Minor in Mathematical Finance

Description

The Minor concept

A minor gives you the opportunity of having a second specialization in your degree. The minor is a bundle of three to four electives that can be chosen separately but if chosen together rewards a minor.

Purpose

Financial analysts have started using more and more sophisticated mathematical concepts and models to describe the behavior of financial markets and to derive computing methods. The minor provides the student with a set of analytical tools to understand and examine pricing and hedging of financial contracts such as equity options, pension plans, and interest rate derivatives. The underlying mathematical models all build on a widely used common framework and the minor lays the foundation for understanding and implementing this framework. The minor is highly relevant for students who would like to become quantitative analysts, asset managers, traders, risk managers, structurers, or students who are simply generally interested in financial markets and want to gain the technical skills needed to understand and model financial market behavior.

Structure

The below table lists the structure and the ECTS credits of the individual courses. The course descriptions are available in the online course catalogue. Direct links are inserted in the below table.

Course	ECTS
Mathematical Finance 1	7.5
Mathematical Finance 2: Continuous Time Finance	7.5
Financial Engineering	7.5

Content

The minor provides a basic framework for the mathematical modelling of uncertainty in finance. The fundamental mechanics are demonstrated in a discrete time setting and then in a continuous time setting using stochastic calculus. This mathematical framework is then applied and implemented using various concrete examples. Understanding both the theoretical foundation and how to apply and implement it provides the students with the best possible starting point for working with these advanced topics later in the thesis and in the financial sector.

Examinations

The minor consists of the examinations listed below. The learning objectives and the regulations of the individual examinations are prescribed in the online course catalogue. Direct links to the individual examinations are inserted in the table below.

Exam name	Exam form	Gradingscale	Internal/external exam	ECTS
Matematisk Finansiering 1	Written sit-in exam on CBS' computers	7-point grading scale	External exam	7.5
Mathematical Finance 2: Continuous Time Finance	Written sit-in exam on CBS' computers	7-point grading scale	Internal exam	7.5
Financial Engineering	Written sit-in exam on CBS' computers	7-point grading scale	Internal exam	7.5

Prerequisites for registering for the exam – compulsory activities

The following courses have compulsory assignments or requirements about active class participation. Further specifications and regulations are listed in the relevant course description in the online course catalogue, see the below link(s).

Course	Number of mandatory activities
Financial Engineering	1

Further information

Minor coordinator

Jens Dick-Nielsen, jdn.fi@cbs.dk

Study Board

Finance, Economics and Mathematics - FEM Study Board

How to sign up

CMECM1001U - Minor in Mathematical Finance