


 Faculty of Sciences

SC1181

Computer tools and documentation research

[15h+30h exercises] 3 credits

Teacher(s): Daniel Peeters, Marie-Anne Van Hove
Language: French
Level: First cycle

Aims

The course aims to give the students knowledge and competences that will help them to evaluate the compatibilities and limits of computer systems, in relation to the needs of their studies and future profession

Hands on sessions about the use of computer software linked to the courses followed in their first year of baccalaureat in sciences will lead to acquire the practical competences of using computer tools.

Main themes
Part 1 - Physical world

- The machine and its environment
- Programs : languages, programming, etc.
- Peripherals : terminals, disks, printers, etc.
- Software layers : operating systems, usual functions, user services (commands) , program services, examples of services, files
- Mono and multi-user environment
- Application supports
- Applications
- Advanced techniques : artificial intelligence
- Communications : distant access, computer networks, local networks, widespread networks.

Part 2 - Logical organization of information

- File system
- Databases : structure and operation, examples of interest in natural sciences
- Documentation databases

Part 3

- Introduction to formal logic (true/false/and/or/combinations)
- Application studies relative to exact sciences with the use of those software applications:

App 1 :word processing

App 2: worksheets and graphics

App 3 : Simple file manipulation

App 4 : Database

App 5 : Documentation database

App 6 : tools for oral presentations

Part 4 - Practical work

Hands on sessions in direct relation to other courses taught in the first year cover some of the following aspects :

- information research: Comparison between study programs of various universities; retrieving specific information for other courses #.
- Calculations and graphics: analyze data with software
- Lab reports: Using software to present properly a report on some requested topic

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

Evaluation of knowledge

Evaluation of competences acquired, on the bases of work realized by students (reports)

Other credits in programs

ARCH13BA	Troisième année de bachelier en sciences de l'ingénieur, orientation ingénieur civil architecte	(3 credits)
CHIM11BA	Première année de bachelier en sciences chimiques	(3 credits)
FSA13BA	Troisième année de bachelier en sciences de l'ingénieur, orientation ingénieur civil	(3 credits)
GEOG11BA	Première année de bachelier en sciences géographiques	(3 credits)