Linnæus University

Course syllabus

Faculty Board of Science and Engineering
School of Computer Science, Physics and Mathematics

4MA119 Matematisk fysik, 7,5 högskolepoäng
Mathematical Physics, 7.5 credits

Main field of study
Mathematics

Subject Group
Mathematics

Level of classification
Second Level

Progression
A1F

Date of Ratification
Approved by the Board of the School of Computer Science, Physics and Mathematics 2010-11-05

The course syllabus is valid from spring semester 2011

Prerequisites
Transform theory (4MA102), 7.5 credits or equivalent.

Expected learning outcomes
After the course the student shall be able to:

- demonstrate a deeper understanding of an area at the intersection of mathematics and physics, such as Hamilton's mechanics.
- in an independent manner using tools from the mathematical physics of the problem solving and modeling.

Content
The content can vary but includes at least one of the following topics:

- Calculus of variation
- Potential theory
- Hydrodynamics
- Continuum mechanics
- Acoustics
- Thermodynamics
- Statistical mechanics and phase transitions
- Lagrange’s and Hamilton’s formulation mechanics

Type of Instruction
Lectures and seminars. Compulsory assignments may be given during the course.

Examination
The course is assessed with the grades Fail (U), Pass (G) or Pass with Distinction (VG).
On request, students may have their credits translated to ECTS-marks. Such a request must be sent to the examiner before the grading process starts.
Assessment of the students performance is made through written test and/or oral examinations and/or presentation of mandatory assignments. The main form of examination is determined at the start of the course.

Course Evaluation
A course evaluation will be carried out at the end of the course in accordance with the guidelines of the University. The result of the course evaluation will be filed at the department.

Required Reading and Additional Study Material
Required Reading
Provided by the department. 140 pages.