GM1030   Mathematics for Finance, 7.5 higher education credits

Matematik för Finans, 7,5 högskolepoäng

Second Cycle

Confirmation

This course syllabus was confirmed by Faculty Board of the School of Business, Economics and Law on 2017-05-18 to be valid from 2017-08-01, autumn semester of 2017.

Field of education: Social Sciences 100%
Department: Graduate School

Position in the educational system

The course Mathematics is a course within the Master of Science programmes at the Graduate School, School of Business, Economics and Law, University of Gothenburg.

The course can be part of the following programmes: 1) Master of Science in Management (S2MAN), 2) Master of Science in Knowledge-based Entrepreneurship (S2KEN), 3) Program in Environmental Social Science (S1SML), 4) Master of Science in Marketing and Consumption (S2MAC), 5) Master of Science in Economics (S2ECO), 6) Master of Science in Accounting and Financial Management (S2REF), 7) Master of Science in Finance (S2FIN), 8) Programme in Business and Economics (S1HEG), 9) Master of Science in International Business and Trade (S2IBT), 10) Master of Science in Logistics and Transport Management (S2LOG) and 11) Master of Science in Innovation and Industrial Management (S2IFM)

Main field of studies	*Specialization*
Economics	A1N, Second cycle, has only first-cycle course/s as entry requirements

Entry requirements

To be eligible for the course Mathematics, the participant must fulfill the entrance qualifications for the Master of Science programme in Finance. For programme specific

entrance requirements, see programme syllabus.

Learning outcomes

By the end of the course, students should be able to:

1. Solve and analyze optimization problems in several variables, both unconstrained and constrained, including inequality constraints.
2. Solve systems of linear equations.
3. Obtain operational knowledge on Integration
4. Obtain operational knowledge of Probability Theory and main concepts in statistics
5. Be able to perform standard matrix operations, use functions and perform elementary programming in matlab.

Course content

After completing the course the students will be able to understand the main mathematical concepts in Economics and Finance. The course includes the following items: (i) Linear Algebra, (ii) Differential Calculus, (iii) Integral Calculus, (iv) Static Optimization, (v) Probability, (vi) Matlab.

Form of teaching

The coursework mainly consists of lectures, exercises and labs.

Language of instruction: English

Assessment

The course assessment consists of a final individually written exam for learning outcomes 1-4, that accounts for 100% of the final course grade. In addition, learning outcome 5 is assessed through compulsory labs and an oral exam.

If a student, who has failed the same examined component twice, wishes to change examiner before the next examination, a written application shall be sent to the department responsible for the course and shall be granted unless there are special reasons to the contrary (Chapter 6, Section 22 of Higher Education Ordinance).

In cases where a course has been discontinued or has undergone major changes, the student shall normally be guaranteed at least three examination occasions (including the ordinary examination) during a period of at least one year from the last time the course was given.

The number of examinations is limited to five.

Grades

The grading scale comprises: Pass with Distinction (VG), Pass (G) and Fail (U).
To get a Pass in the course at least 50% of the maximum total points on the written exam is needed. To get a Pass with Distinction in the course at least 75% of the maximum total points on the written exam is needed. In addition the students must get a pass on the compulsory labs.

Course evaluation

The course will be evaluated upon completion. The results of the evaluation will be communicated to the students and will function as a guide for the development of the course.