



TUOTANTOTALOUS

Perusopinnot

■ Basic Course in Quality

Tuotanto- ja palvelutoiminnan laatu

Code: TUTA1060

Credits: 5 ECTS

Prerequisites:-

Learning outcomes: student will gain an understanding on the Basics of Quality Management, the Role of Quality and Quality Management Systems, Processes and Scorecards in various Businesses and various possibilities for the Development of Quality Procedures within a company on a Yearly Cycle

Content: History of Quality Management, Quality Management Systems, Processes, Balanced Scorecards, Continuous Improvement, Self-Assessment, Audits and Reviews, Quality Standards, Quality Problem Solving Techniques and Tools, Quality Award Frameworks

Study Materials:

1. Book: Total Quality Management and Operational Excellence: Text with Cases
John S. Oakland. ISBN: 978-0-41563550-9. London – Routledge, 4th edition (June 14, 2014)
2. Other course material provided by the lecturer

Teaching methods: 30 h lectures

Modes of Study: written exam and participation in possible visitors lectures

Languages: English

Grading: Scale 1-5 or fail

Responsible person: Katariina Pukkila-Palmunen

Teacher: Katariina Pukkila-Palmunen

Responsible Unit: Department of Production

Additional information: available only to students of the B.Sc programme in Computer Sciences and Industrial Management and to students who have been granted right to minor in Industrial Management

■ Kestävä energialiiketoiminta

Sustainable Energy Business

Koodi: TUTA1110

Laajuus: 5 op

Osaamistavoitteet: energiatuotannon liiketoimintamalleihin perehtyminen ja kestävän kehityksen periaatteisiin tutustuminen sekä hajautetun energiatuotannon merkitys energiantuotannossa. Kurssin suoritettuaan opiskelija osaa selittää kestävän kehityksen käsitteet, soveltaa niitä energiatuotannon kehittämistavoitteiden määrittämisessä sekä osaa selittää, kuinka energia-alan liiketoiminnan kehittäminen vaikuttaa ympäristöön, yritysten taloudelliseen kehitykseen ja ympäröivään yhteiskuntaan sekä kuinka ympäristö- ja energianhallintajärjestelmät liittyvät osana yrityksen johtamis- ja laatu järjestelmää sekä yrityksen operatiivista johtamista.

Sisältö: erilaiset energianlähteet ja niiden liiketoimintaedellytykset kestävän kehityksen näkökulmasta, energian tuotantoon ja kulutukseen liittyvät tekijät, hajautetun energiantuotannon ominaisuudet kestävän kehityksen näkökulmasta, energiankulutus ja erilaiset säästämiskohteet, energia-alan liiketoiminnan perusteet, ympäristö- ja energiahallintajärjestelmät sekä vastaavat standardit yrityksen johtamis- ja laatu järjestelmän osana.

Oppimateriaali ja kirjallisuus:

1. Renewable Energy Systems. David Buchla, Thomas Kissell, Thomas Floyd. Pearson Education, Inc. 2015.
2. Environmental Science, Systems and Solutions, 5th edition. Michael L. McKinney, Robert M. Schoh, Logan Yonavjak. Jones & Bartlett Learning, 2013, USA. ISBN: 978-1-4496-6139-7
3. Sustainable Energy, Choosing Among Options. Jefferson W. Tester, Elisabeth M. Drake, Massachusetts Institute of Technology. 2005. ISBN: 0-262-20153-4
4. VTT, Edita (2010), Energy Visions 2050

Toteutustavat: luennot ja harjoitukset 30 h



Suoritustavat: kirjallinen tentti
Opetus- ja suorituskielet: suomi
Arvostelu: asteikolla 1-5 tai hylätty
Vastuhenkilö: Katariina Pukkila-Palmunen
Opettaja: Katariina Pukkila-Palmunen
Vastuuorganisaatio: Tuotantotalouden yksikkö
Lisätietoja: vain tietotekniikan ja tuotantotalouden tutkinto-ohjelman opiskelijoille, tuotantotalouden sivuaineoikeuden saaneille sekä ympäristöalan opintokokonaisuutta suorittaville.

■ Projektitoiminta

Project Management

Koodi: TUTA1030

Laajuus: 3 op

Edellytykset:

Osaamistavoitteet: kurssin suoritettuaan opiskelija osaa selittää projektitoimintaan liittyvät olennaiset käsitteet, hän osaa kuvata projektinhallintaan liittyvät tietotarpeet ja miten näitä tietoja hankitaan ja hyödynnetään, kurssin jälkeen opiskelija osaa laatia projektisuunnitelman

Sisältö: projektikäsitteistö, yksittäisen projektin suunnittelu ja hallinta; projektisuunnitelman laatiminen, aikaohjaus, resurssiohjaus, projektin talous ja hinnoitus, poikkeamien taloudellinen hallinta, projektin laadunvarmistus ja riskien hallinta, projektitoiminnan konsepti, moniprojektiympäristö, monen yrityksen projektit, asiakkaan ja toimittajan projektien yhteensovittaminen, projektoivien yritysten verkko ja verkon hallinta, projektikulttuurit ja globaali organisaatio

Oppimateriaali ja kirjallisuus: Pelin, Risto (2009); Projektihallinnan käsikirja (sekä uudemmat että vanhemmat painokset käyvät) sekä opettajan materiaali (Moodlessa), Moodlen kurssiavain on projektisuunnitelma

Toteutustavat: itsenäinen verkkotyöskentely, voidaan suorittaa ympäri lukuvuoden

Suoritustavat: harjoitustyö

Opetus- ja suorituskielet: suomi

Arvostelu: asteikolla 1-5 tai hylätty

Vastuhenkilö: Päivi Haapalainen

Opettaja: Päivi Haapalainen

Vastuuorganisaatio: Tuotantotalouden yksikkö

Lisätietoja:

■ Yrityksen reaali prosessit

The Real Processes of a Company

Koodi: TUTA1090

Laajuus: 3 op

Edellytykset: Ei esitietovaatimuksia

Oppimistavoitteet: opiskelija osaa kurssin jälkeen selvittää yrityksen reaali prosessin kulun ja siihen keskeisesti liittyvät käsitteet ja käsitteiden väliset yhteydet

Sisältö: hankintatoimi ja -logistiikka, sisäinen logistiikka (tuotantoprosessi), läpimenoaika ja sen vaikutus sitoutuvaan pääomaan ja laatuun, jakelulogistiikka

Oppimateriaali ja kirjallisuus:

Uusi-Rauva, Erkki; Miettinen, Asko; Kouri, Ilkka; Haverila, Matti J (2005), Teollisuustalous, Infacs Oy (tai uudempi)

luentokalvot

Toteutustavat: luennot 12 h

Suoritustavat: tentti

Opetus- ja suorituskielet: suomi

Arvostelu: asteikolla 1-5 tai hylätty

Vastuhenkilö: Päivi Haapalainen

Opettaja: Päivi Haapalainen

Vastuuorganisaatio: Tuotantotalouden yksikkö

Lisätietoja:

Aineopinnot

■ Basic Course in Logistics

Logistiikka, peruskurssi

Code: TUTA2160

Credits: 5 ECTS

Prerequisites: TUTA2170 Introduction to Production Management and TUTA1090 The Real Processes of a Company -courses

Learning Outcomes: student will gain an understanding on the Basics and Challenges of International Logistics, Activities, Processes, Scorecards and Systems, as well as the Counterparts in Logistics

Content: Strategic and Financial Logistics, Logistics and Information Technology, SCM, Order, Inventory, Warehousing and Transportation Management, International Logistics

Study Materials:

1. book: Contemporary Logistics, 11/E. Paul R. Murphy, A. Michael Knemeyer

ISBN-10:0132953463, Prentice Hall, 2015, published 01/10/2014

2. other course material provided by the lecturer

Teaching Methods: 30 h lectures

Modes of Study: written exam and participation in possible visitor lectures

Languages: English

Grading: Scale 1–5 or fail

Responsible Person: Daniel Sahebi

Teacher(s): Daniel Sahebi

Responsible Unit: Department of Production

Additional Information: available only to students majoring in Industrial Management and to students who have been granted the right to minor in Industrial Management

■ Global Sourcing and Procurement

Kansainvälinen hankinta- ja ostotoiminta

Code: TUTA2140

Credits: 5 ECTS (5 op)

Prerequisites:

Learning Outcomes: student will gain an understanding on the Strategic Roles of Sourcing, Procurement and Suppliers in Global Value Chain and Business Environment, understand various Sourcing Strategies, Processes, Organisation Models and Scorecards, able to perform Supply Research and Supplier Evaluations, setting up Supplier related Scorecards and understand the strategic difference between Outsourcing, Onshoring and Offshoring **Content:** Role of Purchasing in the Value Chain, Purchasing Strategy and Management Process, Category Management, Supply Research, Performance Measurement, SCM, Outsourcing

Study Materials:

1. book: "Purchasing and Supply Chain Management: Analysis, Strategy, Planning and Practice" by Arjan J. van Weele, 5th edition, ISBN: 978-1-4080-1896-5, 2010, Cengage Learning EMEA

2. book: "Delivering Customer Value through Procurement and Strategic Sourcing – A professional Guide to Creating a Sustainable Supply Network", Walter L. Wallace, Yusen Xia Pearson Education Inc., 2015, USA.

ISBN-10: 0-13-388982-3

3. other course material provided by the lecturer

Teaching Methods: lectures 30 h

Modes of Study: written exam, written group work and participation in possible visitor lectures

Languages: language(s) of instruction: English -; completion language(s) English

Grading: Scale 1–5 or fail, 65% written exam and 35% group work

Responsible Person: Katariina Pukkila-Palmunen

Teacher(s): Katariina Pukkila-Palmunen

Responsible Unit: Department of Production and Department of Marketing

Additional Information: available only to students majoring in Industrial Management, Marketing and International Business and to students who have been granted the right to minor in Industrial management



■ Innovative Product Development and Product Lifecycle Management

Innovatiivinen tuotekehitys ja tuotteen elinkaaren hallinta

Code: TUTA2230

Credits: 5 ECTS

Prerequisites: basic studies in Industrial Management and Project Management

Learning outcomes: student will gain an understanding on the Innovation Process and various Innovations Methods and Tools and their usage in Manufacturing Business, Open Innovations Networks and their Value, Product Development Process, Concept Design, Basic Principles and Role of PLM in a Company, Challenges of creating a Product Structure and Strategy within a Company regarding of the Industry in case and understanding the preconditions of PLM in e-Commerce

Content: Basics of Innovations Process, Methods, Tools and Networks, Product Development and Piloting in Production, Concept Design, PLM and PLM Systems integration with other Business Applications, Product Structures and Strategies, Benefits and Challenges of a PLM System in various Industries, e-Business and PLM

Study Materials:

- Managing Innovation. Tidd, Joe; Bessant, John & Pavitt Keith (2009 4th Edition), Wiley
- Ulrich, Karl & Eppinger Steven (2007 4th Edition), Product Design and Development, McGraw-Hill Inc
- Product Lifecycle Management. Antti Saaksvuori, Anselmi Immonen. Springer. ISBN: 978-3-642-09684-6.
- Other course material provided by the lecturer

Teaching Methods: lectures and exercises 30h

Modes of Study: Written exam, written group work and participation in possible visitor lectures

Languages: English

Grading: Scale 1–5 or failed, 65% written exam and 35% group work

Responsible person / teacher: Katariina Pukkila-Palmunen

Responsible unit: Department of Production

Additional Information: available only to students majoring in Industrial Management and to students who have been granted the right to minor in Industrial management

Please note that this course will replace courses TUTA2210 Product Lifecycle Management and TUTA2200

Tuotekehitys ja innovaatioprosessit. If you have taken one of these courses, you cannot take this new course!

■ Kandidaatintutkielma

Bachelor's Thesis

Koodi: TUTA2980

Laajuus: 10 op

Edellytykset: tuotantotalouden perus- ja aineopinnot

Osaamistavoitteet: opintojakson jälkeen opiskelija osaa valita tutkimusaiheen, laatia tutkimussuunnitelman sekä tuottaa itsenäisesti pienen tutkimuksen, hän osaa myös tunnistaa ja koota tarvittavan materiaalin työnsä tueksi

Sisältö: tutkimusaiheen valinta ja tutkimussuunnitelman laatiminen; tutkielman aiheena voi olla: yrityksen toimeksianto, laitoksen projektissa tehtävä tutkimus tai opiskelijan valitsema aihe, aiheesta on aina sovittava työn ohjaajan kanssa, tutkielman ulkoasu on teknillisen tiedekunnan kirjoitusohjeiden mukainen ja laajuus on 35-50 sivua

1. tiedonhankintataidot 2 suoritetaan pakollisena osana kandidaatintutkielman tekemistä
2. seminaareissa käydään läpi mm. aiheen valintaa ja tutkimussuunnitelman tekemistä, kunkin opiskelijan on osallistuttava seminaareihin vähintään 3 kertaa työtä tehdessään
3. tutkimussuunnitelman ja valmiin työn esittäminen ovat pakollisia jokaiselle tutkielman tekijälle
4. tutkielman arvostelu: lopullinen tutkielma jätetään 2 kappaleena laitokselle, tutkielman arvostelee ohjaaja

kandidaatintutkielmasta kirjoitetaan kypsyysnäyte ohjaajan määräämästä aiheesta kypsyysnäytteeseen voi ilmoittautua, kun tutkielma on jätetty tarkastettavaksi lopullisessa muodossaan

Oppimateriaali ja kirjallisuus: -

Toteutustavat: seminaarit ja itsenäinen työskentely

Suoritustavat: osallistuminen seminaareihin vähintään 3 kertaa, tutkielman laatiminen, kypsyysnäyte

Opetus- ja suorituskielet: suomi

Arvostelu: asteikolla 1-5 tai hylätty

Vastuuhenkilö: Daniel Sahebi

Opettaja Daniel Sahebi ja Katariina Pukkila-Palmunen



Vastuuorganisaatio: Tuotantotalouden yksikkö

Lisätietoja: kts. Teknillisen tiedekunnan kauppatieteellisen alan kandidaatintutkielman laadintaohjeet sekä tiedekunnan kirjoitusohjeet, kandidaatintutkielmat tarkistetaan 1.8.2014 lähtien Turnitin-plagiaatintunnistusjärjestelmällä

■ Nordic Perspectives on Marketing

Nordic Perspectives on Marketing

Code: MARK2022

Credits: 5 ECTS

Ks. Kurssikuvaus kauppatieteellisen tiedekunnan opinto-oppaasta

http://www.uva.fi/fi/for/student/materials/handbooks/business/koko_opas_2016-2017.pdf#page=188

■ Sales Management and Negotiation Skills

Code: TUTA2220

Credits: 5 ECTS

Prerequisites: Basic understanding of marketing principles

Learning outcomes: The student understands the process of selling and how to lead sales-team.

Completed the course, you can

- Analyze sales processes in organizations
- Identify practices of good sales management in organizations
- Plan, conduct and follow-up sales work
- Use various argumentation techniques in selling
- Present and argue for your sales activities and reports in written and oral communication

Content: The purpose of this course is to concentrate in theories and models for personal selling, negotiation skills and sales management, which are discussed and practiced in details with industry case examples. The lectures prepare the students for field work, which take places in close cooperation with sales oriented organizations.

This course is an introduction to the field of sales management including various aspects of it, e.g. sales strategy, scorecards, personal selling and team leadership. It offers a comprehensive view on contemporary sales issues and tunes in the latest discussion on value creation in selling processes and business networks. The course, which has an interdisciplinary approach, has an emphasis on sales work in practice.

Study Materials: Jobber, D. & Lancaster, G. (2012). *Selling and Sales Management* (9th Ed.). Pearson Education Ltd. Edinburgh Gate, Harlow, England.

The Mind of the Customer by Richard Hodge and Lou Schachter, ISBN: 0-07-147027-1, 2006, McGraw-Hill.

Additional reading will be informed in the beginning of the course by the University Teacher.

Lecture slides.

Teaching methods: 135 hours divided into

Scheduled (contact) hours: 48

Non-scheduled work: 87 (individual and group work)

Modes of Study: Lectures and guest lectures

In class discussions

Group assignment

Languages: English

Grading: Scale 1-5 or fail

Responsible person: Katariina Pukkila-Palmunen

Teacher: Katariina Pukkila-Palmunen

Responsible Unit: Department of Production

Additional information: Available only to students majoring in Industrial Management and to students who have been granted the right to minor in Industrial Management. In addition, five bachelor's programme students in Marketing can attend the the course.



■ Tuotannonohjaus, peruskurssi

Introduction to Production Management

Koodi: TUTA2170

Laajuus: 5 op

Edellytykset: MS-excel-ohjelman perustaidot (suositellaan tilastotieteen perusteiden osaamista)

Oppimistavoitteet: suoritettuaan kurssin opiskelija pystyy kehittämään tuotannonohjausprosessia sen eri vaiheissa, esimerkiksi valitsemalla menetelmiä kysynnän ennustamiseen tai varaston täydennyksiin

Sisältö: kysynnän ennustaminen, kapasiteettisuunnittelu, varastonhallinta, tuotantosuunnittelu, materiaali-tarvelaskenta, töidenjärjestely

Oppimateriaali ja kirjallisuus: 1. Krajewski, Ritzman & Malhotra (2007): Operations Management (soveltuvin osin) 2. opettajan materiaalit

Toteutustavat: luennot 12 h ja harjoitukset 12 h, yritysvierailuja / kirjatentti

Suoritustavat: aktiivinen osallistuminen lähiopetukseen + tentti tai pelkkä kirjatentti

Opetus- ja suorituskielet: opetuskieli suomi, suorituskielet suomi ja englanti

Vastuhenkilö: Päivi Haapalainen

Opettaja: Päivi Haapalainen

Vastuuorganisaatio: Tuotannon yksikkö

Lisätietoja: vain tuotantotalouden pääaineopiskelijoille ja tuotantotalouden sivuaineoikeuden saaneille. Kurs- sin opetus on suomeksi, mutta kurssin voi suorittaa englanniksi kirjatenttinä

■ Tuotantolaitosten suunnittelu

Production Flow and Layout Planning

Koodi: TUTA2180

Laajuus: 5 op

Edellytykset:

Osaamistavoitteet:

opintojakson jälkeen opiskelija osaa analysoida tuotantolaitoksen sijaintiin vaikuttavia tekijöitä ja valita sopi- van sijaintipaikan, opiskelija osaa suunnitella tuotantolaitoksen layoutin karkealla tasolla ja tuntee tuotantolin- jan tasapainottamisen periaatteet sekä ryhmäteknologian periaatteet, lisäksi opiskelija osaa ottaa huomioon tuotantolaitosten ergonomisia, laadullisia- ja ympäristönäkökohtia

Sisältö: tuotantolaitoksen sijaintipaikan valinta, tuotantolaitoksen layout-suunnittelu, tuotantolinjan tasapai- nottaminen, ryhmäteknologian soveltaminen, tuotantolaitosten ergonomiset näkökohdat

Oppimateriaali ja kirjallisuus:

1. opettajan ilmoittama materiaali

lisämateriaalina voi soveltuvin osin käyttää:

- Stephens, M.P. & Meyers, F.E. Manufacturing Facilities – Design & Material Handling, Purdue University Press, 5th edition (2013)
- Tompkins, J.; White, J.; Bozer, Y. & Tanchoco, J. Facilities planning, Wiley, 4th edition (2010)

Toteutustavat: lähiopetus, itsenäinen verkko-opiskelu ja ryhmätyöskentely

Suoritustavat: aktiivinen osallistuminen luennoille, harjoituksiin ja yritysvierailuille sekä harjoitustyö

Opetus- ja suorituskielet: suomi

Arvostelu: asteikolla 1-5 tai hylätty

Vastuhenkilö: Päivi Haapalainen

Opettaja: Päivi Haapalainen

Vastuuorganisaatio: Tuotantotalouden yksikkö

Lisätietoja: kurssi on vain tuotantotalouden pääaineopiskelijoille ja tuotantotalouden sivuaineoikeuden saa- neille

■ Tuotantotalouden kirjallisuustutkimus ja -analyysi

Literature Study and Analysis in Industrial Management

Koodi: TUTA2190

Laajuus: 1-5 op

Edellytykset: tuotantotalouden muut perus- ja aineopintokurssit

Osaamistavoitteet: opiskelija osaa kuvata valitun aiheen peruskäsitteet ja hyödyntää oppimansa käytännön ongelmien ratkaisuun

Sisältö: tuotantotalouden ajankohtaisia aihepiirejä



Oppimateriaali ja kirjallisuus: sovitaan aina erikseen vastuopettajan kanssa

Toteutustavat:

Suoritustavat: raportti, jossa lähteen sisältö kuvattu kappaleittain kirjan sisällysluettelon mukaisesti, lisäksi mukaan tulee Powerpoint tms. esitys, jossa jokaisen kappaleen pääkohdat kuvattu bulletein, (tarkemmat ohjeet Moodlessa)

Opetus- ja suorituskielet: suomi

Arvostelu: hyväksytty / hylätty

Vastuuhenkilö: Jussi Kantola

Opettaja: Jussi Kantola

Vastuuorganisaatio: Tuotantotalouden yksikkö

Lisätietoja: vain tuotantotalouden pääaineopiskelijoille

Syventävät opinnot

■ Advanced Course in Quality and Reliability Management

Laatujohtaminen ja luotettavuustekniikka

Code: TUTA3050

Credits: 5 ECTS (5 op)

Prerequisites: students are expected to be familiar with the basic issues of quality management

Learning Outcomes: student will gain a deeper understanding on Total Quality Management, Control and Continuous Improvement in various industries and businesses, understand the Role and Implementation of various Quality Standards, learn to create a integrated Business, Quality and Environmental Management System and Balanced Scorecards Palette, manage the yearly Quality System Assessments, Audits and Controlling Activities, build up Reliability Procedures within a Company and understand the Role and Implementation of various Maturity Models, also being able to build up Program and Project Quality

Content: Total Quality Management, Integrated Business, Quality and Environmental Management Systems, various Quality Standards, Assessments and Audits, Quality Management Awards and Frameworks, Maturity Models, Balanced Scorecards Palette, Program and Project Quality, Continuous Improvement, Quality Management Systems and Reliability in various Industries

Study Materials:

1. book: Total Quality Management and Operational Excellence: Text with Cases, by John S. Oakland, ISBN: 978-0-41563550-9, London - Routledge; 4 edition (June 14, 2014)
2. book: Managing, Controlling and Improving Quality by Douglas C. Montgomery, Cheryl L. Jenkins, Michele E. Phund, Wiley April 2010, ISBN: 978-0-471-69791-6
3. other course material provided by the lecturer

Teaching Methods: lectures and exercises 30 h

Modes of Study: written exam, written group work and participation in possible visitor lectures **Languages:**

language(s) of instruction: English; completion language(s): English

Grading: scale 1-5 or fail, 65% written exam and 35 % group work

Responsible Person: Katariina Pukkila-Palmunen

Teacher(s): Katariina Pukkila-Palmunen

Responsible Unit: Department of Production

Additional Information: this course is available only for the master students in Industrial Management

■ Anticipation and Diffusion of Technological Innovations

Teknologisten innovaatioiden ennakointi ja levittäminen

Code: TUTA3220

Credits: 5 ECTS (5op)

Prerequisites: TUTA2230 Innovative Product Development and Product Lifecycle Management or otherwise acquired basic knowledge about product development and innovation management

Learning Outcomes: to understand the concept of technology progress, how technologies evolve, how technologies compete with each other and how this affects enterprises and their NPD, to be able to analyze the dynamics involved in technological innovations; in particular how social, economic and cultural factors interact with technological factors in innovation processes and diffusion of innovations, to be able to understand the



generic factors influencing the diffusion of innovations and based these the student can analyze prediction of failure patterns of diffusion

Content: the course contains two parts: 1) anticipation and management of technological innovations, both sustaining and disruptive innovations; 2) generic factors influencing the diffusion of innovations and prediction of future patterns of diffusion

Study Materials: for the book exam:

- 1) Christensen, C. M. (2011 or newer ed., also hard cover ed. 1997 can be used.): The Innovator's Dilemma, The Revolutionary Book That Will Change the Way You Do Business
- 2) Tidd, J. (2010 or newer ed.): Gaining Momentum: Managing the Diffusion of Innovations (except chapters 8 and 9)

For the classroom teaching:

- 1) the books mentioned above
- 2) scientific articles

Teaching Methods: classroom teaching (PBL) OR self-study

Modes of Study: active participation and assignments OR book exam

Languages: language(s) of instruction: English; completion language(s): English

Grading: scale 1-5 or fail

Responsible Person: Päivi Haapalainen

Teacher(s): Päivi Haapalainen

Responsible Unit: Department of Production

Additional Information: this course is available only for the master students in Industrial Management or Marketing. NB. During 2016/2017 this course will be arranged only as a book exam

■ Building Trust in Industrial Networks

Code: TUTA3260

Credits: 5 ECTS

Prerequisites: students are expected to be familiar with the basic issues of management

Learning outcomes: After completing the course the student can synthesize information regarding the trust management in networks. Identify, explain and predict individual behavior in networks connected with trust sustaining and building. Appreciate the importance of trust in networks in industrial management. Identify and evaluate the role of leadership, human resource management, knowledge management in strategy of trust management. This course will also support the development of students' skills in the area of reading and analysing academic literature.

Course content: Orientation on trust in industrial management (definitions, types of trust); The importance of trust in networks; The process of trust in management: building, rebuilding and sustaining trust in networks; Identifying organizational and interpersonal trust; Trust and relations with partners in networks; Trust and learning processes in networks; Authentic Trust and leadership; Loyalty trust as a concept which generates innovation; Trust and human resource management; Trust and knowledge management in networks; Measuring trust – quantitative and qualitative studies; New technologies and trust in networks (cybertrust).

Study Materials:

1. lecture material
2. books and book chapters
3. web resources
4. scientific articles supplied by the teacher

Teaching Methods: lectures (12h)

Modes of Study: exam, assignment

Languages: English

Grading: scale 1-5 or fail

Responsible Person: Jussi Kantola

Teacher(s): Joanna Paliszkievicz

Responsible Unit: Department of Production

Additional Information: available only to students of the Master's Programme in Industrial Management

■ Contemporary Topics in Industrial Management

Tuotantotalouden erityiskysymyksiä

Code: TUTA3060

Credits: 2-5 ECTS

Prerequisites: -

Learning Outcomes: Students gain deeper understanding regarding some contemporary topics in Industrial Management. The topics may be chosen by the students.

Content:

Study Materials:

- 1) Holweg, M. & N. Oliver (2015) *Crisis, Resilience and Survival: Lessons from the Global Auto Industry*, Cambridge University Press
- 2) Simchi-Levi, D. (2010 or newer) *Operations Rules: Delivering Customer Value through Flexible Operations*, The MIT Press
- 3) Bicheno, J. & Holweg, M. (2009 or newer) *The Lean Toolbox: The Essential Guide to Lean Transformation*, PICSIE Books
- 4) White, M.A. & G.D. Bruton, (2006 or newer), *The Management of Technology and Innovation – A Strategic Approach*, Thomson South-Western. (Parts 1-3)
2. Garnsey, E. & J. McGlade, (2006) *Complexity and Coo-Eevolution: Continuity and Change in Socio-Economic Systems*, Business & Economy, Edward Elgar Publishing Limited
- 5) Kawasaki G. (2015) *Portfolio Hardcover The Art of the Start 2.0: The Time-Tested, Battle-Hardened Guide for Anyone Starting Anything*, Penguin Group
- 6) McKinsey & Company Inc, T. Koller, M. Koedhard & D. Wessels, (2010) *Valuation: Measuring and Managing the Value of Companies*, 5th Edition, Wiley
- 7) Bartneck, N., V. Klaas & H.Schönherr (2009) *Optimizing Processes with RFID and Auto ID: Fundamentals, Problems and Solutions, Example Applications*, Publicis Publishing
- 8) Oshri Ilan (2011) *Offshoring Strategies: Evolving Captive Center Models*, the MIT Press
- 9) Hislop, D. (2005 or newer) *Knowledge Management in Organizations: A Critical Introduction*, Oxford, UK, Oxford University Press

Teaching Methods: self-study

Modes of Study: written summary from two books (20 pages/book), approved/fail

Languages: English

Grading: pass / fail

Responsible Person: Päivi Haapalainen

Teacher(s): Petri Helo, Päivi Haapalainen

Responsible Unit: Department of Production

Additional Information:

■ Enterprise Resource Planning

Yrityksen toiminnanohjaus

Code: TUTA3200

Credits: 3 ECTS

Prerequisites: Introduction to Production Management

Learning Outcomes: after the course the student will understand how ERP (Enterprise Resource Planning) systems are used in daily business, the student is able to analyze how ERP systems support business processes, will also learn to do simple tasks with SAP system related to sales, manufacturing and purchasing

Content: the course will give an introduction to ERP as part of production organization, the lectures will cover, transaction system principles, generic structure of ERP system, ERP implementation project and IT investments, IT part of Business Strategy, the exercises are related to ERP functionality and transactions (1) Sales and distribution, (2) Materials management, (3) Inventory Management, (4) Production Planning and Control, (5) Logistics execution, (6) Finance and control, enterprise Resource Planning will be discusses as part of global IT infrastructure

Study Materials: 1. George W. Anderson, Danielle Larocca, *SAP in 24 hours*, 2nd edition

2. Daniel E. O'Leary (2000), *Enterprise Resource Planning Systems: Systems, Life Cycle, Electronic Commerce and Risk*

3. articles

Teaching Methods: lectures and labs 30 h

Modes of Study: exam, submitted assignment

Languages: English

Grading: scale 1-5 or fail

Responsible Person: Petri Helo

Teacher(s): Petri Helo, RaykoToshev

Responsible Unit: Department of Production

Additional Information: this course is only for master students in Industrial Management replaces Enterprise Resource Planning – SAP

■ Master's Thesis

Pro Gradu -tutkielma

Code: TUTA3980

Credits: 30 ECTS

Prerequisites: master's level studies of industrial management

Learning outcomes: student will be able to conduct independent research work and practically apply the skills attained in the diverse fields of Industrial Management and to use the relevant literature to support the student's own research work and written report

Content:

The topic can be specified from a project in a company or organization, a research in the Department of production, or a subject of the student's own choosing. The topic must always be agreed upon with the thesis supervisor. After the topic is chosen a research plan has to be made. The research plan contains at least an overview of the topic area, preliminary research questions, constraints, required theories, description of data collection and analyses methods, time table and a preliminary table of contents. The student has to participate at least twice in the thesis seminar to present the research plan (TUTA3982) and preliminary / final results (TUTA3983). Seminars are graded on a scale 1-5 of fail. The seminar grading does not affect the grade of the thesis. The research plan is presented in the beginning of the thesis work, and the results are presented close to the end of the thesis work. Thesis seminars are good occasions to discuss the challenges in the thesis process. Master's Thesis must be written according to the Master's Thesis instructions and writing instructions provided by the faculty. The final version of the thesis is handed (3-4 copies) in to the unit in the form printed hard copies, a single page copy of the thesis abstract is attached to the copies. The thesis is graded by the Dean on the basis of the thesis evaluators' recommendations in addition, a maturity exam has to be written about a subject specified by the thesis supervisor, the student can sign up for a maturity exam on any exam day, once the thesis in its final form has been handed in for evaluation (TUTA3984 master's thesis 29 op).

Study Materials: -

Teaching Methods: personal supervision, thesis seminars

Modes of Study: independent research and writing work, mandatory participation in 2 master's thesis seminar with presentations

Languages: English or Finnish

Grading: assessment scale for thesis: sufficient, satisfactory, good, very good, excellent. Seminars: scale 1-5 or fail.

Responsible Person: the professors and university lecturer in industrial management

Teacher(s): professors of the Department of Production

Responsible Unit: Department of Production

Additional Information: all Master's Theses will be checked with the Turnitin plagiarism detection software

■ New Knowledge Creation and Organizational Learning in Product Development

Uuden tiedon luominen ja organisaation oppiminen tuotekehityksessä

Code: TUTA3210

Credits: 5 ECTS

Prerequisites:

Learning Outcomes: students will understand theories of organizational learning and knowledge creation in product and service development context, and know how to apply different methods to support new knowledge creation and organizational learning in the context of product and service development in organizations

Content: individual learning at work, competence, motivation, learning organization and organizational learning, knowledge creation theories, responsive environment, systems thinking - putting pieces together for new product and service development / innovation

Study Materials:

1. lecture material
2. Kantola, J. "Organizational Resource Management" book



3. books and book chapters
4. online tools and web resources
5. scientific articles supplied by the teacher
6. material provided by the case organization/company

Teaching Methods: lectures 14 h, workshop 14 h, case organization/company visits

Modes of Study: lectures, workshops and student assignments in teams

Languages: English

Grading: scale 1-5 or fail, exam (30%), course assignments (70%), activity (+), 75 % attendance required for pass

Responsible Person: Jussi Kantola

Teacher(s): Jussi Kantola

Responsible Unit: Department of Production

Additional Information:

■ Operations Strategy

Tuotantostrategia

Code: TUTA3080

Credits: 5 ECTS

Prerequisites:

Learning Outcomes: after completing this course the student will be able to list major forces that drive corporate competition and name proven strategic management models, during the course student assess various types of industries and determine the position of a company within its business area, customized data collection methods are utilized with the help of the virtual learning environment (Moodle), working in groups, students apply strategy evaluation tools and build hierarchical model for multi criteria decision making, they put into practice in a real case study analytical evaluation tools to classify major business factors, categorize company strategic goals and prepare tailored plan how to reach aspired strategic type

Content: introduction, basic theories of strategy, lean strategies, technology management, research methods, e.g. analytical hierarchy process AHP and strategic networking strategic corporate planning as a scientific problem

Study Materials:

1. Braun, Ernest, 1998, Technology in Context, Technology Assessment for Managers, The Management of Technology & Innovation, Routledge, London and New York
2. Markides, Constantinos C.: All the right moves; a Guide to Crafting Breakthrough Strategy, Harvard Business School Press., Boston 2000
3. Cantwell, John, (Editor) 2004, Globalization and the Location of Firms, Edward Elgar Publishing Limited UK
4. Doz Yves, Kosonen Mikko 2008, Fast Strategy: How strategic agility will help you stay ahead of the game
5. International Journals, e.g. Harvard Business Review, Research Technology Management, Product Innovation Management, Technology Management etc., A selection of approx. 20 scientific articles within the area

Teaching Methods: lectures and tutoring 15 hours and seminars 20 hours, seminars will be prepared during the course on the basis of real industrial cases and research within the area

Modes of Study: according to RBL-process, student have to participate at least in presenting the literature reference at the beginning and the final case study report, course is based on the lectures, seminars, literature references and written assignments, no examination

Languages: language(s) of instruction: teaching and seminars in English; completion language(s): English

Grading: scale 1-5 or fail

Responsible Person: Josu Takala

Teacher(s): Liu Yang

Responsible Unit: Department of Production

Additional Information:

■ Product and Service Design in Practice

Tuote- ja palvelusuunnittelu käytännössä

Code: TUTA3230

Credits: 5 ECTS

Prerequisites: Introduction to Product Development, TUTA1120



Learning Outcomes: students will learn axiomatic design theory, and to do design work in teams in real customer setting

Content: product and service development contexts, product and service design theory, methods and tools

Study Materials:

1. Suh, N. P., 2001, Axiomatic Design: Advances and Applications, Oxford University Press, New York, NY
2. lecture material
3. online tools and web resources
4. scientific articles provided by the teacher

Teaching Methods: lectures 14 h, workshops 14 h, presentations 8 h

Modes of Study: lectures, workshops, design project in teams, customer visits

Languages: English

Grading: scale 1-5 / fail, 2 quiz 20 % (10 % each), design project 80%, activity (+)

Responsible Person: Jussi Kantola

Teacher(s): Jussi Kantola

Responsible Unit: Department of Production

Additional Information:

■ Production Operations Management Methods

Tuotannonohjauksen menetelmät

Code: TUTA3240

Credits: 5 ECTS

Prerequisites: Operations Research

Learning Outcomes: to understand set of advanced methods and models in productions / operations management to apply production planning and control tools and techniques for decision making

Content: integration of productions / operations management, capacity planning, production performance and assessment, production dynamics and constraints and theory of constraints, impact of variability and managing in production systems, push vs pull production system, manufacturing execution systems, optimization models in POM, production planning and control, and production platforms and concept of flexibility

Study Materials:

1. Wallace Hopp (2007) Supply Chain Science, Mcgraw-Hill/Irwin
2. Wallace Hopp and Mark L. Spearman (2008) Factory Physics 3rd edition, Mcgraw-Hill / Irwin
3. articles

Teaching Methods: lectures and labs 23 hours, independent assignment work

Modes of Study: four submitted assignments

Languages: language(s) of instruction: English; completion language(s): English

Grading: scale 1-5 or fail

Responsible Person: Petri Helo

Teacher(s): Petri Helo, Pornthep Anussornnitisarn

Responsible Unit: Department of Production

Additional Information: this course is available only for the master students in Industrial Management, replaces advanced course in production operations management

■ Project Management

Projektinjohtaminen

Code: JOHT3019

Credits: 5 ECTS

Ks. Kurssikuvaus kauppatieteellisen tiedekunnan opinto-oppaasta

http://www.uva.fi/fi/for/student/materials/handbooks/business/koko_opas_2016-2017.pdf#page=61

■ Project Work in Industrial Management

Tuotantotalouden työkurssi

Code: TUTA3070

TUTA3071 Quality

TUTA3072 Times/Venture Business Games

TUTA3073 Production Management

TUTA3074 Logistics

TUTA3075 agreed separately

Credits: 2-5 ECTS for the course, 2-3 ECTS per part

Prerequisites: bachelor level studies in department of production.

Learning Outcomes: the student can solve practical problems by the application of relevant theory and report the results according to the standards of the department of production

Content: the course can be compiled from a number of elements 1) The Project Work course can be completed by carrying out project based development work in companies and other organizations, the amount of credits granted for each project varies with the difficulty of the task, the content of each project is to be agreed upon with the relevant teacher, it is possible to carry out project work as a part of ongoing, wider research project of the department of p2) a second option is to take part in business games such as the Venture Cup (contact person Josu Takala) or the TIMES consulting competition (Tournament in Management and Engineering Skills) jointly arranged together with the TUTTI Student Society, the winning team of the local elimination rounds will be able to participate in the international ESTIEM semifinals, participating in a business game will give a maximum of 3 ECTS, we recommend that the course is completed by participation in several different events and projects, combining the different options available to the student

Study Materials: depend on the topic

Teaching Methods: self-study

Modes of Study: self-study (projects) or participating in TIMES or Vendor Business Games

Languages: English

Grading: pass or fail

Responsible Person: Päivi Haapalainen

Teacher(s): Päivi Haapalainen

Responsible Unit: Department of Production

Additional Information: the industrial management project work course can be completed around the year, and is not tied a specific course schedule (except the TIMES and Vendor Business Games), the course should consist of at least two different part performances, the part performances are added to the student's credit registry upon completion

■ Research Methods

Code: TECH3010

Credits: 5 ECTS

ks. Kurssikuvaus tietotekniikan opintojaksokuvauksista

<http://www.uva.fi/fi/for/student/materials/handbooks/technology/tietotekniikka-003.pdf#page=17>

■ Simulation of Production Systems

Tuotantojärjestelmien simulointi

Code: TUTA3250

Credits: 3 ECTS

Prerequisites: Introduction to Production Management, Basic Course in Statistics

Learning Outcomes: to understand production simulation methods, tools and techniques for decision making by using stochastic methods, to apply basic tools of simulation in context of operations management and management science, to evaluate simulation model results

Content: continuous and discrete event simulation, stochastic process, statistical ranking and selection procedures, verification and validation of simulation models, using MS Excel based simulation tools, production simulation by using Visual Components 3D Automate software

Study Materials: Manuel, L., Laguna, M., & Marklund, J. (2005) Business Process Modeling, Simulation and Design, Pearson Education India

Teaching Methods: lectures and labs 20 hours

Modes of Study: submitted assignments
Languages: language(s) of instruction: English completion language(s): English
Grading: scale 1-5 or fail
Responsible Person: Petri Helo
Teacher(s): Jutta Pichitlamken, Yohanes Nugroho
Responsible Unit: Department of Production
Additional Information: this course is available only for the master students in Industrial Management

■ Supply Chain Design and Management

Toimitusketjujen suunnittelu ja johtaminen

Code: TUTA3120

Credits: 5 ECTS

Prerequisites: obligatory prerequisites: Introduction to Production Management, Basic Course in Logistics

Learning Outcomes: student will gain a deeper understanding and knowledge in Global Logistics and Supply Chain Management, introduce Models and Tools in Designing, Managing and Optimizing the Supply Chain Network.

Content: Supply Chain Performance, Drivers and Metrics, Designing Global Supply Chain and Distribution Networks, Demand Forecasting, Aggregate and Sales and Operations Planning, Cycle and Safety Inventories, Product Availability Optimisation, Transportation, Sourcing and Pricing Decisions, Information Technology and Sustainability in Supply Chain

Study Materials:

1. book: Supply Chain Management, 5/E. Sunil Chopra, Northwestern University, Peter Meindl, ISBN-10: 0132743957. Prentice Hall, 2013. Cloth, 528 pp. Published 01/26/2012,
2. other course material provided by the lecturer

Additional reading:

book: Supply Chain Network Design: Applying Optimization and Analytics to the Global Supply Chain. Michael Watson, Sara Lewis, Peter Cacioppi, Jay Jayaraman, ISBN-10: 0-13-301737-0, Pearson Education Inc., 2013

Teaching Methods: lectures and exercises 30 h

Modes of Study: written exam, written group work and participation in possible visitor lectures

Languages: English

Grading: scale 1-5 or fail, 65% written exam and 35% group work

Responsible Person: Katariina Pukkila-Palmunen

Teacher(s): Katariina Pukkila-Palmunen

Responsible Unit: Department of Production

Additional Information: this course is available only for the master students in Industrial Management

■ Technology Management

Teknologijahtaminen

Code: TUTA3030

Credits: 5 ECTS

Prerequisites: Introduction to Product Development and Quality Management, Introduction to Production Management

Learning Outcomes: to apply modern theories of strategy for industrial enterprises, especially in small businesses utilizing strategic networking, the sub strategy starts from the business strategy of the enterprise by utilizing technology and knowledge transfer mechanisms (benchmarking) to be implemented in the core business processes

Content: technology driven strategies technology and operations management, strategic networking and modern dynamic (qualitative) decision making processes all from the application point of view

Study Materials:

1. Garton, C. & McCulloch, E.: Fundamentals of Technology Project Management, McPress, 2005
2. Burgelman, R.; Christensen, C.; Wheelwright, S. & Maidique, M.: Strategic Management of Technology and Innovation, 4th ed. McGraw-Hill, 2003

Teaching Methods: 30 hours combining theory and seminars

Modes of Study: according to RBL-process

Languages: English

Grading: scale 1-5 or fail

Responsible Person: Josu Takala



Teacher(s): Rayko Toshev
Responsible Unit: Department of Production
Additional Information:

Industrial Internship

■ Industrial Internship

Työharjoittelu

Code: TUTA2950/TUTA3950

Credits: 1-5 ECTS

Prerequisites:

Learning Outcomes: the student learns to apply studied theory in to a practical situation

Content: internship in a company or public organization, the aim is to gather practical work experience

Study Materials: -

Teaching Methods: internship in a company or public organization

Modes of Study: internship and written report

Languages: Finnish, English

Grading: approved/fail

Responsible Person: Daniel Sahebi

Teacher(s): Daniel Sahebi

Responsible Unit: Department of Production

Additional Information: participation: industrial internship, 2 weeks of full-time work gives one credit unit, the Industrial Management unit's assistant approves the course credit on the basis of the student's internship report and the attached work certificate

can be done as a part of either the bachelor's degree or the master's degree, for more detailed instructions on internships and the internship report, see webpages of the University of Vaasa