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.

Case Studies in Petrology

Course Code	AB_1098
Credits	6
Period	P1
Course Level	300
Language Of Tuition	English
Faculty	Faculty of Science
Course Coordinator	prof. dr. G.R. Davies
Examiner	prof. dr. G.R. Davies
Teaching Staff	dr. F.M. Brouwer, prof. dr. G.R. Davies, dr. J.M. Koornneef, prof. dr. W. van Westrenen
Teaching method(s)	Excursion, Seminar, Practical

Course Objective

The main aim of the course is to develop a deep understanding of petrological processes the context of selected plate tectonic environments. This will entail teaching how to use the main petrographic and geochemical techniques and methods.

Course Content

Case studies focusing on the petrological aspects of major geodynamic environments. Petrological variations are at the core of the course but the importance of (isotope) geochemistry and regional tectonics will be stressed as ways of gaining a full understanding of the key processes that control magma genesis and metamorphism. A short field excursion to the Eifel region of Germany will be conducted at the end of the course.
Specific subjects covered will include:

- Introduction of experimental petrology and the importance of phase diagrams
- Magmatism in various tectonic environments
- Extreme metamorphism of the continental and oceanic crust.
- Introduction to geochemical analytical methods
- Interpretation of geochemical data
- Formation of strategic mineral deposits

Additional Information Teaching Methods

Lectures with associated class exercises and limited homework. Contact hours: 15 half days of combined lecture-practical classes, a 3-day (including travel) field course and a written exam.

Method of Assessment

The final mark consists of the following components: (1) Class room practicals, petrological descriptions and other assignments (35%);(2) Field note book and contribution to the field course (15%); (3) Written exam (50%).
A minimum mark of 5.5 is required for the written exam in order to pass the course.

Entry Requirements

Aardse Materialen (AB_450157) and Petrologie (AB_1081) are prerequisite for this course.

Literature

Provisionally: J.D. Winter, 2010. Principles to Igneous and Metamorphic Petrology (2nd Edition). Prentice Hall.
Alternative text under consideration: Dexter Perkins (April 2022) - Petrology: An Introduction to Igneous and Metamorphic Rocks and Processes. https://opengeology.org/petrology/

Additional literature will be made available on Canvas.

Additional Information Target Audience

Third year BSc Earth Science students in the context of the Minor Solid Earth.

Custom Course Registration

Fieldwork costs have to be contributed in advance. Details will be communicated via Canvas. Costs cover bus travel and food and accommodation in a youth hostel for 2 nights.