business initiatives. The course will also improve students’ team-work, problem-solving,
and negotiation skills.

**Content:** The course will cover the core areas of entrepreneurial marketing such as
identifying market opportunities, analyzing market environment (special focus on
customer needs), assessing promotional possibilities, as well as building partnerships
and networks. These issues are discussed especially from the perspective of
technology-based and growth-oriented firms.

**Assessment Methods and Criteria:** Mandatory 9/12 attendance in lectures

Four individual reflection papers: 3% each = 12%

Five individual/team assignments: 6% each= 30%

A final project (done in teams for a real life startup); 58% (including 15%. peer-evaluation
on team contribution)

**Study Material:** To be announced separately.

**Substitutes for Courses:** Replaces the course TU-91.2044

**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E4070

**Prerequisites:** Principles of Marketing or equivalent course.

**Evaluation:** 1-5 · Courses

**Registration for Courses:** The number of participants will be limited to max 40 students.
The students that are participating in the Creativity & Venturing minor and Aalto Ventures
Program Minor/Startup minor will be prioritized first. After this, all students are prioritized
based on registration order.
 Language of Instruction: English

TU-E4080 Managing Innovative Sales (3 cr)

Responsible teacher: Petri Parvinen

Status of the Course: Optional course in minors of Creativity & Venturing and Aalto Ventures Program Minor/Startup minor.
Master’s Programme in Industrial Engineering and Management, optional course
Optional course in the minor studies of sales and sales management

Level of the Course: Master’s level
Teaching period: II (Autumn 2017)

Workload: 3 cr
81 hours:
22h lectures
57 h assignment work
2 h feedback

Learning Outcomes: The principal objective of this course is to give students a general but thorough understanding of the area of innovation selling and sales management for both professional and academic purposes. This includes developing an interest in the area of sales, understanding the dynamics and challenges in organizing sales work and the ability to analytically evaluate and solve sales-related issues. The focus is on innovative and transformative selling, selling under modern new business models, selling in corporate venturing and startup selling. You will learn to apply your knowledge to a number of industries, but the emphasis is on business-to-business contexts. One of the primary goals is to raise the appreciation of the topic and area of sales among students, and create a positive outlook on doing sales for a living.

Content: This course is designed as a general overview to the area of innovative sales management. Ideally designed for students with some exposure to the area and topic of sales, this course gives you the necessary skills and knowledge to start executing sales management actions in various types of organizations, including startup companies. With topics ranging from grass root level management of sales staff to the role of sales thinking in corporate strategy, this course is ideal for candidates aiming any position that needs to deal with the sales function. This implies that the course discusses not only sales issues, but the relationship of sales with R&D, marketing, corporate management, IT and even public affairs. This course employs mixed teaching methods, with some live lectures and recorded lectures. Instead of an exam, the students do a learning diary, search and analyze academic literature, analyze a case company of their choice and involve in social activity (discussion forums, self-organized seminars) around the course topics.

Assessment Methods and Criteria: Course assignments 100%

Study Material: Collection of articles assigned by the lecturer.

Substitutes for Courses: Replaces the courses TU-91.2040, TU-91.2031 and TU-91.2046

Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E4080

Prerequisites: N/A

Evaluation: 1-5 · Opintojakso

Registration for Courses: Registration with WedOodi ends 7 days after the start of the period. A maximum of 60 students are admitted. Students are given priority as follows:
1) Aalto Ventures Program Minor/Startup minor or Creativity and Venturing –minor
2) Master’s level students majoring in Industrial Engineering and Management
3) other students (who meet the prerequisites) in order of registration.

Language of Instruction: English

Further Information: Please check the course homepage for the location of the lectures.

TU-E4080 Managing Innovative Sales (3 sp)

Ansvarig lärare: Petri Parvinen
**Kursens status:**
Optional course in minors of Creativity & Venturing and Aalto Ventures Program Minor/Startup minor.
Master’s Programme in Industrial Engineering and Management, optional course
Optional course in the minor studies of sales and sales management

**Kursnivå:** Master’s level

**Undervisningsperiod:** II (Autumn 2017)

**Arbetsmängd:** 3 cr
81 hours:
22h lectures
57 h assignment work
2 h feedback

**Lärandemål:** The principal objective of this course is to give students a general but thorough understanding of the area of innovation selling and sales management for both professional and academic purposes. This includes developing an interest in the area of sales, understanding the dynamics and challenges in organizing sales work and the ability to analytically evaluate and solve sales-related issues. The focus is on innovative and transformative selling, selling under modern new business models, selling in corporate venturing and startup selling. You will learn to apply your knowledge to a number of industries, but the emphasis is on business-to-business contexts. One of the primary goals is to raise the appreciation of the topic and area of sales among students, and create a positive outlook on doing sales for a living.

**Innehåll:** This course is designed as a general overview to the area of innovative sales management. Ideally designed for students with some exposure to the area and topic of sales, this course gives you the necessary skills and knowledge to start executing sales management actions in various types of organizations, including startup companies. With topics ranging from grass root level management of sales staff to the role of sales thinking in corporate strategy, this course is ideal for candidates aiming any position that needs to deal with the sales function. This implies that the course discusses not only sales issues, but the relationship of sales with R&D, marketing, corporate management, IT and even public affairs. This course employs mixed teaching methods, with some live lectures and recorded lectures. Instead of an exam, the students do a learning diary, search and analyze academic literature, analyze a case company of their choice and involve in social activity (discussion forums, self-organized seminars) around the course topics.

**Metoder, arbetssätt och bedömningsgrunder:** Course assignments 100%

**Studiematerial:** Collection of articles assigned by the lecturer.

**Ersättande prestationer:** Replaces the courses TU-91.2040, TU-91.2031 and TU-91.2046

**Kursens webbplats:** https://mycourses.aalto.fi/course/search.php?search=TU-E4080

**Förkunskaper:** N/A

**Bedömningsskala:** 1-5 · Studieperioder

**Anmälning:** Registration with WedOodi ends 7 days after the start of the period. A maximum of 60 students are admitted. Students are given priority as follows: 1) Aalto Ventures Program Minor/Startup minor or Creativity and Venturing –minor 2) Master’s level students majoring in Industrial Engineering and Management 3) other students (who meet the prerequisites) in order of registration.

**Undervisningsspråk:** English

**Tilläggsinformation:** Please check the course homepage for the location of the lectures.

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**TU-E4080 Managing Innovative Sales (3 cr)**

**Responsible teacher:** Petri Parvinen

**Status of the Course:** Optional course in minors of Creativity & Venturing and Aalto Ventures Program Minor/Startup minor.
Master’s Programme in Industrial Engineering and Management, optional course
Optional course in the minor studies of sales and sales management

**Level of the Course:** Master's level

**Teaching Period:** II (Autumn 2017)

**Workload:** 3 cr

81 hours:
- 22h lectures
- 57 h assignment work
- 2 h feedback

**Learning Outcomes:** The principal objective of this course is to give students a general but thorough understanding of the area of innovation selling and sales management for both professional and academic purposes. This includes developing an interest in the area of sales, understanding the dynamics and challenges in organizing sales work and the ability to analytically evaluate and solve sales-related issues. The focus is on innovative and transformative selling, selling under modern new business models, selling in corporate venturing and startup selling. You will learn to apply your knowledge to a number of industries, but the emphasis is on business-to-business contexts. One of the primary goals is to raise the appreciation of the topic and area of sales among students, and create a positive outlook on doing sales for a living.

**Content:** This course is designed as a general overview to the area of innovative sales management. Ideally designed for students with some exposure to the area and topic of sales, this course gives you the necessary skills and knowledge to start executing sales management actions in various types of organizations, including startup companies. With topics ranging from grass root level management of sales staff to the role of sales thinking in corporate strategy, this course is ideal for candidates aiming any position that needs to deal with the sales function. This implies that the course discusses not only sales issues, but the relationship of sales with R&D, marketing, corporate management, IT and even public affairs. This course employs mixed teaching methods, with some live lectures and recorded lectures. Instead of an exam, the students do a learning diary, search and analyze academic literature, analyze a case company of their choice and involve in social activity (discussion forums, self-organized seminars) around the course topics.

**Assessment Methods and Criteria:** Course assignments 100%

**Study Material:** Collection of articles assigned by the lecturer.

**Substitutes for Courses:** Replaces the courses TU-91.2040, TU-91.2031 and TU-91.2046

**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E4080

**Prerequisites:** N/A

**Evaluation:** 1-5 · Courses

**Registration for Courses:** Registration with WedOodi ends 7 days after the start of the period. A maximum of 60 students are admitted. Students are given priority as follows:
1) Aalto Ventures Program Minor/Startup minor or Creativity and Venturing –minor
2) Master’s level students majoring in Industrial Engineering and Management
3) other students (who meet the prerequisites) in order of registration.

**Language of Instruction:** English

**Further Information:** Please check the course homepage for the location of the lectures.

**TU-E4090 Managing Innovative Sales, exercises (3 cr)**

**Responsible teacher:** Petri Parvinen

**Status of the Course:** Optional course in minors of Creativity & Venturing and Aalto Ventures Program Minor/Startup minor.

Master's Programme in Industrial Engineering and Management, optional course
Optional course in the minor studies of sales and sales management

**Level of the Course:** Master's level

**Teaching period:** II (Autumn 2017)

**Workload:** 3 cr 81 hours: 39h workshops
Learning Outcomes: An intensive training on personal selling techniques for a limited number of students forms the core of the course. After the workshops, students feel more competent, comfortable and aware of performing well in a sales interaction. The teaching is knowledge oriented and contains a presentation and a reflection of individual performance.

Content: This course deepens the knowledge about and skills in the area of innovative sales management. Ideally designed for students with some exposure to the area and topic of sales, this course gives you the necessary skills and knowledge to start executing sales management actions in various types of organizations, including startup companies. Key contents contain finding one’s own sales approach, listening, authority, liaisoning and networking for sales as well as high-powered persuasive sales.

Assessment Methods and Criteria: Evaluation of participation in workshops (100 %).

Study Material: Collection of articles assigned by the lecturer.

Substitutes for Courses: Replaces the courses TU-91.2040, TU-91.2031 and TU-91.2046

Prerequisites: TU-E4080 Managing Innovative Sales is a valuable knowledge asset for the course and is highly recommended either before or simultaneously. Also recommended TU-C8250 Sales and Marketing, TU-91.2500 Marketing or equivalent

Evaluation: 0-5

Registration for Courses: Registration with WebOodi ends 7 days before the start of the period. A maximum of 30 students are admitted. 1) Aalto Ventures Program Minor/Startup minor or Creativity and Venturing –minor 2) Master’s level students majoring in Industrial Engineering and Management 3) other students (who meet the prerequisites) in order of registration.

Language of Instruction: English

Further Information: Please check the course homepage for the location of the workshops.
This course is a workshop course with professional external sales trainers. The grading is 1-5, which reflects the role of the course as a performance-oriented skills course.

**Studiematerial:** Collection of articles assigned by the lecturer.

**Ersättande prestationer:** Replaces the courses TU-91.2040, TU-91.2031 and TU-91.2046

**Förkunskaper:** TU-E4080 Managing Innovative Sales is a valuable knowledge asset for the course and is highly recommended either before or simultaneously. Also recommended TU-C8250 Sales and Marketing, TU-91.2500 Marketing or equivalent

**Bedömningskala:** 0-5

**Anmälning:** Registration with WebOodi ends 7 days before the start of the period. A maximum of 30 students are admitted. 1) Aalto Ventures Program Minor/Startup minor or Creativity and Venturing –minor 2) Master’s level students majoring in Industrial Engineering and Management 3) other students (who meet the prerequisites) in order of registration.

**Undervisningsspråk:** English

**Tilläggsinformation:** Please check the course homepage for the location of the workshops.

**TU-E4090 Managing Innovative Sales, exercises (3 cr)**

**Responsible teacher:** Petri Parvinen

**Status of the Course:** Optional course in minors of Creativity & Venturing and Aalto Ventures Program Minor/Startup minor.

Master’s Programme in Industrial Engineering and Management, optional course

Optional course in the minor studies of sales and sales management

**Level of the Course:** Master’s level

**Teaching Period:** II (Autumn 2017)

**Workload:** 3 cr 81 hours: 39h workshops

40 field work

2 h feedback

**Learning Outcomes:** An intensive training on personal selling techniques for a limited number of students forms the core of the course. After the workshops, students feel more competent, comfortable and aware of performing well in a sales interaction. The teaching is knowledge oriented and contains a presentation and a reflection of individual performance.

**Content:** This course deepens the knowledge about and skills in the area of innovative sales management. Ideally designed for students with some exposure to the area and topic of sales, this course gives you the necessary skills and knowledge to start executing sales management actions in various types of organizations, including startup companies. Key contents contain finding one’s own sales approach, listening, authority, liaisoning and networking for sales as well as high-powered persuasive sales.

**Assessment Methods and Criteria:** Evaluation of participation in workshops (100 %). This course is a workshop course with professional external sales trainers. The grading is 1-5, which reflects the role of the course as a performance-oriented skills course.

**Study Material:** Collection of articles assigned by the lecturer.

**Substitutes for Courses:** Replaces the courses TU-91.2040, TU-91.2031 and TU-91.2046

**Prerequisites:** TU-E4080 Managing Innovative Sales is a valuable knowledge asset for the course and is highly recommended either before or simultaneously. Also recommended TU-C8250 Sales and Marketing, TU-91.2500 Marketing or equivalent

**Grading Scale:** 0-5

**Registration for Courses:** Registration with WebOodi ends 7 days before the start of the period. A maximum of 30 students are admitted. 1) Aalto Ventures Program Minor/Startup minor or Creativity and Venturing –minor 2) Master’s level students majoring in Industrial Engineering and Management 3) other students (who meet the
prerequisites) in order of registration.

Language of Instruction: English

Further Information: Please check the course homepage for the location of the workshops.

TU-E4100 Startup Experience (9 cr)

Responsible teacher: Olli Mutanen

Status of the Course: Optional course of the Aalto Ventures Program minor/Startup minor, EIT Master’s Programme in ICT Innovation (mandatory BDL course for the EIT Digital students)

Level of the Course: Master’s level, Doctoral level

Teaching period: III-IV (Spring 2018)

Workload: For 9 ects, the workload is 240 hours of student work. The workload distribution is:

• Individual and group work: 180 h
• Applied lectures: 45 h
• Pitching sessions: 15h

Learning Outcomes:

Course provides students both insight and experience in the entrepreneurial process by combining two key aspects of entrepreneurship:

• Discovering business opportunities and creating customer value
• Setting up and managing the organization for delivering the customer value

The pedagogy is experiential, hands-on learning which exposes students (as far as possible) to real-world challenges and overcoming them using the entrepreneurial process

EIT Overarching Learning Outcomes (OLOs):

• [E]ntrepreneurship skills and competencies: The ability to translate innovations into feasible business solutions.
• [C]reativity skills and competencies: The ability to think beyond boundaries and systematically explore and generate new ideas.
• [I]nnovation skills and competencies: The ability to use knowledge, ideas and technology to create new or significantly improved products, services, processes, policies, new business models or jobs.
• [L]eadership skills and competencies: The ability of decision-making and leadership, based on a holistic understanding of the contributions of Higher Education, research and business to value creation, in limited sized teams and contexts.
• Making [V]alue judgments and sustainability competencies: The ability to identify short and long term future consequences of plans and decisions from an integrated scientific, ethical and intergenerational perspective and to merge this into a solution-focused approach, moving towards a

EIT Intended Learning Outcomes (ILOs):

• [C, E] The ability to explore and create ideas or modify existing ideas for business concepts and organizations with a customer/user-centric perspective.
• [I] The understanding of product/services design processes, methods and tools and the ability to apply them for the development of a new product or service concept with a customer/user-centric perspective.
• [I] The ability to recognize, address and suggest means to tackle diverse challenges in the process of leveraging a technology into a business.
• [E] The ability to perform a business concept design process (business modelling and value proposition iterative design).
• [E] The ability to perform a business solution planning and development process (dynamics of developing the business, organization needed to implement it, go-to-market).
• [V] The ability to include ethical, societal and sustainability considerations when developing a new product/technology and business concepts and models, and the required implementing organizations.
• [L] The ability to use (oral) communication, decision-making (strategic thinking) and leadership competencies through personal growth process while transforming new ideas into business concepts and the required implementing organizations.
• [L] The ability to reflect upon the applicability of used concepts, methods and tools in the context of their project.
• [L] The ability to work in teams and to reflect upon team dynamics, team processes and conflicts resolution.
• [L] The ability to work in multi-disciplinary teams and in different roles.

Content: As an entrepreneur you have two main tasks:
• Discover what your customers and users value and then create and deliver that value for them.
• Set up and run a startup organization to achieve goal number 1.

Most entrepreneurial courses treat these two aspects separately but the Startup Experience course combines them into an integrated learning experience. In this course you will become part of a small start-up team that works on discovering, validating and creating value for customers, and in parallel manages the team as if it was a real small company.

The course introduces business and organizational development in phases starting from opportunity recognition and ending with an investor pitch. Central subjects introduced in the course include:
• Opportunity recognition, creativity techniques, user-centred product/service design
• Practical use of tools for value assessment and business modeling such as VPC and BMC
• Methods and tools for customer discovery, customer validation, market and competitors analysis, evidence-based decision making and lean development
• Other business planning concepts, methods and tools (strategy, marketing, go-to-market, risks)
• Business ethics and sustainability, value based leadership and values in marketing and in building company brand
• Entrepreneurial finance concepts, methods and tools (cash flow management, financial scenarios)
• IP and intellectual assets management
• Pitching and oral communication

Assessment Methods and Criteria:
The course is graded based on both team and personal performance.
Team performance is measured based on
• the customer value creation process (assessed in bi-weekly pitches)
• key company deliverables (including marketing campaign, shareholders agreement, cash flow plan, etc.)

Personal performance is evaluated based on
• COO performance (each student will act as the company COO for a specific assignment, the students performance in the assignment is based on the outcome of the assignment as well as personal reflection on the management process and learning)
• Mid-term written exam and final oral exam

The student's total grade is the team-grade and a personal adjustment (-1, 0 or +1 grade) based on the students personal performance.

Grading Criteria include:
• [C] Invents or finds solutions to address and solve main challenges related to course project (customer problem, functionality, business model, development, etc.)
• [I] Drives his project according to the dimensions of (1) customer problem/solution discovery (including in relation to the product technical development) and (2) market discovery (related to strategic thinking) in ways that are relevant for the situation.
• [E] Systematically uses analytical business skills to recognize, assess and/or develop business opportunities in relation to all dimensions covered in his project/study/activity: market, customers, competition, environment, human, and material and technical resources.

• [L] Is able to initiate and carry out design projects, achieve milestones, do problem solving, understand team roles, handle conflicts, negotiate, have good verbal, written and visual communication skills, ability to interact with stakeholders.

• [V] Relate the value proposed in his project/study/activity to all relevant stakeholders including producers, customers, shareholders, communities, ecological systems and policies as appropriate

Study Material: Online materials distributed via MyCourses and EIT Digital Online Courses portal.

Substitutes for Courses: Replaces the courses 25E44000, T-128.5400 and T-106.5750

Prerequisites: For AVP Students basic knowledge of startups from e.g. previous AVP courses, self-study or working experience. For EIT students according to general prerequisites for EIT Digital Master School programs (e.g. former attendance to the I&E Basics module).

Evaluation: 1-5 · Opintojaksot

Registration for Courses: WebOodi and additional application form. The number of participants will be limited. Registrations will be prioritized in the following order: The students that have the course as a mandatory part of their study program will be prioritized first. The students that are participating in the Aalto Ventures Program minor/Startup minor will be prioritized second. After this, all students are prioritized based on their application information. For more info, please refer to Mycourses and AVP web-site http://avp.aalto.fi

Language of Instruction: English

TU-E4100 Startup Experience (9 sp)

Ansvarig lärare: Olli Mutanen

Kursens status: Optional course of the Aalto Ventures Program minor/Startup minor, EIT Master’s Programme in ICT Innovation (mandatory BDL course for the EIT Digital students)

Kursnivå: Master’s level, Doctoral level

Undervisningsperiod: III-IV (Spring 2018)

Arbetsmängd: For 9 ects, the workload is 240 hours of student work. The workload distribution is: • Individual and group work: 180 h • Applied lectures: 45 h • Pitching sessions: 15h

Lärandemål: Course provides students both insight and experience in the entrepreneurial process by combining two key aspects of entrepreneurship: Discovering business opportunities and creating customer value Setting up and managing the organization for delivering the customer value The pedagogy is experiential, hands-on learning which exposes students (as far as possible) to real-world challenges and overcoming them using the entrepreneurial process

EIT Overarching Learning Outcomes (OLOs):
• [E]ntrepreneurship skills and competencies: The ability to translate innovations into feasible business solutions.
• [C]reativity skills and competencies: The ability to think beyond boundaries and systematically explore and generate new ideas.
• [I]nnovation skills and competencies: The ability to use knowledge, ideas and technology to create new or significantly improved products, services, processes, policies, new business models or jobs.
• [L]eadership skills and competencies: The ability of decision-making and leadership, based on a holistic understanding of the contributions of Higher Education, research and business to value creation, in limited sized teams and contexts.
• Making [V]alue judgments and sustainability competencies: The ability to identify short and long term future consequences of plans and decisions from an integrated scientific, ethical and intergenerational perspective and to merge this into a solution-focused approach, moving towards a EIT Intended Learning Outcomes (ILOs):
  • [C, E] The ability to explore and create ideas or modify existing ideas for business concepts and organizations with a customer/user-centric perspective.
  • [I] The understanding of product/services design processes, methods and tools and the ability to apply them for the development of a new product or service concept with a customer/user-centric perspective.
  • [I] The ability to recognize, address and suggest means to tackle diverse challenges in the process of leveraging a technology into a business.
  • [E] The ability to perform a business concept design process (business modelling and value proposition iterative design).
  • [E] The ability to perform a business solution planning and development process (dynamics of developing the business, organization needed to implement it, go-to-market).
  • [V] The ability to include ethical, societal and sustainability considerations when developing a new product/technology and business concepts and models, and the required implementing organizations.
  • [L] The ability to use (oral) communication, decision-making (strategic thinking) and leadership competencies through personal growth process while transforming new ideas into business concepts and the required implementing organizations.
  • [L] The ability to reflect upon the applicability of used concepts, methods and tools in the context of their project.
  • [L] The ability to work in teams and to reflect upon team dynamics, team processes and conflicts resolution.
  • [L] The ability to work in multi-disciplinary teams and in different roles.

Innehåll: As an entrepreneur you have two main tasks:
• Discover what your customers and users value and then create and deliver that value for them.
• Set up and run a startup organization to achieve goal number 1.
Most entrepreneurial courses treat these two aspects separately but the Startup Experience course combines them into an integrated learning experience. In this course you will become part of a small start-up team that works on discovering, validating and creating value for customers, and in parallel manages the team as if it was a real small company.
The course introduces business and organizational development in phases starting from opportunity recognition and ending with an investor pitch. Central subjects introduced in the course include:
• Opportunity recognition, creativity techniques, user-centred product/service design
• Practical use of tools for value assessment and business modeling such as VPC and BMC
• Methods and tools for customer discovery, customer validation, market and competitors analysis, evidence-based decision making and lean development
• Other business planning concepts, methods and tools (strategy, marketing, go-to-market, risks)
• Business ethics and sustainability, value based leadership and values in marketing and in building company brand
• Entrepreneurial finance concepts, methods and tools (cash flow management, financial scenarios)
• IP and intellectual assets management
• Pitching and oral communication

Metoder, arbetssätt och bedömningsgrunder:
The course is graded based on both team and personal performance. Team performance is measured based on

- the customer value creation process (assessed in bi-weekly pitches)
- key company deliverables (including marketing campaign, shareholders agreement, cash flow plan, etc.)

Personal performance is evaluated based on

- COO performance (each student will act as the company COO for a specific assignment, the students performance in the assignment is based on the outcome of the assignment as well as personal reflection on the management process and learning)
- Mid-term written exam and final oral exam

The student’s total grade is the team-grade and a personal adjustment (-1, 0 or +1 grade) based on the students personal performance.

Grading Criteria include:

- [C] Invents or finds solutions to address and solve main challenges related to course project (customer problem, functionality, business model, development, etc.)
- [I] Drives his project according to the dimensions of (1) customer problem/solution discovery (including in relation to the product technical development) and (2) market discovery (related to strategic thinking) in ways that are relevant for the situation.
- [E] Systematically uses analytical business skills to recognize, assess and/or develop business opportunities in relation to all dimensions covered in his project/study/activity: market, customers, competition, environment, human, and material and technical resources.
- [L] Is able to initiate and carry out design projects, achieve milestones, do problem solving, understand team roles, handle conflicts, negotiate, have good verbal, written and visual communication skills, ability to interact with stakeholders.
- [V] Relate the value proposed in his project/study/activity to all relevant stakeholders including producers, customers, shareholders, communities, ecological systems and policies as appropriate

Studiematerial: Online materials distributed via MyCourses and EIT Digital Online Courses portal.

Ersättande prestationer: Replaces the courses 25E44000, T-128.5400 and T-106.5750

Förkunskaper: For AVP Students basic knowledge of startups from e.g. previous AVP courses, self-study or working experience. For EIT students according to general prerequisites for EIT Digital Master School programs (e.g. former attendance to the I&E Basics module).

Bedömningsskala: 1-5 · Studieperioder

Anmälning: WebOodi and additional application form. The number of participants will be limited. Registrations will be prioritized in the following order: The students that have the course as a mandatory part of their study program will be prioritized first. The students that are participating in the Aalto Ventures Program minor/Startup minor will be prioritized second. After this, all students are prioritized based on their application information. For more info, please refer to Mycourses and AVP web-site http://avp.aalto.fi

Undervisningsspråk: English

TU-E4100 Startup Experience (9 cr)

Responsible teacher: Olli Mutanen

Status of the Course: Optional course of the Aalto Ventures Program minor/Startup minor, EIT Master’s Programme in ICT Innovation (mandatory BDL course for the EIT Digital students)
Level of the Course: Master’s level, Doctoral level  
Teaching Period: III-IV (Spring 2018)  
Workload: For 9 ects, the workload is 240 hours of student work. The workload distribution is:  
• Individual and group work: 180 h  
• Applied lectures: 45 h  
• Pitching sessions: 15h  
Learning Outcomes:  
Course provides students both insight and experience in the entrepreneurial process by combining two key aspects of entrepreneurship:  
Discovering business opportunities and creating customer value  
Setting up and managing the organization for delivering the customer value  
The pedagogy is experiential, hands-on learning which exposes students (as far as possible) to real-world challenges and overcoming them using the entrepreneurial process  
EIT Overarching Learning Outcomes (OLOs):  
• [E]ntrepreneurship skills and competencies: The ability to translate innovations into feasible business solutions.  
• [C]reativity skills and competencies: The ability to think beyond boundaries and systematically explore and generate new ideas.  
• [I]nnovation skills and competencies: The ability to use knowledge, ideas and technology to create new or significantly improved products, services, processes, policies, new business models or jobs.  
• [L]eadership skills and competencies: The ability of decision-making and leadership, based on a holistic understanding of the contributions of Higher Education, research and business to value creation, in limited sized teams and contexts.  
• Making [V]alue judgments and sustainability competencies: The ability to identify short and long term future consequences of plans and decisions from an integrated scientific, ethical and intergenerational perspective and to merge this into a solution-focused approach, moving towards a  
EIT Intended Learning Outcomes (ILOs):  
• [C, E] The ability to explore and create ideas or modify existing ideas for business concepts and organizations with a customer/user-centric perspective.  
• [I] The understanding of product/services design processes, methods and tools and the ability to apply them for the development of a new product or service concept with a customer/user-centric perspective.  
• [I] The ability to recognize, address and suggest means to tackle diverse challenges in the process of leveraging a technology into a business.  
• [E] The ability to perform a business concept design process (business modelling and value proposition iterative design).  
• [E] The ability to perform a business solution planning and development process (dynamics of developing the business, organization needed to implement it, go-to-market).  
• [V] The ability to include ethical, societal and sustainability considerations when developing a new product/technology and business concepts and models, and the required implementing organizations.  
• [L] The ability to use (oral) communication, decision-making (strategic thinking) and leadership competencies through personal growth process while transforming new ideas into business concepts and the required implementing organizations.  
• [L] The ability to reflect upon the applicability of used concepts, methods and tools in the context of their project.  
• [L] The ability to work in teams and to reflect upon team dynamics, team processes and conflicts resolution.  
• [L] The ability to work in multi-disciplinary teams and in different roles.  
Content: As an entrepreneur you have two main tasks:  
• Discover what your customers and users value and then create and deliver that value
for them.
• Set up and run a startup organization to achieve goal number 1.
Most entrepreneurial courses treat these two aspects separately but the Startup Experience course combines them into an integrated learning experience. In this course you will become part of a small start-up team that works on discovering, validating and creating value for customers, and in parallel manages the team as if it was a real small company.
The course introduces business and organizational development in phases starting from opportunity recognition and ending with an investor pitch. Central subjects introduced in the course include:
• Opportunity recognition, creativity techniques, user-centred product/service design
• Practical use of tools for value assessment and business modeling such as VPC and BMC
• Methods and tools for customer discovery, customer validation, market and competitors analysis, evidence-based decision making and lean development
• Other business planning concepts, methods and tools (strategy, marketing, go-to-market, risks)
• Business ethics and sustainability, value based leadership and values in marketing and in building company brand
• Entrepreneurial finance concepts, methods and tools (cash flow management, financial scenarios)
• IP and intellectual assets management
• Pitching and oral communication

Assessment Methods and Criteria:
The course is graded based on both team and personal performance.
Team performance is measured based on
• the customer value creation process (assessed in bi-weekly pitches)
• key company deliverables (including marketing campaign, shareholders agreement, cash flow plan, etc.)
Personal performance is evaluated based on
• COO performance (each student will act as the company COO for a specific assignment, the students performance in the assignment is based on the outcome of the assignment as well as personal reflection on the management process and learning)
• Mid-term written exam and final oral exam
The student’s total grade is the team-grade and a personal adjustment (-1, 0 or +1 grade) based on the students personal performance.
Grading Criteria include:
• [C] Invents or finds solutions to address and solve main challenges related to course project (customer problem, functionality, business model, development, etc.)
• [I] Drives his project according to the dimensions of (1) customer problem/solution discovery (including in relation to the product technical development) and (2) market discovery (related to strategic thinking) in ways that are relevant for the situation.
• [E] Systematically uses analytical business skills to recognize, assess and/or develop business opportunities in relation to all dimensions covered in his project/study/activity: market, customers, competition, environment, human, and material and technical resources.
• [L] Is able to initiate and carry out design projects, achieve milestones, do problem solving, understand team roles, handle conflicts, negotiate, have good verbal, written and visual communication skills, ability to interact with stakeholders.
• [V] Relate the value proposed in his project/study/activity to all relevant stakeholders including producers, customers, shareholders, communities,
ecological systems and policies as appropriate

**Study Material:** Online materials distributed via MyCourses and EIT Digital Online Courses portal.

**Substitutes for Courses:** Replaces the courses 25E44000, T-128.5400 and T-106.5750

**Prerequisites:** For AVP Students basic knowledge of startups from e.g. previous AVP courses, self-study or working experience. For EIT students according to general prerequisites for EIT Digital Master School programs (e.g. former attendance to the I&E Basics module).

**Evaluation:** 1-5 · Courses

**Registration for Courses:** WebOodi and additional application form. The number of participants will be limited. Registrations will be prioritized in the following order: The students that have the course as a mandatory part of their study program will be prioritized first. The students that are participating in the Aalto Ventures Program minor/Startup minor will be prioritized second. After this, all students are prioritized based on their application information. For more info, please refer to Mycourses and AVP web-site [http://avp.aalto.fi](http://avp.aalto.fi)

**Language of Instruction:** English

**TU-E4110 Aalto Fellows (5 cr)**

**Status of the Course:** Aalto Ventures Program/Startup Minor, optional course

**Level of the Course:** Master’s level

**Teaching period:** V (Spring 2018)

**Workload:** 5 ECTS, 135hrs

- 35h lectures
- 35h in-class group work and workshops
- 50h site visit workshops
- 15h online forum interaction

**Learning Outcomes:** This course is part of Aalto Fellows Program, a six-month study and work program at designed to develop a theoretical and practical understanding of the techniques for growing technology companies. The course offers comprehensive entrepreneurship education regarding the key principles of leadership, innovation, selling, finance, and creativity. The program will enable the Fellows to develop their core skill sets of an entrepreneur. Each Fellow will develop their skills by leveraging the knowledge and perspectives from professors, company executives, venture capitalists, and industry experts. You will experience the high-growth environment. The intensive course and the workshops represent learning that is multifaceted and holistic, encompassing remembering, understanding, analyzing, synthesizing, receiving and responding.

**Content:** Aalto Fellows (Part A) is an intensive course given before the summer by leading start-up growth experts and investors and the workshop that each Fellow organizes during the summer. It consists of knowledge contents in the domains of startup-related leadership, self-development, domain-specific legal and finance, growth stories, storytelling, problem-solving and acceleration in practice.

**Assessment Methods and Criteria:** 50%: Quality and level of participation during the intensive period and on the Aalto Fellows Forum, 50%: Workshop organization and execution

**Study Material:** Collection of articles and links assigned by the lecturer.

**Evaluation:** 1-5 · Opintojaksot

**Registration for Courses:** Attendance is mandatory. Course is limited to the candidates selected to the Aalto Fellows Program. For more information on the course and application procedure, please visit avp.aalto.fi.

**Language of Instruction:** English

**TU-E4110 Aalto Fellows (5 sp)**

**Kursens status:** Aalto Ventures Program/Startup Minor, optional course

**Kursnivå:** Master’s level
**Undervisningsperiod:** V (Spring 2018)

**Arbetsmängd:** 5 ECTS, 135hrs

35h lectures
35h in-class group work and workshops
50h site visit workshops
15h online forum interaction

**Lärandemål:** This course is part of Aalto Fellows Program, a six-month study and work program at designed to develop a theoretical and practical understanding of the techniques for growing technology companies. The course offers comprehensive entrepreneurship education regarding the key principles of leadership, innovation, selling, finance, and creativity. The program will enable the Fellows to develop their core skill sets of an entrepreneur. Each Fellow will develop their skills by leveraging the knowledge and perspectives from professors, company executives, venture capitalists, and industry experts. You will experience the high-growth environment. The intensive course and the workshops represent learning that is multifaceted and holistic, encompassing remembering, understanding, analyzing, synthesizing, receiving and responding.

**Innehåll:** Aalto Fellows (Part A) is an intensive course given before the summer by leading start-up growth experts and investors and the workshop that each Fellow organizes during the summer. It consists of knowledge contents in the domains of startup-related leadership, self-development, domain-specific legal and finance, growth stories, storytelling, problem-solving and acceleration in practice.

**Metoder, arbetssätt och bedömningsgrunder:** 50%: Quality and level of participation during the intensive period and on the Aalto Fellows Forum,
50%: Workshop organization and execution

**Studiematerial:** Collection of articles and links assigned by the lecturer.

**Bedömningsskala:** 1-5 · Studieperioder

**Anmäling:** Attendance is mandatory. Course is limited to the candidates selected to the Aalto Fellows Program. For more information on the course and application procedure, please visit avp.aalto.fi.

**Undervisningsspråk:** English

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**TU-E4110 Aalto Fellows (5 cr)**

**Status of the Course:** Aalto Ventures Program/Startup Minor, optional course

**Level of the Course:** Master’s level

**Teaching Period:** V (Spring 2018)

**Workload:** 5 ECTS, 135hrs

35h lectures
35h in-class group work and workshops
50h site visit workshops
15h online forum interaction

**Learning Outcomes:** This course is part of Aalto Fellows Program, a six-month study and work program at designed to develop a theoretical and practical understanding of the techniques for growing technology companies. The course offers comprehensive entrepreneurship education regarding the key principles of leadership, innovation, selling, finance, and creativity. The program will enable the Fellows to develop their core skill sets of an entrepreneur. Each Fellow will develop their skills by leveraging the knowledge and perspectives from professors, company executives, venture capitalists, and industry experts. You will experience the high-growth environment. The intensive course and the workshops represent learning that is multifaceted and holistic, encompassing remembering, understanding, analyzing, synthesizing, receiving and responding.

**Content:** Aalto Fellows (Part A) is an intensive course given before the summer by leading start-up growth experts and investors and the workshop that each Fellow organizes during the summer. It consists of knowledge contents in the domains of startup-related leadership, self-development, domain-specific legal and finance, growth stories, storytelling, problem-solving and acceleration in practice.
Assessment Methods and Criteria: 50%: Quality and level of participation during the intensive period and on the Aalto Fellows Forum,
50%: Workshop organization and execution
Study Material: Collection of articles and links assigned by the lecturer.
Evaluation: 1-5 · Courses
Registration for Courses: Attendance is mandatory. Course is limited to the candidates selected to the Aalto Fellows Program. For more information on the course and application procedure, please visit avp.aalto.fi.
Language of Instruction: English

TU-E4120 Aalto Fellows II (5 op)
Kurssin asema: Aalto Ventures Program minor/Startup minor, optional course.
Kurssin taso: Master's level
Opetusperiodi: I (Autumn 2017)
Työmäärä toteutustavoittain: 5 ECTS, 135hrs
20h planning and organizing group work
20h individual preparatory work
75h project
20h written and oral reflection
Osaamistavoitteet: The Aalto Fellows Program is a comprehensive entrepreneurship education regarding the key principles of leadership, innovation, selling, finance, and creativity. The program will enable the Fellows to develop their core skill sets of an entrepreneur. Each Fellow will develop their skills by leveraging the knowledge and perspectives from professors, company executives, venture capitalists, and industry experts.

Sisältö: This course is the Part B of the Aalto Fellows Program, a six-month study and work program designed to develop a theoretical and practical understanding of the techniques for growing technology companies. This Part B of the program is a reflective course, where candidates report, analyze and reflect the learnings from their study trip to a leading global startup hub and their entrepreneurial activities on behalf of their commissioning partner companies. Also, candidates report, analyze and reflect on their learnings over the entire six-month-long Program, especially on issues related to startup leadership, self-development, domain-specific legal and finance, growth stories, storytelling, problem-solving and acceleration in practice.

Toteutus, työmuodot ja arvosteluperusteet: 40%: Project reporting, 40%: Personal growth reflection essay, 20% Final oral group reflection
Oppimateriaali: Collection of articles and links assigned by the lecturer
Arvosteluasteikko: 1-5
Ilmoittautuminen: Attendance is mandatory. Course is limited to the candidates selected of Aalto Fellows Program. For more information on the course and application procedure, please visit avp.aalto.fi.

TU-E4120 Aalto Fellows II (5 sp)
Kursens status: Aalto Ventures Program minor/Startup minor, optional course.
Kursnivå: Master’s level
Undervisningsperiod: I (Autumn 2017)
Arbetsmängd: 5 ECTS, 135hrs
20h planning and organizing group work
20h individual preparatory work
75h project
20h written and oral reflection
Lärandemål: The Aalto Fellows Program is a comprehensive entrepreneurship education regarding the key principles of leadership, innovation, selling, finance, and creativity. The program will enable the Fellows to develop their core skill sets of an entrepreneur. Each
Fellow will develop their skills by leveraging the knowledge and perspectives from professors, company executives, venture capitalists, and industry experts.

Innehåll: This course is the Part B of the Aalto Fellows Program, a six-month study and work program designed to develop a theoretical and practical understanding of the techniques for growing technology companies.

This Part B of the program is a reflective course, where candidates report, analyze and reflect the learnings from their study trip to a leading global startup hub and their entrepreneurial activities on behalf of their commissioning partner companies. Also, candidates report, analyze and reflect on their learnings over the entire six-month-long Program, especially on issues related to startup leadership, self-development, domain-specific legal and finance, growth stories, storytelling, problem-solving and acceleration in practice.

Metoder, arbetssätt och bedömningsgrunder: 40%: Project reporting, 40%: Personal growth reflection essay, 20% Final oral group reflection

Studiematerial: Collection of articles and links assigned by the lecturer

Bedömningsskala: 1-5

Anmälning: Attendance is mandatory. Course is limited to the candidates selected of Aalto Fellows Program. For more information on the course and application procedure, please visit avp.aalto.fi.

TU-E4120 Aalto Fellows II (5 cr)

Status of the Course: Aalto Ventures Program minor/Startup minor, optional course.

Level of the Course: Master's level

Teaching Period: I (Autumn 2017)

Workload: 5 ECTS, 135hrs

20h planning and organizing group work

20h individual preparatory work

75h project

20h written and oral reflection

Learning Outcomes: The Aalto Fellows Program is a comprehensive entrepreneurship education regarding the key principles of leadership, innovation, selling, finance, and creativity. The program will enable the Fellows to develop their core skill sets of an entrepreneur. Each Fellow will develop their skills by leveraging the knowledge and perspectives from professors, company executives, venture capitalists, and industry experts.

Content: This course is the Part B of the Aalto Fellows Program, a six-month study and work program designed to develop a theoretical and practical understanding of the techniques for growing technology companies.

This Part B of the program is a reflective course, where candidates report, analyze and reflect the learnings from their study trip to a leading global startup hub and their entrepreneurial activities on behalf of their commissioning partner companies. Also, candidates report, analyze and reflect on their learnings over the entire six-month-long Program, especially on issues related to startup leadership, self-development, domain-specific legal and finance, growth stories, storytelling, problem-solving and acceleration in practice.

Assessment Methods and Criteria: 40%: Project reporting, 40%: Personal growth reflection essay, 20% Final oral group reflection

Study Material: Collection of articles and links assigned by the lecturer

Grading Scale: 1-5

Registration for Courses: Attendance is mandatory. Course is limited to the candidates selected of Aalto Fellows Program. For more information on the course and application procedure, please visit avp.aalto.fi.

TU-E6010 Philosophy (3 cr)

Responsible teacher: Esa Saarinen
Status of the Course: Master's Programme in Information Networks, compulsory course of the major.

Level of the Course: Master's level.

Teaching period: I-II (Autumn 2017)

Workload:
- Lectures 20 h
- Independent studying 20 h
- Learning diaries: 10 h
- Essays 30 h

Learning Outcomes: The course aims to make participants more aware of the philosophical questions in their everyday life, more knowledgeable about different ways to answer these questions, more capable to critically evaluate and reflect on these questions independently, more understanding of other viewpoints, and thus overall strengthen the participants’ capacity to live their own lives in a more self-chosen and virtuous way.

Content: The course is mainly based on western philosophical tradition but emphasizes students’ own thinking.

Assessment Methods and Criteria: Learning diaries and an essay at the end based on the course material.

Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E6010

Evaluation: 1-5 · Opintojakso

Registration for Courses: The course is intended mainly for students majoring in Information Networks. Other students (who meet the prerequisites) are admitted in order of registration.

Language of Instruction: English

TU-E6010 Philosophy (3 sp)

Ansvarig lärare: Esa Saarinen

Kursens status: Master's Programme in Information Networks, compulsory course of the major.

Kursnivå: Master's level.

Undervisningsperiod: I-II (Autumn 2017)

Arbetsmängd:
- Lectures 20 h
- Independent studying 20 h
- Learning diaries: 10 h
- Essays 30 h

Lärandemål: The course aims to make participants more aware of the philosophical questions in their everyday life, more knowledgeable about different ways to answer these questions, more capable to critically evaluate and reflect on these questions independently, more understanding of other viewpoints, and thus overall strengthen the participants’ capacity to live their own lives in a more self-chosen and virtuous way.

Innehåll: The course is mainly based on western philosophical tradition but emphasizes students’ own thinking.

Metoder, arbetssätt och bedömningsgrunder: Learning diaries and an essay at the end based on the course material.


Bedömningsskala: 1-5 · Studieperioder

Anmälning: The course is intended mainly for students majoring in Information Networks. Other students (who meet the prerequisites) are admitted in order of registration.

Undervisningsspråk: English

TU-E6010 Philosophy (3 cr)

Responsible teacher: Esa Saarinen
Status of the Course: Master's Programme in Information Networks, compulsory course of the major.
Level of the Course: Master's level.
Teaching Period: I-II (Autumn 2017)
Workload:
Lectures 20 h
Independent studying 20 h
Learning diaries: 10 h
Essays 30 h
Learning Outcomes: The course aims to make participants more aware of the philosophical questions in their everyday life, more knowledgeable about different ways to answer these questions, more capable to critically evaluate and reflect on these questions independently, more understanding of other viewpoints, and thus overall strengthen the participants’ capacity to live their own lives in a more self-chosen and virtuous way.
Content: The course is mainly based on western philosophical tradition but emphasizes students’ own thinking.
Assessment Methods and Criteria: Learning diaries and an essay at the end based on the course material.
Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E6010
Language of Instruction: English
TU-E6080 Master’s Thesis Seminar (1-2 cr)
Responsible teacher: Riitta Smeds
Status of the Course: Informaatioverkostojen DI-ohjelma, Informaatioverkostojen pääaine, vapaaehtoinen kurssi, tuotantotaulouden DI-ohjelma, vapaaehtoinen kurssi
Teaching Period: I-V (lukuvuosi 2017-2018)
Workload: 1 op:n laajuus: seminaari-istunnot 20 (2) itsenäinen työskentely 15, 2 op:n laajuus: seminaari-istunnot 20 (2) itsenäinen työskentely 35
Content: Diplomityöseminaari tukee opiskelijan diplomaityön kirjoittamista koko diplomaityöprosessin ajan. Johdantoluento käsittelee tieteellistä päättelyä, tutkimusotteita ja menetelmiä, sekä tieteellisen raportin rakennetta. Seminaari-istunnoissa opiskelija pitää neljä esitystä: 1) hän arvioi ja esittelee valitsemanan verrokkiopinnätteen, 2) hän esittää oman diplomaityönsä tutkimusnuunnitelman, 2) hän esittää oman diplomaityönsä väliversion sekä 4) hän pitää diplomaityöesitelmän valmiista diplomaityöstään. Lisäksi hän toimii toisen opiskelijan väliversion vertaisarvioijana. Laajemman 2 op:n kursin suorittaaja kirjoittaa tutkimuspäiväkirjan oman diplomaityönsä etenemisestä seminaariprosessin aikana.
Assessment Methods and Criteria: Vaaditut seminaariesitykset ja aktiivinen osallistuminen seminaaritilaisuuksiin, Tutkimuspäiväkirja omasta diplomaityöstä (vain 2 op:n kursin).
Study Material: MyCourses
Substitutes for Courses: TU-124.5500; TU-124.5510
Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E6080
Prerequisites: Kurssi suoritetaan vasta diplomaityövalheessa.
Evaluation: Hyväksytty-hylätty
Registration for Courses: Vain informaatioverkostojen ja tuotantotalouden koulutusohjelman opiskelijoille. Opiskelija voi liittyä seminaarin joustavasti, kun hän aloittaa diplomityönsä tekemisen.

Language of Instruction: Englanti, pyydetäessä suoritettavissa suomeksi tai ruotsiksi

Further Information: Seminaari-istuntoja järjestetään koko lukuvuoden ajan. Syys- ja kevätlukukauden ensimmäisessä istunnossa on johdantoluento.

TU-E6080 Master’s Thesis Seminar (1-2 sp)

Ansvargig lärare: Riitta Smeds
Kursens status: DI-programmet i Informationsnätverk, huvudämnet Informationsnätverk, frivillig kurs; DI-programmetProduktionsekonomi, frivillig kurs.
Undervisningsperiod: I-V (låsåret 2017-2018)
Arbetsmängd: seminariet med 1 sp: seminariesessioner 20 (2) självständigt arbete 15; seminariet med 2 sp: seminariesessioner 20 (2) självständigt arbete 35.
Lärandemål: Genom seminariet kan studenten använda vetenskapliga arbetsprinciper i sitt eget diplomarbete. Han/hon kan jämföra och evaluerar andra läromedelsprov samt skriva och framföra muntligt sitt eget diplomarbete i dess olika skeden. Han/hon kan diskutera forskningen samt ge och ta emot vetenskaplig feedback.

Metoder, arbetsätt och bedömningsgrunder: Seminariesessioner samt aktivt deltagande i seminariesessionerna. Forskningsdagbok (endast för seminariet med 2 sp)
Studiematerial: MyCourses
Ersättande prestationer: TU-124.5500; TU-124.5510
Förkunskaper: Studeranden kan delta i seminariet enbart i diplomarbetetsprocess.
Bedömningsskala: godkänt / icke godkänt
Undervisningsspråk: Engelska, men kan på begäran avläggas på finska eller på svenska.
Tilläggsinformation: Seminariesessioner hålls genom hela läsåret. Vid höst- och vårterminernas första sessioner hålls en inledande föreläsning.

TU-E6080 Master’s Thesis Seminar (1-2 cr)

Responsible teacher: Riitta Smeds
Status of the Course: Master’s Program in Information Networks, Major Information Networks, optional course; Master’s Program in Industrial Engineering and Management, optional course
Teaching Period: I-V (academic year 2017-2018)
Workload: 1 cr seminar: seminar sessions 20 (2) independent work 15; 2 cr seminar: seminar sessions 20 (2) independent work 35.
Learning Outcomes: As a result of the seminar, the student is able to apply the principles of scientific work to his/her own Master’s Thesis. (S)he is able to write and orally present his/her own Thesis in its different phases. The student can evaluate other Master’s Theses, to discuss research and to give and receive feedback about scientific
work.

**Content:** The seminar supports the thesis writing of the student throughout the whole Master's Thesis process. The introductory lecture deals with scientific reasoning, research approaches and methods, and the structure of a scientific report. In the seminar sessions, the student gives four presentations concerning: 1) the evaluation of a finished Master's Thesis 2) the research plan of own Master's Thesis 3) the intermediate version of the Thesis, and 4) the final Thesis (the official Master's Thesis presentation). Each student also peer-reviews another student's intermediate version. To take the more extensive 2 cr seminar, the student writes a research diary about the advancement of his/her thesis work during the seminar process.

**Assessment Methods and Criteria:** The required seminar presentations, and active participation in the sessions. Research diary (only the 2 cr seminar).

**Study Material:** MyCourses

**Substitutes for Courses:** TU-124.5500; TU-124.5510

**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E6080

**Prerequisites:** The course can be taken only in the Master's Thesis phase.

**Grading Scale:** Pass-fail

**Registration for Courses:** Only for the students of the Master's Programmes of Information Networks and Industrial Engineering and Management. The student can join the seminar flexibly when starting to work on his/her Master's Thesis

**Language of Instruction:** English. Upon request Finnish or Swedish.

**Further Information:** Seminar sessions are organized throughout the whole academic year. In the first sessions of the autumn and spring terms, and introductory lecture is held.

**TU-E6110 Management of Networked Business Processes (3-5 cr)**

**Responsible teacher:** Riitta Smeds

**Status of the Course:** Master's Programme in Information Networks, Major Information Networks, optional course of the track Knowledge and Business Networks; Master's Programme in Industrial Engineering and Management, optional course. Optional course in the minor of Operations and Service Management.

**Level of the Course:** Master's level.

**Teaching period:** I-II (Autumn 2017)

**Workload:** 5 cr: Lectures and reading circle sessions 26; Blogging 12; Guest lectures 6; Essay 30; Group assignment and related independent work 60.

3 cr: Lectures and reading circle sessions 26; Blogging 12; Guest lectures 6; Essay 30; Observing and evaluating the presentations of the group assignments 5.

**Learning Outcomes:** Upon fulfilling the course, the student understands networked business as a collaborative process that strives to add value to the joint customer. (S)he understands that global digital businesses rest on digital platforms where resources are quickly brought together. (S)he can analyze the management and development problems of networked digitalizing business processes by applying the central concepts of organization theory, process management, and process development.

**Content:** The course gives theoretical foundations to understand the development and management of business processes in the networked digitalizing business environment. The students learn to model and analyze inter-organizational businesses processes for development and innovation.

**Assessment Methods and Criteria:**

5 cr: Blog 30%; Essay 30%; Group assignment 40%.

3 cr: Blog 50%; Essay 50%; Evaluation of the group assignment presentations (required to pass the course).

**Study Material:** Information in MyCourses.

**Substitutes for Courses:** T-124.5100 and TU-124.5110

**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E6110

**Evaluation:** 1-5 · Opintojakso

**Registration for Courses:** WebOodi
Language of Instruction: English

TU-E6110 Management of Networked Business Processes (3-5 cr)

Ansvarig lärare: Riitta Smeds

Kursens status: Master’s Programme in Information Networks, Major Information Networks, optional course of the track Knowledge and Business Networks; Master’s Programme in Industrial Engineering and Management, optional course. Optional course in the minor of Operations and Service Management.

Kursnivå: Master’s level.

Undervisningsperiod: I-II (Autumn 2017)

Arbetsmängd: 5 cr: Lectures and reading circle sessions 26; Blogging 12; Guest lectures 6; Essay 30; Group assignment and related independent work 60.
3 cr: Lectures and reading circle sessions 26; Blogging 12; Guest lectures 6; Essay 30; Observing and evaluating the presentations of the group assignments 5.

Lärandemål: Upon fulfilling the course, the student understands networked business as a collaborative process that strives to add value to the joint customer. S(he) understands that global digital businesses rest on digital platforms where resources are quickly brought together. (S)he can analyze the management and development problems of networked digitalizing business processes by applying the central concepts of organization theory, process management, and process development.

Innehåll: The course gives theoretical foundations to understand the development and management of business processes in the networked digitalizing business environment. The students learn to model and analyze inter-organizational businesses processes for development and innovation.

Metoder, arbetssätt och bedömningsgrunder: 5 cr: Blog 30%; Essay 30%; Group assignment 40%.
3 cr: Blog 50%; Essay 50%; Evaluation of the group assignment presentations (required to pass the course).

Studiematerial: Information in MyCourses.

Ersättningsprestationer: T-124.5100 and TU-124.5110


Bedömningskala: 1-5 · Studieperioder

Anmäling: WebOodi

Undervisningspråk: English

TU-E6110 Management of Networked Business Processes (3-5 cr)

Responsible teacher: Riitta Smeds

Status of the Course: Master’s Programme in Information Networks, Major Information Networks, optional course of the track Knowledge and Business Networks; Master’s Programme in Industrial Engineering and Management, optional course. Optional course in the minor of Operations and Service Management.

Level of the Course: Master’s level.

Teaching Period: I-II (Autumn 2017)

Workload: 5 cr: Lectures and reading circle sessions 26; Blogging 12; Guest lectures 6; Essay 30; Group assignment and related independent work 60.
3 cr: Lectures and reading circle sessions 26; Blogging 12; Guest lectures 6; Essay 30; Observing and evaluating the presentations of the group assignments 5.

Learning Outcomes: Upon fulfilling the course, the student understands networked business as a collaborative process that strives to add value to the joint customer. S(he) understands that global digital businesses rest on digital platforms where resources are quickly brought together. (S)he can analyze the management and development problems of networked digitalizing business processes by applying the central concepts of organization theory, process management, and process development.

Content: The course gives theoretical foundations to understand the development and management of business processes in the networked digitalizing business environment.
The students learn to model and analyze inter-organizational businesses processes for development and innovation.

**Assessment Methods and Criteria:** 5 cr: Blog 30%; Essay 30%; Group assignment 40%.

3 cr: Blog 50%; Essay 50%; Evaluation of the group assignment presentations (required to pass the course).

**Study Material:** Information in MyCourses.

**Substitutes for Courses:** T-124.5100 and TU-124.5110

**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E6110

**Evaluation:** 1-5 - Courses

**Registration for Courses:** WebOodi

**Language of Instruction:** English

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**TU-E6120 Co-development Interventions in Business Networks (5 cr)**

**Responsible teacher:** Miia Jaatinen

**Status of the Course:** Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course. Master’s Programme in Industrial Engineering and Management, optional course.

**Level of the Course:** Master’s level.

**Teaching period:** III-IV (Spring 2018)

**Workload:** Lectures 30(3), independent work (reading) 40, group assignments 30

**Learning Outcomes:** After completing this course, the student understands and can apply co-development methods for the development of business networks. The student can plan a developmental intervention project and a workshop to co-develop inter-organizational business processes and business models, and understands factors influencing their success. The student understands a knowledge-based approach to co-development interventions and can apply development methods for supporting knowledge co-creation.

**Content:** The course focuses on the development of inter-organizational business processes and models for increasing efficiency and innovation in networks. The development of the activities and value flows is understood as an essentially collaborative endeavor supported by planned interventions. The course advances a knowledge-based view on interventions by focusing on collaboration practices as an object of development and knowledge co-creation as a way of developing them. The course presents different theoretical approaches to co-development such as co-creation, co-design, business process development and dialogic organization development as well as different participatory development methods and tools such as process and value network development methods, design methods and group work methods (e.g. world café, open space, future recall, role-play). In addition, relevant interventionist research approaches, such as action research, are covered.

**Assessment Methods and Criteria:** The lectures function as discussion forums, reading circles and workshops. Before the lectures, students read articles related to the topic of the lecture. During the lecture, the teachers guide learning and application of knowledge to intervention project assignments in real-life cases. Between the lectures, students work on intervention project assignments. In the end of the course, the students realize intervention workshops and get feedback. The intervention project assignments consist of planning and implementation of an intervention project and a workshop by student groups. Attendance at lectures is compulsory.

Evaluation: intervention project assignment (project plan, workshop, end report, method application) 50 %, learning diary 30 %, active participation 20 %.

**Study Material:** Articles on different development approaches and methods. Material is announced on the first lecture.

**Substitutes for Courses:** Substitutes course TU-124.5210.

**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E6120

**Prerequisites:** TU-E6110 Management of Networked Business Processes
Evaluation: 1-5 · Opintojaksot
Registration for Courses: WebOodi. Max 20 students
Language of Instruction: English

TU-E6120 Co-development Interventions in Business Networks (5 sp)

Ansvarig lärare: Miia Jaatinen
Kursens status: Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course. Master’s Programme in Industrial Engineering and Management, optional course.
Kursnivå: Master’s level.
Undervisningstid: III-IV (Spring 2018)
Arbetsmängd: Lectures 30(3), independent work (reading) 40, group assignments 30
Lärandemål: After completing this course, the student understands and can apply co-development methods for the development of business networks. The student can plan a developmental intervention project and a workshop to co-develop inter-organizational business processes and business models, and understands factors influencing their success. The student understands a knowledge-based approach to co-development interventions and can apply development methods for supporting knowledge co-creation.
Innehåll: The course focuses on the development of inter-organizational business processes and models for increasing efficiency and innovation in networks. The development of the activities and value flows is understood as an essentially collaborative endeavor supported by planned interventions. The course advances a knowledge-based view on interventions by focusing on collaboration practices as an object of development and knowledge co-creation as a way of developing them. The course presents different theoretical approaches to co-development such as co-creation, co-design, business process development and dialogic organization development as well as different participatory development methods and tools such as process and value network development methods, design methods and group work methods (e.g. world café, open space, future recall, role-play). In addition, relevant interventionist research approaches, such as action research, are covered.
Metoder, arbetssätt och bedömningsgrunder: The lectures function as discussion forums, reading circles and workshops. Before the lectures, students read articles related to the topic of the lecture. During the lecture, the teachers guide learning and application of knowledge to intervention project assignments in real-life cases. Between the lectures, students work on intervention project assignments. In the end of the course, the students realize intervention workshops and get feedback. The intervention project assignments consist of planning and implementation of an intervention project and a workshop by student groups. Attendance at lectures is compulsory.
Evaluation: intervention project assignment (project plan, workshop, end report, method application) 50 %, learning diary 30 %, active participation 20 %.
Studiematerial: Articles on different development approaches and methods. Material is announced on the first lecture.
Ersättningsprestationer: Substitutes course TU-124.5210.
Förkunskaper: TU-E6110 Management of Networked Business Processes
Bedömningsskala: 1-5 · Studieperioder
Anmäning: WebOodi. Max 20 students
Undervisningsspråk: English

TU-E6120 Co-development Interventions in Business Networks (5 cr)

Responsible teacher: Miia Jaatinen
Status of the Course: Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course. Master’s Programme in Industrial Engineering and Management, optional course.
**Level of the Course:** Master’s level.  
**Teaching Period:** III-IV (Spring 2018)  
**Workload:** Lectures 30(3), independent work (reading) 40, group assignments 30  
**Learning Outcomes:** After completing this course, the student understands and can apply co-development methods for the development of business networks. The student can plan a developmental intervention project and a workshop to co-develop inter-organizational business processes and business models, and understands factors influencing their success. The student understands a knowledge-based approach to co-development interventions and can apply development methods for supporting knowledge co-creation.  
**Content:** The course focuses on the development of inter-organizational business processes and models for increasing efficiency and innovation in networks. The development of the activities and value flows is understood as an essentially collaborative endeavor supported by planned interventions. The course advances a knowledge-based view on interventions by focusing on collaboration practices as an object of development and knowledge co-creation as a way of developing them. The course presents different theoretical approaches to co-development such as co-creation, co-design, business process development and dialogic organization development as well as different participatory development methods and tools such as process and value network development methods, design methods and group work methods (e.g. world café, open space, future recall, role-play). In addition, relevant interventionist research approaches, such as action research, are covered.  
**Assessment Methods and Criteria:** The lectures function as discussion forums, reading circles and workshops. Before the lectures, students read articles related to the topic of the lecture. During the lecture, the teachers guide learning and application of knowledge to intervention project assignments in real-life cases. Between the lectures, students work on intervention project assignments. In the end of the course, the students realize intervention workshops and get feedback. The intervention project assignments consist of planning and implementation of an intervention project and a workshop by student groups. Attendance at lectures is compulsory. 
Evaluation: intervention project assignment (project plan, workshop, end report, method application) 50 %, learning diary 30 %, active participation 20 %.  
**Study Material:** Articles on different development approaches and methods. Material is announced on the first lecture.  
**Substitutes for Courses:** Substitutes course TU-124.5210.  
**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E6120  
**Prerequisites:** TU-E6110 Management of Networked Business Processes  
**Evaluation:** 1-5 · Courses  
**Registration for Courses:** WebOodi. Max 20 students  
**Language of Instruction:** English  

TU-E6130 Facilitating Collaboration in Networks (5 cr)  

**Responsible teacher:** Riitta Smeds  
**Status of the Course:** Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course, and Aalto level studies  
**Level of the Course:** Master’s level.  
**Teaching period:** I-V (academic year 2017-2018)  
**Workload:** Lectures 20(2-3), independent work (learning diary, blog, reading) 35, individual assignment 70  
**Learning Outcomes:** After completing this course, the student understands facilitation as a means to support the dialogic process of knowledge sharing and creation between organizations; can employ different discursive tactics, methods and tools in specific collaboration situations and contexts; and can prepare facilitation events and apply some facilitation methods in a practical case.
Content: The course focuses on the facilitation of groups with high diversity towards common goals. The course provides a social interaction view to facilitation and knowledge creation in collaboration processes. The course applies a project based learning approach in which the student learns by conducting a real life facilitation assignment.

Assessment Methods and Criteria: In the beginning of the course, lectures provide literature and techniques on facilitation and function as forums for discussion, practical exercises and planning of the practical facilitation assignment. Many practical facilitation exercises are conducted and video-recorded, and students are given feedback on their performance. In the end of the course, the student realizes a facilitated workshop to a collaborative process in a product development project that the student has followed from the beginning of the course. Throughout the course, the student reflects facilitation theory and experiences in a learning diary. In addition, the student participates in peer discussions by attending tutored events and writing to a blog in the electronic learning environment of the course. Attendance at lectures and tutored events is compulsory.

Evaluation: practical facilitation assignment (intervention plan, interventions, feedback) 50 %, learning diary 40 %, blog 10 %.


Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E6130

Registration for Courses: In WebOodi. The course is organized in parallel with MEC-E3001 Product Development Project, which can limit the size of the course. Should this be the case, the students will be selected based on their study success and on an interview.

Language of Instruction: English

Further Information: The case projects for the facilitation assignments are provided by the interdisciplinary product development project course (PDP), organized by the Aalto School of Engineering and Aalto Design Factory.
to a collaborative process in a product development project that the student has followed from the beginning of the course. Throughout the course, the student reflects facilitation theory and experiences in a learning diary. In addition, the student participates in peer discussions by attending tutored events and writing to a blog in the electronic learning environment of the course. Attendance at lectures and tutored events is compulsory.

Evaluation: practical facilitation assignment (intervention plan, interventions, feedback) 50 %, learning diary 40 %, blog 10 %.


**Ersättande prestationer:** Substitutes course TU-124.5310/TU-124.5710.

**Kursens webbplats:** https://mycourses.aalto.fi/course/search.php?search=TU-E6130

**Bedömningsskala:** 1-5 · Studieperioder

**Anmälning:** In WebOodi. The course is organized in parallel with MEC-E3001 Product Development Project, which can limit the size of the course. Should this be the case, the students will be selected based on their study success and on an interview.

**Undervisningsspråk:** English

**Tilläggsinformation:** The case projects for the facilitation assignments are provided by the interdisciplinary product development project course (PDP), organized by the Aalto School of Engineering and Aalto Design Factory.

**TU-E6130 Facilitating Collaboration in Networks (5 cr)**

**Responsible teacher:** Riitta Smeds

**Status of the Course:** Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course, and Aalto level studies

**Level of the Course:** Master’s level.

**Teaching Period:** I-V (academic year 2017-2018)

**Workload:** Lectures 20(2-3), independent work (learning diary, blog, reading) 35, individual assignment 70

**Learning Outcomes:** After completing this course, the student understands facilitation as a means to support the dialogic process of knowledge sharing and creation between organizations; can employ different discursive tactics, methods and tools in specific collaboration situations and contexts; and can prepare facilitation events and apply some facilitation methods in a practical case.

**Content:** The course focuses on the facilitation of groups with high diversity towards common goals. The course provides a social interaction view to facilitation and knowledge creation in collaboration processes. The course applies a project based learning approach in which the student learns by conducting a real life facilitation assignment.

**Assessment Methods and Criteria:** In the beginning of the course, lectures provide literature and techniques on facilitation and function as forums for discussion, practical exercises and planning of the practical facilitation assignment. Many practical facilitation exercises are conducted and video-recorded, and students are given feedback on their performance. In the end of the course, the student realizes a facilitated workshop to a collaborative process in a product development project that the student has followed from the beginning of the course. Throughout the course, the student reflects facilitation theory and experiences in a learning diary. In addition, the student participates in peer discussions by attending tutored events and writing to a blog in the electronic learning environment of the course. Attendance at lectures and tutored events is compulsory.

Evaluation: practical facilitation assignment (intervention plan, interventions, feedback) 50 %, learning diary 40 %, blog 10 %.


**Substitutes for Courses:** Substitutes course TU-124.5310/TU-124.5710.

**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E6130
Evaluation: 1-5 · Courses
Registration for Courses: In WebOodi. The course is organized in parallel with MEC-E3001 Product Development Project, which can limit the size of the course. Should this be the case, the students will be selected based on their study success and on an interview.
Language of Instruction: English
Further Information: The case projects for the facilitation assignments are provided by the interdisciplinary product development project course (PDP), organized by the Aalto School of Engineering and Aalto Design Factory.

TU-E6140 Business Game (3 cr)
Responsible teacher: Riitta Smeds
Status of the Course: Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course. Master’s Programme in Industrial Engineering and Management, optional course. Optional course in the minor of Operations and Service Management.
Level of the Course: Master’s level.
Teaching period: I, II, III, IV, V (academic year 2017-2018)
Workload: Obligatory introductory lecture 2h, obligatory intensive facilitated business game sessions in a computer lab, 2 x 10 h, and independent work 60 h (getting acquainted with the game material and rules, preparing the business plan, and the de-briefing report). The course is taken in teams of four students. It is realized in the fall and in the spring terms.
Learning Outcomes: After the course, the student has gained a holistic understanding of a business enterprise, the interdependencies of its different functions, as well as the role of strategy in business management. The student can prepare a business plan and apply different management tools and techniques learnt in earlier studies and in practice.
Content: The game gives the students the opportunity to practice strategic, operations and growth management in dynamic international markets. In the business game, the students test their business knowledge and skills without real-life financial risks, and train decision making in management teams under time pressure.
Assessment Methods and Criteria: Companies formed by teams of four students compete against each other in the same game. Decisions are made in a computer class during facilitated game sessions. All participants must be present all the time. In addition to passing the game, the teams have to write their game companies' business plans and de-briefing reports.
Study Material: The case description of the game is handed out at the starting lecture of the course.
Substitutes for Courses: TU-124.5600 and S-114.3155
Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-E6140
Prerequisites: The course does not have any explicit prerequisite courses but a broad understanding of the management of the different company functions are required in each team. The teams are expected to provide budgets, profitability analysis and evaluation of their company in the assignments. Because of the demanding synthesis building character of the Business Game, it is recommended that the course is taken towards the end of the Master's degree studies.
Evaluation: The grading scale is usually 1-5. In exceptional cases the course can also be graded as pass / fail.
Registration for Courses: WebOodi
Language of Instruction: English

TU-E6140 Business Game (3 sp)
Ansvarig lärare: Riitta Smeds
Kursens status: Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course.
Master's Programme in Industrial Engineering and Management, optional course.
Optional course in the minor of Operations and Service Management.

**Kursnivå:** Master's level.

**Undervisningsperiod:** I, II, III, IV, V (academic year 2017-2018)

**Arbetsmängd:** Obligatory introductory lecture 2h, obligatory intensive facilitated business game sessions in a computer lab, 2 x 10 h, and independent work 60 h (getting acquainted with the game material and rules, preparing the business plan, and the de-briefing report). The course is taken in teams of four students. It is realized in the fall and in the spring terms.

**Lärandemål:** After the course, the student has gained a holistic understanding of a business enterprise, the interdependencies of its different functions, as well as the role of strategy in business management. The student can prepare a business plan and apply different management tools and techniques learnt in earlier studies and in practice.

**Innehåll:** The game gives the students the opportunity to practice strategic, operations and growth management in dynamic international markets. In the business game, the students test their business knowledge and skills without real-life financial risks, and train decision making in management teams under time pressure.

**Metoder, arbetssätt och bedömningsgrunder:** Companies formed by teams of four students compete against each other in the same game. Decisions are made in a computer class during facilitated game sessions. All participants must be present all the time. In addition to passing the game, the teams have to write their game companies' business plans and de-briefing reports.

**Studiematerial:** The case description of the game is handed out on the starting lecture of the course.

**Ersättande prestationer:** TU-124.5600 and S-114.3155

**Kursens webbplats:** https://mycourses.aalto.fi/course/search.php?search=TU-E6140

**Förkunskaper:** The course does not have any explicit prerequisite courses but a broad understanding of the management of the different company functions are required in each team. The teams are expected to provide budgets, profitability analysis and evaluation of their company in the assignments. Because of the demanding synthesis building character of the Business Game, it is recommended that the course is taken towards the end of the Master's degree studies.

**Bedömningsskala:** The grading scale is usually 1-5. In exceptional cases the course can also be graded as pass / fail.

**Anmälning:** WebOodi

**Undervisningsspråk:** English

**TU-E6140 Business Game (3 cr)**

**Responsible teacher:** Riitta Smeds

**Status of the Course:** Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course.
Master’s Programme in Industrial Engineering and Management, optional course.
Optional course in the minor of Operations and Service Management.

**Level of the Course:** Master's level.

**Teaching Period:** I, II, III, IV, V (academic year 2017-2018)

**Workload:** Obligatory introductory lecture 2h, obligatory intensive facilitated business game sessions in a computer lab, 2 x 10 h, and independent work 60 h (getting acquainted with the game material and rules, preparing the business plan, and the de-briefing report). The course is taken in teams of four students. It is realized in the fall and in the spring terms.

**Learning Outcomes:** After the course, the student has gained a holistic understanding of a business enterprise, the interdependencies of its different functions, as well as the role of strategy in business management. The student can prepare a business plan and apply different management tools and techniques learnt in earlier studies and in practice.

**Content:** The game gives the students the opportunity to practice strategic, operations
and growth management in dynamic international markets. In the business game, the students test their business knowledge and skills without real-life financial risks, and train decision making in management teams under time pressure.

**Assessment Methods and Criteria:** Companies formed by teams of four students compete against each other in the same game. Decisions are made in a computer class during facilitated game sessions. All participants must be present all the time. In addition to passing the game, the teams have to write their game companies' business plans and de-briefing reports.

**Study Material:** The case description of the game is handed out on the starting lecture of the course.

**Substitutes for Courses:** TU-124.5600 and S-114.3155

**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-E6140

**Prerequisites:** The course does not have any explicit prerequisite courses but a broad understanding of the management of the different company functions are required in each team. The teams are expected to provide budgets, profitability analysis and evaluation of their company in the assignments. Because of the demanding synthesis building character of the Business Game, it is recommended that the course is taken towards the end of the Master's degree studies.

**Grading Scale:** The grading scale is usually 1-5. In exceptional cases the course can also be graded as pass / fail.

**Registration for Courses:** WebOodi

**Language of Instruction:** English

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**TU-EV Vaihtuvaisaläöinen opinto(V) (0 op)**

**Vastuuopettaja:** Risto Rajala; Henri Schildt; Markku Maula; Matti Vartiainen; Ilkka Kauranen; Riitta Smeds; Jan Holmström; Eila Järvenpää; Paul Lillrank; Hannele Wallenius; Timo Vuori; Karlos Artto; Peter Kelly; Marina Biniari; Jens Schmidt; Esa Saarinen; Robin Gustafsson; Mikko Jääskeläinen; Kari Tanskanen

**Kurssin kotisivu:** https://mycourses.aalto.fi/course/search.php?search=TU-EV

**Arvosteluasteikko:** 1-5 · Opintojaksot

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**TU-EV Studier med varierande innehåll(V) (0 sp)**

**Ansvarig lärare:** Jan Holmström; Eila Järvenpää; Robin Gustafsson; Marina Biniari; Matti Vartiainen; Risto Rajala; Karlos Artto; Paul Lillrank; Hannele Wallenius; Kari Tanskanen; Henri Schildt; Markku Maula; Mikko Jääskeläinen; Jens Schmidt; Timo Vuori; Ilkka Kauranen; Riitta Smeds; Peter Kelly; Esa Saarinen

**Kurssin kotisivu:** https://mycourses.aalto.fi/course/search.php?search=TU-EV

**Bedömningsskala:** 1-5 · Studieperioder

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**TU-EV Course with Varying Content(V) (0 cr)**

**Responsible teacher:** Jan Holmström; Hannele Wallenius; Eila Järvenpää; Ilkka Kauranen; Matti Vartiainen; Riitta Smeds; Timo Vuori; Markku Maula; Jens Schmidt; Kari Tanskanen; Risto Rajala; Karlos Artto; Paul Lillrank; Marina Biniari; Esa Saarinen; Robin Gustafsson; Peter Kelly; Henri Schildt; Mikko Jääskeläinen

**Kurssin kotisivu:** https://mycourses.aalto.fi/course/search.php?search=TU-EV

**Evaluation:** 1-5 · Courses

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**TU-L0000 Research Methods in Industrial Engineering and Management (5 cr)**

**Responsible teacher:** Henri Schildt

**Status of the Course:** Doctoral Programme in Science, compulsory course for the students in the field of IEM.

**Level of the Course:** Doctoral level.

**Teaching period:** I-II (Autumn 2017)

**Learning Outcomes:** To introduce incoming PhD students to research methods in
industrial management.

**Content:** The course serves as an introductory course to research methods in industrial management and to successfully carrying out one’s PhD dissertation. The course is designed to assist the student in making sense of four key questions concerning the methodology of a successful PhD dissertation: 1) What constitutes a good research problem; 2) what are the criteria for scientific knowledge, fit to be used in solving one’s research problem; 3) what kinds of research designs can be used to produce such knowledge; and 4) how to report findings in order to make a scientific contribution.

**Assessment Methods and Criteria:** Pre-course and post-course essays, lecture attendance, pre-lecture assignments. The course is compulsory for PhD students in Industrial Engineering and Management at School of Science

**Substitutes for Courses:** Replaces the courses TU-53.1401, TU-53.401, TU-22.191, TU-22.1191, TU-91.3001 and TU-0.3000

**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-L0000

**Prerequisites:** Master’s degree.

**Evaluation:** 1-5 · Opintojaksot

**Registration for Courses:** Course attendance is restricted to Industrial Engineering and Management PhD students.

**Language of Instruction:** English

**TU-L0000 Research Methods in Industrial Engineering and Management (5 sp)**

**Ansvarig lärare:** Henri Schildt

**Kursens status:** Doctoral Programme in Science, compulsory course for the students in the field of IEM.

**Kursnivå:** Doctoral level.

**Undervisningsperiod:** I-II (Autumn 2017)

**Lärandemål:** To introduce incoming PhD students to research methods in industrial management.

**Innehåll:** The course serves as an introductory course to research methods in industrial management and to successfully carrying out one’s PhD dissertation. The course is designed to assist the student in making sense of four key questions concerning the methodology of a successful PhD dissertation: 1) What constitutes a good research problem; 2) what are the criteria for scientific knowledge, fit to be used in solving one’s research problem; 3) what kinds of research designs can be used to produce such knowledge; and 4) how to report findings in order to make a scientific contribution.

**Metoder, arbetssätt och bedömningsgrunder:** Pre-course and post-course essays, lecture attendance, pre-lecture assignments. The course is compulsory for PhD students in Industrial Engineering and Management at School of Science

**Ersättande prestationer:** Replaces the courses TU-53.1401, TU-53.401, TU-22.191, TU-22.1191, TU-91.3001 and TU-0.3000

**Kursens webbplats:** https://mycourses.aalto.fi/course/search.php?search=TU-L0000

**Förkunskaper:** Master’s degree.

**Bedömningsskala:** 1-5 · Studieperioder

**Anmälningsperiod:** Course attendance is restricted to Industrial Engineering and Management PhD students.

**Undervisningsspråk:** English

**TU-L0000 Research Methods in Industrial Engineering and Management (5 cr)**

**Responsible teacher:** Henri Schildt

**Status of the Course:** Doctoral Programme in Science, compulsory course for the students in the field of IEM.

**Level of the Course:** Doctoral level.

**Teaching Period:** I-II (Autumn 2017)

**Learning Outcomes:** To introduce incoming PhD students to research methods in industrial management.
Content: The course serves as an introductory course to research methods in industrial management and to successfully carrying out one’s PhD dissertation. The course is designed to assist the student in making sense of four key questions concerning the methodology of a successful PhD dissertation: 1) What constitutes a good research problem; 2) what are the criteria for scientific knowledge, fit to be used in solving one’s research problem; 3) what kinds of research designs can be used to produce such knowledge; and 4) how to report findings in order to make a scientific contribution.

Assessment Methods and Criteria: Pre-course and post-course essays, lecture attendance, pre-lecture assignments. The course is compulsory for PhD students in Industrial Engineering and Management at School of Science.


Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-L0000

Prerequisites: Master’s degree.

TU-L0010 Advanced Organizational Theory (5 cr)

Responsible teacher: Mikko Jääskeläinen

Status of the Course: Doctoral Programme in Science, optional/compulsory course for the students in the field of IEM

Level of the Course: Doctoral level

Teaching period: I-II (Autumn 2017)

Learning Outcomes: The goal is to develop a doctoral-level understanding of the most widely used theoretical approaches to the study of organizations. The course develops understanding of the variety of the perspectives, and their differing assumptions and focuses. Furthermore, the course prepares student to contribute to organization theory.

Content: The perspectives vary yearly, but cover majority of the key perspectives, including: decision making and strategic perspectives; behavioral perspectives; institutional perspective; practice theory perspectives; interpretative and sensemaking perspectives; discourse, rhetoric and narrative perspectives; and change and historical perspectives.

Assessment Methods and Criteria: Seminars, assignments, essays, and contribution to discussions.

Study Material: Selected articles on each topic, selected books.

Substitutes for Courses: Replaces the course TU-22.1196

Evaluation: 1-5 · Opintojaksot

Registration for Courses: Enrollment by application; number of participants may be restricted.

Language of Instruction: English

TU-L0010 Advanced Organizational Theory (5 sp)

Ansvarig lärare: Mikko Jääskeläinen

Kursens status: Doctoral Programme in Science, optional/compulsory course for the students in the field of IEM

Kursnivå: Doctoral level

Undervisningsperiod: I-II (Autumn 2017)

Lärandemål: The goal is to develop a doctoral-level understanding of the most widely used theoretical approaches to the study of organizations. The course develops understanding of the variety of the perspectives, and their differing assumptions and focuses. Furthermore, the course prepares student to contribute to organization theory.

Innehåll: The perspectives vary yearly, but cover majority of the key perspectives, including: decision making and strategic perspectives; behavioral perspectives;
institutional perspective; practice theory perspectives; interpretative and sensemaking perspectives; discourse, rhetoric and narrative perspectives; and change and historical perspectives.

**Metoder, arbetssätt och bedömningsgrunder:** Seminars, assignments, essays, and contribution to discussions.

**Studiematerial:** Selected articles on each topic, selected books.

**Ersättande prestationer:** Replaces the course TU-22.1196

**Bedömningsskala:** 1-5 · Studieperioder

**Anmälning:** Enrollment by application; number of participants may be restricted.

**Undervisningsspråk:** English

**TU-L0010 Advanced Organizational Theory (5 cr)**

**Responsible teacher:** Mikko Jääskeläinen

**Status of the Course:** Doctoral Programme in Science, optional/compulsory course for the students in the field of IEM

**Level of the Course:** Doctoral level

**Teaching Period:** I-II (Autumn 2017)

**Learning Outcomes:** The goal is to develop a doctoral-level understanding of the most widely used theoretical approaches to the study of organizations. The course develops understanding of the variety of the perspectives, and their differing assumptions and focuses. Furthermore, the course prepares student to contribute to organization theory.

**Content:** The perspectives vary yearly, but cover majority of the key perspectives, including: decision making and strategic perspectives; behavioral perspectives; institutional perspective; practice theory perspectives; interpretative and sensemaking perspectives; discourse, rhetoric and narrative perspectives; and change and historical perspectives.

**Assessment Methods and Criteria:** Seminars, assignments, essays, and contribution to discussions.

**Study Material:** Selected articles on each topic, selected books.

**Substitutes for Courses:** Replaces the course TU-22.1196

**Evaluation:** 1-5 · Courses

**Registration for Courses:** Enrollment by application; number of participants may be restricted.

**Language of Instruction:** English

**TU-L0020 Statistical Research Methods in Industrial Engineering and Management (3-6 cr)**

**Responsible teacher:** Mikko Rönkkö

**Status of the Course:** Doctoral Programme in Science, optional course.

**Level of the Course:** Doctoral level.

**Teaching period:** III-IV (Spring 2018)

**Learning Outcomes:** The goal is to develop an understanding of how multivariate statistical methods are used to support causal claims in management research and how the results are usually presented in journal articles. The course covers the basic statistical techniques used in the top management journals, including regression analysis, factor analysis, and some variants of generalized linear models and structural equation models. The course is designed for both those interested in just reading and understanding research done with statistical methods and for those who already use or plan to use statistical research methods in their own work. The number of credits varies between 3-6 depending on which assignments students choose to complete.

**Content:** Lectures, written assignments, data analysis assignments (optional), computer classes (optional).

**Assessment Methods and Criteria:** Class participation, lecture diary, pre-lecture assignments, and data analysis assignments.

**Substitutes for Courses:** TU-22.1197 and TU-L2020
Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-L0020
Prerequisites: Master’s level course in both theoretical and applied statistics.
Evaluation: 1-5 · Opintojaksot
Registration for Courses: The course is offered for doctoral students.
Language of Instruction: English

TU-L0020 Statistical Research Methods in Industrial Engineering and Management (3-6 sp)

Ansvarig lärare: Mikko Rönkkö
Kursens status: Doctoral Programme in Science, optional course.
Kursnivå: Doctoral level.
Undervisningsperiod: III-IV (Spring 2018)
Lärandemål: The goal is to develop an understanding of how multivariate statistical methods are used to support causal claims in management research and how the results are usually presented in journal articles. The course covers the basic statistical techniques used in the top management journals, including regression analysis, factor analysis, and some variants of generalized linear models and structural equation models. The course is designed for both those interested in just reading and understanding research done with statistical methods and for those who already use or plan to use statistical research methods in their own work. The number of credits varies between 3-6 depending on which assignments students choose to complete.
Innehåll: Lectures, written assignments, data analysis assignments (optional), computer classes (optional).
Metoder, arbetsätt och bedömningsgrunder: Class participation, lecture diary, pre-lecture assignments, and data analysis assignments
Förkunskaper: Master’s level course in both theoretical and applied statistics.
Bedömningsskala: 1-5 · Studieperioder
Anmälning: The course is offered for doctoral students.
Undervisningsspråk: English

TU-L0020 Statistical Research Methods in Industrial Engineering and Management (3-6 cr)

Responsible teacher: Mikko Rönkkö
Status of the Course: Doctoral Programme in Science, optional course.
Level of the Course: Doctoral level.
Teaching Period: III-IV (Spring 2018)
Learning Outcomes: The goal is to develop an understanding of how multivariate statistical methods are used to support causal claims in management research and how the results are usually presented in journal articles. The course covers the basic statistical techniques used in the top management journals, including regression analysis, factor analysis, and some variants of generalized linear models and structural equation models. The course is designed for both those interested in just reading and understanding research done with statistical methods and for those who already use or plan to use statistical research methods in their own work. The number of credits varies between 3-6 depending on which assignments students choose to complete.
Content: Lectures, written assignments, data analysis assignments (optional), computer classes (optional).
Assessment Methods and Criteria: Class participation, lecture diary, pre-lecture assignments, and data analysis assignments
Substitutes for Courses: TU-22.1197 and TU-L2020
Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-L0020
Prerequisites: Master’s level course in both theoretical and applied statistics.
Evaluation: 1-5 · Courses
Registration for Courses: The course is offered for doctoral students.
Language of Instruction: English

TU-L0030 Qualitative Research Methods in Industrial Engineering and Management (3-6 op)

Vastuuopettaja: Robin Gustafsson
Kurssin asema: Doctoral Programme in Science, optional course.
Kurssin taso: Doctoral level
Opetusperiodi: III-IV (Spring 2018)

Osaamistavoitteet: The goal of this course is to develop an understanding and skills in qualitative research methods in industrial engineering and management research and how the results are usually presented in journal articles. The course covers most of the qualitative research methods techniques, for planning, conducting, analyzing and reporting, used in the top management journals, including inductive and abductive analysis, case study method, qualitative coding, interviewing, conducting observation and surveys, and collecting and working with archival data. The course is designed for both those interested in just reading and understanding research done with qualitative methods and for those who already use or plan to use qualitative research methods in their own work. The number of credits varies between 3-6 depending on which assignments students choose to complete.

Sisältö: The course will develop understand and skills in qualitative research methods, including inductive and abductive method, case study method, qualitative coding, interviewing, conducting observation and surveys, collecting and working with archival data, digitizing and working with digitalized qualitative data.

Toteutus, työmuodot ja arvosteluperusteet: Class participation, lecture diary, pre-lecture assignments, and data analysis assignments. The course can be done either as a 3 cr course or as an extended 6 cr course with additional take home assignments.

Esitiedot: TU-L0000 Research Methods in Industrial Engineering and Management

Arvosteluasteikko: 1-5

Ilmoittautuminen: The course is offered for IEM doctoral students.

Opetuskieli: English

TU-L0030 Qualitative Research Methods in Industrial Engineering and Management (3-6 sp)

Ansvarig lärare: Robin Gustafsson
Kursens status: Doctoral Programme in Science, optional course.
Kursnivå: Doctoral level
Undervisningsperiod: III-IV (Spring 2018)

Lärandemål: The goal of this course is to develop an understanding and skills in qualitative research methods in industrial engineering and management research and how the results are usually presented in journal articles. The course covers most of the qualitative research methods techniques, for planning, conducting, analyzing and reporting, used in the top management journals, including inductive and abductive analysis, case study method, qualitative coding, interviewing, conducting observation and surveys, collecting and working with archival data, and . The course is designed for both those interested in just reading and understanding research done with qualitative methods and for those who already use or plan to use qualitative research methods in their own work. The number of credits varies between 3-6 depending on which assignments students choose to complete.

Innehåll: The course will develop understand and skills in qualitative research methods, including inductive and abductive method, case study method, qualitative coding, interviewing, conducting observation and surveys, collecting and working with archival data, digitizing and working with digitalized qualitative data.

Metoder, arbetssätt och bedömningsgrunder: Class participation, lecture diary, pre-lecture assignments, and data analysis assignments. The course can be done either
as a 3 cr course or as an extended 6 cr course with additional take home assignments.

**Förkunskaper:** TU-L0000 Research Methods in Industrial Engineering and Management

**Bedömningsskala:** 1-5

**Anmälning:** The course is offered for IEM doctoral students.

**Undervisningsspråk:** English

**TU-L0030 Qualitative Research Methods in Industrial Engineering and Management**

**(3-6 cr)**

**Responsible teacher:** Robin Gustafsson

**Status of the Course:** Doctoral Programme in Science, optional course.

**Level of the Course:** Doctoral level

**Teaching Period:** III-IV (Spring 2018)

**Learning Outcomes:** The goal of this course is to develop an understanding and skills in qualitative research methods in industrial engineering and management research and how the results are usually presented in journal articles. The course covers most of the qualitative research methods techniques, for planning, conducting, analyzing and reporting, used in the top management journals, including inductive and abductive analysis, case study method, qualitative coding, interviewing, conducting observation and surveys, collecting and working with archival data, and . The course is designed for both those interested in just reading and understanding research done with qualitative methods and for those who already use or plan to use qualitative research methods in their own work. The number of credits varies between 3-6 depending on which assignments students choose to complete.

**Content:** The course will develop understand and skills in qualitative research methods, including inductive and abductive method, case study method, qualitative coding, interviewing, conducting observation and surveys, collecting and working with archival data, digitizing and working with digitalized qualitative data.

**Assessment Methods and Criteria:** Class participation, lecture diary, pre-lecture assignments, and data analysis assignments. The course can be done either as a 3 cr course or as an extended 6 cr course with additional take home assignments.

**Prerequisites:** TU-L0000 Research Methods in Industrial Engineering and Management

**Grading Scale:** 1-5

**Registration for Courses:** The course is offered for IEM doctoral students.

**Language of Instruction:** English

**TU-L1001 Doctoral Seminar in Strategy and Venturing**

**(8 cr)**

**Responsible teacher:** Robin Gustafsson

**Status of the Course:** Doctoral Programme in Science, compulsory course for the students in field of IEM.

**Level of the Course:** Doctoral level

**Teaching period:** IV-V (Spring 2018)

**Learning Outcomes:** This course has two major purposes. One is to provide an overview of the fundamental themes in strategy and venturing research and introduce contemporary strategy topics. The other purpose is to expose the participants to the various methodological and research practice approaches (conducting research, synthesizing, and setting up manuscripts) in the domain of strategy and venturing. Overall, after the course the students should have a broad understanding of the strategy and venturing research domain and what is required for publishing research in top tier journals in strategy and venturing. More specifically, after the course, the participant should (1) know the most important articles and in the area of strategy and venturing, (2) understand how the different streams of strategy and venturing research have evolved over time and how they are connected to each other, and (3) be able to project the future development of the strategy and venturing research from the perspective of one’s own doctoral work. The course will further provide a setting for developing a variety of skills in strategy and venturing research such as synthesizing research, research designs, and
what constitutes a theoretical contribution in the various domains of strategy and venturing.

Content: The course covers some of the fundamental themes of strategy research and introduces a selected set of contemporary strategy topics in a seminar format during period IV-V. The themes are covered by reviewing strategy articles that provide the key milestones of each theme.

Assessment Methods and Criteria: Attendance in seminar sessions, seminar presentations, readings, assignments, and an exam.

Study Material: Articles


Evaluation: 1-5 · Opintojaksot

Registration for Courses: For enrollment to course see instructions on course website. The course will be organized if at least four students have enrolled.

Language of Instruction: English

TU-L1001 Doctoral Seminar in Strategy and Venturing (8 sp)

Ansvårig lärare: Robin Gustafsson

Kursens status: Doctoral Programme in Science, compulsory course for the students in field of IEM.

Kursnivå: Doctoral level

Undervisningssperiod: IV-V (Spring 2018)

Lärandemål: This course has two major purposes. One is to provide an overview of the fundamental themes in strategy and venturing research and introduce contemporary strategy topics. The other purpose is to expose the participants to the various methodological and research practice approaches (conducting research, synthesizing, and setting up manuscripts) in the domain of strategy and venturing. Overall, after the course the students should have a broad understanding of the strategy and venturing research domain and what is required for publishing research in top tier journals in strategy and venturing. More specifically, after the course, the participant should (1) know the most important articles and in the area of strategy and venturing, (2) understand how the different streams of strategy and venturing research have evolved over time and how they are connected to each other, and (3) be able to project the future development of the strategy and venturing research from the perspective of one’s own doctoral work. The course will further provide a setting for developing a variety of skills in strategy and venturing research such as synthesizing research, research designs, and what constitutes a theoretical contribution in the various domains of strategy and venturing.

Innehål: The course covers some of the fundamental themes of strategy research and introduces a selected set of contemporary strategy topics in a seminar format during period IV-V. The themes are covered by reviewing strategy articles that provide the key milestones of each theme.

Metoder, arbetsätt och bedömningsgrunder: Attendance in seminar sessions, seminar presentations, readings, assignments, and an exam.

Studiematerial: Articles


Bedömningsskala: 1-5 · Studieperioder

Anmäining: For enrollment to course see instructions on course website. The course will be organized if at least four students have enrolled.

Undervisningsspråk: English

TU-L1001 Doctoral Seminar in Strategy and Venturing (8 cr)

Responsible teacher: Robin Gustafsson

Status of the Course: Doctoral Programme in Science, compulsory course for the students in field of IEM.
Learning Outcomes: This course has two major purposes. One is to provide an overview of the fundamental themes in strategy and venturing research and introduce contemporary strategy topics. The other purpose is to expose the participants to the various methodological and research practice approaches (conducting research, synthesizing, and setting up manuscripts) in the domain of strategy and venturing. Overall, after the course the students should have a broad understanding of the strategy and venturing research domain and what is required for publishing research in top tier journals in strategy and venturing. More specifically, after the course, the participant should (1) know the most important articles and in the area of strategy and venturing, (2) understand how the different streams of strategy and venturing research have evolved over time and how they are connected to each other, and (3) be able to project the future development of the strategy and venturing research from the perspective of one’s own doctoral work. The course will further provide a setting for developing a variety of skills in strategy and venturing such as synthesizing research, research designs, and what constitutes a theoretical contribution in the various domains of strategy and venturing.

Content: The course covers some of the fundamental themes of strategy research and introduces a selected set of contemporary strategy topics in a seminar format during period IV-V. The themes are covered by reviewing strategy articles that provide the key milestones of each theme.

Assessment Methods and Criteria: Attendance in seminar sessions, seminar presentations, readings, assignments, and an exam.

Study Material: Articles


Evaluation: 1-5 · Courses

Registration for Courses: For enrollment to course see instructions on course website. The course will be organized if at least four students have enrolled.

Language of Instruction: English

TU-L1010 Theory Building and Research Design in Strategy and Venturing (5 cr)

Responsible teacher: Markku Maula

Status of the Course: Doctoral Programme in Science, optional course.

Level of the Course: Doctoral level.

Teaching period: III-IV (Spring 2018)

Learning Outcomes: The key objective of the course is to help participants develop a good dissertation proposal.

Content: The course covers areas relevant for developing a good research proposal including problem formulation, literature review, theory and hypothesis development, research designs, and methodological choices. The course is intended to be an arena where students can discuss about their research projects and get feedback from the faculty and from their fellow students.

Assessment Methods and Criteria: Attendance in seminar sessions, assignments, seminar presentations, readings, exam, and developing a research proposal.

Substitutes for Courses: Replaces the courses TU-91.198/ TU-91.3002 and TU-91.3011

Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-L1010

Evaluation: 1-5 · Opintojakso

Registration for Courses: The course is intended mainly for first-year doctoral students majoring in strategy. The course is a continuation for the fall term course Research Methods in Industrial Engineering and Management. Students wishing to participate in the course are recommended to take first the fall term course. However, passing the fall term course is not a prerequisite for the participation.
**Language of Instruction:** English

**TU-L1010 Theory Building and Research Design in Strategy and Venturing (5 sp)**

**Ansvarig lärare:** Markku Maula  
**Kursens status:** Doctoral Programme in Science, optional course.  
**Kursnivå:** Doctoral level.  
**Undervisningsperiod:** III-IV (Spring 2018)  
**Lärandemål:** The key objective of the course is to help participants develop a good dissertation proposal.  
**Innehåll:** The course covers areas relevant for developing a good research proposal including problem formulation, literature review, theory and hypothesis development, research designs, and methodological choices. The course is intended to be an arena where students can discuss about their research projects and get feedback from the faculty and from their fellow students.  
**Metoder, arbetssätt och bedömningsgrunder:** Attendance in seminar sessions, assignments, seminar presentations, readings, exam, and developing a research proposal.  
**Ersättande prestationer:** Replaces the courses TU-91.198/ TU-91.3002 and TU-91.3011  
**Kursens webbplats:** https://mycourses.aalto.fi/course/search.php?search=TU-L1010  
**Bedömningsskala:** 1-5 · Studieperioder  
**Anmälning:** The course is intended mainly for first-year doctoral students majoring in strategy. The course is a continuation for the fall term course Research Methods in Industrial Engineering and Management. Students wishing to participate in the course are recommended to take first the fall term course. However, passing the fall term course is not a prerequisite for the participation.  
**Undervisningsspråk:** English

**TU-L1010 Theory Building and Research Design in Strategy and Venturing (5 cr)**

**Responsible teacher:** Markku Maula  
**Status of the Course:** Doctoral Programme in Science, optional course.  
**Level of the Course:** Doctoral level.  
**Teaching Period:** III-IV (Spring 2018)  
**Learning Outcomes:** The key objective of the course is to help participants develop a good dissertation proposal.  
**Content:** The course covers areas relevant for developing a good research proposal including problem formulation, literature review, theory and hypothesis development, research designs, and methodological choices. The course is intended to be an arena where students can discuss about their research projects and get feedback from the faculty and from their fellow students.  
**Assessment Methods and Criteria:** Attendance in seminar sessions, assignments, seminar presentations, readings, exam, and developing a research proposal.  
**Substitutes for Courses:** Replaces the courses TU-91.198/ TU-91.3002 and TU-91.3011  
**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-L1010  
**Evaluation:** 1-5 · Courses  
**Registration for Courses:** The course is intended mainly for first-year doctoral students majoring in strategy. The course is a continuation for the fall term course Research Methods in Industrial Engineering and Management. Students wishing to participate in the course are recommended to take first the fall term course. However, passing the fall term course is not a prerequisite for the participation.  
**Language of Instruction:** English

**TU-L2000 Doctoral Seminar in Industrial Management (5 cr)**
Responsible teacher: Risto Rajala  

Status of the Course: Doctoral Programme in Science, compulsory course for the students in the field of IEM.  

Level of the Course: Doctoral level.  

Teaching period: I, II, III, IV (academic year 2017-2018)  

Workload: Seminar 30h, preparing the presentations for the seminar 100h  

Learning Outcomes: The purpose of the course is to help participants create and develop their dissertation proposals and present them in a concise manner. The course focuses on areas relevant to developing participants’ understanding about the requirements of the doctoral dissertation. Also, the course supports doctoral students in developing their research themes. The course develops the participants’ capabilities to present and discuss their research projects and provides an opportunity to get feedback from the faculty and from peer students. The takeaways from the course include fostering doctoral students’ critical thinking skills needed in evaluating scientific work.  

Content: The course is centered on a dissertation proposal which will be completed during the course. The course includes getting acquainted with the scientific body of knowledge in the participants’ research domain. The activities include reviews of published PhD theses to develop capabilities for assessing scientific work. Each participant will give presentations of their dissertation proposals and review the research proposals of fellow students. The group discussions are centered on research designs, available methodological alternatives and the rationale for the participants’ methodological choices. The participants act as discussants to their fellow student’s research proposals to gain experience of discussing and assessing scientific work in the research community.  

Assessment Methods and Criteria: Assignments, presentations, class participation and readings. The assessment criteria for the dissertation proposals include: Rooting of the research proposal on the existing body of scientific knowledge, statement of the research problem, robustness and feasibility of the research design, justification of the choice of research methods, transparency of the research process, originality of the expected contribution, critical thought conveyed by the researcher, and clarity of presentation.  

Substitutes for Courses: Replaces courses TU-22.1193 and TU-22.1199  


Prerequisites: TU-L0000 Research Methods in Industrial Engineering and Management  

Evaluation: pass/fail  

Language of Instruction: English  

TU-L2000 Doctoral Seminar in Industrial Management (5 sp)  

Ansvarig lärare: Risto Rajala  

Kursens status: Doctoral Programme in Science, compulsory course for the students in the field of IEM.  

Kursnivå: Doctoral level.  

Undervisningsperiod: I, II, III, IV (academic year 2017-2018)  

Arbetsmängd: Seminar 30h, preparing the presentations for the seminar 100h  

Lärandemål: The purpose of the course is to help participants create and develop their dissertation proposals and present them in a concise manner. The course focuses on areas relevant to developing participants’ understanding about the requirements of the doctoral dissertation. Also, the course supports doctoral students in developing their research themes. The course develops the participants’ capabilities to present and discuss their research projects and provides an opportunity to get feedback from the faculty and from peer students. The takeaways from the course include fostering doctoral students’ critical thinking skills needed in evaluating scientific work.  

Innehål: The course is centered on a dissertation proposal which will be completed during the course. The course includes getting acquainted with the scientific body of knowledge in the participants’ research domain. The activities include reviews of published PhD theses to develop capabilities for assessing scientific work. Each
participant will give presentations of their dissertation proposals and review the research proposals of fellow students. The group discussions are centered on research designs, available methodological alternatives and the rationale for the participants’ methodological choices. The participants act as discussants to their fellow student’s research proposals to gain experience of discussing and assessing scientific work in the research community.

**Metoder, arbetssätt och bedömningsgrunder:** Assignments, presentations, class participation and readings. The assessment criteria for the dissertation proposals include: Rooting of the research proposal on the existing body of scientific knowledge, statement of the research problem, robustness and feasibility of the research design, justification of the choice of research methods, transparency of the research process, originality of the expected contribution, critical thought conveyed by the researcher, and clarity of presentation.

**Ersättande prestationer:** Replaces courses TU-22.1193 and TU-22.1199


**Förkunskaper:** TU-L0000 Research Methods in Industrial Engineering and Management

**Bedömningsskala:** pass/fail

**Undervisningsspråk:** English

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**TU-L2000 Doctoral Seminar in Industrial Management (5 cr)**

**Responsible teacher:** Risto Rajala

**Status of the Course:** Doctoral Programme in Science, compulsory course for the students in the field of IEM.

**Level of the Course:** Doctoral level.

**Teaching Period:** I, II, III, IV (academic year 2017-2018)

**Workload:** Seminar 30h, preparing the presentations for the seminar 100h

**Learning Outcomes:** The purpose of the course is to help participants create and develop their dissertation proposals and present them in a concise manner. The course focuses on areas relevant to developing participants’ understanding about the requirements of the doctoral dissertation. Also, the course supports doctoral students in developing their research themes. The course develops the participants’ capabilities to present and discuss their research projects and provides an opportunity to get feedback from the faculty and from peer students. The takeaways from the course include fostering doctoral students’ critical thinking skills needed in evaluating scientific work.

**Content:** The course is centered on a dissertation proposal which will be completed during the course. The course includes getting acquainted with the scientific body of knowledge in the participants’ research domain. The activities include reviews of published PhD theses to develop capabilities for assessing scientific work. Each participant will give presentations of their dissertation proposals and review the research proposals of fellow students. The group discussions are centered on research designs, available methodological alternatives and the rationale for the participants’ methodological choices. The participants act as discussants to their fellow student’s research proposals to gain experience of discussing and assessing scientific work in the research community.

**Assessment Methods and Criteria:** Assignments, presentations, class participation and readings. The assessment criteria for the dissertation proposals include: Rooting of the research proposal on the existing body of scientific knowledge, statement of the research problem, robustness and feasibility of the research design, justification of the choice of research methods, transparency of the research process, originality of the expected contribution, critical thought conveyed by the researcher, and clarity of presentation.

**Substitutes for Courses:** Replaces courses TU-22.1193 and TU-22.1199


**Prerequisites:** TU-L0000 Research Methods in Industrial Engineering and Management

**Grading Scale:** pass/fail

**Language of Instruction:** English
TU-L2010 Video analysis in the research of organizational co-creation (5 cr)

Responsible teacher: Riitta Smeds

Status of the Course: Tuotantotalous, jatko-opintokurssit (Aalto-tason jatko-opintokurssit)

Level of the Course: Jatko-opinnot

Teaching period: III-IV (kevät 2018)

Workload: Lähipäivät 21 h, itsenäinen työskentely 110 h.

Learning Outcomes: Opintojakson suoritettaa opiskelija jymmättä videoaineistojen käyttöön perustuvaa vuorovaikutuksen tutkimusta organisaatioiden tutkimuksen kontekstissa. Opiskelija oppii vuorovaikutuksen analyysiin soveltuvia menetelmiä sekä analyysin tekemisen tapoja, joita hän voi soveltaa omassa tutkimuksessaan.

Content: Kurssilla opiskelija perehtyy videoaineiston käyttöön tutkimuksessa sekä erilaisiin tapoihin analysoida videoita. Kurssilla painotetaan vuorovaikutuksen analyysin, ja pohditaan sen mahdollisuuksia suhteessa muihin organisaatiotutkimuksen menetelmiin. Opiskelija saa myös työkaluja videotutkimuksen suunnitteluun, aineiston keruuseen, analyysiin ja tulosten raportoinnin.

Assessment Methods and Criteria: Kurssi toteutetaan intensiivisenä kokonaisuutena perustuen yhteisölliseen tekemällä oppimiseen ja videoiden yhteisanalyysiin. Kurssin suorittaminen edellyttää aktiivista osallistumista ja luentotehtävien ja lopetuspaperin hyväksyntä yhteistyössä. Arvosteluperusteet: lopetuspaperin 50 %, luentotehtävien 40 %, aktiivisuus 10 %.


Muu materiaali ilmoitetaan ensimmäisessä lähipäivässä ja MyCoursesissa.


Prerequisites: Kurssi on suunnattu diplomityötä / pro gradu tekeville maisterioopiskelijoille ja jatko-opinnäytteen tekijöille.

Language of Instruction: Englanti, pyydettäessä suoritettavissa suomeksi tai ruotsiksi.
Förkunskaper: Kursen är riktat åt magisterstudenterna som gör sitt diplomarbete och forskarstudenterna.
Bedömningsskala: godkänt / icke godkänt
Anmälning: WebOodi + skicka e-post till laura.kohonen-aho@aalto.fi. Max 10 studenter.
Undervisningsspråk: Engelska, men kan på begäran avläggas på finska eller på svenska.

TU-L2010 Video analysis in the research of organizational co-creation (5 cr)

Responsible teacher: Riitta Smeds
Status of the Course: Department of Industrial Engineering and Management, doctoral studies, Aalto level doctoral studies
Level of the Course: Doctoral level.
Teaching Period: III-IV (Spring 2018)
Workload: Lectures 21 h, independent work 110 h.
Learning Outcomes: After the course, the students understand some methodological foundations for video-based research and social interaction analysis in the context of organization research. Students learn different methodological approaches and analytic orientations in video-based research that they can apply in their own research.
Content: The course orientates students to use video data and video interaction analysis in organization research and to use different strategies to video analysis. The course provides tools for video-based research from planning the research and data gathering to analysis and reporting the findings.
Assessment Methods and Criteria: The course format is intensive and is based on practical learning and collective analysis of video data. Completing the course requires active participation to the lectures, accepted completions of pre-lecture assignments and final essay. Assessment: final essay 50 %, pre-lecture assignments 40 %, active participation 10 %.
Prerequisites: This course is intended for the students working on their master’s or doctoral thesis.
Grading Scale: passed–failed
Registration for Courses: WebOodi + send email to laura.kohonen-aho@aalto.fi. Max 10 students.
Language of Instruction: English. Upon request Finnish or Swedish.

TU-L2040 Research Perspectives on Inter-organizational Collaboration (5 cr)

Responsible teacher: Miia Jaatinen
Status of the Course: Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course; Doctoral Programme in Science, optional course.
Level of the Course: Doctoral level
Teaching period: I-II (Autumn 2017)
Workload: Lectures and seminars 30(3), independent work (pre-lecture reading) 24, reading circle 12, individual assignment 33.
Learning Outcomes: After completing this course, the student recognizes different research perspectives to the study of inter-organizational collaboration and can choose a relevant research perspective to study an interesting research topic. The student can recognize knowledge gaps and create new research problems and ideas. The course supports the development of research topics for thesis work and scientific papers.
Content: The course presents current research perspectives in the field of inter-organizational collaboration. Visiting lecturers present topical research approaches and themes. Additional research topics are provided by seminar presentations in which
students report the results of their literature reviews on interesting research topics in the field. The course provides an understanding of the multidisciplinary problem based research approach and how it can contribute new scientific knowledge on inter-organizational collaboration.

**Assessment Methods and Criteria:** The course starts with visiting researchers’ lectures and ends in seminar sessions. Visitor lectures are preceded by pre-lecture reading and followed by reading circle discussions. In the seminar sessions, all students give a presentation that is based on an individual assignment: literature search, reading and a report. The individual assignment is instructed by the teachers. Attendance at lectures and seminars is compulsory. Evaluation: reading circle (based on pre-lecture reading, lectures and reported group discussions) 50 %, individual assignment (incl. seminar presentation) 50 %.

**Study Material:** Lecture handouts and scientific articles. Pre-lecture reading is announced before each lecture.

**Substitutes for Courses:** Substitutes courses TU-124.5410.

**Course Homepage:** https://mycourses.aalto.fi/course/search.php?search=TU-L2040

**Prerequisites:** TU-E6110 Management of Networked Business Processes

**Evaluation:** 1-5 · Opintojaksot

**Registration for Courses:** WebOodi. The course is planned for 20 students.

**Language of Instruction:** English

**TU-L2040 Research Perspectives on Inter-organizational Collaboration (5 sp)**

**Ansvarig lärare:** Miia Jaatinen

**Kursens status:** Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course; Doctoral Programme in Science, optional course.

**Kursnivå:** Doctoral level

**Undervisningsperiod:** I-II (Autumn 2017)

**Arbetsmängd:** Lectures and seminars 30(3), independent work (pre-lecture reading) 24, reading circle 12, individual assignment 33.

**Lärandemål:** After completing this course, the student recognizes different research perspectives to the study of inter-organizational collaboration and can choose a relevant research perspective to study an interesting research topic. The student can recognize knowledge gaps and create new research problems and ideas. The course supports the development of research topics for thesis work and scientific papers.

**Innehåll:** The course presents current research perspectives in the field of inter-organizational collaboration. Visiting lecturers present topical research approaches and themes. Additional research topics are provided by seminar presentations in which students report the results of their literature reviews on interesting research topics in the field. The course provides an understanding of the multidisciplinary problem based research approach and how it can contribute new scientific knowledge on inter-organizational collaboration.

**Metoder, arbetssätt och bedömningsgrunder:** The course starts with visiting researchers’ lectures and ends in seminar sessions. Visitor lectures are preceded by pre-lecture reading and followed by reading circle discussions. In the seminar sessions, all students give a presentation that is based on an individual assignment: literature search, reading and a report. The individual assignment is instructed by the teachers. Attendance at lectures and seminars is compulsory. Evaluation: reading circle (based on pre-lecture reading, lectures and reported group discussions) 50 %, individual assignment (incl. seminar presentation) 50 %.

**Studiematerial:** Lecture handouts and scientific articles. Pre-lecture reading is announced before each lecture.

**Ersättande prestationer:** Substitutes courses TU-124.5410.

**Kursens webbplats:** https://mycourses.aalto.fi/course/search.php?search=TU-L2040

**Förkunskaper:** TU-E6110 Management of Networked Business Processes
TU-L2040 Research Perspectives on Inter-organizational Collaboration (5 cr)

 Responsible teacher: Miia Jaatinen
 Status of the Course: Master’s Programme in Information Networks, Major Information Networks, Track Knowledge and Business Networks, optional course; Doctoral Programme in Science, optional course.
 Level of the Course: Doctoral level
 Teaching Period: I-II (Autumn 2017)
 Workload: Lectures and seminars 30(3), independent work (pre-lecture reading) 24, reading circle 12, individual assignment 33.
 Learning Outcomes: After completing this course, the student recognizes different research perspectives to the study of inter-organizational collaboration and can choose a relevant research perspective to study an interesting research topic. The student can recognize knowledge gaps and create new research problems and ideas. The course supports the development of research topics for thesis work and scientific papers.
 Content: The course presents current research perspectives in the field of inter-organizational collaboration. Visiting lecturers present topical research approaches and themes. Additional research topics are provided by seminar presentations in which students report the results of their literature reviews on interesting research topics in the field. The course provides an understanding of the multidisciplinary problem based research approach and how it can contribute new scientific knowledge on inter-organizational collaboration.
 Assessment Methods and Criteria: The course starts with visiting researchers’ lectures and ends in seminar sessions. Visitor lectures are preceded by pre-lecture reading and followed by reading circle discussions. In the seminar sessions, all students give a presentation that is based on an individual assignment: literature search, reading and a report. The individual assignment is instructed by the teachers. Attendance at lectures and seminars is compulsory. Evaluation: reading circle (based on pre-lecture reading, lectures and reported group discussions) 50 %, individual assignment (incl. seminar presentation) 50 %.
 Study Material: Lecture handouts and scientific articles. Pre-lecture reading is announced before each lecture.
 Substitutes for Courses: Substitutes courses TU-124.5410.
 Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-L2040
 Prerequisites: TU-E6110 Management of Networked Business Processes
 Evaluation: 1-5 · Courses
 Registration for Courses: WebOodi. The course is planned for 20 students.
 Language of Instruction: English
vuoden aikana.


Esitiedot: Hyväksytty jatko-opiskelijaksi Aalto-yliopistoon.

Arvosteluasteikko: 1-5 · Opintojakso

Opetuskieli: Suomi pääosin. Pyydettäessä suoritettavissa englanniksi.

TU-L3000 Fortsättningsseminarium i ledarskap och kunskapshantering (3 sp)

Ansvarig lärare: Matti Vartiainen

Kursens status: Doktorandprogrammet inom teknikvetenskaper, obligatorisk kurs för forskarstuderande i produktionsekonomi.

Kursnivå: Doktorandnivå

Undervisningsperiod: I – V (läsåret 2017-2018)

Arbetsmängd: Seminarier 40 h, opponering 15 h, eget arbete 26 h.

Lärandemål: Att stöda forskarstuderanden i deras forskning.

Innehåll: Pågående licentiatarbeten och doktorsavhandlingar presenteras och diskuteras.

Metoder, arbetsätt och bedömningsgrunder: Seminaret samlas några gånger per år. Studenterna skall presentera sitt arbete minst tre gånger och opponera tre gånger under tre år.


Förkunskaper: Accepterad forskarstuderande i Aalto.

Bedömningsskala: 1-5 · Studieperioder


TU-L3000 Doctoral Seminar in Leadership and Knowledge Management (3 cr)

Responsible teacher: Matti Vartiainen

Status of the Course: Doctoral Programme in Science, compulsory course for the students in the field of IEM.

Level of the Course: Doctoral level

Teaching Period: I – V (academic year 2017-2018)

Workload: Seminars 40 h, acting as an opponent 15 h, individual work 26 h.

Learning Outcomes: Post-graduate students learn to plan and execute their dissertation research.

Content: On-going licentiate theses and doctoral dissertations are presented and discussed.

Assessment Methods and Criteria: The seminar meets a few times every year. Participants are expected to present their work at least three times during the course as well as to act three times as an opponent to another student’s research plan.

Substitutes for Courses: TU-53.1710.

Course Homepage: https://mycourses.aalto.fi/course/search.php?search=TU-L3000

Prerequisites: Accepted as a doctoral student in Aalto.

Evaluation: 1-5 · Courses

Language of Instruction: Primarily Finnish. Can be taken in English upon request.