



## Programme syllabus

Faculty of Technology

IT-tekniker, 120 högskolepoäng

IT Technician, 120 credits

### Level

First Level

### Date of Ratification

Approved 2009-09-15

Revised 2014-01-24 by the Faculty Board within the Faculty of Technology

The programme syllabus is valid from autumn semester 2014

### Prerequisites

General entry requirements and Mathematics 3b / 3c or Mathematics C (Field-specific entry requirements 12/A12).

### Description of Programme

IT technician is a broad technical education with a focus on network and server systems. It provides the student with the tools and understanding to be able to deploy and administer IT systems and how server APIs are developed for sharing information.

A large part of the education is conducted in a laboratory environment for a modern technical education that focuses on the needs of tomorrow. The student should after completing the education be able to operate as IT technicians, IT security technician, API developer and system administrator in both the consulting industry as private companies and the public sector with their own IT departments. Additionally, students have the skills for further study in the subject.

### Objectives

#### *Knowledge and understanding*

For a Higher education diploma the student shall have:

- demonstrated knowledge and understanding in the principal area (main field of study) of the study programme, including awareness of the disciplinary foundation of the field and knowledge of some applicable methodologies in the field.

#### *Competence and skills*

For a Higher education diploma the student shall have:

- demonstrated the ability to search for, gather and critically interpret the relevant information in order to formulate answers to well defined issues in the main field of study
- demonstrated the ability to present and discuss his or her knowledge with

- different audiences, and
- demonstrated the skills required to work autonomously with specific tasks in the main field of study.

### *Judgement and approach*

For a Higher education diploma the student shall have:

- demonstrated knowledge about and be equipped to deal with ethical issues in the main field of study.

### **Programme-specific objectives**

In order to reflect the progression of the programme, students must:

- explain network and server systems from an security perspective
- deploy and maintain secure networks and server systems
- create programming interface for communication with the underlying system
- present information, ideas, problems and solutions within the field
- manage and implement technical development in network and server systems

## Content

### **Programme Overview**

The program IT technician is a broad technical education with a focus on management of networks and server operating systems, and development of server APIs.

Programming, hardware and automation of administrative tasks are other vital parts of the education. This is combined with network projects to get a modern technical education focused on the needs of tomorrow.

After the programme the student is offered the opportunity to complement his university degree to a degree in engineering and/or bachelor degree. Student should be able to study further education and/or completed advanced education in a forthcoming work.

### **Programme courses**

#### *First semester*

- Introduction to information technology 7,5 credits, Informatics, G1N. The purpose of this course is to give an introduction to what IT is and how it can be studied.
- Network Technology 7,5 credits, Computer Science, G1N, mandatory.\* The purpose of this course is to give an introduction to computer networks.
- Operating Systems 7,5 credits, Computer Science, G1N.\* The purpose of this course is to give an introduction to how an operating system is built and manages resources.
- Problem Solving and Programming 7,5 credits, Computer Science, G1F, mandatory.\* The purpose of this course is to give an introduction to Object Oriented Programming.

#### *Second semester*

- System Administration 15 credits, Computer Science, G1F, mandatory.\* The purpose of this course is to give an introduction to system administration.
- Programming and Data Structures 7,5 credits, Computer Science, G1F.\* The purpose of this course is to provide a deeper knowledge of object oriented programming and data structures.
- Project Course in Computer Science 7,5 credits, Computer Science, G1N, mandatory.\* The purpose of this course is to give the student the right tools to be able to plan and implement a development project.

#### *Third semester*

- Network Project 7,5 credits, Informatics, G1N, mandatory. The purpose of this course is to give an introduction to network project management.
- System Administration 2 15 credits, Computer Science, G1F, mandatory.\* The purpose of this course is to give an deeper knowledge to system administration.
- Development of server-API 7,5 credits, Computer Science, G1F.\* The purpose of this course is to deepen the student's knowledge of how to develop server APIs

#### *Fourth semester*

- Network Security 7,5 credits, Computer Science, G1F, mandatory.\* The purpose of this course is to give an introduction to the security problems that exist in modern computer networks.
- Selectable course 7,5 credits
- Computer Hardware Technology 7,5 credits, Computer Science, G1F, mandatory.\* The purpose of this course is to give an introduction to the more hardware related problems and issues facing today's IT infrastructures.
- Diploma Thesis in Computer Science 7,5 credits, Computer Science, G1E, mandatory.\* The purpose of this course is for the students to demonstrate that he or she has achieved the objectives set for a degree in the subject area.

\* Course in the main area.

The courses in the program may change places.

#### **Work Experience**

To provide the students with an insight into his future professional role, businesses are involved primarily in the form of guest lecturers.

#### **Studies Abroad**

Study abroad is done in consultation with the programme coordinator and in year two. The courses to be read abroad must be equivalent or relevant in relation to the education profile. These may be either broadening or advanced courses.

#### **Scope of Programme**

The programme works with sustainable development by ensuring that the training of students is modern and placed on learning from the historical developments in the field. This means that students gain knowledge that will be relevant and applicable over a longer period of time. Sustainable development is focused on the human and his needs and how the technology can ensure that those needs continue to be met.

The education and the courses included in the program are always aimed to be gender-neutral where the emphasis is on human rather than the sex that is.

The education uses in the marketplace commonly used techniques but also options are highlighted to show the diversity that exists within the area.

Constantly monitoring the world, both nationally and internationally is the basis for the areas addressed in the education.

#### **Quality Development**

The programme has a programme coordinator who ensures that education is of good quality with good progression and ensures that communication between teachers and students works in a good way. Quality and progression is maintained through continuous dialogue with the subject coordinator.

In addition, program committees are held at least twice per academic year. The program committee consists of the program coordinator, at least one student representative from each grade and the teachers and other stakeholders in the programme.

Continuous evaluation and improvement of the program is done in consultation with students in the form of programme committee, through academic evaluations, through collaboration with businesses and other stakeholders, and by benchmarking against other universities.

### Degree Certificate

After completing programme studies, corresponding to the requirements expressed in the Higher Education Ordinance Degree Ordinance as well as Linnaeus University Local Degree Ordinance, the student may apply for a degree.

Those who have completed the IT Technician Programme 120 credits may obtain the following degree:

Högskoleexamen med inriktning IT-tekniker  
Huvudområde: Datavetenskap

University Diploma with specialisation in IT Technician  
Main field of study: Computer Science

The degree certificate is bilingual (in Swedish/English). The Degree Certificate is accompanied by a Diploma Supplement (in English).