

# Syllabus

for course at advanced level

**Geodynamics**

**Geodynamik**

**7.5 Higher Education**

**Credits**

**7.5 ECTS credits**

<b>Course code:</b>	GG8116
<b>Valid from:</b>	Spring 2014
<b>Date of approval:</b>	2013-05-20
<b>Department</b>	Department of Geological Sciences
<b>Main field:</b>	Geological Sciences
<b>Specialisation:</b>	A1F - Second cycle, has second-cycle course/s as entry requirements

## Decision

This syllabus was approved by the Faculty of Science at Stockholm University 2013-05-20.

## Prerequisites and special admittance requirements

Admission to the course requires knowledge equivalent to 90 ECTS credits in Geology or Earth Science. The course Petrogenesis and Tectonics (GG5112), alternatively Tectonics (GG4147) and Petrogenesis (GG4148) or equivalent is required. English B or equivalent.

## Course structure

Examination code	Name	Higher Education Credits
HELA	Geodynamics	7.5

## Course content

The course deals with

- \* numerical and analogue modelling of plate tectonic processes
- \* mantle circulation
- \* heat flow in the Earth's crust
- \* crustal response to heat flow and deformation

## Learning outcomes

After completion of this course, the student will be able to:

- \* apply the results of numerical and analogue models of plate tectonic processes
- \* describe the mantle circulation qualitatively and quantitatively
- \* use heat flow theory to quantify how plate tectonic processes lead to heating and cooling of the Earth's crust
- \* describe quantitatively and qualitatively how the crust responds to heat flow and Deformation

## Education

Instruction consists of lectures, laboratory exercises, seminars and an independent project. Participation in laboratory exercises, seminars and project work is compulsory.

In the event of special circumstances, the examiner may, after consultation with the teacher concerned, grant a student exemption from the obligation to participate in certain compulsory instruction. The teaching language is English.

**Forms of examination**

- a . Knowledge assessment and examination are in form of written and oral reports.
- b. Grades will be set according to a seven-point scale related to the learning objectives of the course:  
A = Excellent  
B= Very good  
C = Good  
D = Satisfactory  
E = Adequate  
Fx = Fail, some additional work required  
F = Fail, much additional work required
- c. The grading criteria will be distributed at the beginning of the course.
- d. In order to pass the course, students must receive the minimum passing grade E on all course units and participate in all mandatory instruction.
- e. Students who receive a failing grade on a regular examination are allowed to retake the examination as long as the course is still provided. The number of examination opportunities is not limited. Other mandatory course elements are equated with examinations. A student who has received a passing grade on an examination may not retake the examination to attain a higher grade. A student who has failed the same examination twice is entitled to have another examiner appointed, unless there are special reasons to the contrary. Such requests should be made to the department board.
- f. There is no facility to improve the grade Fx to a pass grade in this course.

**Interim**

Students may request that the examination is carried out in accordance with this syllabus even after it has ceased to apply up to three times over a two year period after giving the course. Such requests should be made to the Board. The provision also applies to the revision of the the syllabus

**Limitations**

The course cannot be combined with the course PetroTectonics 7.5 credits (GG7006 / GG8013 / GG8113).

**Misc**

The course is offered in the master's program in Geological Sciences, but can also be read as a single course.

The course can include field work that may involve costs for the student.

**Required reading**

Literature is approved by the Board and described in an appendix to the syllabus.