Hanze

Course: Omics — credits: 10

Course code	BFVH23OMICS
Name	Omics
Study year	2023-2024
ECTS credits	10
Language	Dutch, with parts in English
Coordinator	S.M. Nabuurs
Modes of delivery	Assignment Guest lecture
Assessments	Omics - Other assessment

Learning outcomes

This module has the following learning outcomes

You answer a focused research question in the field of *omics with a group under the guidance of a lecturer-researcher and report on it in writing to the client

You actively contribute to mid-term presentations on your own research and in discussions on fellow students' research.

You search for scientific literature and from this you summarise the knowledge needed for the research question

You understand the theory and operation of the analytical techniques used and you process and interpret the data obtained critically and correctly

You apply multivariate statistical methods, such as PCA, to the data obtained

Content

The *omics module involves working on a project centred on a client's dataset with an open or more specific question. Projects centred on proteomics or metabolomics are introduced by an expert in this field. In addition to processing the data generated by the client's laboratory, knowledge of the biological question being asked and the analytical techniques producing this data is also expected.

To arrive at a scientific article for the client, proper literature research is expected. This will be assessed by writing an abstract. Halfway through the module, groups will discuss and debate their project in a midterm presentation with fellow students and lecturers.

All projects will be supervised by a Hanseatic lecturer, the project groups will have to actively contact the client for consultations.

The experimental data coming from the client will be processed and analysed in several stages. After the literature review, exploratory data analysis follows first and then comfirmatory data analysis, in which the findings are tested. The results and their interpretation are recorded in a report. The data analysis uses multivariate statistical methods, such as principal component analysis (PCA).

Included in programme(s)

Bio-Informatics

School(s)

Institute for Life Science & Technology

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