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.

Experimental Cell Biology I

Course Code	AB_1047
Credits	6
Period	P1
Course Level	300
Language Of Tuition	English
Faculty	Faculty of Science
Course Coordinator	dr. D. Bald
Examiner	dr. D. Bald
Teaching Staff	dr. J.P. van Ulsen, dr. S. Luirink, dr. D. Bald, dr. E. Tutucci, prof. dr. ir. E.J.G. Peterman, prof. dr. B. Teusink
Teaching method(s)	Study Group, Lecture

Course Objective

- The student has insight into and understanding of biological processes that are fundamental in living cells.
- The student has an overview of techniques used in Cell Biology and understands their working principle.
- The student can work with scientific literature and is able to summarize and analyze information from various literature sources.

Course Content

We start with a brief repetition of basic Cell Biology and then go ahead with in-depth discussion of modern Cell Biology, current and emerging topics, and experimental techniques.

Planned topics include:
General cell organization and function, cell biology of selected cell types or cell parts: e.g.: energy metabolism, endothelial cells, cellular stress response, protein sorting and membrane transport, host-pathogen interactions, human microbiome.

Techniques/approaches in Cell Biology:
basic techniques in Cell Biology, (confocal) microscopy and live cell Imaging, protein labeling and visualization techniques, knock-out and RNAi techniques, single cell analysis.

Students will also work on a literature assignment (in groups).

Additional Information Teaching Methods

Lectures (24 h), work discussions related to the literature assignment (8 h), self-study (136 h).

Method of Assessment

Written exam (2/3), literature assignment (1/3). The final grade needs to be 5.5 or higher to pass the course.

Literature

- No book is mandatory.
- If you wish to learn using a book: "Molecular Biology of the Cell" by Alberts et al, which is very broad and informative, may be a good investment.
- For students who may lack background "Essential Cell Biology" (also by Alberts et al), which is more concise, can be useful to quickly take care of this deficiency. We will also work with scientific literature. Examples: Bald et al. MBio 2017, Frottin et al. Science 2019.

Additional Information Target Audience

Students enrolled in the Minor Biomolecular Sciences.

Additional Information

This course is offered in period 1 and is based on first and second year level courses in Cell Biology.

Recommended background knowledge

Basic (first and second year level) courses in Cell Biology.