Master's Degree Programme in
Information Technology

The University of Turku offers a two-year Master's Degree Programme in Information Technology. This programme offers its students the opportunity to become an expert in one of two very specialized areas in the field of information and communication technology:

- Information Security
- Work Informatics

In the Information Security study track, students gain both theoretical knowledge and hands-on experience whether dealing with secure network and communication systems, secure computing systems or mathematical foundations of data security including cryptographic algorithms and protocols. Characteristic to the Information Security study track is a strong motivation to learn and explore technological and theoretical scientific advances in the field based on newest research.

The Work Informatics study track covers most of the information systems area having its focus on work-related aspects. It reflects all three modalities of work: individual work, collective work and services; and the role of information technology in them. Knowledge in work organisations and changes in them receive particular attention. The Work Informatics study track emphasizes the social, psychological, political, economic and organisational aspects while keeping information technology an important part of the whole.

University of Turku is an internationally acknowledged, multidisciplinary scientific university located on the Southwest coast of Finland, in the vivid city of Turku.

With 21,000 students and 3,000 employees, it is one of the major universities in Finland. Expertise within the University and its seven faculties ranges from humanities to natural sciences.

The programme is offered by the Department of Information Technology, Department of Mathematics and Turku School of Economics at the University of Turku.

Information Security
http://www.infsec.utu.fi

This study track is organized into two specialization areas: Cryptography and Data Security and Networked Systems Security. Students of Cryptography and Data Security specialization area graduate with Master of Science degree (MSc). Students of the Networked Systems Security specialization area graduate with the Master of Science in Technology degree (MSc(Tech.)).

The Cryptography and Data Security specialization area focuses on cryptography research from the mathematical point of view. The goal of this specialization area is to educate future experts of the field that have strong and broad knowledge on mathematical aspects of cryptography and data security. Modern symmetric and asymmetric cryptography algorithms and protocols are studied and analysed from the mathematical point of view. The students learn to assess the strengths and weaknesses of cryptographic solutions based on a deep understanding of the underlying theory. The students also gain the ability to pursue designing cryptographic algorithms and protocols for real applications.

The Networked Systems Security specialization area focuses on researching information security technologies for networked systems and applications of the communication-intensive future from the engineering point of view. The technological topics covered include system and network security, security of communication systems and applications, and security in system design. The goal of this specialization area is to give its students profound and substantial education and expertise in the networked systems security field. The topic is approached in a multidisciplinary fashion with obligatory studies also on cryptographic and management aspects of information security. The graduates of this specialization area will benefit from the strong technological, theoretical and practical understanding and skills they have obtained in the programme upon building a successful career in securing the information and communication technology industry.
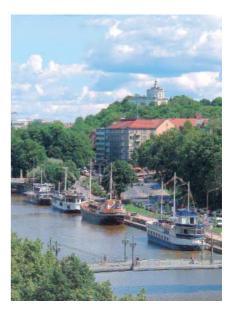
Degree awarded
Master of Science
Master of Science in Technology
(Information Security track only)

Duration
2 years (120 ECTS)

Language of instruction
English

Location
University of Turku - Turku, Finland
www.utu.fi

Programme start
late August/September

Work Informatics
http://workinformatics.utu.fi/

In Work Informatics, the core competence is in understanding, analysing and improving the deployment of information technology, during use and development of information systems in organisations.

The future Masters have their core competence in theoretical and practical understanding of the relationship between IT and work. This gives them readiness to take a wide range of IT-related work roles. These information system experts act as mediators between the systematic world of information technology and the continuously changing environment of human work and activities.

The Work Informatics programme starts with the Knowledge Work course, which presents the three modalities of work. Following courses deal with services, co-operative work, implementation of Information Systems, knowledge management and Information Systems evaluation. All these subjects are studied from Work Informatics perspective. Also courses on IT and ethics, theoretical foundations of Information Systems and usability testing are available.

The Work Informatics programme contains a lot of practical exercises in local companies and organizations. They help in applying the theories and concepts to complex real work settings.

Top Ten IT Countries of the World

1. Sweden
2. Denmark
3. Netherlands
4. Norway
5. Finland
6. New Zealand
7. Switzerland
8. United States

Source: IDC/World Times Information Society Index, 2003

Career prospects

Students graduating from the programme will have profound knowledge in the field of information technology with specialization in the discipline of their study track. The graduates will benefit from the high level of skills and knowledge obtained in the programme in building a successful career in the information technology industry from start-up to large-scale enterprises. The opportunities are further strengthened by the optional innovation and entrepreneurship studies available for students in the programme. After graduation, research oriented students may pursue a doctoral degree to extend their knowledge and further increase their career prospects in academia, industry and the public sector.

Admission requirements

Academic requirements
A completed university level Bachelor's degree in a relevant field of study. Depending on the chosen study track, a relevant field of study can vary from mathematics, computer science, communication systems, computer engineering to other closely related fields.

Language requirements
Applicants to the Master's degree programmes taught in English must always prove their knowledge of the English language.

Application deadline
The application period for studies starting in September runs from the beginning of December until late January.

For details, please see the admission pages at:
www.it.utu.fi/mastersprogram/apply.html

Contact

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www.it.utu.fi/mastersprogram