

Unix System for Bioinformatics Environment (C002739)

Due to Covid 19, the education and evaluation methods may vary from the information displayed in the schedules and course details. Any changes will be communicated on Ufora.

Course size *(nominal values; actual values may depend on programme)*
Credits 3.0 **Study time** 80 h **Contact hrs** 25.0 h

Course offerings and teaching methods in academic year 2020-2021

Offering	Language	Location	Teaching Method	Hours
A (semester 2)	English	Gent	lecture	15.0 h
			seminar: practical PC room classes	10.0 h
			online lecture	0.0 h
			online seminar: practical PC room classes	0.0 h

Lecturers in academic year 2020-2021

Sterck, Lieven WE09 lecturer-in-charge

Offered in the following programmes in 2020-2021

Programme	crdts	offering
Master of Science in Teaching in Science and Technology (main subject Biochemistry and Biotechnology)	3	A
Master of Science in Biochemistry and Biotechnology	3	A
Master of Science in Bioscience Engineering: Cell and Gene Biotechnology	3	A
Exchange programme in Biochemistry and Biotechnology (master's level)	3	A

Teaching languages

English

Keywords

Unix, Linux, bioinformatics, cluster

Position of the course

The goal of this course is to provide some practical knowledge about Unix/Linux systems and their use in bioinformatics. The course will cover the organization of Unix/Linux systems and will focus on practical work to learn how to use Unix/Linux systems within a bioinformatics environment.

Contents

- Why using UNIX ?
 - Unix history
 - Unix flavors
 - Linux
- Working with Linux
 - Connecting to a remote system: SSH
 - Working with the command line
 - Basic commands
 - Files and directories
 - Managing files
 - File input/output
- Working with computer clusters
 - shell scripting
 - cluster job administration
- Introduction linux based text editor
 - Vim , terminal text editor

Initial competences

Basic knowledge of computers and bioinformatics

Final competences

- 1 Connecting to a Linux system.
- 2 Using command line Unix tools.
- 3 Creating and applying shell scripts.
- 4 Using a compute cluster.
- 5 Efficiently working with big data files.
- 6 Performing terminal based text editing.
- 7 Customising of the terminal environment.
- 8 Understanding job and process management.

Conditions for credit contract

Access to this course unit via a credit contract is determined after successful competences assessment

Conditions for exam contract

This course unit cannot be taken via an exam contract

Teaching methods

Lecture, seminar: practical PC room classes, online lecture, online seminar: practical PC room classes

Learning materials and price

Slides will be made available to the students

Cost: 0 EUR

References

A Practical Guide to Linux Commands, Editors, and Shell Programming - Prentice Hall - Mark G. Sobell

Developing Bioinformatics computer skills - O'Reilly - Cynthia Gibas & Per Jambeck

Course content-related study coaching

In addition to the classroom lectures, the students can contact the teacher personally for questions or further information. This can be done through e-mail or after making an appointment.

Evaluation methods

end-of-term evaluation

Examination methods in case of periodic evaluation during the first examination period

Written examination with open questions, open book examination

Examination methods in case of periodic evaluation during the second examination period

Written examination with open questions, open book examination

Examination methods in case of permanent evaluation**Possibilities of retake in case of permanent evaluation**

not applicable

Calculation of the examination mark

written exam: 100%