

**MSG700, RELIABILITY THEORY, 7.5 credit points**

*Level: undergraduate*

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**1. Authorisation**

The course plan has been authorised by the vice-dean of the Department of Mathematical Sciences on November 9, 2006, to be valid from July 1, 2007.

*Educational field:* Mathematical Sciences

**2. Educational context**

The course is part of the Bachelor Program in Mathematical Sciences. It is also open for students outside the program who meet the course prerequisites.

**3. Prerequisites**

A basic course in probability and statistics.

**4. Goals and learning outcomes**

After finishing the course the student should

- understand the fundamental concepts in the theory of reliability
- be able to apply basic methods analysing reliability of separate components and systems of components.

**5. Course description**

The course consists of lectures, exercises, and computer laborations. It addresses the following key issues:

- hazard functions
- coherent systems
- reparable systems
- Markov models
- TTT-transformers.

**6. Literature**

See separate list.

## **7. Assessment**

Written final examination.

## **8. Grades**

The grade levels are Fail (U), Pass (G), and High Pass (VG). A wish for an ECTS grade should be reported to the examiner at the beginning of the course.

## **9. Course evaluation**

In the middle of the course the teacher arranges a feedback discussion with the students and at the end of the course the students will be asked to answer a questionnaire. The results of the questionnaire will be processed by the teacher together with student representatives.

## **10. Additional information**