

# Opasraportti

## OyKK - Kauppatieteiden maisteri, taloustiede (2017 - 2018)

Tässä oppaassa esitetään kauppatieteiden maisterin (KTM) tutkintoon liittyvät opinnot, pääaineena taloustiede. Oulun yliopiston kauppakorkeakoulun yleisoppaassa on kuvattu yleiset opiskeluun liittyvät käytännöt ja periaatteet.

Oulun yliopiston kauppakorkeakoulun maisteriohjelmien yleiset osaamistavoitteet:

- Analyttinen ajattelu ja ongelmanratkaisu – opiskelijat kykenevät ratkaisemaan taloudellisia tai liiketoimintaan liittyviä ongelmia ja tekemään päätöksiä.
- Oman tutkimusalan tuntamus – opiskelijat osoittavat oman tutkimusalansa syvällistä kokonaisvaltaista ymmärrystä.
- Liiketoimintaosaaminen – opiskelijoillamme on syvälinen ymmärrys heidän omasta ammatistaan ja he kykenevät käyttämään ja analysoimaan taloudellista ja/tai liiketoimintaan liittyvää tietoa.
- Globaali vastuullinen johtaminen – opiskelijamme osaavat rakentaa kestävän kehityksen mukaista arvoa liiketoiminnalle ja yhteiskunnalle globaalisti.
- Kommunikointitaidot – opiskelijoillamme on ammattimaiset liike-elämään soveltuват suulliset ja kirjalliset viestintätaidot.

Maisteriohjelmien vastuuhenkilö: KTT Sinikka Moilanen.

### TALOUSTIETEEN MAISTERIOHJELMA

Taloustieteen maisteriohjelma antaa opiskelijalle vahvan taloustieteen teoria- ja menetelmäosaamisen. Taloustieteen opinnoissa uutta ymmärrystä rakennetaan aiemmin opitun pohjalta. Opintoihin kuuluu luentojen ohella laskuharjoituksia, harjoitustöitä ja esseitä. Taloustieteen kansainvälisiin julkaisuihin tutustuminen on myös olennainen osa opintoja.

Taloustieteen maisteriopinnot antavat yleisiä valmiuksia hyvin monenlaisiin työtehtäviin. Valmistuttuaan pääaineena taloustiede opiskelija saa käyttää nimikettä ekonomisti. Yhteiskunnallisen ja taloudellisen toimintaympäristön muutokset avaavat ekonomisteille koko ajan uusia tehtäviä, ja ekonomistin peruskoulutuksen sisällöllisessä päivityksessä seurataan aktiivisesti näitä toimintaympäristön muutoksia.

Ammatillisen osaamisen ohella taloustieteen maisteriohjelman tavoitteena on antaa riittävät perusvalmiudet alan tieteellisiin jatko-opintoihin ja tutkimustyöhön.

### Osaamistavoitteet

Taloustieteen pääaineessa maisterintutkinnon suoritettuaan opiskelija

- osaa valita ja soveltaa taloustieteen teorioita
- osaa käyttää ja arvioida uusimpia tieteellisiä tutkimuksia ja tieteen suuntauksia omassa työssään
- osaa käyttää tarvittavia kvantitatiivisia menetelmiä itsenäisessä tutkimustyössä
- tunnistaa taloustieteen perinteiset ja uudet lähestymistavat sekä kykenee tulkitsemaan niiden empiirisiä sovelluksia
- osaa tulkita talouden toimintamekanismeja ja taloudellisten muuttujien syy- ja seuraussuhteita sekä vertailla taloustieteellisten mallien ominaisuuksia ja soveltuvuutta eri tilanteisiin
- kykenee asiantuntemuksella kirjoittamaan ja keskustelemaan taloudellisista ilmiöistä taloustieteellistä ajattelua soveltaen
- kykenee itsenäiseen tutkimustyöhön ja kirjallisen tutkielman laatimiseen osoittaen asiantuntemusta jollakin taloustieteen osa-alueella sekä esittelemään omaa tutkimusaihetaan yleisölle

Yleisen taloustieteen maisteriohjelman vastuuhenkilö: KTT Jaakko Simonen ja koordinaattori: Juha Teirilä.

### **KTM-tutkinnon kokonaisrakenne (pohjakoulutus KTK-tutkinto)**

#### **Opintojen sisältö KTM-tutkinnossa**

##### **a) Pääaineen opinnot, 120 op**

Tutkintoon suoritetaan rahoituksen maisteriohjelman opinnot 120 op.

##### **b) Muita yliopistotasoisia opintoja tarvittaessa** siten, että KTM-tutkinnon laajuudeksi tulee 120 opintopistettä.

### **KTM-tutkinnon rakenne (pelkkää maisteritutkintoa suorittamaan siirtyvät opiskelijat)**

Jokainen koulutukseen valittu laati ohjaajien opastuksella henkilökohtaisen opintosuunnitelman, jossa määritellään yksityiskohtaisesti tutkintoa varten suoritettavat opinnot sekä opintojen suoritusaikeaulu. Opintosuunnitelma laaditaan ottaen huomioon opiskelijan aikaisemmat opintosuoritukset, opintomenestys ja urasuunnitelmat.

#### **Henkilökohtainen opintosuunnitelma ja täydentävät opinnot**

HOPS tehdään aluksi itsenäisesti alla olevien ohjeiden ja opinto-oppaan avulla. Virallisesti HOPSin hyväksyy Oulun yliopiston kauppatieteiden korkeakoulun.

**Tutkinnon laajuus** on 120 opintopistettä (op), sisältäen pääaineen opintoja sekä kaikille yhteisiä opintoja, ohjelman rakenteen mukaisesti. Lisäksi voidaan vaatia suoritettavaksi kielipintoja seuraavan taulukon mukaisesti, mikäli kielitaitovaatimukset eivät täyty aiemmin suoritettujen opintojen perusteella.

**Täydentävät opinnot, vaadittava kielitaito:**  
 Kielilain mukainen toisen kotimaisen kielen taito  
 Vähintään 1 vieraan kielen B2-taso

#### **Taloustieteen pääaineen rakenne**

<b>Module 1: Core Economics</b>	<b>30 ECTS</b>
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<b>Module 1: Core Economics</b>	<b>30 ECTS</b>
721345A Intermediate Microeconomics	6
721346A Intermediate Macroeconomics	6
721320S Economic Theory I	6
721310S Economic Theory II	6
721066S Principles of Econometrics	6

<b>Module 2: Applied Courses of Economics</b>	<b>30 ECTS</b>
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<b>Module 2: Applied Courses of Economics</b>	<b>30 ECTS</b>
and four courses of these:	
721342S Game Theory..	6
721334S Environmental Economics	6
721317S International Macroeconomics	6
(previously International Economics)	6
721344S Urban and Regional Economics	6

721336S Special Issue 6

**Module 3: Business Orientated Economics 30 ECTS**

721070S Globally Responsible Business 6

721333S Industrial Organization 6

and three courses of the following:

721954S Financial Econometrics 6

721961S Entrepreneurial Finance 6

721128S Corporate Governance 6

721957S Fundamentals of Finance 6

721559S Venture Growth Strategies 6

488501S Smart grid 1: Integrating Renewable

Energy Sources 6

721065S Internship 6

\* Finnish Language 6

**Module 4: Master's thesis 30 ECTS**

721330S Master's Thesis in Economics 30

**Tutkinto yhteenä 120 ECTS**

\* Finnish language studies can be taken by foreign degree students.

The following courses belong to the core curriculum of the Economics M.Sc. programme: 721345S Intermediate Microeconomics, 721346S Intermediate Macroeconomics, 721338S Mathematical Economics, 721066S Principles of Econometrics, 721342S Economic Theory I, 721310S Economic Theory II ja 721070S Globally Responsible Business. These courses (or courses with equivalent content offered by other universities) should be included in the student's study plan.

**Taloustieteen maisteriohjelman rakennekaavio**

<http://webcgi.oulu.fi/studiag/index.php?kieli=1&kaavio=468>

## **Tutkintorakenteet**

### **Taloustieteen maisteriohjelma (KTM)**

Tutkintorakenteen tila: julkaistu

Lukuvuosi: 2017-18

Lukuvuoden alkamispäivämäärä: 01.08.2017

## Pääaineen opinnot (120 - 130 op)

Degree diagramme available at <http://webcgi.oulu.fi/studiag/index.php?kieli=2&kaavio=468>.

The following courses belong to the core curriculum of the Economics M.Sc. programme: 721345S Intermediate Microeconomics, 721346S Intermediate Macroeconomics, 721338S Mathematical Economics, 721060S Principles of Econometrics, 721342S Economic Theory I, 721310S Economic Theory II and 721070S Globally Responsible Business. These courses (or courses with equivalent content offered by other universities) should be included in the student's study plan.

Finnish language studies (max 6 credits) can be taken by foreign degree students. These language studies can be included in Module 3, to replace one of the optional courses.

H631135: Taloustieteen maisteriohjelma, 120 - 130 op

### *Moduuli 1*

- 721345A: Intermediate Microeconomics, 6 op
- 721346A: Intermediate Macroeconomics, 6 op
- 721320S: Economic Theory I, 6 op
- 721310S: Economic Theory II, 6 op
- 721066S: Principles of Econometrics, 6 op

### *Moduuli 2: Pakollinen opintojakso.*

- 721338S: Mathematical Economics, 6 op

### *Moduuli 2. Valitse seuraavista 4 opintojaksoa.*

- 721342S: Game Theory, 6 op
- 721334S: Environmental Economics, 6 op
- 721317S: International Macroeconomics, 6 op
- 721344S: Urban and Regional Economics, 6 op
- 721336S: Erikoisaihe, 6 op

### *Moduuli 3*

- 721070S: Globally Responsible Business, 6 op
- 721333S: Industrial Organization, 6 op

### *Moduuli 3: Valitse seuraavista 3 opintojaksoa:*

- 721954S: Financial Econometrics, 6 op
- 721961S: Entrepreneurial Finance, 6 op
- 721128S: Corporate Governance, 6 op
- 721957S: Fundamentals of Finance, 6 op
- 721559S: Venture Growth Strategies, 6 op
- 488501S: Smart Grid I: Integrating renewable energy sources, 5 op
- 721065S: Internship, 6 op

### *Moduuli 4*

- 721330S: Taloustieteen pro gradu -tutkielma, 30 op

## Opintojaksojen kuvaukset

### Tutkintorakenteisiin kuuluvien opintokohteiden kuvaukset

#### H631135: Taloustieteen maisteriohjelma, 120 - 130 op

**Voimassaolo:** 01.08.2015 -

**Opiskelumuoto:** Syventävät opinnot

**Laji:** Kokonaisuus

**Vastuuuyksikkö:** Oulun yliopiston kauppakorkeakoulu

**Arvostelu:** 1 - 5, hyv, hyl

**Opintokoteen kielet:** suomi

## Moduuli 1

### 721345A: Intermediate Microeconomics, 6 op

**Voimassaolo:** 01.08.2017 -

**Opiskelumuoto:** Aineopinnot

**Laji:** Opintojakso

**Vastuuysikkö:** Oulun yliopiston kauppakorkeakoulu

**Arvostelu:** 1 - 5, hyv, hyl

**Opettajat:** Mikko Vaaramo

**Opintokohteen kielet:** englanti

**Leikkaavuudet:**

721345S Intermediate Microeconomics 6.0 op

721216A Mikrotaloustieteen perusteet 5.0 op

**Voidaan suorittaa useasti:** Kyllä

**Laajuus:**

6 credits / 160 hours of work

**Opetuskieli:**

English

**Ajoitus:**

Period 1A

**Osaamistavoitteet:**

Upon complementing the course, the student will be able to explain the main features of consumer and firm behavior. The student recognizes different market environments and their effect on optimal decision making. In addition to this, the student will be able to use the concept of social welfare.

**Sisältö:**

The basic concepts of consumer and firm theory, market equilibrium, uncertainty and risk, intertemporal choice.

**Järjestämistapa:**

Face-to-face teaching.

**Toteutustavat:**

36 lectures and 18 hours of exercises, exam 3 hours, preparing for the lectures, exercises and exam 103 hours.

**Kohderyhmä:**

The first year Master's students

**Oppimateriaali:**

[Varian, H.: Intermediate Microeconomics, A Modern Approach, 8<sup>th</sup> \(or older\) edition](#) and other material delivered in class.

**Suoritustavat ja arvointikriteerit:**

Written exam.

**Arvointiasteikko:**

The course utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail.

**Vastuuhenkilö:**

Professor (acting) Jaakko Simonen, Doctoral student Hannu Huuki

**Työelämäyhteistyö:**

Students learn relevant skills to analyse the operation of markets and relevant competitive situations for firms and their decision making.

**Lisätiedot:**

The number of students is limited.

## **721346A: Intermediate Macroeconomics, 6 op**

**Voimassaolo:** 01.08.2017 -

**Opiskelumuoto:** Aineopinnot

**Laji:** Opintojakso

**Vastuuysikkö:** Oulun yliopiston kauppatieteiden korkeakoulu

**Arvostelu:** 1 - 5, hyv, hyl

**Opettajat:** Matti Koivuranta

**Opintokohteen kielet:** englanti

**Leikkaavuudet:**

721346S Intermediate Macroeconomics 6.0 op

721215A Makrotaloustieteen perusteet 5.0 op

**Voidaan suorittaa useasti:** Kyllä

**Laajuus:**

6 credits / 160 hours of work

**Opetuskieli:**

English

**Ajoitus:**

Period 1B.

**Osaamistavoitteet:**

After completing the course the student is familiar with aggregate economic phenomena and their thorough measurement. He/she is able to use simple macroeconomic models to understand economic issues such as growth and business cycles. The student is also able to analyze the effects of different economic policies with simple economic models.

**Sisältö:**

The course covers national income accounting, economic growth, business cycles, determinants of inflation and unemployment and basic concepts of open economy macroeconomics. Additional topics include the effects of monetary and fiscal policy.

**Järjestämistapa:**

Face-to-face teaching

**Toteutustavat:**

36 lectures and 18 hours of exercises, exam 3 hours, preparing for the lectures, exercises and exam 103 hours.

**Kohderyhmä:**

First year Master's students

**Oppimateriaali:**

[Williamson, Stephen D.D.: Macroeconomics, 4<sup>th</sup> ed., Pearson/Prentice Hall 2011](#)

**Suoritustavat ja arvointikriteerit:**

Written exam.

**Arvointiasteikko:**

The course utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail.

**Vastuuhenkilö:**

Professor Mikko Puhakka, Doctoral student Matti Koivuranta.

**Työelämäyhteistyö:**

Students learn relevant skills to analyse the operation of aggregate economy especially from the point of firms.

**Lisätiedot:**

The number of students is limited.

## 721320S: Economic Theory I, 6 op

**Opiskelumuoto:** Syventävät opinnot

**Laji:** Opintojakso

**Vastuuysikkö:** Oulun yliopiston kauppatieteiden korkeakoulu

**Arvostelu:** 1 - 5, hyvä, hylätty

**Opettajat:** Jaakko Simonen

**Opintokohteen kielet:** englanti

**Voidaan suorittaa useasti:** Kyllä

### **Laajuus:**

6 credits / 160 hours of work

### **Opetuskieli:**

English

### **Ajoitus:**

Period 1C

### **Osaamistavoitteet:**

The student should learn rigorously the basic concepts and analytical tools of modern microeconomic theory. He/she should be able to apply those tools in the thesis work. Upon completing the required coursework the student is able to formulate and solve objective based optimization problems of households and firms. The student masters and knows how to interpret the general equilibrium results. The student is able to judge and interpret the role of uncertainty in decision making. He/she knows the basic theorems of welfare economics. The student is able to formulate and interpret the basic models of strategic behavior. Students are also able to express their ideas analytically and effectively in written form.

### **Sisältö:**

Constrained optimization problems of economic agents, market analysis, general equilibrium analysis, welfare economics, decision making under uncertainty, information economics.

### **Järjestämistapa:**

Face-to-face teaching.

### **Toteutustavat:**

36 hours of lectures, 18 hours of exercises, exam 3 hours, preparing for the lectures, exercises and exam 103 hours.

### **Kohderyhmä:**

The first year Master's students

### **Esitietovaatimukset:**

Intermediate micro and macroeconomics, mathematical economics.

### **Yhteydet muihin opintojaksoihin:**

### **Oppimateriaali:**

[Cowell, F. \(2006\): Microeconomics. Principles and Analysis;](#)

[Gravelle, H. & Rees, R. \(2004\): Microeconomics,](#)

and required readings from a list of readings for the course. Active following of current topics e.g. from the Economist or Financial Times.

### **Suoritustavat ja arvointikriteerit:**

Written exam and a short term paper

### **Arvointiasteikko:**

The course utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail.

### **Vastuuhenkilö:**

Professor (acting) Jaakko Simonen

### **Työelämäyhteistyö:**

Students learn relevant analytical and quantitative skills to analyse the operation of markets and relevant competitive situations for firms and their decision making. The required short term paper enhances further their ability to write concisely about the functioning of markets.

**Lisätiedot:**

The number of students is limited.

**721310S: Economic Theory II, 6 op**

**Opiskelumuoto:** Syventävät opinnot

**Laji:** Opintojakso

**Vastuuysikkö:** Oulun yliopiston kauppakorkeakoulu

**Arvostelu:** 1 - 5, hyv, hyl

**Opettajat:** Puhakka Mikko

**Opintokohteen kielet:** englanti

**Voidaan suorittaa useasti:** Kyllä

**Laajuus:**

6 credits / 160 hours of work

**Opetuskieli:**

English

**Ajoitus:**

Period 2B.

**Osaamistavoitteet:**

Student is able to apply dynamic models in the analysis of aggregate economy. He/she can also use these models in empirical analyses, and is well prepared to write a Master's thesis. Students are also able to express their ideas analytically and effectively in written form.

**Sisältö:**

A review of ISLM and ADAS models. Two-period models, introduction to dynamic programming, economic growth, new keynesian macro, fiscal policy, search theory.

**Järjestämistapa:**

Face-to-face teaching.

**Toteutustavat:**

36 lectures and 18 hours of exercises, exam 3 hours, preparing for the lectures, exercises and exam 103 hours.

**Kohderyhmä:**

The second year Master's students.

**Esittetovaativimukset:**

Intermediate micro and macroeconomics, mathematical economics, and preferably Economic Theory I.

**Yhteydet muihin opintojaksoihin:**

Active following of current topics e.g. from the Economist or Financial Times.

**Oppimateriaali:**

[P. Minford and D. Peel, Advanced Macroeconomics. Edvard Elgar 2002.](#) M. Puhakka, "Lecture Notes on Two-Period Models in Macroeconomics" (2005), and required readings from a list of readings for the course.

**Suoritustavat ja arvointikriteerit:**

Written exam and a concise term paper.

**Arvointiasteikko:**

The course utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail.

**Vastuuhenkilö:**

Professor Mikko Puhakka

**Työelämäyhteistyö:**

Students learn relevant analytical and quantitative skills to prepare useful (for decision makers) reports on the state of the economy, say at the levels required in central banks and ministries of finance. The required short term paper enhances further their ability to write concisely about the state of the economy.

**Lisätiedot:**

The number of students is limited.

**721066S: Principles of Econometrics, 6 op**

**Voimassaolo:** 01.08.2014 -

**Opiskelumuoto:** Syventävät opinnot

**Laji:** Opintojakso

**Vastuuysikkö:** Oulun yliopiston kauppakorkeakoulu

**Arvostelu:** 1 - 5, hyv, hyl

**Opettajat:** Sanna Huikari

**Opintokohteen kielet:** englanti

**Leikkaavuudet:**

721060A Taloustieteiden tilastolliset perusmenetelmät 5.0 op

**Voidaan suorittaa useasti:** Kyllä

**Laajuus:**

6 credits / 160 hours of work

**Opetuskieli:**

English

**Ajoitus:**

Period 1B.

**Osaamistavoitteet:**

After completing the course the student is familiar with the standard methods used in empirical analyses and with regression analysis relevant for analyzing economic data. In addition, the student can interpret and evaluate the outcomes of empirical analysis. Furthermore, he/she has basic knowledge of using statistical software in econometric analyses

**Sisältö:**

Statistical basics of econometrics and the use of basic econometric models in the analysis of different economic phenomena. The main focus is on dealing with the basic regression models adapted to cross-section data and familiarizing with the use of statistical software.

**Järjestämistapa:**

Face-to-face teaching.

**Toteutustavat:**

36 hours of lectures, 18 hours of exercises, exam 3 hours, preparing for the lectures, exercises and exam 103 hours.

**Kohderyhmä:**

First year Master's students in Economics, Accounting and Finance.

**Esittetovaativimukset:**

It is highly recommended that the student has already passed the course 806116P Basic Methods in Statistics 1 (in Finnish: 806116P Tilastotiedettä kauppatieteilijöille, previously: 806109P Tilastotieteen perusmenetelmät 1) or has elementary knowledge of statistics and probability theory.

**Oppimateriaali:**

[Stock James H., Watson Mark W.: Introduction to Econometrics, 2. or 3. edition](#). Other material announced during the lectures.

**Suoritustavat ja arvointikriteerit:**

Written exam.

**Arvointiasteikko:**

The course utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail.

**Vastuuhenkilö:**

Professor Rauli Svento, Doctoral student Sanna Huikari

**Työelämäyhteistyö:**

In working life, when the skills of analyzing data are required, the skills learned during the course help a student in summarizing and interpreting the results of empirical studies. He/she can compare the results of various empirical studies and evaluate those critically. Student is able to independently carry out a small-scale econometric study by putting in practice the econometric methods (e.g. linear regression model and various statistical tests) discussed during the course.

**Lisätiedot:**

The number of students is limited.

*Moduuli 2: Pakollinen opintojakso.*

**721338S: Mathematical Economics, 6 op**

**Voimassaolo:** 01.08.2014 -

**Opiskelumuoto:** Syventävät opinnot

**Laji:** Opintojakso

**Vastuuksikkö:** Oulun yliopiston kauppakorkeakoulu

**Arvostelu:** 1 - 5, hyv, hyl

**Opettajat:** Matti Koivuranta

**Opintokohteen kielet:** englanti

**Leikkaavuudet:**

721220A Matemaattinen taloustiede 5.0 op

**Voidaan suorittaa useasti:** Kyllä

**Laajuus:**

6 credits / 160 hours of work.

**Opetuskieli:**

English.

**Ajoitus:**

Period 1A.

**Osaamistavoitteet:**

Upon completion of the course, the student will be able to apply mathematical methods needed in the courses in the Economic Theory module.

**Sisältö:**

The course introduces frequently used mathematical methods in the economic literature. Applicable parts from linear algebra, differential and integral calculus, mathematical optimization and dynamic analysis are covered.

**Järjestämistapa:**

Face-to-face teaching.

**Toteutustavat:**

36 hours of lectures, 18 hours of exercises, exam 3 hours, preparing for the lectures, exercises and exam 103 hours.

**Kohderyhmä:**

First year Master's students in Economics and Finance.

**Oppimateriaali:**

[Chiang A.C: Fundamental Methods of Mathematical Economics, 4th edition, McGraw-Hill. New York, NY, 2005.](#)

**Suoritustavat ja arvointikriteerit:**

Written exam. Mandatory exercises.

**Arvointiasteikko:**

The course utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail.

**Vastuuhenkilö:**

Professor Mikko Puhakka, Doctoral student Matti Koivuranta.

**Työelämäyhteistyö:**

Students learn relevant mathematics and applications to analyse various types of economic situations.

**Lisätiedot:**

The number of students is limited.

*Moduuli 2. Valitse seuraavista 4 opintojaksoa.*

**721342S: Game Theory, 6 op**

**Opiskelumuoto:** Syventävät opinnot

**Laji:** Opintojakso

**Vastuuysikkö:** Oulun yliopiston kauppakorkeakoulu

**Arvostelu:** 1 - 5, hyv, hyl

**Opettajat:** Marja-Liisa Halko

**Opintokohteen kielet:** englanti

**Laajuus:**

6 credits /160 hours of work

**Opetuskieli:**

English

**Ajoitus:**

Period 1D.

**Osaamistavoitteet:**

Upon successful completion of this course, the student will be able to define the basics of a game theory and apply them to a wide range of real world issues.

**Sisältö:**

Forms of strategic games, dominating strategies, Nash equilibrium, mixed strategies, the extensive form of a game, sub-game perfect games, sequential games and limited information games.

**Järjestämistapa:**

Face-to-face teaching.

**Toteutustavat:**

36 hours of lectures, 18 hours of exercises, exam 3 hours, preparing for the lectures, exercises and exam 103 hours.

**Kohderyhmä:**

First year Master's students.

**Esitietovaatimukset:**

Economic Theory I

**Yhteydet muihin opintojaksoihin:**

-

**Oppimateriaali:**

-

**Suoritustavat ja arvointikriteerit:**

Written exam.

**Arvointiasteikko:**

The course utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail.

**Vastuuhenkilö:**

Dr. Marja-Liisa Halko

**Työelämäyhteistyö:**

Students learn relevant analytical and quantitative skills to analyse the strategic interactions in many competitive situations in markets.

**Lisätiedot:**

The number of students is limited.

**721334S: Environmental Economics, 6 op**

**Opiskelumuoto:** Syventävät opinnot

**Laji:** Opintojakso

**Vastuuysikkö:** Oulun yliopiston kauppakorkeakoulu

**Arvostelu:** 1 - 5, hyv, hyl

**Opettajat:** Juutinen, Artti Markus Tapani

**Opintokohteen kielet:** englanti

**Leikkaavuudet:**

721248S Ympäristö- ja luonnonvaratalous 6.0 op

721248A Ympäristötalous 5.0 op

**Voidaan suorittaa useasti:** Kyllä

**Laajuus:**

6 credits / 160 hours of work.

**Opetuskieli:**

English

**Ajoitus:**

Period 1D

**Osaamistavoitteet:**

Student is able to graphically and mathematically describe the socially optimal level of pollution and define the efficiency conditions of the crucial policy instruments of pollution control. Moreover, student identifies comparative merits of different policy instruments. He/she can apply the most important methods for monetary valuation of environmental benefits and empirically examine the demand of environmental commodities. In addition, student is able to formally present the models describing optimal use of natural resources and apply these models in practical decision making. Students are also able to act professionally in teams, express their ideas analytically and effectively both in written and oral form.

**Sisältö:**

Sustainability problem, externalities, socially optimal pollution level, command-and-control regulation of pollution, pollution taxes, marketable permits, demand for environmental commodities, hedonic pricing methods, travel cost method, contingent valuation, and choice experiments. Regarding natural resources, the course covers topics on the optimal use of minerals (the Hotelling rule), the problem of open access in fishery, and forest rotation models.

**Järjestämistapa:**

Face-to-face teaching.

**Toteutustavat:**

24 hours of lectures, 9 hours of exercises, 50 hours of individual homework, and independent reading of study materials, preparing for the lectures and exercises 77 hours.

**Kohderyhmä:**

First year Master's students.

**Oppimateriaali:**

[Perman, Ma, Common, Maddison & Mcgilvray \(2011\). Natural Resource and Environmental Economics \(4th Ed or newer\)](#). (The required sections of the books and the other material will be informed later.)

**Suoritustavat ja arvointikriteerit:**

Lecture specific problem questions, final essay and exercises.

**Arvointiasteikko:**

The course utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail.

**Vastuuhenkilö:**

Professor Artti Juutinen and Doctoral student Enni Ruokamo.

**Työelämäyhteistyö:**

Students improve their skills regarding the use of software that are widely applied in working life (MsExcel, MsWord, MsPowerPoint). Students also improve their presentation and co-operation skills.

**721317S: International Macroeconomics, 6 op**

**Opiskelumuoto:** Syventävät opinnot

**Laji:** Opintojakso

**Vastuuysikkö:** Oulun yliopiston kauppakorkeakoulu

**Arvostelu:** 1 - 5, hyv, hyl

**Opettajat:** Marko Korhonen

**Opintokohteen kielet:** englanti

**Voidaan suorittaa useasti:** Kyllä

**Laajuus:**

6 credits / 160 hours of work

**Opetuskieli:**

English

**Ajoitus:**

Period 1C.

**Osaamistavoitteet:**

Student is familiar with topics in international macroeconomics as well as to theories trying to account for the basic stylized facts in the field.

**Sisältö:**

Advanced theoretical and empirical analysis of contemporary international macroeconomic policy issues in both industrialized and developing economies. The topics covered include current account balance, dynamics of small open economy, real exchange rate and the terms of trade, uncertainty and international financial markets.

**Järjestämistapa:**

Face-to-face teaching.

**Toteutustavat:**

12hours of lectures, 12 hours of student presentations, exercises 8h, exam 4 hours, preparing for the lectures, exercises and exam 124 hours.

**Kohderyhmä:**

First year Master's students.

**Esitietovaatimukset:**

Economic Theory I and Principles of Econometrics.

**Yhteydet muihin opintojaksoihin:**

-

**Oppimateriaali:**

Obstfeld and Rogoff (1996): Foundations of International Macroeconomics

De Grauwe(2014): Economics of Monetary Union

[Check the availability of course material from this link.](#)

**Suoritustavat ja arvointikriteerit:**

Written exam and student presentations

**Arvointiasteikko:**

The course utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail.

**Vastuuhenkilö:**

University lecturer Marko Korhonen

**Työelämäyhteistyö:**

No

**Lisätiedot:**

The number of students is limited.

## 721344S: Urban and Regional Economics, 6 op

**Voimassaolo:** 01.08.2014 -

**Opiskelumuoto:** Syventävät opinnot

**Laji:** Opintojakso

**Vastuuksikkö:** Oulun yliopiston kauppatieteiden korkeakoulu

**Arvostelu:** 1 - 5, hyv, hyl

**Opettajat:** Jaakko Simonen

**Opintokohteen kielet:** englanti

**Voidaan suorittaa useasti:** Kyllä

**Laajuus:**

6 credits / 160 hours of work

**Opetuskieli:**

English

**Ajoitus:**

Period 2A.

**Osaamistavoitteet:**

Student is familiar with how firms' and people's decisions on a micro-level affect the macro-level phenomena in cities and regions. He/she will understand the broad range of relationships between economics and geography. Students are also able to express their ideas analytically and effectively in written form.

**Sisältö:**

Agglomeration of economic activities, regional input-output analysis, analysis of some essential features of spatial labor markets and interregional immigration flows. Current topics of urban and regional economic development and policy.

**Järjestämistapa:**

Face-to-face teaching.

**Toteutustavat:**

24 hours of lectures, 12 hours for computer lab exercises, preparing for the lectures, exercises and individual/group assignments 124 hours.

**Kohderyhmä:**

Second year master's students.

**Oppimateriaali:**

[McCann, P.: Urban and Regional Economics. New York: Oxford University Press. 2001 or 2013;](#)  
[Armstrong, H. & Taylor, J.: Regional Economics and Policy, 3 rd ed. Oxford: Blackwell. 2000.](#)

Other material to be shared on lectures.

**Suoritustavat ja arvointikriteerit:**

Assessment will be based on two individual written reports/essays and two computer lab exercises and written reports conducted either independently or in a small group.

**Arvointiasteikko:**

The course utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail.

**Vastuuhenkilö:**

Professor (acting) Jaakko Simonen

**Työelämäyhteistyö:**

Student understands how the activities of people and firms affect the evolution of regional economy.  
Student is also familiar with the background of current regional economic phenomena.

**Lisätiedot:**

The number of students is limited.

**721336S: Erikoisaihe, 6 op**

**Opiskelumuoto:** Syventävät opinnot

**Laji:** Opintojakso

**Vastuuuyksikkö:** Oulun yliopiston kauppakorkeakoulu

**Arvostelu:** 1 - 5, hyv, hyl

**Opintokohteen kielet:** suomi

**Voidaan suorittaa useasti:** Kyllä

**Laajuus:**

6 credits / 160 hours of work

**Opetuskieli:**

Varies depending on the way of completion.

**Ajoitus:**

Free.

**Osaamistavoitteet:**

If taken as an individual research assignment, upon completion the students demonstrate knowledge of the theories, concepts, frameworks and empirical findings of chosen discipline and they are able to identify and solve relevant problems, and make critical judgments based on them.

**Sisältö:**

Varies depending on individually agreed on assignment.

**Järjestämistapa:**

It may be, but is not limited to (1) An advanced level course passed in another university having different contents than those courses offered in the student's program, but otherwise fitting the structure of the studies. If necessary the course may be supplemented with additional tasks. (2) An essay/learning diary of about 20 pages, the requirements of which are agreed on in advance with the person responsible of the course within the major subject. (3) Ad hoc –course organized by OBS (4) A discipline-based business development case or other relevant project (e.g. Demola/Business Kitchen).

**Toteutustavat:**

Varies on the basis of individually agreed on assignment.

**Kohderyhmä:**

Students of OBS's Master's Programs

**Esittetovaatimukset:**

No

**Yhteydet muihin opintojaksoihin:**

No

**Oppimateriaali:**

To be agreed on with the person responsible of the course within the major subject

**Suoritustavat ja arvointikriteerit:**

Assessment is based on the learning outcomes of the course and the Master's program. Method varies depending on the individually agreed on assignment.

**Arvointiasteikko:**

The course can utilize a numerical grading scale 1-5 or be evaluated as pass/fail. In the numerical scale zero stands for fail.

**Vastuuhenkilö:**

To be named by major subjects.

**Työelämäyhteistyö:**

Depends on the individually agreed on assignment.

**Lisätiedot:**

The number of students is limited.

*Moduuli 3***721070S: Globally Responsible Business, 6 op**

**Voimassaolo:** 01.08.2014 -

**Opiskelumuoto:** Syventävät opinnot

**Laji:** Opintojakso

**Vastuuysikkö:** Oulun yliopiston kauppankorkeakoulu

**Arvostelu:** 1 - 5, hyv, hyl

**Opettajat:** Anne Keränen

**Opintokohteen kielet:** englanti

**Leikkaavuudet:**

ay721070S Globally Responsible Business (AVOIN YO) 6.0 op

**Voidaan suorittaa useasti:** Kyllä

**Laajuus:**

6 credits / 160 hours of work

**Opetuskieli:**

English

**Ajoitus:**

Period C.

**Osaamistavoitteet:**

Upon completion of the course, students are able to demonstrate detailed knowledge of responsible behaviors in global and local business from the viewpoint of their major discipline. The students are able to work in multidisciplinary groups and create a collective approach for uniting economic with socially and environmentally responsible bottom lines within a global business context. Students are also able to express their ideas in written and oral form and communicate them online.

**Sisältö:**

The course deals with the diversity of contemporary business issues related to sustainability and responsibility when operating in the global marketplace. Based on the triple-bottom-line concept students are introduced to theoretical and practical perspectives from the disciplines of accounting, economics, finance, management/international business and marketing. Students learn to detect, analyze, and create different approaches of how to globally and locally achieve social and environmental goals in addition to economic objectives of a business.

**Järjestämistapa:**

Online study methods.

**Toteutustavat:**

Independent study of the given material 70h, online discussions and groupwork 70h, and conducting individual assignments and learning reports 20h.

**Kohderyhmä:**

Students from all OBS Master's programmes.

**Esitietovaatimukset:**

30 ects (5 Master level courses).

**Yhteydet muihin opintojaksoihin:**

**Oppimateriaali:**

Course Book (to be announced later), articles and materials provided by the course instructors.

**Suoritustavat ja arvointikriteerit:**

Individual contributions (reports, video, online exam) count for 60% and group contributions (blogpost, case report) 40%.

**Arvointiasteikko:**

The course utilizes a numerical grading scale 1-5. The course consist of five different parts and students acquire a grade by passing the five different parts in numerical order.

**Vastuuhenkilö:**

Anne Keränen, Jan Hermes and Prof. Pauliina Ulkuniemi

**Työelämäyhteistyö:**

The course includes global and local real life case examples and analyses. Course learning methods advance modern communication and interaction methods relevant in work life. Students gain abilities to perceive and develop responsibility in business.

**Lisätiedot:**

The course is available and obligatory for OBS Master level students.

**721333S: Industrial Organization, 6 op**

**Opiskelumuoto:** Syventävät opinnot

**Laji:** Opintjakso

**Vastuuysikkö:** Oulun yliopiston kauppakorkeakoulu

**Arvostelu:** 1 - 5, hyv, hyl

**Opettajat:** Maria Kopsakangas-Savolainen

**Opintokohteen kielet:** englanti

**Voidaan suorittaa useasti:** Kyllä

**Laajuus:**

6 credits/160 hours of work

**Opetuskieli:**

English

**Ajoitus:**

2A

**Osaamistavoitteet:**

Upon successful completion of this course, student is be able to analyze and evaluate models of competitive, oligopolistic, and monopoly markets and understand how price and non-price competition among firms affect economic welfare. He/she should be able to understand the market conditions where regulation is needed and analyze different form of regulation methods. He/she should be also able to use game theory in analyzing firms' strategic decisions and be able to intelligently speculate the motives of real world pricing and other decisions of the firms. Student understands the effect of asymmetric information on the optimal agreements. Students are also able to express their ideas analytically and effectively in written form.

**Sisältö:**

Functioning of imperfect competition, monopoly, cartel, price discrimination, non-linear pricing, product differentiation, principles of game theory, strategic behavior, role of market entrance , innovations and research and development, optimal agreements in situations of asymmetric information.

**Järjestämistapa:**

Face-to-face teaching

**Toteutustavat:**

24 hours of lectures, 12 hours for home assignments (including problem sets and essay), exam 3 hours, preparing for the lectures, exercises and exam 121 hours.

**Kohderyhmä:**

Second year Master's students

**Esitietovaatimukset:**

Intermediated Microeconomics, Mathematical economics

**Yhteydet muihin opintojaksoihin:**

-

**Oppimateriaali:**

[Cabral, L.M.B. Introduction to Industrial Organization. MIT Press. 2000;](#)

[Shy, Oz: Industrial Organization. Theory and Applications. MIT Press. 1995;](#)

[Kopsakangas-Savolainen and Svento, Modern Energy Markets. Springer 2012;](#)

other literature announced later.

**Suoritustavat ja arvointikriteerit:**

Home assignments, written examination.

**Arvointiasteikko:**

The course utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail.

**Vastuuhenkilö:**

Professor Maria Kopsakangas-Savolainen

**Työelämäyhteistyö:**

Students learn relevant analytical and quantitative skills to analyse different types of competitive situations in markets.

**Lisätiedot:**

The number of students is limited.

*Moduuli 3: Valitse seuraavista 3 opintojaksoa:*

**721954S: Financial Econometrics, 6 op**

**Opiskelumuoto:** Syventävät opinnot

**Laji:** Opintojakso

**Vastuuysikkö:** Oulun yliopiston kauppakorkeakoulu

**Arvostelu:** 1 - 5, hyv, hyl

**Opettajat:** Hannu Kahra

**Opintokohteen kielet:** englanti

**Laajuus:**

6 ECTS credits / 160 hours of work.

**Opetuskieli:**

English.

**Ajoitus:**

Period C.

**Osaamistavoitteet:**

Upon completion of the course, the student is able to conduct empirical analyses of financial data using econometric methods. Students are also able to act professionally in teams.

**Sisältö:**

Properties of financial data, linear regression models, maximum likelihood estimation, risk and volatility (multivariate GARCH), factor models (principal components and Kalman-filters), option markets (estimating and testing Black-Scholes and its extensions, panel data models).

**Järjestämistapa:**

Face-to-face teaching.

**Toteutustavat:**

36 hours lectures and 14 hours of optional tutorials, tutorial assignments using open-source R, and a group project. Independent studying and group work 124 hours.

**Kohderyhmä:**

Major students in finance. Elective for major students in economics. The course is also available for the students, who need to complete their 60 ECTS credits minor in finance.

**Esittetovaatimukset:**

-

**Yhteydet muihin opintojaksoihin:**

-

**Oppimateriaali:**

[Hurn, Martin, Philips and Young: Financial Econometric Modelling](#) (forthcoming), lecture notes and the material provided by instructor.

**Suoritustavat ja arvointikriteerit:**

Midterm test (10%), tutorials (20% bonus), group work (20%) and final exam (70%).

**Arvointiasteikko:**

1-5.

**Vastuuhenkilö:**

Hannu Kahra

**Työelämäyhteistyö:**

The course introduces the main econometric techniques that are frequently applied in both academic research and financial services industry

**Lisätiedot:**

The number of students is limited.

## 721961S: Entrepreneurial Finance, 6 op

**Voimassaolo:** 01.08.2014 -

**Opiskelumuoto:** Syventävät opinnot

**Laji:** Opintojakso

**Vastuuysikkö:** Oulun yliopiston kauppakorkeakoulu

**Arvostelu:** 1 - 5, hyv, hyl

**Opettajat:** Andrew Conlin

**Opintokohteen kielet:** englanti

**Leikkaavuudet:**

721371A Entrepreneurial Finance 5.0 op

**Voidaan suorittaa useasti:** Kyllä

**Laajuus:**

6 credits / 160 hours of work

**Opetuskieli:**

English

**Ajoitus:**

Period B

**Osaamistavoitteet:**

Upon completion of the course, the student will understand the issues faced when financing entrepreneurial ventures. The student will also understand the interaction between the strategy and the financing of a start-up venture. The course will focus on the decisions from the entrepreneur's point of view, while also exposing students to the financier's point of view.

**Sisältö:**

Entrepreneur vs self-employed, the amount, timing, and source of funding, the structure of the funding, agency issues.

**Toteutustavat:**

36 hours of lectures and 124 hours of independent studying

**Kohderyhmä:**

Major students in finance. The course is also available for the students, who need to complete their 60 ECTS credits minor in finance.

**Oppimateriaali:**

Materials provided by instructors

**Suoritustavat ja arvointikriteerit:**

Final exam

**Arvointiasteikko:**

1-5

**Vastuuhenkilö:**

Andrew Conlin

**Työelämäyhteistyö:**

The understanding of the special issues facing entrepreneurial ventures is essential for the development of successful financing practices of small and medium-sized enterprises.

**Lisätiedot:**

The number of students is limited.

**721128S: Corporate Governance, 6 op**

**Voimassaolo:** 01.08.2010 -

**Opiskelumuoto:** Syventävät opinnot

**Laji:** Opintojakso

**Vastuuysikkö:** Oulun yliopiston kauppatieteiden tiedekunta

**Arvostelu:** 1 - 5, hyv, hyl

**Opettajat:** Kallunki Juha-Pekka

**Opintokohteen kielet:** englanti

**Laajuus:**

6 ECTS credits.

**Opetuskieli:**

English.

**Ajitus:**

Period B. It is recommended to complete the course during the Master's programme's 1<sup>st</sup> Fall semester.

**Osaamistavoitteet:**

After passing the course, students are familiar with the agency theory and its various research and practical implications. They are also familiar with the elements of the governance system of the firm, are able to recognize the warning signs of the potential collapse of the governance system, can assess the features of different executive incentive system, and are able to recognize situations of likely accounting fraud. Students can act responsibly in difficult situations of being asked to act dishonestly. Finally, students are familiar with the practices of socially and environmentally sustainable business conduct and able to act professionally in teams, express their ideas analytically and effectively both in written and oral form.

**Sisältö:**

Lectures, case discussions and presentations, and videos simulating governance-related decisions.

**Järjestämistapa:**

Face-to-face –teaching, case presentations and discussions.

**Toteutustavat:**

36 h of lectures, 6 h of class discussions/student, case works 50 h, self-study 70 h.

**Kohderyhmä:**

Major students.

**Esitietovaatimukset:**

Not applicable.

**Yhteydet muihin opintojaksoihin:**

Not applicable.

**Oppimateriaali:**

[Kenneth Kim, John Nofsinger and Derek Mohr \(2010\), 'Corporate Governance', 3rd Edition, Pearson Prentice Hall](#); lecture notes; research articles; and cases.

**Suoritustavat ja arvointikriteerit:**

Exam and case works.

**Arvointiasteikko:**

The course utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail.

**Vastuuhenkilö:**

Professor Juha-Pekka Kallunki.

**Työelämäyhteistyö:**

Lecturer of Practice Pertti Huuskonen teaches a part of the course. Visiting Professor Henrik Nilsson (Stockholm School of Economics) teaches another part of the course. The course focuses heavily on working life skills on how students should react in challenging corporate governance situations in organizations.

**Lisätiedot:**

The number of students is limited.

**721957S: Fundamentals of Finance, 6 op**

**Voimassaolo:** 01.08.2014 -

**Opiskelumuoto:** Syventävät opinnot

**Laji:** Opintojakso

**Vastuuysikkö:** Oulun yliopiston kauppakorkeakoulu

**Arvostelu:** 1 - 5, hyv, hyl

**Opettajat:** Perttunen, Jukka Olavi

**Opintokohteen kielet:** englanti

**Voidaan suorittaa useasti:** Kyllä

**Laajuus:**

6 credits / 160 hours of work

**Opetuskieli:**

English

**Ajoitus:**

Period A

**Osaamistavoitteet:**

Upon completion of the course, the student understands the basic concepts of finance and is capable of applying them in financial problem solving. Students are also able to express their ideas analytically and effectively in written form.

**Sisältö:**

Interest rates and discounting, asset pricing, fixed-income securities, derivative securities, portfolio performance evaluation, corporate cash flows, firm valuation.

**Järjestämistapa:**

Face-to-face teaching.

**Toteutustavat:**

36 hours lectures and exercises, including two mandatory intermediate exams. Independent studying 124 hours.

**Kohderyhmä:**

Major students in finance. Elective for major students in accounting. The course is also available for the students, who need to complete their 25/60 ECTS credits minor in finance.

**Oppimateriaali:**

Lecture notes.

**Suoritustavat ja arvointikriteerit:**

During the course, there are two mandatory intermediate exams. In addition, the student has to complete a course project which includes a written report with a strict deadline. The final grade is assigned on the basis of the intermediate exams (50%) and the course project (50%).

**Arvointiasteikko:**

1-5

**Vastuuhenkilö:**

Jukka Perttunen

**Työelämäyhteistyö:**

The course introduces the basic concepts and approaches which are necessary for any career in financial industry.

**Lisätiedot:**

The number of students is limited.

**721559S: Venture Growth Strategies, 6 op**

**Voimassaolo:** 01.08.2010 -

**Opiskelumuoto:** Syventävät opinnot

**Laji:** Opintojakso

**Vastuuysikkö:** Oulun yliopiston kauppakorkeakoulu

**Arvostelu:** 1 - 5, hyv, hyl

**Opettajat:** Sakari Sipola

**Opintokohteen kielet:** englanti

**Leikkaavuudet:**

ay721559S Venture Growth Strategies 6.0 op

**Voidaan suorittaa useasti:** Kyllä

**Laajuus:**

6 credits / 160 hours of work

**Opetuskieli:**

English.

**Ajoitus:**

Period A. It is recommended to complete the course at the 1st autumn semester of the Master's program.

**Osaamistavoitteet:**

After the course, the student is able to tackle business development challenges both within existing companies and new firms. The student can exploit a series of frameworks and tools for (1) building market understanding and a match between the developed offering and market needs, and (2) organizing the needed resources and competencies for scaling the business at international markets. Students are also able to express their ideas analytically and effectively both in written and oral form.

**Sisältö:**

The course focuses on building and managing new high-growth ventures by applying the most recent advancements in the field. Practically orientated concepts like lean startup, customer development, design thinking and business model innovation are covered together with different forms of entrepreneurial finance such as angel investing and venture capital.

**Järjestämistapa:**

Face-to-face teaching, online activity.

**Toteutustavat:**

Blended teaching method of 36 hours of lectures and online material with reflection (72 h), reading the course literature (50 h), writing the report (38 h). The responsible person will provide further details in the first session.

**Kohderyhmä:**

Students of the Master's program in International Business Management

**Esittetovaatimukset:**

Basic and intermediate studies in international business management

**Yhteydet muihin opintojaksoihin:**

No

**Oppimateriaali:**

Article collection and online material.

**Suoritustavat ja arvointikriteerit:**

Assessment will be based on individual written report and lecture activity.

**Arvointiasteikko:**

The course utilizes a numerical grading scale 1-5. In the numerical scale zero stands for a fail.

**Vastuuhenkilö:**

Sakari Sipola

**Työelämäyhteistyö:**

Visiting industry experts provide real-life cases and examples.

**Lisätiedot:**

The number of students is limited.

**488501S: Smart Grid I: Integrating renewable energy sources, 5 op**

**Voimassaolo:** 01.08.2016 -

**Opiskelumuoto:** Syventävät opinnot

**Laji:** Opintojakso

**Vastuuysikkö:** Prosessi- ja ympäristötöekniikan ala

**Arvostelu:** 1 - 5, hyv, hyl

**Opettajat:** Eva Pongracz

**Opintokohteen kielet:** englanti

**Laajuus:**

5 cr/150 hours of work

**Opetuskieli:**

English

**Ajoitus:**

Period 2

**Osaamistavoitteet:**

The student is able to explain the concept of smart grids, the evolution of smart grids from electricity power grids, the information technology requirements as well as the economic, environmental and social implications of smart grids. The student will know the expectations from smart grids and is able to outline the future perspectives of smart grid-based energy systems.

**Sisältö:**

Multidisciplinary course, offered in cooperation of the Faculty of Technology (Energy and Environmental Engineering Research Unit - EEE), Oulu Business School (OBS, Department of Economics) and the Faculty of Information Technology and Electrical Engineering (Centre of Wireless Communication - CWC). After an introductory presentation on the requirements, the background is set on the energy and environmental crisis, the co-evolution of energy and information systems and outlining the transition to a smarter system. Further, lectures on smart grids will be provided from an electrical engineering and

information technology view on the evolution of electricity power grids, power generation transmission and distribution; distributed generation and futures of smart grids. From an environmental engineering point of view, lectures will be delivered on energy systems fundamentals, climate goals and decarbonization, as well as on the sustainability of smart grids will in particular the environmental and social impacts of smart grids. From economics points of view, lectures will be given on the liberalization and deregulation of the electricity market, electricity pricing, transmission and distribution as natural monopolies, smart grids and new market mechanisms, and the economic impacts of large scale integration of renewable energy sources. Participation on lectures is not compulsory, but students are to answer to problem questions. As an exercise, students will be given a group work assignment that they are to work with throughout the duration of the course with the help of mentors. The subjects of the exercise is achieving climate goals and the future of energy systems.

**Järjestämistapa:**

Implemented as face-to-face teaching and student seminar. The course largely relies on participatory learning, therefore, there are compulsory participation requirements.

**Toteutustavat:**

Lectures 32 h / student presentations 8 h, Guided group work: 8 h, individual homework 60 h/group work 42 h.

**Kohderyhmä:**

Master's students of Environmental Engineering, especially of energy and environmental engineering study option; Master's students in Economics; Master's students of Electrical Engineering and Information Technology.

**Esitietovaatimukset:**

For Environmental Engineering students, admission to the Master's programme, for which minimally a former bachelor's degree is required. For other students the Bachelor level studies.

**Oppimateriaali:**

Will be provided during the course by the lecturers.

Chen-Ching Liu, Stephen McArthur and Seung-Jae Lee (eds.) (2016) Smart Grids handbook, 3 volume set, and Stephen F. Bush (2014): Smart Grid: Communication-Enabled Intelligence for the Electric Power Grid. <http://onlinelibrary.wiley.com/book/10.1002/9781118820216>.

**Suoritustavat ja arvointikriteerit:**

Answering problem questions and group exercise. Compulsory requirements are completing learning portfolio, answering of at least 75% of problem questions, participation in 50% of intermediate presentations and compulsory participation in the final presentation.

**Arvointiasteikko:**

The course evaluation will be based on an on-line learning portfolio and performance in the exercise participation and exercise report. The course unit utilizes a numerical grading scale 1-5. In the numerical scale, zero stands for a fail.

**Vastuuhenkilö:**

Docent Eva Pongrácz (EEE) and Prof. Maria Kopsakangas-Savolainen (OBS). Other lecturers: EEE: Dr. Antonio Caló, Dr. Jean-Nicolas Louis; OBS: Prof. Rauli Svento, Mari Heikkinen, Hannu Huuki, Santtu Karhinen, Enni Ruokamo; CWC: Dr. Pedro Nardelli.

**Lisätiedot:**

The number of students is limited. This course is a 5 credit course for engineering students, but economics students gain overall 6 credits by doing a mandatory extra assignment which corresponds to 1 credit.

## 721065S: Internship, 6 op

**Voimassaolo:** 01.08.2014 -

**Opiskelumuoto:** Syventävät opinnot

**Laji:** Työharjoittelu

**Vastuuysikkö:** Oulun yliopiston kauppakorkeakoulu

**Arvostelu:** 1 - 5, hyv, hyl

**Opintokohteen kielet:** englanti

**Laajuus:**

6 credits / 160 hours of work

**Ajoitus:**

Free

**Osaamistavoitteet:**

The internship offers the students the opportunity to learn how to solve problems and to learn organizational tasks and responsibilities related to their major subject. Furthermore, the internship supports students to establish relationships to both working colleagues and business management and develops their communication skills within the organization and its network. The internship offers the students the possibility to develop their skills how to apply their knowledge in working environment and to increase their competence.

**Sisältö:**

The content is made up of the job description which is related to the student's major subject and which is provided by the organization where the internship will be accomplished. To be eligible for advanced level internship, the student should work either in a managerial position or as an independent specialist who has a responsible position with a possibility to use organizational resources.

**Toteutustavat:**

The student will work under the supervision of the internship instructor appointed by the company. First, student should contact lecturer Sauli Pajari to agree on the practicalities and documentation of the internship. Upon completion of the internship the student reflects and describes the internship period in the written report (8-10 pages) which will be returned with a weekly diary and a copy of the employment certificate to Sinikka Moilanen and Sauli Pajari.

The written report should be 8-10 pages and contain:

1. Description of the organization/company where the internship was completed
2. Description of the tasks, responsibilities and working methods during the internship
3. Description of how the tasks and responsibilities relate to the other functions of the organization
4. Description of how the internship relates to future career plans
5. Business development ideas for the Internship organization
6. Reflection on what was learned during the internship, how the learning relates to what has been learned earlier in the bachelor's and master's studies, and connecting the learning to theoretical concepts of the discipline.
  - A description of the organization/company where the internship was completed.
  - A detailed description of the tasks, responsibilities and working methods during the internship.
  - Description of how the tasks and responsibilities relate to the other functions of the organization.
  - Reflection on what was learned during the internship, how the learning relates to what has been learned earlier in the bachelor's and master's studies, and connecting the learning to theoretical concepts of the discipline.
  - Description of how the internship relates to future career plans.

**Kohderyhmä:**

Students of the OBS Master's programmes

**Esittetovaatimukset:**

Completed bachelor's studies.

**Yhteydet muihin opintojaksoihin:**

No

**Suoritustavat ja arvointikriteerit:**

Written internship report

**Arvointiasteikko:**

Pass/Fail

**Vastuuhenkilö:**

Sauli Pajari and Sinikka Moilanen

**Työelämäyhteistyö:**

The student will work in an organization improving professional skills related to the major subject and developing business knowledge (and personal network).

**Lisätiedot:**

The internship is an elective course. Internship may also be a business development case or other relevant project (e.g. Demola/Business Kitchen), which needs to be accepted following the general process described above.

## Moduuli 4

### 721330S: Taloustieteen pro gradu -tutkielma, 30 op

**Opiskelumuoto:** Syventävät opinnot

**Laji:** Lopputyö

**Vastuuysikkö:** Oulun yliopiston kauppakorkeakoulu

**Arvostelu:** 1 - 5, hyv, hyl

**Opintokohteen kielet:** suomi

#### **Laajuus:**

30 credits/ 800 hours

#### **Opetuskieli:**

English. Master's thesis can be written in Finnish or in English.

#### **Ajoitus:**

Periods A-D on the 2nd year of master's studies.

#### **Osaamistavoitteet:**

Upon completion of the thesis students can choose and apply appropriate research methods to produce new knowledge and to apply that knowledge to typical business decision-making problems. Students are able to conduct scientific research and make reasonable recommendations for solving business and economic problems. Furthermore, students demonstrate deep and coherent understanding of an academic field of study within their own major. They are able to demonstrate knowledge of the theories, concepts, frameworks and empirical findings of their discipline and understand the connections between various theories in the chosen discipline.

Students will demonstrate deep understanding of their own profession, and are able to use, process and analyze economic and/or business information. Students understand various business processes and operations, and causal connections between them. Finally, students are able to express their ideas effectively and analytically, both in oral and written form.

#### **Sisältö:**

Most of the work is independent writing of the thesis report, but during the master's thesis work students participate in seminar sessions in which they present and report the status and advancement of their work. In the seminars they receive guidance and feedback from their supervisor on how to proceed in and complete their research report. Description of the process and other relevant information are available at <http://www.oulu.fi/oulubusinessschool/masterthesisprocess>

#### **Järjestämistapa:**

Face-to-face teaching in seminar sessions.

#### **Toteutustavat:**

Independent work and face-to-face teaching in seminar sessions. Students prepare and present three reports during the course: 1) Research plan, 2) Intermediate report and 3) Manuscript. The works starts with a kick-off session and the progress and timing of the sessions is agreed on in the kick-off session.

#### **Kohderyhmä:**

Students of the Master's program in Economics

#### **Esittetovaativimukset:**

723020A Bachelor's Thesis or another university degree.

#### **Yhteydet muihin opintojaksoihin:**

-

#### **Oppimateriaali:**

Scientific articles and other theoretical and empirical materials collected by the students for their individual study.

#### **Suoritustavat ja arvointikriteerit:**

Examination through written research report.

#### **Arvointiasteikko:**

The course utilizes a numerical grading scale 1-5. In the numerical scale zero stands for fail.

**Vastuuhenkilö:**

Professors

**Työelämäyhteistyö:**

Working life cooperation is dependent on the particular project. However, the students will learn problem solving and analytical skills as well as oral and written presentation skills needed for a business graduate in working life. Students deepen their understanding of their own profession.

**Lisätiedot:**

Open only to students of the Master's program in Economics