Faculty of Science

MNXA22, Computer Literacy, 3 credits

Datakunskaper, 3 högskolepoäng

First Cycle / Grundnivå

Details of approval

The syllabus was approved by The Education Board of Faculty of Science on 2025-02-24. The syllabus comes into effect 2025-02-24 and is valid from the autumn semester 2025.

General information

The course is given as a stand-alone course.

Language of instruction: English

Main field of study	*Specialisation*
-	G1N, First cycle, has only upper-secondary level entry requirements

Learning outcomes

In today's research and working environment computer and software skills are essential. Software skills refer to the ability to use specific software applications effectively, in Science typically programming environments like Python, Matlab or R. Computer skill encompass a broader range of abilities that include not only software skills but also hardware skills, basic troubleshooting, operating systems, and more general knowledge of how computers and related technologies work. A good mix of both are essential in today's job market as well as for many scientists. In this course on computer literacy we will teach essentials from both sections described above.

On completion of the course, the student is to have acquired the basic knowledge and skills in computer literacy.

Knowledge and understanding

On completion of the course, the student shall be able to:

- describe basic steps for Linux system installation

- explain basic command line operations
- understand file operations and file systems
- justify choice of text editors and programming environments
- justify basic security measures to ensure data securify.

Competence and skills

On completion of the course, the student shall be able to:

- use Unix-based systems including system installing (Linux)
- perform basic command line and file operations
- modify text files
- find documention of relevant applications
- write simple programs in Python and BASH
- implement basic security measures to ensure data securify.

Judgement and approach

On completion of the course, the student shall be able to:

- propose solutions to tasks that require command line operations
- argue about choices and resources of file operations
- discuss alternative text editing solutions
- propose programming solutions to simple tasks
- reflect on security risks of the proposed solutions to ensure data securify.

Course content

The course will focus on the usage of Unix based operating systems, such as Linux and MacOS.

- Unix basics and system installing (Linux)
- Graphical interface and common applications
- Command line operations
- Documentation search
- File operations
- Text editors and programming environments
- Introduction to basic programming with scripting languages: Python and BASH
- Basic security principles

Course design

The teaching consists of lectures and training exercises involving hands-on examples. The lectures, training exercises, and final exam are compulsory.

The course is offered as distance learning, supported by an online learning platform and digital tools. This presumes that the students participate on these conditions and have access to a computer with an internet connection and functioning loudspeakers, microphone and webcam. The department provides information on the technical requirements.

Assessment

Examination takes place digitally in form of a quiz at the end of the course.

The examiner, in consultation with Disability Support Services, may deviate from the regular form of examination in order to provide a permanently disabled student with a form of examination equivalent to that of a student without a disability.

Grades

Grading scale includes the grades: Fail, Pass
For a **Pass** grade on the entire course, the student must show active participation in the training exercises and have a **Pass** grade on the final exam.

Entry requirements

General requirements and studies equivalent of course English 6 from Swedish Upper Secondary School.

Further information

The course is offered by the Centre for Mathematical Sciences, Lund University.