DIT400, Operating Systems, 7.5 higher education credits

First Cycle

This syllabus in English is a binding document.

1. Confirmation

The syllabus was confirmed by the Faculty Board/the Dean of IT University on 2006-11-17 to be valid from the autumn semester, 2007. It has been revised 2007-10-23 to be valid from autumn semester, 2008.

Field of education: Science.

Responsible department: Computer Science and Engineering

2. Position in the educational system

The course Operating Systems, 7,5 higher education credits, is a part of Computer Science Bachelor´s programme and an elective course at Göteborg University.

3. Entrance qualifications

The requirement for the course is to have successfully completed the first year at the Computer Science Bachelor´s programme or equivalent. The course DIT151 Machine oriented programming, 7,5 hec or similar is required. The student should have basic knowledge in low level programming and be familiar with terms like assembler, interrupt and so on.

4. Course content

The course provides an introduction to the design and implementation of operating systems. Topics covered include: concurrent processes, resource management, deadlocks, memory management techniques, virtual memory, processor scheduling, disk scheduling, file systems, distributed file systems, micro kernels, multiprocessor operating system issues. Examples, case-studies.

5. Learning outcomes

After successful completion of the course participants will be able to demonstrate knowledge and understanding of:

- The core functionality of modern operating systems.

- Key concepts and algorithms in operating system implementations.
- Implementation of simple OS components.

The participants will also be able to:

- Write programs that interface to the operating system at the system-call level.
- Implement a piece of system-level code

6. Required reading

See separate literature list

7. Assessment

The student is evaluated through Lab work and a final written exam. The final grade is based solely on the final exam.

A student who has failed a test twice has the right to change examiner, unless weighty argument can be adduced. The application shall be sent to the department and has to be in writing.

8. Grading scale

The course is graded with following marks: High Pass (VG), Pass (G) or Fail (U). On request, grades are mapped onto an ECTS grading scale using a fixed mapping, common for GU.

9. Course evaluation

The course is evaluated through meetings both during and after the course between teachers and student representatives. Further, an anonymous questionnaire can be used to ensure written information. The outcome of the evaluations serves to improve the course by indicating which parts could be added, improved, changed or removed.

10. Additional information

The course is given in English.