Opasraportti

Courses in English for Exchange Students, 2014-15: Industrial Engineering and Management (2014 - 2015)

This WebOodi Course Catalogue lists courses in Industrial Engineering and Management taught in English for exchange students during academic year 2014-2015 at the Faculty of Technology, University of Oulu.

Course availability: 1. Most of the listed courses can be available for all **exchange students in the Faculty of Technology** (in the study fields of process engineering, environmental engineering, mechanical engineering, and industrial engineering and management), providing the student has the required previous knowledge to complete the course in question successfully (see the course descriptions: "Prerequisites and co-requisites").
2. Exchange students from the **other Faculties** have to contact the Faculty Coordinator to ask about the possibility to participate to the listed courses.

For **more information**, please contact Faculty Coordinator (see contact info below).

All incoming exchange students must submit their Exchange Application through the University of Oulu SoleMOVE system, and you will also need to submit a course plan to that application. Further information on application process for incoming exchange students:
http://www.oulu.fi/english/studentexchange or at international.office@oulu.fi.

So, when planning your exchange studies and the required **Learning Agreement**, please use the information provided under the **Courses tab** in this Catalogue. Please read carefully the provided information (descriptions) of each course you wish to take (language of instruction, target group, course content, timing, preceding studies, additional information etc.).

After arrival, accepted exchange students are required to **register** to all courses (and later, to the course exams too). Course registration takes place via the WebOodi system once you have arrived in Oulu and received your University of Oulu login information. More information on registration will be provided during Orientation. When registering to a course you will be able to find detailed information on teaching and schedules under the **Instruction tab**.

Course schedules: Detailed information on teaching and schedule can be found under the **Instruction tab**. Our courses' schedules are based on so-called **periodical schedules** . Courses which are organised during periods 1-3 are given on the autumn term (September-December), and respectively the periods 4-6 refer to courses given during the spring term (January-May).

On the academic study year 2014-2015 these periods are scheduled as follows:

Autumn term:
Period 1. 1.9.-3.10. **2014**
Period 2. 6.10.-7.11.2014
Period 3. 10.11.-12.12.2014

Spring term
Period 4. 12.1.-13.2. **2015**
Period 5. 16.2.-27.3.2015
Period 6. 30.3.-8.5.2015

Individual course codes include information on the level of course:

xxxxxY, xxxxxP, = basic introductory level courses, for 1st-2nd year students (basic Bachelor level)
xxxxxA = subject level introductory courses, mainly for 1-3 year students (advanced Bachelor level)
xxxxxS = advanced level courses, mainly for 4-5 year students (Master level courses)

Any questions about courses in English in Industrial Engineering and Management should be addressed to :

Ms. M.Sc. Marita Puikkonen
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Process, Environmental and Mechanical Engineering, and Industrial Engineering and Management
Faculty of Technology, University of Oulu, Finland
Eddress: firstname.surname@oulu.fi

Tutkintorakenteisiin kuulumattomat opintokokonaisuudet ja -jaksot

555360S: Administration, Organization and Education in Working Life, 5 op
555345S: Advanced Course in Product Development, 6 op
555240A: Basic Course in Product Development, 3 op
555344S: Management Information Systems, 5 op
555343S: Product Data management, 5 op
555346S: Product management, 5 op
555322S: Production Management, 3 op
555341S: Productivity and Performance Management, 3 op
555387S: Project Work in Quality Management, 5 op
555388S: Project Work in Project Management, 5 op
555380S: Quality Management, 5 op
555348S: Research project in product development management, 5 op
555321S: Risk Management, 3 op
555347S: Seminar in product development management, 5 op
555320S: Strategic Management, 5 op
555340S: Technology Management, 4 op

Opintojaksojen kuvaukset

Tutkintorakenteisiin kuulumattomien opintokokonaisuuksien ja -jaksojen kuvaukset

555360S: Administration, Organization and Education in Working Life, 5 op

Opiskelumuoto: Advanced Studies
Laji: Course
Vastuuyksikkö: Field of Industrial Engineering and Management
Arvostelu: 1 - 5, pass, fail
Opettajat: Kisko, Kari Juhani
Opintokohteen kielet: English
Leikkaavuudet:

555371S Human Resource Management 5.0 op

555376S Organisational development 5.0 op

Voidaan suorittaa useasti: Kyllä

ECTS Credits:
5 ECTS credits.
Language of instruction:
Finnish, English
Product Management and exchange students can register to the " **Lectures held in english".** Lectures in english will start about one week later. Dates will appear in Weboodi on Monday 12th of January.
Timing:
Pperiods 4-6.
Learning outcomes:
The student can recognize factors influencing the actions of an individual within an organization and analyze the observed modes of acting. He/she is able to recognize new improvement areas and provide improvement suggestions according to the model of learning organization. The student is able to present his/her learnings to others and to evaluate the presentations of others. He/she is able to observe, analyze and make improvement suggestions regarding the complex interactions of organizations and their personnel.
Contents:
To provide information on organizations, human resource matters and the planning and development of an organization.
The mission and functions of an organization. Classical and modern organizational theories, esp. learning organization. Organizational culture. Management, especially HR management. Managing change of organizations and human resource matters in an organization. Organizational development.
Mode of delivery:
Contact teaching.
Learning activities and teaching methods:
Lectures, exercises, seminars and examination or only examination.
Target group:
-
Prerequisites and co-requisites:
-
Recommended optional programme components:
-
Recommended or required reading:
Sarala, U. & Sarala, A. Oppiva organisaatio - oppimisen, laadun ja tuottavuuden yhdistäminen. 8. painos. Palmenia-kustannus, 2003. Hatch, M. J. Organization Theory. Oxford University Press, New York, USA, 2006 ja muu opintojaksolla ilmoitettava kirjallisuus. Täydentävä materiaali: Haatanen: Työsuhde-politiikka. Julk. 895, Otatieto, Helsinki 2001.
Assessment methods and criteria:
continuous assessments; lectures, exercises, seminars and examination or only examination.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
Numerical 1-5/fail.
Person responsible:
Lecturer Kari Kisko.
Working life cooperation:
No.
Other information:
-

555345S: Advanced Course in Product Development, 6 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Field of Industrial Engineering and Management

Arvostelu: 1 - 5, pass, fail

Opettajat: Haapasalo, Harri Jouni Olavi

Opintokohteen kielet: English

Leikkaavuudet:

555351S Advanced Course in Product Development 5.0 op

Voidaan suorittaa useasti: Kyllä

ECTS Credits:
6 ECTS credits.
Language of instruction:
English
Timing:
Periods 1-3.
Learning outcomes:
The student understands the objectives of requirements engineering in order to develop sustainable products. The course familiarizes the student to requirements engineering process and its key activities. After finishing the course, the student will able to analyze requirements engineering in product development processes. The student knows Design for Excellence (DfX) practice. The student can recognize different stakeholder specific requirements and their diversity.
Contents:
The concepts of requirements management, requirements engineer process, requirement prioritization and valuation, Design for Excellence (DfX), different stakeholders and their requirements for product development.
Mode of delivery:
Face-to-face teaching.
Learning activities and teaching methods:
Lectures and group work.
Target group:
Industrial engineering and management students
Prerequisites and co-requisites:
555240A Basic course in product development, 555340S Technology management.
Recommended optional programme components:
-
Recommended or required reading:
Will be defined at the beginning of the course.
Assessment methods and criteria:
Group work, exam.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1-5
Person responsible:
Professor Harri Haapasalo.
Working life cooperation:
No
Other information:
-

555240A: Basic Course in Product Development, 3 op

Voimassaolo: 01.06.2007 -

Opiskelumuoto: Intermediate Studies

Laji: Course

Vastuuyksikkö: Field of Industrial Engineering and Management

Arvostelu: 1 - 5, pass, fail

Opettajat: Haapasalo, Harri Jouni Olavi

Opintokohteen kielet: Finnish

Leikkaavuudet:

555242A	Product development	5.0 op

Voidaan suorittaa useasti: Kyllä

ECTS Credits:
3 ECTS credits **.**
Language of instruction:
Finnish.
Timing:

Periods 1-3.
Learning outcomes:
Objective: This study module introduces product development and innovations management in a company environment. Basic course in product development provides fundamental understanding over tools and frameworks that can be used for analysing and managing products, innovations, and technology development. The aim is to create a connection between product development and other company functions.
Learning outcomes: After this study module, a student is capable of explaining the role of product development as a company function. The student understands the difference between innovation activities and systematic product development, and knows the difference between different phases of product development process and its activities. Additionally, the student is able to define the meaning of other company functions to product development activities.
Contents:
Meaning of products for the operations of an industrial enterprise. Product development paradigm and defining relevant concepts. Realising product development methodologically (U&E model, Cooper's stage-gate model, QFD), managing innovations, and product development success factors.
Mode of delivery:
Face-to-face teaching and distance teaching.
Learning activities and teaching methods:
The course includes lectures and compulsory course work.
Target group:
Industrial engineering and Management students.
Prerequisites and co-requisites:
555223A Introduction to production control.
Recommended optional programme components:
-
Recommended or required reading:
Handouts, course work, and a collection of articles. Ulrich, K. & Eppinger, S. (2008) Product Design and Development. McGraw-Hill. 358 p.
Assessment methods and criteria:
Final exam.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1-5
Person responsible:
Professor Harri Haapasalo.
Working life cooperation:
No.
Other information:
-

555344S: Management Information Systems, 5 op

Voimassaolo: - 31.07.2015

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Field of Industrial Engineering and Management

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: English

Leikkaavuudet:

555314S	Management Information Systems	5.0 op

Voidaan suorittaa useasti: Kyllä

ECTS Credits:
4 ECTS credits.
Language of instruction:
English
Timing:
Periods 4-6.
Learning outcomes:

The aim of the course is to provide readiness for enterprise information system designing, purchasing, and development tasks. The aim is to familiarize a student with the significance of information and its management when controlling processes. After completing the course student can explain the key concepts of management information systems (MIS). The student can define the information needs of management processes and how information systems can meet these needs. The student can describe the key features of the following types of systems: DSS, GDSS, EIS, BI, and ERP. The student can analyse the state of the management in an organisation, and can suggest a suitable type of information system to support the management. After the course the student can take part in the organisational development from MIS viewpoints.

Contents:
Management information systems (MIS), information systems in decision making and leadership, Decision Support Systems (DSS), Group Support Systems (GSS), Executive Information Systems (EIS), the effects of information technology in operations, examining the effects of information and communication technology on productivity, financial growth, and the formation of national competitiveness.

Mode of delivery:
multiple methods available. The principal way to conduct the course is participate face-to-face teaching (that is held mainly in Finnish). Course is also given in English based on distance learning and closing session where the group work is represented.

Learning activities and teaching methods:
Lectures and independent work, or group work and seminar.

Target group:
Industrial engineering and management students.

Prerequisites and co-requisites:
B.Sc. in Industrial Engineering and Management or equivalent.

Recommended optional programme components:
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Recommended or required reading:
Lecture materials and given set of journal articles. Laudon, K.C. & Laudon, J.P. 2004. Management Information systems. Prentice Hall. ISBN: 0-13-120681-8.

Assessment methods and criteria:
Learning diary (recommended when participating to the lectures), or group work report and seminar representation (recommended for exchange students), or exam.
Read more about assessment criteria at the University of Oulu webpage.

Grading:
1-5

Person responsible:
Professor Pekka Kess.

Working life cooperation:
No

Other information:
Compensatory course from 1.8.2015 is 555314S Management Information Systems.

555343S: Product Data management, 5 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Field of Industrial Engineering and Management

Arvostelu: 1 - 5, pass, fail

Opettajat: Arto Tolonen

Opintokohteen kielet: English

Voidaan suorittaa useasti: Kyllä

ECTS Credits:
5 ECTC credits.

Language of instruction:
English

Timing:
Periods 4-6.

Learning outcomes:
The course familiarizes a student with the product processes of an enterprise and specifically the meaning of product data in different stages of product process. After finishing the course, a student knows what product data

is and how it can be used for business purpose. A student is familiar with the basic concepts of product data management (PDM) and is aware of the basic tools used for PDM. After finishing the course, a student will able to analyze existing and future products from product structure viewpoint. Students will be able to analyze the company's product data management as a whole and to give suggestions based their analysis.
Contents:
Product information management concepts, its history and challenges, PDM-processes: managing product models, managing documents and configurations as well as tracing information, PDM-system and its functions, PDM-project and implementation of the system.
Mode of delivery:
Face-to-face teaching.
Learning activities and teaching methods:
Lectures, group work, exam.
Target group:
Industrial engineering and management students
Prerequisites and co-requisites:
555240S Basic course in product development.
Recommended optional programme components:
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Recommended or required reading:
Lecture materials and selected articles. Saaksvuori A & Immonen A. (2008) Product lifecycle management, 8 ed. pages 1-65 and 91-176.
Assessment methods and criteria:
Group work report and exam.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1-5
Person responsible:
Professor Harri Haapasalo
Working life cooperation:
No
Other information:
-

555346S: Product management, 5 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Field of Industrial Engineering and Management

Arvostelu: 1 - 5, pass, fail

Opettajat: Arto Tolonen

Opintokohteen kielet: English

Voidaan suorittaa useasti: Kyllä

ECTS Credits:
5 ECTS credits.
Language of instruction:
English
Timing:
Periods 4-6
Learning outcomes:
The course familiarizes students with the broad concepts of product management. After finishing the course, the student understands central principles and contents of product management. Student knows the basics of product portfolio management and understands the ways to analyse products business case. A student learns to see product management as an organizational lifecycle function that focus managing all products and related actions in all product lifecycle phases. The student can apply the learned things and methods in different industries in order to develop systematic product management.
Contents:
Basic issues in product management, sub-processes that are included in product management, methods and tools for product management, product portfolio management, product business case.
Mode of delivery:

Face-to-face learning.
Learning activities and teaching methods:
Will be defined at the beginning of the course.
Target group:
Industrial engineering and management students
Prerequisites and co-requisites:
555240A Basic course in product development, 555340S Technology management, 555320S Strategic management.
Recommended optional programme components:
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Recommended or required reading:
Will be defined at the beginning of the course.
Assessment methods and criteria:
Will be defined at the beginning of the course.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1-5
Person responsible:
Professor Harri Haapasalo
Working life cooperation:
No
Other information:
-

555322S: Production Management, 3 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Field of Industrial Engineering and Management

Arvostelu: 1 - 5, pass, fail

Opettajat: Haapasalo, Harri Jouni Olavi

Opintokohteen kielet: English

Leikkaavuudet:

555333S Production Management 5.0 op

Voidaan suorittaa useasti: Kyllä

ECTS Credits:
3 ECTS credits.
Language of instruction:
English.
Timing:
Periods 4-6.
Learning outcomes:
After finishing this course, the student will be able to analyze production processes and to define the cornerstones of managing different production modes. In addition the student will know how to analyze the bottlenecks in different production processes. Understanding the content of lean production. By combining this and previous courses, the student will be able to define the most important development areas in production processes.
Contents:
Analysing and developing manufacturing environment. Lean production. Change management. Management and operation information methods.
Mode of delivery:
Face-to-face teaching and group homework.
Learning activities and teaching methods:
Lectures, group work, seminar.
Target group:
Industrial engineering and management students.
Prerequisites and co-requisites:
555223A Introduction to production control & 555224A Methods of production management and logistics.
Recommended optional programme components:
-

Recommended or required reading:
Will be defined at the beginning of the course.
Assessment methods and criteria:
Exam and group work.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1-5
Person responsible:
Professor Harri Haapasalo.
Working life cooperation:
No
Other information:
-

555341S: Productivity and Performance Management, 3 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Field of Industrial Engineering and Management

Arvostelu: 1 - 5, pass, fail

Opettajat: Haapasalo, Harri Jouni Olavi

Opintokohteen kielet: English

ECTS Credits:
3 ECTS credits.
Language of instruction:
English
Timing:
Periods 4-6.
Learning outcomes:
After finishing the course, the student will able to analyse the efficiency of activities in an organization, from both internal and external viewpoints. The internal analysis is based on Balanced Score Card or other equivalent performance measurement. External measurement of efficiency in based on analysing productivity development and the factors affecting it.
Contents:
The concepts of productivity and performance and the levels to their examination. Productivity and its significance to an enterprise’s processes and profitability. Measuring productivity and performance. The metrics of productivity and operative steering tools. An enterprise’s internal and external productivity. The analysis and the tools for analysis of productivity and the approaches for measuring productivity in industry.
Mode of delivery:
Face-to-face teaching and group work.
Learning activities and teaching methods:
Lectures, group work.
Target group:
Industrial engineering and management students.
Prerequisites and co-requisites:
555340S Technology management.
Recommended optional programme components:
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Recommended or required reading:
Lecture materials. Sumanth, D.J. 1998. Total productivity management, A systematic and quantitative approach to compete in quality, price and time. CRC Press LLC. 407 p.
Assessment methods and criteria:
Exam.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1-5
Person responsible:
Professor Harri Haapasalo.
Working life cooperation:
No

Other information:
-

555387S: Project Work in Quality Management, 5 op

Opiskelumuoto: Advanced Studies
Laji: Course
Vastuuyksikkö: Field of Industrial Engineering and Management
Arvostelu: 1 - 5, pass, fail
Opettajat: Haapasalo, Harri Jouni Olavi
Opintokohteen kielet: Finnish
Leikkaavuudet:

555379S Research Project in Industrial Engineering and Management 5.0 op

Voidaan suorittaa useasti: Kyllä

ECTS Credits:
5 ECTS credits.
Language of instruction:
Finnish/English.
Timing:
Periods 1-6.
Learning outcomes:
Objective: Applying the methods of quality management in a company's activities and development. On the course the student can combine and apply earlier gained knowledge in the form of a wide study. The student familiarises with research work and reporting of the results.
Learning outcomes: Upon completion the student can analyse and develop the activities of a company using the methods of quality management.
Contents:
Subject and type of work changes by the case. Mostly the subjects come from the industry and relate to actual problems.
Mode of delivery:
Blended learning.
Learning activities and teaching methods:
The methods are agreed with the instructor of the work. Research plan, familiarizing with related literature, solving the problem and a literary report are required to pass. The work can be done individually or in a group.
Target group:
Undergraduate students of IEM
Prerequisites and co-requisites:
Bachelor in Industrial Engineering and Management or equivalent.
Recommended optional programme components:
-
Recommended or required reading:
Changes by the case.
Assessment methods and criteria:
Research report.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1-5
Person responsible:
Osmo Kauppila
Working life cooperation:
-
Other information:
-

555388S: Project Work in Project Management, 5 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Field of Industrial Engineering and Management

Arvostelu: 1 - 5, pass, fail

Opintokohteen kielet: Finnish

Leikkaavuudet:

555379S Research Project in Industrial Engineering and Management 5.0 op

Voidaan suorittaa useasti: Kyllä

ECTS Credits:
5 ECTS credits.
Language of instruction:
Finnish/English.
Timing:
Periods 1-6.
Learning outcomes:
Objective: Applying the methods of project and project business management in a company's activities and development. On the course the student can combine and apply earlier gained knowledge in the form of a wide study. The student familiarises with research work and reporting of the results.
Learning outcomes: Upon completion the student can analyse and develop the activities of a project company.
Contents:
Subject and type of work changes by the case. Mostly the subjects come from the industry and relate to actual problems.
Mode of delivery:
Blended learning.
Learning activities and teaching methods:
The methods are agreed with the instructor of the work. Research plan, familiarizing with related literature, solving the problem and a literary report are required to pass. The work can be done individually or in a group.
Target group:
Undergraduate students of IEM
Prerequisites and co-requisites:
Bachelor in Industrial Engineering and Management or equivalent.
Recommended optional programme components:
-
Recommended or required reading:
Changes by the case.
Assessment methods and criteria:
Research report.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1-5
Person responsible:
Professor Jaakko Kujala.
Working life cooperation:
-
Other information:
-

555380S: Quality Management, 5 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Field of Industrial Engineering and Management

Arvostelu: 1 - 5, pass, fail

Opettajat: Jaakko Kujala

Opintokohteen kielet: English

Leikkaavuudet:

555390S Process Analytics 5.0 op

Voidaan suorittaa useasti: Kyllä

ECTS Credits:
5 ECTS credits.
Language of instruction:
English
Timing:
Periods 5-6.
Learning outcomes:
Having completed the course, the student can analyse the central principles and contents of quality management and related management approaches. The student can apply the learned things and methods in different kinds of situations and industries.
Contents:
Quality management and its basic assumptions, the methods of TQM in different environments, process management, quality systems, quality award competitions, Six Sigma, performance measurement, Lean, organisational capability models.
Mode of delivery:
Face-to-face learning.
Learning activities and teaching methods:
Lectures, a personal exercise, a group study and an exam.
Target group:
Undergraduate students of IEM.
Prerequisites and co-requisites:
-
Recommended optional programme components:
555281A Basic course in quality management
Recommended or required reading:
Lecture materials and selected articles.
Assessment methods and criteria:
The course grade is derived from the exam score, group work grade and the personal exercise grade.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1-5.
Person responsible:
Osmo Kauppila
Working life cooperation:
No
Other information:
The course gives the student a broad conception of contents of total quality management and applying it in different environments.

555348S: Research project in product development management, 5 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Field of Industrial Engineering and Management

Arvostelu: 1 - 5, pass, fail

Opettajat: Haapasalo, Harri Jouni Olavi

Opintokohteen kielet: English

Leikkaavuudet:

555379S Research Project in Industrial Engineering and Management 5.0 op

Voidaan suorittaa useasti: Kyllä

ECTS Credits:
5 ECTS credits. It is also possible to complete the course as a broader work piece of more than 5 ECTS credits if agreed so with the instructor.
Language of instruction:
English
Timing:

Periods 1-6.
Learning outcomes:
After finishing the course, the student will able to analyze and develop company activities using product development management methods.
Contents:
Completion of the course is agreed on one-to-one with the instructor. An accepted completion of the work requires planning of a research plan, familiarization with related literature, presented a solution to the researched question, and a written report.
Mode of delivery:
Will be defined at the beginning of the course.
Learning activities and teaching methods:
Will be agreed together with the student and the professor.
Target group:
Industrial engineering and management students.
Prerequisites and co-requisites:
555340S Technology management, 555321S Risk management, 555320S Strategic management.
Recommended optional programme components:
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Recommended or required reading:
Will be defined at the beginning of the course.
Assessment methods and criteria:
Will be defined at the beginning of the course.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
Will be defined at the beginning of the course.
Person responsible:
professor Harri Haapasalo
Working life cooperation:
No
Other information:
-

555321S: Risk Management, 3 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Field of Industrial Engineering and Management

Arvostelu: 1 - 5, pass, fail

Opettajat: Hanna Kropsu-Vehkaperä

Opintokohteen kielet: English

Leikkaavuudet:

555377S Risk Management 5.0 op

Voidaan suorittaa useasti: Kyllä

ECTS Credits:
3 ECTS credits.
Language of instruction:
English
Timing:
Periods 1-3.
Learning outcomes:
The course familiarizes a student with the overall concept of risk management. After completing the course student can explain the key concepts of risk management. The student can describe risk classifications and can explain the importance of the risk management to organisations. The student can analyse business risks from new points of view and can produce improvement proposals based on the risk analysis.
Contents:
Theoretical definition of risks, risks in entrepreneurship and their classifications, methods of risk management, tools for corporate risk management.
Mode of delivery:
Face-to-face teaching.

Learning activities and teaching methods:
Lectures, individual work or group work.
Target group:
Industrial engineering and management students.
Prerequisites and co-requisites:
B.Sc. in Industrial Engineering and Management or equivalent.
Recommended optional programme components:
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Recommended or required reading:
Bernstein P.L. (1996) Against the Gods - The Remarkable Story of Risk. JohnWiley & Sons Inc., ISBN: 0-471-29563-9 (nid.), 0-471-12104-5 (sid.); Lecture materials.
Assessment methods and criteria:
Group work (/exam).
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1-5
Person responsible:
Professor Pekka Kess.
Working life cooperation:
No
Other information:
-

555347S: Seminar in product development management, 5 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Field of Industrial Engineering and Management

Arvostelu: 1 - 5, pass, fail

Opettajat: Haapasalo, Harri Jouni Olavi

Opintokohteen kielet: English

Leikkaavuudet:

555378S	Seminar in industrial engineering and management	5.0 op

Voidaan suorittaa useasti: Kyllä

ECTS Credits:
5 ECTS credits.
Language of instruction:
English
Timing:
Periods 1-3.
Learning outcomes:
After finishing the course, the student will able to present research areas related to product development management. The student will also able to assess related research and to critically discuss it.
Contents:
Each seminar session discusses a certain topic in product development management in great detail. The topic area is specified according to students' wishes. On top of lectures the course includes completion of a personal research report.

Mode of delivery:
Will be defined at the beginning of the course.
Learning activities and teaching methods:
Will be defined at the beginning of the course. Students may also propose topics for the seminar. Lectures and seminar sessions are compulsory in order to complete the course.
Target group:
Industrial engineering and management students.
Prerequisites and co-requisites:
555340S Technology management, 555321S Risk management, 555320S Strategic management.
Recommended optional programme components:
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Recommended or required reading:
Will be defined at the beginning of the course.
Assessment methods and criteria:
Will be defined at the beginning of the course.
Read more about assessment criteria at the University of Oulu webpage.
Person responsible:
Professor Harri Haapasalo
Working life cooperation:
No
Other information:
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555320S: Strategic Management, 5 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Field of Industrial Engineering and Management

Arvostelu: 1 - 5, pass, fail

Opettajat: Jukka Majava

Opintokohteen kielet: English

Leikkaavuudet:

555370S Strategic Management 5.0 op

Voidaan suorittaa useasti: Kyllä

ECTS Credits:
5 ECTS credits.
Language of instruction:
English.
Timing:
Periods 1-3.
Learning outcomes:
The aim of the course is to familiarize a student with strategic thinking as well as develop students' understanding of the complexity of global business operations, in both theory and practice. After completing the course student is familiar with strategic thinking, strategic management and strategic planning. The student has under-standing of the complexity of global business operations, and can participate in strategic planning in organizations. The student is familiar with strategy analysis frameworks and can analyze the implementation of chosen strategy.
Contents:
Strategic thinking, creation of strategic plan, strategy analysis frameworks and the basic types of strategy orientation for an enterprise, implementation of a business strategy in a dynamic, competitive environment with an on-line strategy simulation tool, analyzing the implementation of chosen strategy.
Mode of delivery:
Face-to-face teaching and group homework.
Learning activities and teaching methods:
Lectures, group work, final report and seminar.
Target group:
Industrial engineering and management students.
Prerequisites and co-requisites:
555322S Production management, B.Sc. in Industrial Engineering and Management or equivalent.
Recommended optional programme components:
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Recommended or required reading:
Isoherranen, V. (2012) Strategy analysis frameworks for strategy orientation and focus, University of Oulu, Faculty of Technology, Department of Indus-trial Engineering and Management; Mintzberg, H. et al. (2009) Strategy safari: the complete guide through the wilds of strategic management, 2nd ed. Harlow, FT Prentice Hall.
Assessment methods and criteria:
Group work or exam.
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1-5
Person responsible:

Professor Pekka Kess.
Working life cooperation:
No
Other information:
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555340S: Technology Management, 4 op

Opiskelumuoto: Advanced Studies

Laji: Course

Vastuuyksikkö: Field of Industrial Engineering and Management

Arvostelu: 1 - 5, pass, fail

Opettajat: Haapasalo, Harri Jouni Olavi

Opintokohteen kielet: English

Leikkaavuudet:

555350S Research and Technology Management 5.0 op

Voidaan suorittaa useasti: Kyllä

ECTS Credits:
4 ECTS credits.
Language of instruction:
English
Timing:
Periods 1-3.
Learning outcomes:
After finishing the course, the student will able to differentiate product development and technology management in a company. The student will be able to piece together the development needs and cycles of technologies in an organization. In addition, the student will know how to combine technology development and technology management with strategic planning of a company.
Contents:
The course consists of defining technology and its role within an enterprise and within society. During the course we study the meaning of innovation in technological competition. The lifecycles of technology including development, acquirement, and movement are also covered.
Mode of delivery:
Face-to-face teaching, exercises and group work done as homework.
Learning activities and teaching methods:
Lectures, exercises and group work.
Target group:
Industrial engineering and management students.
Prerequisites and co-requisites:
555240A Basic course in product development.
Recommended optional programme components:
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Recommended or required reading:
Lecture materials and selected articles, will be defined at the beginning of the course.
Assessment methods and criteria:
Exam
Read more about assessment criteria at the University of Oulu webpage.
Grading:
1-5
Person responsible:
Professor Harri Haapasalo.
Working life cooperation:
No.
Other information:
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