APPLIES TO ACADEMIC YEAR 2006/2007

MET 2600 Mathematical Analysis

Program
Bachelor in Finance (2. year)

Responsible for the course
Robert Hansen

Department
Economics

Term
According to study plan

ECTS Credits
6

Objective
Through training to develop the necessary skills in mathematics and linear algebra that is required in advanced courses in financial theory and economics at the bachelor and masters level. Very important in this regard is skills in building and analyzing mathematical models.

Prerequisites
MET 2591, MET 9100, or equivalent.

Compulsory literature
Books:
Sydsæter, Knut og Peter Hammond. 2006. Essential mathematics for economic analysis. 2nd ed. Harlow : Financial Times/Prentice Hall. Pensum: Kapittel 7.1, 7.2, 7.4, 7.5, 7.7, 11.8, 12.1-12.3, 12.6, 12.8-12.10, 13.1-13.6, 14.1 - 14.3, 14.5 - 14.8, 15.1 - 15.7, 16.1 - 16.8.

Recommended literature

Course outline
Topics covered during the lecture series, references to Sydsæter et. al::

1. Optimizing functions of several variabels	chapter. 13.1 - 13.6
2. Constrained optimization (general Lagrange)	chapter 14.1–14.3. 14.5, 14.6
3. Implicit given functions and derivation	chapter 7.1, 7.2, 12.1–12.3
4. Differentiation	chapter 7.4, 7.5, 12.8, 12.9
5. Elasticities	chapter 7.7, 11.8
6. Non-linear programming	chapter 14.7, 14.8
7. Systems of equations	chapter 12.10, 15.1
8. Gauss' method of elimination for linear equation systems	chapter 15.6
9. Matrix algebra	chapter 15.1 - 15.5, 15.7
10. Determinants and inverses	chapter 16.1 - 16.8

Computer-based tools
No computer-based tools are used in this course.

Course structure
The course is taught over 42 class-room hours; 36 hours of lecturing and 6 hours of tutoring. Homeassignment exercises highlighting and demonstrating theory are used extensively throughout the lecture series. Coming to class prepared is thus regarded very important.

Evaluation
Process evaluation based on one individual, closed-book, midterm-examination in class and a final, individual, closed-book examination. The score on the midterm examination counts 30%, whereas the score on the final exam counts for 70%, towards the overall grade for the course.

A passing score on the midterm must be obtained in order to sit for the final exam.

The course is concluded with two exams:

Part 1 - Midterm exam. Three hour individual written exam witch counts 30% - Time for exam will be announced at start of course. Please notice that the midterm examinatuion may be given during evening hours and must be passed before attending final exam.

Part 2 - Final exam. Three hour individual written exam witch counts 70% - Time for exam will be announced at start of course.

Evaluation code(s)
MET 26001 - Process evaluation counts 100% of the final grade in MET 2600 Mathematical Analysis, 6 ECTS credits.

Aids at the examination
Programmable calculator and interest rate tabels.

Makeup exam
A re-sit is held in at the next scheduled exam in the course. Students who are taking new exam must take the course all over including all parts of evaluation.