

# Information and Communication Engineering



## What is Information and Communication Engineering?

Information and Communication Engineering runs the modern world: it provides the infrastructure for connecting people. It covers products that acquire, interpret, send, or receive information in a digital form.

## What are Information and Communication Systems?

IC systems include hardware and software components for processing, transfer and analysis of various types of information: signals, speech, texts and numeric data, images, videos, and multidimensional data.

Smart IC systems can hear, see, feel, and interpret the acquired data and learn from it. Modern IC systems connect not only the people, but also computers, intelligent devices and things, as well as ubiquitous data sources. They change the way how people work, communicate, learn and live on a daily basis.

## Skills

Students gain knowledge in the theory and application of communications, information and signal processing, data security, computer networks, and systems that learn, gather and interpret data. ICE has applications in fixed and mobile communication systems, intelligent man-machine interaction, multimedia storage and retrieval, medical and security systems, biometrics, and bioinformatics. The programme provides a broad range of ICE design skills, including products and systems that understand input data and adapt its behavior to it.

## Career

ICE opens career paths across innovative ICT industries and financial and service sectors that deal with advanced information processing. Suitable positions include development of algorithms, design of smart devices, system integration and consulting. Design of intelligent systems that gather knowledge, learn and adapt is a know-how that offers a competitive advantage to an IC engineer. ICT is among the fastest growing industries in the world.



## Why choose Information and Communication Engineering?

When planning future career, it is equally important to perceive the current state of some profession, as well as its perspectives.

Profile ICE offers a strong theoretical background which gives diploma degree engineers self-confidence and certainty that they will be able to cope with the biggest challenges of modern technologies.

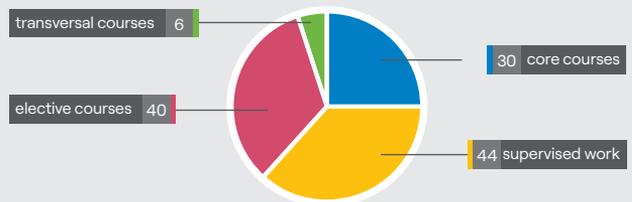
Wide scope of gained knowledge, ranging from computing to communications, software and hardware systems, including both theory and practical implementations, is a guarantee of a great job and high employability. It is also an important prerequisite for personal entrepreneurship.

Intelligent data acquisition, systems that analyze data and learn, systems that replace people and provide humans a completely new paradigm of work, education and entertainment are fundamental elements of new service-based economy.

Profile ICE, with its spectrum of courses, and by nurturing individual mentor-based approach, is an excellent choice for education and future career.

PLAN OF STUDY	SEMESTER	ECTS
<b>Core courses</b>		30
Digital Signal Processing	1	5
Random Signals and Processes	1	5
Machine Learning 1	1	5
Networking Technologies	1	5
Seminar 1	1	3
Digital image processing and analysis*	2	5
Signal processing in communications	2	5
Seminar 2	2	3
Research seminar	3	5
Project	3	3
Diploma thesis	4	30
<b>Elective courses recommended for the profile</b>	2, 3	25
<b>Elective courses</b>	1, 2, 3	15
<b>Transversal courses</b>	1, 2, 3	6

\* the course is also offered at the undergraduate level (if the course is passed at the undergraduate level, it can be replaced by the Elective course recommended for the profile)



*Profile enabled deep understanding of information around us which make up our everyday lives. Learned concepts and methods present quality foundation for development of advanced solutions on Ph.D. studies and in real-world applications.*

**Ivan Ralašić, PhD**  
Founder of Forsight



*Profile offers strong knowledge and experience foundation. It plays a key role in leading and organizing projects into research teams, which develop advanced technology products with applications in everyday life.*

**Jasmina Kolonić**  
Head of Project Management Team,  
Microblink d.o.o.



*The study offers an opportunity to work on interesting team projects within the enrolled courses, but also to work on professional projects under the guidance of excellent mentors. The gained knowledge and experience were very useful in my later postgraduate studies.*

**Matea Đonlić, PhD**