MSC IN COMPUTER ENGINEERING*

CHOOSE YOUR SPECIAL AREA OF STUDY

The degree programme in Computer Engineering provides the firm foundation required when entering the business community. This is because the knowledge you acquire is both specialised and so comprehensive that you can easily become proficient in new technologies. This was the right line of study for me, because of the project-oriented teaching where you try out your theoretical knowledge in practice.

BRIAN GOTTORP JEPPESEN
MSc in Computer Engineering
CEO, Mjølner Informatics

Students in the MSc in Computer Engineering can specialise in relevant fields of study connected with system and instrument development involving software, hardware and communication technology. Depending on your chosen specialisation, upon completion of the degree you will be awarded the title of either Master of Science in Engineering (Computer Engineering) or Master of Science and Technology (Computer Engineering).

Your teachers will be researchers from the Department of Engineering and Department of Computer Science, as well as lecturers and development engineers at the Aarhus University School of Engineering. The degree programme thus benefits from research and development projects carried out in all three environments.

CHOICE OF STUDY PACKAGES

The first year of the MSc consists of two basic study packages and two specialised study packages. All students take the basic study packages, but you can choose your own specialised study packages from the options listed on page 2. Each package is worth 15 ECTS credits. The second year consists of an elective programme and a thesis.

The MSc programme offers specialised study packages in the following fields: software engineering, embedded real-time systems, distributed systems, digital signal processing, communication technology, and electronics.

TEACHING

At Aarhus University, you will be in close contact with lecturers and researchers in a way that is rarely experienced at other universities. The academic staff are readily accessible if you need clarification of the course material. Part of the teaching is in the form of lectures that introduce new angles on the course material, and theoretical and practical exercises take place in small groups in which issues are studied in depth.

STUDENT LIFE

The Department of Engineering has several social spaces for meeting other students outside class, and these form an excellent basis for social activities. There is also an engineering club for staff and students to network with like-minded people. As in all AU departments, there is a popular Friday bar, and the Tågekammeret association for science and technology students organises celebrations and social events across all the science and technology departments.

CAREERS

The MSc in Computer Engineering prepares students for the national and international job market. Our graduates have found jobs across a range of fields and institutions. There is considerable demand for IT graduates in areas such as instrument development engineering. Many graduates are working as software architects or developers of large instruments and systems, or have become software developers or project managers for large IT systems.

Graduates with theoretical depth and analytical working methods are in considerable demand among companies. Graduates from this programme will have learnt to combine the theoretically strong knowledge of a computer scientist with the more practically oriented and innovative approach of an engineer.

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PLACE OF STUDY
Aarhus

ANNUAL TUITION FEE
EU/EEA/Swiss citizens: FREE
Others: EUR 13,500

WWW
masters.au.dk/computer-engineering

AARHUS UNIVERSITY

MSC IN COMPUTER ENGINEERING*

Due to changes in the general semester structure at the Faculty of Science & Technology from summer 2017, changes will occur in the programme structure and content from summer 2017 – to be announced in the spring of 2017.

1ST SEMESTER	2ND SEMESTER	3RD SEMESTER	4TH SEMESTER
Compulsory Courses	Compulsory Courses	Elective Courses	THESIS
Compulsory Courses	Compulsory Courses	Elective Courses	
Compulsory Courses	Compulsory Courses	Elective Courses	
Specialised Study Package 1	Specialised Study Package 2	Elective Courses	
		Elective Courses	
		Elective Courses	
30 ECTS	30 ECTS	30 ECTS	30 ECTS

ELECTIVE COURSES

Choose courses from the specialised study packages or other courses at the Department of Engineering, and the broader Faculty of Science approved by the study programme manager.

AU Course Catalogue:
kursuskatalog.au.dk/en/

COMPULSORY COURSES

A basic package of six subjects taken during the first year of studies.

SPRING:

Information Theory and Coding	5 ECTS
Systems Engineering	5 ECTS
Wireless Sensor Networks and Electronics	5 ECTS

FALL:

Optimisation in Physical and ICT Systems	5 ECTS
Software Engineering Principles	5 ECTS
Science and Technological Innovation and Entrepreneurship	5 ECTS

SPECIALISED STUDY PACKAGES

Choose two of the specialised study packages.

SPRING:

Software Engineering

Specification of IT Systems	5 ECTS
Programming Language Paradigms	5 ECTS
Test of Distributed Systems	5 ECTS

Embedded Real-Time Systems

Architecture and Design of Embedded Real Time Systems	5 ECTS
Hardware/Software Co-design of Embedded Systems	5 ECTS
Modeling of Mission-Critical Systems	5 ECTS

Digital signal processing

Advanced Signal Processing and Analysis	5 ECTS
Nonlinear Signal Processing and Pattern Recognition	5 ECTS
Computer Vision	5 ECTS

FALL:

Distributed dependable systems

Architecture and Design of Dist. Dependable Systems	5 ECTS
Middleware and Com. Protocols for Dependable Systems	5 ECTS
Advanced Pervasive Computing	5 ECTS

Communication Technology

Advanced Digital Wireless Communication	5 ECTS
Advanced Embedded Sensor Networks	5 ECTS
Wireless IP and Internet of Things	5 ECTS