



Exchange programme Vrije Universiteit Amsterdam

Vrije Universiteit Amsterdam - Exchange programme Vrije Universiteit Amsterdam - 2024-2025

Exchange

Vrije Universiteit Amsterdam offers many English-taught courses in a variety of subjects, ranging from arts & culture and social sciences, neurosciences and computer science, to economics and business administration.

The International Office is responsible for course approval and course registration for exchange students. For details about course registration, requirements, credits, semesters and so on, please [visit the exchange programmes webpages](#).

Molecular Genetics

Course Code	P_BMOLGEN
Credits	6
Period	P5
Course Level	300
Language Of Tuition	English
Faculty	Faculty of Behavioural and Movement Sc.
Course Coordinator	dr. R. Pool
Examiner	dr. R. Pool
Teaching Staff	dr. A. den Braber, dr. R. Pool
Teaching method(s)	Computer lab, Lecture

Course Objective

To provide students with a critical understanding of molecular biological techniques, their interpretation and application in relation to behavior.

Course Content

Since (most of) the human genome is sequenced, research searching for genes involved in behavioral traits exponentially increased. For those studies, DNA is collected from subjects. After DNA collection, the DNA is isolated and measured in a laboratory. This course evaluates the different techniques that can be used to manipulate DNA like sequencing, PCR and gel electrophoreses. The structure of the genome (structure of a DNA molecule, coding/non- coding DNA, mutations etc.) and how genomes function in cells (gene expression, DNA transcription/translation, DNA replication etc) will also be explained.

The learning objectives for this course are such that the student is able to:

- * Describe and explain the structure and functioning of DNA and RNA (nucleotides, structure, meiose/mitosis) and place this in the context of the central dogma of molecular biology;
- * Describe and explain techniques to study DNA, RNA, epigenetics, proteins, metabolites;
- * Understand and interpret (scientific) articles in behavior genetic research area.

Additional Information Teaching Methods

2 x 2 hrs lectures + 1 x 2 hrs teacher-guided small-group lecture/practical per week

Method of Assessment

Written examination (2/3 of final grade) and writing assignment (1/3 of final grade). Partial grades are only valid during the study year in which the grade has been achieved.

Literature

T. Strachan & A. Read (2018). Human Molecular Genetics (5th edition).

Additional Information

This course is taught in English