Curriculum 2022-2024

Director of the degree programme: Professor of Practice Risto Sarvas

Degree: Master of Science (Technology), 120 ECTS

Abbreviation: INF

In the Information Networks programme we underline two forces that drive change in societies: technological development and creation of new business. Both technology and business capture human activities that have shaped people’s lives for the past centuries. And they keep on shaping our lives on a global, societal, communal, and individual level.

Are the changes shaped by technology and business good or bad for the societies? This is a question traditionally not within the domain of engineers, designers and business developers. In addition, the answers to that question have been typically outside the expertise of these same professionals.

The ethics and social impact of technology and the business around it has been left to social scientists and philosophers. However, the social scientists who understand the societal impacts of technology often do not understand the inner workings of technical products, processes and methods. Nor do they have similar first-hand knowledge of how technology is commercialized into a prosperous business.

The mission of our program is to educate societally conscious engineers. Engineers who are masters of software and digital technology and who can create new business based on this technical know-how.

In addition, we train these engineers to understand the complexities and structures of society, especially how technology and business shape societies. Third, we recognise that passive analysis and knowledge of technology and business in society is not enough. Therefore, we educate professionals who actively work with the ethical, philosophical and value-based issues involved in shaping a society in one direction or another.

Learning outcomes

The generic aims of the education are listed below:

- How to create, engineer and design societally sustainable and ethically sound technologies, organisations, and businesses.
- Provide the students with a comprehensive understanding on how technology and society interact, especially how technology is socially constructed.
- What are the ethical, aesthetic, and philosophical discourses and issues involved in creating new business and technology; both on product and systemic level.
- How to understand one’s own role, identity, and goals in the context of technology, organisations, business, and societal impact.

More specifically, the studies provide:

- Knowledge on how design processes and data are used to create digital products and services that are usable, valuable and functional.
- A critical understanding on how digital technology and business, e.g., in social media, is shaping the way our societies work.
- Skills and tools on how software and data is designed and engineered as part of businesses, systems and architectures.
- Knowledge and practices on how organisations and businesses are shaped to create the value, impact, and outcomes desired.

Degree requirements

The mandatory elements of the student’s curriculum are a major (either long or compact), a Master’s thesis, and elective studies. A compact major is always supplemented with a minor.

The specific content of the major depends on the student's own interest areas. The Information Networks major offers four majors:

1. Software Engineering and Architectures
2. Business and Organisational Design
3. Digital Ethics, Society and Policy, and
4. User, Data and Design.

Each major equals 15 ECTS at minimum and 40 ECTS at maximum. Moreover, the major includes Information Networks compulsory studies of 25 ECTS.

Besides the major, the programme requires elective studies (25–35 ECTS) and the Master’s Thesis (30 ECTS). If the student chooses to take a compact major, a minor (20–25 ECTS) is mandatory. When starting their Master’s studies, the students select one major. During the first semester the students are obliged to make their study plan (HOPS), which after its approval acts as a contract between the student and the programme. Before approving the study plan, the programme confirms that the proposed study plan fulfills all the criteria of the programme.

Master’s students have two possibilities to structure their studies.

Long major
A long major (55–65 ECTS) consists of

1. Information Networks compulsory studies, 25 ECTS
2. Selected major from the Information Networks offering, 30-40 ECTS

The students are encouraged to select the core content of the long major to support their Master's Thesis interests.

Compact major

A compact major (40–45 ECTS) consists of

1. Information Networks compulsory studies, 25 ECTS
2. Selected major from the Information Networks offering, 15–20 ECTS

A compact major is supplemented with a minor that broadens the student’s competence. The students are encouraged to select the core content of the compact major to support their Master’s Thesis interests. A minor is selected from study entities that are offered as a minor. The professor of the student's focus area approves the suggested minor by signing the student's personal study plan (HOPS).

The extent of a major may not exceed 65 ECTS. Similarly, the extent of a compact major together with a minor may not exceed 65 ECTS. Thus, the students will always have a choice of a minimum 25 ECTS completely elective studies. The students are obliged to complete the chosen majors or minors in that extent they are offered.