# **Open studies, MOTARI, information technology, 2019**

Code	Name	1 y	ECTS total
LA00BN98	Study skills - Mooc	2	2
TEAVOMO19C-1001 Valmentavat opinnot			15
LA00BH85	Preparatory studies in English	3	3
LA00BH86	Preparatory studies in Swedish	3	3
LA00BI95	Preparatory studies in Finnish	3	3
LA00BH89	Preparatory studies in mathematics, Faculty of Technology	3	3
LA00BH90	Preparatory studies in mathematics, Faculty of Business and Hospitality Management	3	3
TEAVOMO19C-1002 Common core competence			10
LA00BE73	English for Work	3	3
LA00BE74	Swedish language, Oral Communication	1	1
LA00BE75	Swedish language, Written Communication	2	2
LA00BE76	Professional communication	4	4
TEAVOMO19C-1003 Professional core competence			20
TEAVOMO19C-1007	Information and Communications Technology, ICT1		20
TE00BH26	WWW Technologies		0
TE00BH27	Networking Fundamentals		0
TE00BH28	IoT Project		0
TE00BH11	Mathematical tools		0
TEAVOMO19C-1008 Information and Communications Technology, ICT2			20
TE00BF43	Introduction to Programming		0
TE00BH30	Operating Systems and Hardware		0
TE00BH31	Embedded Systems		0
TE00BH32	Media Systems		0
TE00BH11	Mathematical tools		0

## LA00BN98 Study skills - Mooc: 2 ECTS

## **TEAVOMO19C-1001 : 15 ECTS**

## LA00BH85 Preparatory studies in English: 3 ECTS

### Learning outcomes

The student is able to

- master the basic structures of the language well enough to be able to manage further language studies

- understand everyday English

- discuss and write about familiar topics

### LA00BH86 Preparatory studies in Swedish: 3 ECTS

### Learning outcomes

The student is able to

- form sentences in order to be able to cope in simple communication situations
- use basic vocabulary related to, for example, social interaction

## LA00BI95 Preparatory studies in Finnish: 3 ECTS

### Learning outcomes

The student is able to

- identify the main aspects of language planning
- develop their competence in writing

### LA00BH89 Preparatory studies in mathematics, Faculty of Technology: 3 ECTS

#### Learning outcomes

The student is able to

- basic mathematical calculations
- calculate and simulate mathematical expressions
- basics of equation
- apply math in problem solving
- solve geometric and trigonometric problems

### LA00BH90 Preparatory studies in mathematics, Faculty of Business and Hospitality Management: 3 ECTS

#### Learning outcomes

The student is able to

- basic mathematical calculations
- basics of percentage calculation
- basics of equation

## TEAVOMO19C-1002 Common core competence: 10 ECTS

### LA00BE73 English for Work: 3 ECTS

Learning outcomes The student is able to - recognise the different sources and tools to help them improve their English skills

- gain confidence and manage in written and oral communication situations required in professional studies and in the work life

- describe their education and qualifications
- understand the terminology and concepts of their own field

## LA00BE74 Swedish language, Oral Communication: 1 ECTS

### Learning outcomes

The student is able to

- express and justify their opinions
- use the key terminology of their own field
- tell about their education, work experience and duties e.g. in job-seeking situations
- present a company of their own trade

### LA00BE75 Swedish language, Written Communication: 2 ECTS

#### Learning outcomes

The student is able to

- use the key terminology of their own field
- tell about their education, work experience and duties e.g. in job-seeking situations
- write a job application
- obtain information related to their own field of studies in Swedish e.g. on the Internet
- use online dictionaries

## LA00BE76 Professional communication: 4 ECTS

#### Learning outcomes

The student is able to

- plan and produce grammatically correct texts
- write an article or an essay that fulfils the criteria of a scientific text related to their own field of studies
- perform actively in professional group communication situations
- retrieve information from a variety of sources and evaluate it critically

## TEAVOMO19C-1003 Professional core competence: 20 ECTS

## **TEAVOMO19C-1007 Information and Communications Technology, ICT1: 20 ECTS**

### TE00BH26 WWW Technologies: 5 ECTS

#### Learning outcomes

The student is able to

- use the web-based services of Lahti UAS
- describe the basic operation of the Internet and the main Internet protocols
- design and implement a website using the HTML language and CSS style specifications
- take the principles of accessibility and usability into account when implementing websites

- implement the visual appearance of a website on the basis of a layout diagram
- use the basic structures of programming in the implementation of websites
- utilise simple scripts on websites.

## **TE00BH27 Networking Fundamentals: 5 ECTS**

### Learning outcomes

The student is able to

- understand the principles of the OSI model and the TCP/IP model
- know TCP/IP protocols and understands their operation

- understand subnets and basics of routing and switching.

## **TE00BH28 IoT Project: 5 ECTS**

### Learning outcomes

The student is able to

- document different stages of a project using wordprocessing, spreadsheet calculation and presentation material software

- work in a team that designs and implements a solution that meets the requirements of the given project assignment

- work independently and as a member of a team, in order to carry out a project assignment
- follow the practices of project work
- know how to acquire and utilise information for a project
- evaluate the significance of the use of ICT in sustainable development, from the ecological point of view
- connect a sensor to a digital device and analyse the data it provides

## **TE00BH11 Mathematical tools: 5 ECTS**

### Learning outcomes

The student

- has the basic mathematical skills needed in engineering
- is able to describe the mechanical phenomena behind the developments in technology

- can solve mechanical problems using mathematics

## **TEAVOMO19C-1008 Information and Communications Technology, ICT2: 20 ECTS**

## **TE00BF43 Introduction to Programming: 5 ECTS**

### Learning outcomes

The student is able to

- use logical operations in programming
- describe the stages of software development and the principles of program execution
- design and implement a modular interactive application
- utilise software development tools
- give variables and functions descriptive names
- follow good programming practices.

## **TE00BH30 Operating Systems and Hardware: 5 ECTS**

### Learning outcomes

The student is able to

- describe the structures and basic operations of a computer and peripherals
- describe the basics of the maintenance of a system
- understand the significance of data security in the operation and maintenance of systems

- describe the concepts of data transfer, the principles of telecommunications and data transfer networks, and the data transfer protocols

## TE00BH31 Embedded Systems: 5 ECTS

### Learning outcomes

The student is able to

- understand the basics of processor architectures and differences between architectures
- explain the principles of instruction set and machine level programming
- describe the microprocessor hardware interfaces
- use hardware-oriented programming properties of a programming language
- design and implement modular software for an embedded system using a programming language
- simulate and implement embedded programs with embedded computer hardware
- describe the basic computer peripherals.

## TE00BH32 Media Systems: 5 ECTS

### Learning outcomes

The student is able to

- understand capabilities and restrictions of video streaming
- describe the protocols which are used for streaming live video
- set up a streaming server in a virtual server environment
- edit a short video film
- describe the most important video encoding methods and their advantages
- publish good quality videos in the Internet
- describe different roles in a video production team
- use basic functionalities of video cameras
- use video editing and post processing software on a basic level

## **TE00BH11 Mathematical tools: 5 ECTS**

### Learning outcomes

The student

- has the basic mathematical skills needed in engineering
- is able to describe the mechanical phenomena behind the developments in technology
- can solve mechanical problems using mathematics