

Bachelor's Degree Programme in Information and Communication Technology, fi, 240 cr

Core Studies on the first autumn

Entrepreneurship	fi	3 cr	Mathematics 2	fi	5 cr
English for Working Life	fi	4 cr	Physics 1	fi	3 cr
Mathematics 1	fi	5 cr	Cyber Security	fi	4 cr
Basics of Physics	fi	3 cr	Data Structures and Algorithms	fi	4 cr
Digital Technology	fi	3 cr	Physics 2	fi	3 cr
Databases	fi	5 cr	Physics Laboratory Work	fi	3 cr
Swedish for Working Life	fi	4 cr			

Applied Mathematics, 6 cr

BASICS OF SIGNAL PROCESSING	fi	3 cr
PROBABILITY THEORY	fi	3 cr
OPTIMIZATION AND NETWORK MODELS	fi	3 cr
VECTORS AND MATRICES	fi	3 cr
ANALYTIC GEOMETRY	fi	3 cr
CRYPTOLOGY	fi	3 cr

Optional Professional Studies/ Modules (3rd- 4th year)

DATA SECURE DESIGN AND PRODUCTION OF IT SERVICES	fi	15 cr	HEALTH TECHNOLOGY APPLICATIONS	fi en	15 cr	ENTERPRISE APPLICATIONS	fi en	15 cr
ETHICAL HACKING	en	15 cr	MOBILE PROGRAMMING	en	15 cr	GAME DEVELOPMENT	en	15 cr
CYBER EXERCISE	fi	15 cr	WIRELESS SYSTEMS	fi	15 cr	INTERNET OF THINGS	en	15 cr
VISUALIZATION	fi	15 cr	QUALITY OF SERVICE	fi	15 cr	ADVANCED PROGRAMMING	en	15 cr
MODERN MARKETING	en	10 cr	IT SERVICES	fi	15 cr	DATACENTERS	fi	15 cr

Elective Studies

ENTREPRENEURSHIP AND INNOVATION ACTIVITIES	fi en	33 cr
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Core Studies in Specialization

Development as an Expert	fi	5 cr
ICT Skills	fi	3 cr
JAMK Innovation Week	fi	2 cr
Communication Skills	fi op	3 cr
Introduction into Internet Technologies	fi	4 cr
Basics of Programming	fi	5 cr
Operating Systems	fi	6 cr
Web Technologies	fi	4 cr

Media Engineering

User Interfaces and Usability	fi	4 cr
Web Project 1	fi	4 cr
Digital Video and Audio	fi	4 cr
Object Oriented Programming	fi	5 cr

Web Visualization	fi	4 cr
Web Programming	fi	4 cr
Definition and Design of Web Service	fi	4 cr

Web Project 2	fi	3 cr
Web Service Administration	fi	4 cr
Web Server Programming	fi	4 cr

Content Management Systems	fi	5 cr
Project	fi	13 cr

Software Engineering

Software Design and Testing	fi	5 cr
Object Oriented Programming	fi	5 cr
User Interface Programming	fi	4 cr

Web Server Programming	fi	4 cr
Web Programming	fi	4 cr
Electrical Engineering	fi	4 cr

Electronics	fi	4 cr
Embedded Programming	fi	3 cr
Game Programming	fi	3 cr
Software Project	fi	3 cr
System Testing	fi	4 cr

Software Engineering	fi	6 cr
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Software Business	en	3 cr
Software Engineering Practices	fi	6 cr

Data Network Technology

Electrical Engineering	fi	4 cr
Routing and Switching Essentials (CCNA1)	en	3 cr

Electronics	fi	4 cr
Routing and Switching Essentials (CCNA2)	en	3 cr

Data Communication	en	4 cr
Linux Servers	en	4 cr
Windows Servers	en	4 cr
Scaling and Connecting Networks (CCNA3&4)	en	6 cr

Corporate Networks	fi	4 cr
Internet Service Provider Networks	fi	4 cr

Automation of Services	fi	3 cr
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Cyber Security

Data Network Protocols	en	3 cr
Windows Servers	en	4 cr
Software Design and Testing	fi	5 cr
Script Programming	en	3 cr

Network Infrastructure	en	3 cr
Linux Servers	en	4 cr
Protocol Programming	en	3 cr

Corporate Networks	fi	4 cr
Object Oriented Programming	fi	5 cr
Data Security Technologies	fi	6 cr

Data Security Testing	en	3 cr
Encryption Techniques and systems	en	5 cr

Information Security in Services Management	fi	3 cr
Automation of Services	fi	3 cr
Breaking-in and Defense Methods	fi	4 cr

• Practical Training

• Bachelor's Thesis

1st year

2nd year

3rd year

4th year

Specialization

60

60

60

60