MET 1180 Mathematics

Programme
Bachelor of Science in Business and Economics (1. year)

Responsible for the course
Eivind Eriksen

Department
Department of Economics

Term
According to study plan

ECTS Credits
7,5

Language of instruction
Norwegian

Introduction
This is a basic course in mathematics. The course is a compulsory part of the Bachelor of Science in Business. The course will be taught during the first year over two semesters. It consists of an introductory part in the autumn semester, and an advanced part in the rest of the autumn semester and the spring semester.

Learning outcome
Acquired knowledge:
After completing the course, the student will have acquired an understanding of basic algebra, functions in one or several variables, basic financial mathematics, integration and linear algebra.

Acquired skills:
The student will have a deeper understanding of mathematical concepts, and will after completing the course be able to see connections, perform mathematical calculations and interpret results within the themes of the course. This means, for example, the ability to see connections between algebraic and graphical representations of one and the same problem, or to see connections between mathematics and other subjects, especially economics. In addition, the student will gain skills in understanding math problems and choose appropriate strategies to solve them. The student will also be able to make mathematical arguments to give reasons for his conclusions.

Reflection:
After completing the course, the student will have enhanced his analytic skills. The student should also be able to reflect on the results of his computations, and have a critical attitude toward their validity. The student should be able to work precisely and be able to do large and complex calculations.

Prerequisites
Basic knowledge of mathematics equivalent to the admission requirement for the programme.

Compulsory reading
Books:
Eriksen, Eivind. 2016. Matematikk for økonomi og finans.. Cappelen Damm Akademisk

Recommended reading

Course outline
•   Elementary algebra
•   Mathematics of finance and series
•   Functions and graphs
•   Exponential and logarithmic functions
•   Derivation with applications
•   Integration
•   Linear algebra
•   Functions of several variables

Computer-based tools
Wolfram Alpha is used in lecture to illustrate taught material.

Learning process and workload

The course is lectured over one year and consists of an introductory part (36 hours) and an advanced part (48 hours).

Introductory part - Taught in the autumn semester.
Advanced part - Starts after the introductory part in the autumn semester and continues in the spring semester.

For each week, there will be a work program consisting of exercises and reading assignments. The student must learn the material presented in the reading assignments and work through the exercises. Use of Excel will be integrated into teaching. Some of the exercises will be reviewed in plenary sessions. It is assumed that the student has worked on the exercise in order to take full advantage of the review.

By allocating some time in class to short assignment related to new topics, students will be activated and learning objectives achieved.

Recommended use of hours:

Activity	Introductory	Advanced
Participation in teaching activities – Introductory part	36	
Preparation for lectures/reading literature	8	
Assignments outside lecture hours	16	
Participation in teaching activities – Advanced part		48
Preparation for lectures/reading literature		32
Assignments outside lecture hours		112
Multiple-choice examination		3
Written examination		5
Total recommended use of time	**72**	**200**

Use of hours

Lectures 84 hours including the work on assignments in class.

Examination

The final grade in the course is based on following activities:
An individual mid-term assignment half way through autumn term. Pass/Fail.
A three-hour individual written multiple-choice examination at the end of autumn term. It counts 30 % towards the final grade.
A five-hour individual written examination at the end of spring term. It counts 70 % towards the final grade.

To obtain final grade all parts must be passed. A re-sit can be taken in each separate part.

Examination code(s)

MET 11801 - Written assignment. Pass/Fail
MET 11802 - Multiple choice, counts 30% towards the final grade in MET 1180 Mathematics, 7,5 credits.
MET 11803 - Written exam, counts 70% towards the final grade in MET 1180 Mathematics, 7,5 credits.

Examination support materials

MET 11802 Multiple-choice examination - BI approved exam calculator is allowed.
MET 11803 Written examination - BI approved exam calculator is allowed.

Examination support materials at written examinations are explained under examination information in the student portal @bi. Please note use of calculator and dictionary in the section on support materials (https://at.bi.no/EN/Pages/Exa_Hjelpemidler-til-eksamen.aspx).

Re-sit examination

Re-sit examination is offered every term.

Additional information