MSC IN CIVIL AND ARCHITECTURAL ENGINEERING*

PREPARING FOR A CAREER IN BUILDING AND CONSTRUCTION

The MSc in Civil and Architectural Engineering provides you with a sound knowledge of building and construction and the opportunity to specialise in a related field.

In the first year, students learn about structural concepts, risk and reliability engineering, and participate in group projects that allow them to work independently and combine theory with practice. The second year involves a thesis, the topic of which is decided upon consultation with professors.

The programme is taught by faculty members who are active researchers, so students benefit from a research-intensive environment and have the opportunity to work with researchers as well as to complete a project in collaboration with a private company.

STUDENT LIFE

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

CAREERS

The varied forms of teaching, group collaboration and close scientific dialogue with researchers, as well as the department's strong relationship with the industrial sector, give our graduates competencies that are in great demand on the global job market, including abstract, critical and independent thinking, analytical skills, and strategic planning. You can use these skills in many contexts – even in jobs you didn't know you were qualified for.

Previous graduates of the MSc in Civil and Architectural Engineering have found jobs with consulting engineering firms, entrepreneurial firms, property companies, architecture firms, or in the building component industry. Graduates typically work in roles that involve developing and designing advanced building constructions, advanced energy technology solutions and industrialised building components – frequently in interdisciplinary collaboration with architects and designers.

"While I was on the graduate engineer degree programme in civil and architectural engineering, I received practical training as a consultant engineer. This is where I found out that I really wanted more in-depth understanding of constructions and that I wanted to specialise in them. This gave me a broader theoretical foundation, which means I have a better understanding of practical engineering work.

LARS HESTBECH
PhD student, Civil and Architectural Engineering programme

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PLACE OF STUDY
Aarhus

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

WWW
masters.au.dk/civil-and-architectural-engineering

AARHUS UNIVERSITY

Fees are subject to change. See studyguide.au.dk

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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	
Compulsory Courses	Compulsory Courses	Elective Courses	
Compulsory Courses	Compulsory Courses	Elective Courses	THESIS
Specialised Study Packages	Specialised Study Packages	Elective Courses	
Specialised Study Packages	Specialised Study Packages	Elective Courses	
Specialised Study Packages	Specialised study Packages	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:

Risk and Reliability Engineering	5 ECTS
Experimental Mechanics Theory or Integrated Energy Design or Advanced Planning and Scheduling of Construction Projects	5 ECTS
Project 2 - Integrated Engineering Project	5 ECTS

FALL:

Numerical Analysis in Civil Engineering	5 ECTS
Structural Concepts or Heat and Mass Transfer	5 ECTS
Project 1 - Research Methods in Civil and Architectural Engineering	5 ECTS

SPECIALISED STUDY PACKAGES

STRUCTURAL ENGINEERING: 25 ECTS IN

Monitoring of Structures:

Structural Dynamics	5 ECTS
Random Vibration	5 ECTS
Modal Testing	5 ECTS

Structural Analysis and Concrete Structures:

Mechanics Theory of Plasticity	5 ECTS
Concrete Structures	5 ECTS
Steel Structures	5 ECTS

Geotechnical Engineering:

Geotechnical Monitoring and Field Testing	5 ECTS
Numerical Analysis in Geotechnical Engineering	5 ECTS
Experimental Geotechnics	5 ECTS

CONSTRUCTION MANAGEMENT: 25 ECTS IN

Construction Management:

User and Client Involvement in Construction	5 ECTS
Constructional Economics and Process	5 ECTS
Lean, Lean Construction & Lean Design	5 ECTS
Individually Composed Specialisation	10 ECTS

INTEGRATED ENERGY DESIGN: 25 ECTS IN

Indoor Climate and Energy:

Indoor Climate	5 ECTS
Simulation of Building Energy Systems	5 ECTS
Energy-Efficient Building Envelope Design	5 ECTS

(Day) Lighting Design:

(Day) Lighting Design	5 ECTS
Electric Lighting Design	5 ECTS
Simulating Lighting Reality	5 ECTS

Fluid Dynamics in Architectural Engineering:

Natural Ventilation	5 ECTS
CFD in Architectural Engineering	5 ECTS
Air Physics in Building Ventilation	5 ECTS

TECTONIC BUILDING DESIGN: 25 ECTS IN

Tectonic Design:

Computational Design	5 ECTS
Form-Finding in Building Design	5 ECTS
Tectonics - Structure as Architecture or Architectural Acoustics	5 ECTS
Individually Composed Specialisation	10 ECTS