GHENT UNIVERSITY

Course Specifications

Valid as from the academic year 2024-2025

Genome Biology (C003696)

Course size *(nominal values; actual values may depend on programme)*

Credits 6.0 **Study time 180 h**

Course offerings and teaching methods in academic year 2024-2025

A (semester 2)	English	Gent	seminar
			lecture

Lecturers in academic year 2024-2025

Vandepoele, Klaas	WE09	lecturer-in-charge
Van de Peer, Yves	WE09	co-lecturer

Offered in the following programmes in 2024-2025	crdts	offering
Bridging Programme Master of Science in Bioinformatics(main subject Engineering)	6	A
Master of Science in Bioinformatics(main subject Bioscience Engineering)	6	A
Master of Science in Bioinformatics(main subject Engineering)	6	A
Master of Science in Bioinformatics(main subject Systems Biology)	6	A
Exchange Programme in Bioinformatics (master's level)	6	A

Teaching languages

English

Keywords

tree construction, gene and gene duplication, genome analysis, comparative -omics analysis.

Position of the course

For the part of Prof. Yves Van de Peer, the students have to read, present and discuss a genome paper.

Contents

Initial competences

identical to those of the Master in Bioinformatics.

Final competences

1 Overview of the most important computational methods for sequence/genome analysis.
2 Recognize analysis techniques underlying bioinformatics tools.
3 Being able to independently read and analyse a genomics paper that combines biological results with advanced data-analysis.
4 Being able to apply the most important computational methods (understanding their background and understanding why they are being used).
5 Critical reading of state of the art literature.
6 Understanding bioinformatics as a fastly evolving discipline.
7 Functioning as member if a team in a multidisciplinary environment.
8 Communication in an interdisciplinary context.

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

Seminar, Lecture

Extra information on the teaching methods

- Students have to read and understand a recent research article, and present it. This implies analyzing, synthesizing skills and the ability to position the content of the article in the broader research context.
- Solving questions related to gene and genome evolution using command-line and web-based tools.

Study material

Type: Handouts

Name: Handouts
Indicative price: Free or paid by faculty
Optional: no
Language : English

Additional information: All information is available in the online free course material. Additional scientific publications are also shared.

References

research articles

Course content-related study coaching

- Practica supervised by assistents.
- Additional information via Ufora.

Assessment moments

end-of-term assessment

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

Written assessment with open-ended questions

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

Written assessment with open-ended questions

Examination methods in case of permanent assessment

Assignment

Possibilities of retake in case of permanent assessment

examination during the second examination period is possible in modified form

Extra information on the examination methods

- Periodic evaluation: written examen
- Attendence to the practical sessions is obliged.
- Periodic evaluation: presentation and discussion genome paper

Calculation of the examination mark

- 100% periodic evaluation (covering the 2 parts of the course)