Course: Heredity

credits: 5

Course code	BOVP23MDERFELIJK
Name	Heredity
Study year	2023-2024
ECTS credits	5
Language	Dutch, with parts in English
Coordinator	S.A.B. Hermsen

Modes of delivery	Assignment Practical / Training Tutorial
Assessments	Genetica en Erfelijkheid - Other assessment Moleculaire Technieken - Other assessment

Learning outcomes

In the context of reproduction, you name the anatomy and physiology of the sexual organs, describe the menstrual cycle, illustrate the different phases of mitosis and meiosis, and explain what takes place in a multimedia product in the first stages after fertilisation and present this to your fellow students.

You understand Mendelian inheritance, apply simple statistical tests to the inheritance of genetic traits and reason out the consequences of mutations in hereditary material as the basis of genetics.

You delve into an ethical aspect about reproduction, genetics or embryology and conduct a forum discussion on this with a group.

You master the principles of molecular biological techniques such as PCR, electrophoresis and restriction analysis, and together with a fellow student you make a work plan and digital prediction for the determination of a genetic trait, and correctly test this work plan against practice.

You reflect on your choice of this study by briefly summarising the guest lectures of last year and writing a report for your personal portfolio.

DAS competencies

Competency	Level (I-IV)
Research	I
Experimentation	I
Development	
Management	I
Advise	
Instruction	
Leadership	
Self-management	I

Content

During this module, you will delve into the anatomy and physiology of the sexual organs, know how mitosis and meiosis proceed and what happens in the first stages after fertilisation. You will present your knowledge about this to your fellow students by means of a multimedia product (infographic/vlog/website/etc). You will work with molecular biological techniques in the context of reproduction and heredity and isolate your own DNA. You will also determine a hereditary trait (bitter tests) of yourself using PCR. You draw up a work plan in which you first simulate the mutation using bioinformatics assignments and then determine in the laboratory whether the mutation is present. With your fellow students, you conduct a forum discussion on ethical aspects of reproduction and genetics. At the end of this module, you reflect on last year, your choice of study and the coming academic year.

Included in programme(s)

Major Medical Diagnostics

School(s)

Institute for Life Science & Technology

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