



# IS1350 Operating Systems 7.5 credits

## Operativsystem

This is a translation of the Swedish, legally binding, course syllabus.

If the course is discontinued, students may request to be examined during the following two academic years

## Establishment

Course syllabus for IS1350 valid from Autumn 2008

## Grading scale

A, B, C, D, E, FX, F

## Education cycle

First cycle

## Main field of study

Information Technology, Technology

## Specific prerequisites

Prerequisites

- Fundamental programming in C and assembler
- Digital technology
- Computer technology
- Basic knowledge of using Unix and Windows

## Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

## Intended learning outcomes

This course is given as a part of the Bachelor of Science program in Computer Engineering. The course will give the student the basic knowledge of the components of modern operating systems. The student will also learn how to analyze the operating system from the point of security and administration.

After the course the student should be able to:

- explain the difference between user mode and kernel mode.
- explain terms like: processes, threads, scheduler, context switch, IPC.
- explain fundamental terms of memory management and how to tune memory management to fit the needs from different software categories.
- explain how a device driver or kernel module works as well as implement a simple one in Windows and Unix.
- explain how deadlocks occur and how to handle them.
- explain fundamental methods of making I/O.
- distinguish properties of different file systems and how to choose between file system according to different situations.
- describe different security mechanisms in modern operating systems.

## Course contents

This course has lectures and practical exercises

## Course literature

Modern Operating Systems, Andrew S. Tanenbaum. Upplaga: Second edition Förlag: Prentice-Hall, Inc. År: 2001 ISBN: 0-13-092641-8

## Examination

- LAB1 - Laboratory Work, 4.5 credits, grading scale: A, B, C, D, E, FX, F
- TEN1 - Examination, 3.0 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

## Other requirements for final grade

The examination part TEN1 corresponds to the written exam. Grades given are P(assed) or F(ailed).

The examination part LAB1 corresponds to practical exercises. Grades given are A-F. The final part grade depends on the number of exercises completed at basic level or advanced level. The course grade reflects the grade from LAB1 (A-F).

**Grading scale:** A/B/C/D/E/Fx/F

## Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.