Origin of the Solar System, Early Earth and Impact Structures (C002663)

Valid in the academic year 2010-2011

Course Specifications

Lecturers in academic year 2010-2011
Claeys, Philippe
Van den haute, Peter

Offered in the following programmes in 2010-2011

<table>
<thead>
<tr>
<th>Course</th>
<th>Credits</th>
<th>Study time</th>
<th>Contact hrs</th>
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<tbody>
<tr>
<td>Master of Science in Geology</td>
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<td>150.0 h</td>
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Teaching languages
- English

Keywords
- solar system, planet formation, planetoids, comets, Moon, early Earth, differentiation, meteorites, impact structures

Level
- specialist

Position of the course
This course is an optional course in the Geology master program. The goal of the course is to document the formation and early evolution of the Earth as a planet of the solar system. Special attention is given to meteorite impact processes. This course contributes to the realisation of following general competences M1.1, M1.4, M2.2, M2.6 and M4.2 and of the specific competences: M.OBD.4 and M.OBD.5.

Contents

Initial competences
- The bachelor courses in petrology, geochemistry and isotope-geology are prerequisites for this course.

Final competences
- Acquire a profound understanding of the chronology and the physico-chemical processes that were responsible for the formation of the solar system with its planets and the evolution of the Earth during the Precambrian.

Conditions for credit contract
- Access to this course unit via a credit contract is determined after successful competences assessment

Conditions for exam contract
- This course unit cannot be taken via an exam contract

Teaching methods
- Excursion, lecture

(Approved)
Extra information on the teaching methods
Lectures, seminars and discussions of topics from scientific papers. Classroom presentation of personal literature studies. Excursion to the Nördlinger Ries crater (Germany): field observations, bore hole descriptions and thin sections studies in the ZERIN field laboratory.

Learning materials and price
Printed lecture notes, chapters from books (see list of references) and articles from journals. Cost: 5-7 EUR
Excursion: Riesskrater (Germany). Cost: 175-200 EUR

References
- Origin of the Earth and Moon, R. Canup and K. Richter, Univ. of Arizona Press, 555p. $ 60
- Faure & Mensing: Isotopes, principles and applications, 2005 John Wiley & sons, -

Course content-related study coaching
Tutoring and assistance during the seminars, practicals and field work. Communication via the internet (Minerva web site) and e-mail.

Evaluation methods
periodic and permanent evaluation

Examination methods in case of periodic evaluation during the first examination period
Oral examination

Examination methods in case of periodic evaluation during the second examination period
Oral examination

Examination methods in case of permanent evaluation
Participation, assignment, report

Possibilities of retake in case of permanent evaluation
examination during the second examination period is possible

Extra information on the examination methods

Calculation of the examination mark
Non periodical (10%); periodical (90%)

(Approved)