Department of Computer and Systems Sciences

Stockholm University

Education plan

for

Master's Programme in Computer and Systems Sciences
Masterprogram i data- och systemvetenskap

120.0 Higher Education Credits
120.0 ECTS credits

Programme code:	SCSSO
Valid from:	Autumn 2022
Date of approval:	2008-11-27
Changed:	2022-05-02
Department:	Department of Computer and Systems Sciences

Decision

This programme syllabus was approved by the Social Sciences Faculty Board. Revised 2022-05-02.

Prerequisites and special admittance requirements

A Bachelor degree or a degree equal to 180 ECTS. A minimum of 90 ECTS within computer and systems sciences (e.g., computer science, systems science, informatics, information systems etc.)

Language requirements: English B or the equivalent

Programme structure

Today's rapid technological development means that the demand for excellence in the IT field is increasing. The master's program in computer and systems science gives you an opportunity to develop your skills and knowledge in current areas in preparation for a successful professional or research career.

This program is very varied and gives you the opportunity to choose from a variety of courses. Among the optional courses, you will find courses in sub-subjects such as data mining, IT management, information security, business intelligence and decision analysis. In addition, you will learn about scientific communication and research methodology.

Language of instruction is English.

Within the program there are many optional courses, which means you can specialize in the sub-subjects that interest you the most. The program has the following structure:

Semester one consists of four compulsory courses.

In semester two, a compulsory course in research methods is taken, as well as three conditionally optional courses chosen from a course pool.

In semester three, a compulsory course in in-depth research methods is taken and then the student chooses a number of elective courses from a course pool that both deepens and broadens the knowledge.

Semester four consists of a thesis project.

Goals

Knowledge and understanding
The student is expected after a completed education to:
- have in depth knowledge about the interaction between information systems and their environment
- have knowledge about different types of system development methods
- have knowledge about different design and analysis tools
- have knowledge about formal methods, algorithms and programming languages
- understand different aspects of information security and threats
- know about current research fields within modern information technology (IT)

Skills and abilities
The student is expected after a completed education to:
- have the ability to analyze and design models
- be able to design and analyze algorithms
- be able to work with different support tools
- formulate, plan and carry out systems development project
- based on solid grounds, choose a method for studying a specific problem
- systematically be able to evaluate the work of others

Judgement ability and approach
The student is expected after a completed education to:
- have the ability to assess the quality of different systems development approaches and models
- be able to assess effectively in a systems development project
- have a notion about coming trends within the subject area
- have the ability to identify the need of additional knowledge
- be able to observe ethical aspects and consequences of an IT project
- be able to critically evaluate methods within the IT field
- understand and reflect over general questions within the IT field

Additionally, there are the following general educational objectives:
- to give a scientific base within the main field of study to allow for studies at the research level
- to develop the students ability to search and assess knowledge in the main field at a scientific level
- to give basic skills in oral and written communication
- to give skills in communication, in terms of oral skills as well as writing skills, within an international, scientific community.

Courses

All compulsory courses are at advanced level, except for the course Internet of things services, which is at first level. All courses below are within the main field of computer and systems sciences.

First semester
- Enterprise Computing and ERP Systems, 7,5 credits
- Data Mining in Computer and System Sciences, 7,5 credits
- Introduction to Information Security, 7,5 credits
- Internet of things services, 7,5 credits

Second semester
- Scientific Communication and Research Methodology, 7,5 credits
- Elective courses in computer and systems sciences, from a list from the department, 22.5 credits

Third semester
- Research Methodology for Computer and Systems Sciences, 7,5 credits
- Elective courses in computer and systems sciences, from a list from the department, 22.5 credits

Fourth semester
- Master Thesis in Computer and Systems Sciences, 30 credits

Degree

The programme leads to a Degree of Master of Science in the main field of study: Computer and Systems Sciences.

Misc

Students who have been admitted to the program but have not finished the program during the two years period may ask to finish the program even after the program is ended. In this case limitations specified in the courses syllabi are applied.

The language of tuition is English