



Master of Science in Economics and Business Administration, Industrial Management (IM)

Master's Programme in Industrial Management provides students with capabilities to work in tasks that require high level of business or technological knowledge. These can be for example in production, service or knowledge sectors. Both local business network and international connections, e.g. ESTIEM (European Students of Industrial Engineering and Management) are utilised in teaching. Students can choose to concentrate either in the area of technology management and product development or in the area of production management and logistics. The variety of teaching methods is used in advanced courses in IM. Often students plan and conduct small research projects combining both a theoretical framework and an empirical study in firms.

The IM studies focus on problem solving and social interaction coupled with a wide variety of study tasks by systematic assessment. The study process encompasses both local business operations and technological advantages on a global scale. The outcome is a skill set that allows the student to solve problems on product development, production, energy production and environmental issues in a networked industry setting. The focus can lie on strategy, productivity, impact, quality, etc.

Special emphasis is on students' communication capabilities, both written and oral. The objective of course seminars, business and case competitions and thesis seminars is that giving presentation is a routine that each student can handle smoothly. All the master level courses (TUTA3xxx) in IM are in English.

Learning outcomes

A student that has completed Master's Degree (economics and business administration) in Industrial Management will be able to

- apply their knowledge of industrial management either in the area of technology management and product development or in the area of production management and logistics
- lead technology development so that the company can be profitable and the employees are involved in the change process
- work in production management, product development, risk management and other tasks that combine business and technological knowledge
- apply in their work both logical thinking as well as finding and presenting the core knowledge in different situations
- apply scientific thinking in reporting research and has good written presentation skills
- carry on their studies in doctoral level
- apply research methods in industrial management
- utilise and further develop their knowledge in improving the processes of a company

Since the academic year 2013-2014, the previous major 'tuotantotalous' (KTM) and Master's Programme in Industrial Management (MSc) programmes are combined into one program Master's Programme in Industrial Management. The language of instruction of the new combined programme is English. Students whose study right has started before 1.8.2013 may continue in the old programme/major until the transitional period or if they so wish, choose to transfer to the new Industrial Management programme (more information in the University's website).

Supplementary studies

Maximum of 60 ECTS credits of supplementary studies can be required from students that have not done Bachelor's Degree in the University of Vaasa in major Industrial Management. Supplementary studies will be agreed in the Personal Study Plan (PSP). Typically supplementary studies are the following (unless the student has similar studies in her previous degree):

TUTA2160	Basic Course in Logistics	5
TUTA2230	Innovative Product Development and Product Lifecycle Management	5
TUTAC2170	Introduction to Production Management	5
TUTA1060	Basic Course in Quality	5

The final decision of supplementary studies is made by the Head of Programme Ville Tuomi.

**MASTER OF SCIENCE (ECONOMICS AND BUSINESS ADMINISTRATION),
MASTER'S PROGRAMME IN INDUSTRIAL MANAGEMENT**

120 ECTS

Head of Programme: Ville Tuomi

GENERAL AND LANGUAGE AND COMMUNICATION STUDIES 13-14 ECTS

OPIS0039	Personal Study Plan	0
OPIS0025	Searching for Scientific Information 1 (former Information Skills I, if not completed in earlier University of Vaasa studies)	1
FILO1011	Philosophy of Science	3
KENG9212	Writing Academic English	5
KSUO5111	Finnish for Foreigners I 5 ECTS or an optional language course for native Finnish speakers	5

METHOD STUDIES 15 ECTS

ORMS1020 and MATH1170 are obligatory if you do not have them or similar in your previous studies. Please note that if you have studied courses with similar content in your Bachelor's Degree, you cannot take the same again on master level. For example, if you have taken the STAT1030 Introduction to Statistics in your Bachelor's Degree, you cannot take MATH1170 Probability and Statistics.

ORMS1020	Operations Research	5
	and MATH1170 Probability and Statistics	5

choose more method studies so that total will be worth of 15 ECTS

STAT1010	Statistical Analysis of Contingency and Regression	5
STAT2020	Econometrics I	5
ORMS1010	Matemaattinen analyysi (in Finnish)	5
ORMS2020	Päätöksenteko epävarmuuden vallitessa (in Finnish)	5
STAT2110	Statistical Data Processing SAS EG *	5
STAT2100	Tilastollinen tietojenkäsittely SPSS (in Finnish)	5

** = You cannot complete both STAT2110 and STAT2100*

You may also suggest other courses in mathematics and statistics (course codes: MATH, ORMS, STAT), as long as you have not done them or similar in your previous studies.

MAJOR ADVANCED LEVEL STUDIES 30 ECTS

Option A is for logistics and production operations management, option B is for technology management and product development. Please note that you cannot mix the options, you have to follow either or.

Obligatory Courses for all the students

TECH3010	Research Methods	5
TUTA3080	Operations Strategy	5
TUTA3050	Advanced Course in Quality and Reliability Management	5

Choose either option A or B (minimum of 15 credits)

*A – Logistics and Production Operations Management
obligatory courses*

TUTA3120	Supply Chain Design and Management	5
TUTA3240	Production Operations Management Methods	5

Choose at least worth 5 credits of the following:

TUTA3060	Contemporary Topics in Industrial Management	2-5
TUTA3070	Project Work in Industrial Management	2-5
JOHT3019	Project Management	5
TUTA3250	Simulation of Production Systems	3
TUTA3200	Enterprise Resource Planning	3
TUTA3280	Building Trust in Industrial Networks	3
TUTA3290	Sustainable Supply Chain Management and Circular Economy	5

*B – Technology Management and Product Development
obligatory courses*

TUTA3030	Technology Management	5
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TUTA3220 Anticipation and Diffusion of Technological Innovations 5

Choose at least worth 5 credits of the following:

TUTA3060 Contemporary Topics in Industrial Management 2-5

TUTA3070 Project Work in Industrial Management 2-5

JOHT3019 Project Management 5

TUTA3230 Product and Service Design in Practice 5

TUTA3210 New Knowledge Creation and Organizational Learning in Product Development 5

TUTA3280 Building Trust in Industrial Networks 3

TUTA3290 Sustainable Supply Chain Management and Circular Economy 5

TUTA3980 MASTER'S THESIS AND MATURITY EXAM 30 ECTS

TUTA3980 Master's Thesis, including all of the following parts:

TUTA3985 Research Plan and Presentation 10

TUTA3986 Master's Thesis 20

TUTA3987 Master's Thesis Presentation 0

KNÄY300X Maturity Exam 0

OPTIONAL STUDIES 31-32 ECTS

Choose other university courses to complete the degree (120 ECTS) according to your interests.

The students can choose from a variety of studies to complete their degree, both on bachelor and master level. We recommend that you complete business studies or a minor subject (25 ECTS) if possible. Your optional studies may include several subjects according to your own interests, for example optional Master level courses in IM, language studies, mathematics and many other topics. Students who have completed their Bachelor's Degree in the field of business may include optional studies on any field to their degree. Students who have completed their studies in the field of technology (other than business) must include studies in the field of business to their Master's Degree to be eligible for M. Sc (Econ. & Bus. Adm.) degree. The amount of business studies will be agreed in the Personal Study Plan (PSP).

Note: Those Finnish students who have not completed studies in the second national language in their previous degree, have to complete studies in second national language. These studies will be supplementary and not included in the degree.

Please note that individual courses may not be available every year.