Department of Geological Sciences

Stockholm University

Syllabus

for course at advanced level

Marine Geotechnics
Marin geoteknik

7.5 Higher Education Credits
7.5 ECTS credits

Course code:	GG7024
Valid from:	Autumn 2019
Date of approval:	2019-03-11
Department	Department of Geological Sciences
Main field:	Geological Sciences
Specialisation:	A1N - Second cycle, has only first-cycle course/s as entry requirements

Decision

This syllabus was approved by the Faculty of Science at Stockholm University 2019-03-13.

Prerequisites and special admittance requirements

For admission to the course, knowledge equivalent to a Bachelor's degree is required, which must include at least 90 credits in geology, geosciences, oceanography, or environmental science. Mathematics corresponding to at least 7.5 higher education credits at the undergraduate level is required. English 6 or equivalent.

Course structure

Examination code	Name	Higher Education Credits
HELA	Marine Geotechnics	7.5

Course content

This course introduces students to basic geotechnical methods for characterising marine sediments. It is designed as a laboratory-based, project driven course, with lectures providing relevant theoretical background. Laboratory testing will include measurements of index properties, undrained shear strength, consolidation and permeability. Students will integrate the results with geophysical data to describe the seabed stratigraphy, geological history, and sediment engineering properties at a previously sampled site.

The course deals with:
- Sediment characterisation for marine offshore site investigations
- Index properties and classification schemes for marine sediments
- Undrained shear strength of marine sediments
- Consolidation and permeability of marine sediments

Learning outcomes

After completing the course the student is expected to:
- understand the significance of effective stress and pore pressure on the engineering properties of marine sediments.
- conduct and interpret basic laboratory measurements of undrained shear strength, consolidation and permeability.
- apply marine geotechnical data to describe the geologic history and/or stratigraphy of an offshore sampling site.
- be able to interpret and report on marine geotechnical site investigations.

Education
Teaching consists of lectures, laboratory exercises and independent project work. Participation in scheduled lectures and laboratory exercises is mandatory.

Forms of examination
a. Knowledge assessment and examination are in the form of oral and written examinations, reports, and home assignments.
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 limited to four. 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 be conducted in accordance with this course plan even after it has
ceased to be valid. However, this may not take place more than three times over a two year period after course
instruction has ended. Requests must be made to the department board. The provision also applies in the case
of revisions to the course plan.

Misc
The course is given as part of the masterprogram in geological sciences, but can also be read as an optional course.

Required reading
The course literature is decided by the department board and published on the Department of Geological Sciences website at least two months before the start of the course.