MSC IN MATHEMATICS–ECONOMICS*
PREPARING YOU FOR A CAREER IN A NUMBER OF FIELDS

> During my MSc studies I worked as a student teacher, which means that teaching now comes naturally to me. I've got used to being in front of a group and presenting material in a way that an audience can easily understand. It's been an enormous help in my present job. I also make great use of the academic skills I gained in my studies, such as an analytical way of thinking, a systematic working method and the ability to solve problems.

ANDERS HØJ SØRENSEN
MSc in Mathematics–Economics
Consultant, Trapeze Group Europe

Have you thought about how rates for a new mortgage loan should be fixed – with an interest-rate ceiling or as interest-only loans? In fact, it was mathematics–economics graduates who developed the model used for fixing the cost of such loans. All major companies face complex problems, and many turn to a mathematics–economist to solve them.

Mathematics–economists are experts in designing optimisation strategies, something that requires great theoretical insight into both economics and mathematics. As a student of mathematics–economics, you have the option of specialising in a subject within a broad area, including one of the areas in which Aarhus University is particularly strong: mathematical finance, economics, and operations research.

BUILD YOUR OWN STUDY PROGRAMME
The MSc in Mathematics–Economics is taught at the Department of Mathematics and the Department of Economics and Business. Students specialise through course activities and projects and through a thesis. Students structure their own individual study programme in consultation with a lecturer. The programme is designed on the basis of each individual student's academic qualifications, interests, and subjects studied at BSc level. Read more about the different tracks over the page.

STUDENT LIFE
As a student on the programme, you are based at the Department of Mathematics and at the Department of Economics and Business Economics. You therefore get to benefit from the facilities of both departments.

The Department of Mathematics has its own canteen, computer rooms, library, and study areas shared by students. As a Master's student, you will be given your own desk in an office shared with other Master's students. The department also has a number of student organisations such as Euler's Friends, the Kalkulerbar or Friday bar, and the mathematics–economists association (the MØF) through which academic activities, study trips and social functions are organised.

The Department of Economics and Business Economics has nearly 600 study spaces, a large canteen, and state-of-the-art high-tech facilities to meet students' needs.

CAREERS
Job prospects for Mathematics–Economics graduates are extremely positive, and career opportunities are many. A large proportion of our graduates find work in the private sector. Banks and insurance companies are the major workplaces, with many graduates working as problem-solvers in consultancy and telecommunications companies. Planning departments in large industrial or manufacturing companies are also a relevant job market.

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PLACE OF STUDY
Aarhus

WWW
masters.au.dk/mathematicseconomics

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

AARHUS UNIVERSITY

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

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PROGRAMME STRUCTURE

The topics covered in the study programme depend on the track chosen by the student. There are three tracks on the programme: Economics, Mathematical Finance, and Operations Research.

Typical courses in Economics are:
- (Advanced) Microeconomics
- (Advanced) Macroeconomics
- Economics of the Labour Market
- Economics of the Welfare State
- Econometrics

Courses in Mathematical Finance are:
- Hedging and Pricing of Derivatives
- Credit Risk
- Fixed Income Analysis
- Stochastic Processes
- Advanced Financial Econometrics

Courses in Operations Research are:
- Mixed-Integer Optimisation
- Advanced Convex Optimisation
- Multi-Criteria Optimisation
- Metaheuristics for Combinatorial Optimisation
- Markov Decision Theory
- Simulation, Modelling and Analysis
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ADMISSION REQUIREMENTS

A bachelor's degree amounting to at least 60 ECTS credits in Mathematics–Economics can qualify the student for admission. Other qualifications can also provide admission to the Master's programme, provided the university assesses that their level, extent, and content correspond to the degrees mentioned above.

SELECTION CRITERIA

As the Master's programme admits only a limited number of students each year, meeting the admission requirements does not in itself guarantee admission to the programme. Student places are allocated on the basis of an overall assessment. In evaluating qualified applicants, the admissions committee assesses applicants according to the following criteria: academic background; overall grade level of bachelor's degree; grades achieved on relevant courses; and relevant courses (measured in credit units) included in the bachelor's degree.

Relevant courses include core courses within the subject areas of mathematics (linear algebra, mathematical analysis, measure and integration theory), probability theory and statistics, finance, operational research (linear and convex optimisation), and economics (microeconomics, macroeconomics, cost accounting).

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