



APPLIES TO ACADEMIC YEAR 2011/2012

## MET 2600 Mathematical Analysis - MAKEUP EXAM

### Programme

Re-sit examination

### Responsible for the course

Robert Hansen

### Department

Department of Economics

### Term

According to study plan

### ECTS Credits

6

### Language of instruction

Norwegian

### Introduction

### 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 2610 or MET 2591 or MET 9100, or equivalent.

### Compulsory reading

#### Books:

Sydsæter, Knut and Peter Hammond. 2008. Essential mathematics for economic analysis. 3rd ed. Harlow : Prentice Hall

### Recommended reading

### Course outline

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

|                                                             |                               |
|-------------------------------------------------------------|-------------------------------|
| 1. Optimizing functions of several variables                | chapter 13.1 - 13.6           |
| 2. Constrained optimization (general Lagrange)              | chapter 14.1-14.4, 14.6, 14.7 |
| 3. Implicit given functions and derivation                  | chapter 7.1, 7.2, 12.1-12.3   |
| 4. Differentials. Linear and polynomial approximations      | chapter 7.4, 7.5, 12.8, 12.9  |
| 5. Elasticities                                             | chapter 7.7, 11.8             |
| 6. Homogeneous functions                                    | chapter 12.6                  |
| 7. Nonlinear programming                                    | chapter 14.8, 14.9            |
| 8. Systems of equations                                     | chapter 12.10, 15.1           |
| 9. Gauss' method of elimination for linear equation systems | chapter 15.6                  |
| 10. Matrix algebra                                          | chapter 15.1 - 15.5, 15.7     |
| 11. Determinants and inverse matrices                       | 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.

**Examination**

The grade in the course will be based on a five (5) hours individual written exam, counts 100%.

**Examination code(s)**

MET 26001 - Written exam counts 100% of the final grade in MET 2600 Mathematical Analysis, 6 ECTS credits.

**Examination support materials**

Interest rate tables and BI-approved exam calculator are allowed.

Exam aids at written examinations are explained under exam information in our web-based Student handbook. Please note use of calculator and dictionary.

<http://www.bi.edu/studenthandbook/examaids>

**Re-sit examination**

Re-sit exam will be offered every term from autumn 2010 up to and even spring 2012.

**Additional information**

Due to changes in our Bachelor Programmes from autumn 2009, there also will be changes in every single course. This course was lectured for the last time spring 2010. Re-sit exam will be offered every term up to and even spring 2012.