Hanze

# Course: Introduction to Genetics — credits: 5

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| **Course code** | BOVP23RGENETICA |
| **Name** | Introduction to Genetics |
| **Study year** | 2023-2024 |
| **ECTS credits** | 5 |
| **Language** | Dutch, with parts in English |
| **Coordinator** | A.M. Da Costa Rodrigues Alves |
| **Modes of delivery** | Guest lecture<br>Lecture<br>Practical / Training<br>Tutorial |
| **Assessments** | Analyse van Chromosomen - Other assessment<br>Introductie in de Genetica - Computer, organised by STAD examinations |

**Learning outcomes**

This module has the following learning outcomes:

You describe the cell cycle, mitosis and meiosis and interpret genetic defects based on genetic models within the discipline of Molecular Genetics and heredity;

You explain phenotypic characteristics of humans based on chromosomal inheritance within the discipline of Molecular Genetics and heredity;

You apply simple statistical tests and principles to data obtained from population genetics experiments within the discipline of Molecular Genetics and heredity;

You visualise and assess a karyogram of a eukaryotic cell line using fluorescence microscopy and knowledge gained from molecular genetics within a biological or medical laboratory and report this in writing in a logbook according to indicated guidelines;

You assess different stages within cell division using specific staining and microscopy within a biological or medical laboratory and report this in writing in a logbook according to indicated guidelines.

DAS competencies

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

**Content**

In this module, students will be introduced to heredity and molecular genetics within the field of molecular biology. The knowledge gained will be tested in writing and applied in various research questions within the practical part of this module. Various techniques used within molecular genetics (including FISH) will be introduced during the practical. In addition, the student will apply various statistical methods to analyse relevant data from population genetics.

**Included in programme(s)**

Major Biology and Medical Research

**School(s)**

Institute for Life Science & Technology

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