


 Faculty of Applied Sciences

INGI1113 Operating systems 1

[30h+30h exercises] 5 credits

This course is not taught in 2005-2006

This course is taught in the 1st semester

Language: French

Level: First cycle

Aims

- To understand and explain the functionalities provided by the different hierarchical levels of the architecture of a computing system, from the physical machine to software components directly supporting the applications
- To understand and explain typical system architectures their components, as well at the hardware as the operating system level
- To use and configure efficiently functions and services provided by computers and operating systems
- To compare various computer implementations and identify their strengthes and weaknesses
- To know and understand the implications of the orders of magnitude of measurable characteristics of computing systems

Main themes

- Abstraction levels in computing systems
- Architectures of processors
- Memory hierarchy Peripherals and peripheral interfaces
- Techniques for performance enhancement
- Machine language, assembly language and C language
- Mission and functions of operating systems
- Key concepts in operating systems
- Use of operating system functions in C programs
- C programming on computer without OS.

Content and teaching methods

See "Main themes"

Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

- Prerequisite:

(1) Mastering a high level language such as Java, C or C++.

(2) Passive technical english

- References

Mandatory Book:

(1) Tanenbaum, A. S., "Modern Operating Systems (second edition)" , Prentice Hall Inc, 2001

Recommended reading

(2) Patterson, D. A. and Hennessy, J .L. , "Computer Organization and Design: the Hardware / Software Interface" , Morgan Kaufman Publ. Inc, 1998

(3) Stevens, R. W, "Advanced Programming in the Unix Environment" , Addison-Wesley Inc, 1992.

- Organisation

* Individual and group based active learning

* Course language: French ; the course can be taken by English speaking students