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# Information Processing Science (MSc) 2021-2022 - MA2021TOL

**Code**

MA2021TOL

**Validity**

1.8.2021 -

**Educational level**

Master's Programmes (2 years)

**ECTS credits**

120

**Duration (years)**

2

**Language**

English

**Specifications**

**Degree**

**Degree title**

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**Programme**

-

**Major subject**

-

**Classification code**

-

**Type**

-

**Group**

-

**Tags**

-

**Person in charge**

Henrik Hedberg

## Organization unit

Faculty of Information Technology and Electrical Engineering

## Description

### Description

University level studies in Information Processing Science provide an excellent foundation to work in anywhere where information and communications technology is developed and applied. The field is becoming more international and continues to develop rapidly, and there is considerable demand for experts. Education focuses on software and information systems, as well as the areas of expertise and applications that deepen them. The skills relevant to working life, such as project work, written and oral communication, critical thinking and problem solving, are advanced at the same time. Minor subjects, such as statistics, mathematics, engineering, management, economics or psychology, are used to complement studies to desired application area.

After completing the Master of Science (MSc) degree, a student is able to

- apply existing and produce new knowledge in information processing science to the need of companies and other organisations,
- act as an independent expert in software and information system projects and manage them professionally,
- apply the typical research methods and select the most appropriate data collection and analysis methods to solve a specified research problem,
- develop working methods and practices in their field using a scientific approach, as well as
- communicate the results clearly and analytically following the scientific practice.

Alternatively, a student may continue in the Master's phase to the new Master's Program in Autonomous and Sustainable Systems, which is to be implemented in cooperation with the University of Vaasa from autumn 2023.

### Further information

After Master's degree student is able to apply to the Doctoral Degree Programme.

## Curriculum development and working life cooperation

### Objectives

### Structure

Code	Name	Credits
<b>MA2021TOL</b>	<b>Information Processing Science (MSc) 2021-2022</b>	<b>100-140</b>
MA2021TOL-1001		50
813621S	<i>Research Methods</i>	5
813613S	<i>Master's Thesis</i>	30
813627S	<i>Master's Thesis Seminar</i>	2
817612S	<i>Research and Development Project</i>	10
817609S	<i>Project Seminar</i>	3

813607S	IPS (TOL), Maturity Test for Master's Degree	0
MA2021TOL-1002		30
<b>MA2021TOL-1003 Software Engineering Orientation</b>		<b>30</b>
811372A	Software Development, Maintenance and Operations	5
811373A	Professional Software Engineering Processes and Human Factors	5
811602S	Advanced Software Quality and Security	5
811603S	Software Platforms and Ecosystems	5
811604S	Software for Intelligent Systems and Artificial Intelligence (AI)	5
811605S	Software-Defined Products, Systems and Services	5
<b>MA2021TOL-1004 Information Systems Orientation</b>		<b>30</b>
812352A	Digitalisation and Innovation	5
812354A	Servitisation, Co-Creation and Business Development	5
812355A	User Experience (UX) Design and Management	5
817619S	Societal and Individual Impacts of Information Systems	5
817615S	Creating Domain Value with Data	5
817618S	Information Systems Strategy and Leadership	5
MA2021TOL-1005		10-30
<b>MA2021TOL-1006</b>		<b>10</b>
815663S	Software Engineering Research	5
811606S	Next Generation Software Engineering	5
<b>MA2021TOL-1007</b>		<b>10</b>
812650S	Advanced Topics in Digital Cultures and Design	5
812671S	User Experience (UX) and Usability Evaluation	5
<b>MA2021TOL-1008</b>		<b>10</b>
811607S	Persuasive Systems Design	5
812651S	ICT and Behaviour Change	5
MA2021TOL-1009		10-30
<b>Optional courses</b>		<b>0-15</b>
812649S	Advanced Research Methods	5
813320A	Business Intelligence: Applications and Projects	5
811330A	Project management	5
<b>Optional courses with changing themes</b>		<b>0-25</b>
811610S	Special Course in Information Processing Science 1.	5-10
813632S	Special Course in Information Processing Science 2	5
813633S	Special Course in Information Processing Science 3	5
813634S	Special Course in Information Processing Science 4	5
<b>Optional studies that are not lectured</b>		<b>0-25</b>
814336A	Small-Group Tutoring	1
814339A	Education training	2-5,5
814341A	Research experience	2-5,5

816630S	Scientific paper writing	1-3
814311A	Internship in ICT-duties	3-5
814601S	Work Experience in ICT responsibilities	5
814312A	Exchange in abroad	1-3
<b>Reco</b>		<b>0-25</b>
817381A	Studies in other Finnish Universities	0
817382A	Studies in Finnish Polytechnics	0
817390A	Other studies of information processing science	0
817380A	Foreign studies	60
814344A	Information Processing Science Activities and Competitions	1-10
030010Y	Activities in University and Student Organizations	1
030009M	Studies in Other Universities/Institutes	0-60