



GÖTEBORG UNIVERSITY

Faculty Board of Science

MVG310 Introduction to Applied Mathematics

7.5 higher education credits

First Cycle

This syllabus is the binding document.

1. Confirmation

The syllabus was confirmed by the Department of Mathematical Sciences on September 18, 2009 to be valid from September 18, 2009.

Field of education: Science. Responsible department: Mathematical Sciences.

2. Position in the educational system

The course Introduction to Applied Mathematics, 7.5 higher education credits, is intended for international students and can only be taken as part of the two-year Masters Program in Mathematical Sciences.

Since international students all have different backgrounds, the course aims to introduce them to the computer system at the mathematical department, and to provide them with common computational tools.

3. Entrance qualifications

To qualify for the course the student should be registered in the Masters Program in Mathematical Sciences.

4. Course content

Introduction to Matlab, emacs and Latex. Linear algebra, systems of ordinary differential equations, modelling of tank reactor. Training in report writing (with Latex) and oral presentation.

Working through the details of a simple problem from chemical engineering: the tank reactor. The work is guided by rather detailed written instructions, containing (i) modelling of the tank reactor, (ii) mathematical analysis of the model, and (iii) Matlab computation with the model.

5. Learning outcomes

After completing the course, the student will be able to

- operate in the environment at the department of mathematics

- use mathematical software and text editors such as Matlab, emacs, and Latex
- profit by the education in the courses to follow and the master's thesis.

6. Required reading

Written instructions.

7. Assessment

The course is examined in the form of a written report which is also presented orally to the teacher and the group of students.

8. Grading scale

The grades are Fail (U), Pass (G), and Pass with Distinction (VG).

Students who are contractually entitled to ECTS grades should inform the examiner about this no later than one week after the start of the course.

Students without such entitlement will not be awarded ECTS grades. Grades will be converted into ECTS terminology according to a standard model approved by the University President.

9. Course evaluation

Oral and/or written course evaluation will be performed. The results of the evaluation will be communicated to the students and will serve as a guide for the development of the course.

10. Additional information

The language of instruction is English.