Linnæus University

Jnr: 2014/3189–3.1.2

Course syllabus

Faculty of Technology
Department of Mathematics

2MA407 Matematisk fysik, 7,5 högskolepoäng
Mathematical Physics, 7.5 credits

Main field of study
Mathematics

Subject Group
Mathematics

Level of classification
First Level

Progression
G2F

Date of Ratification
Approved by Faculty of Technology 2014-10-03
The course syllabus is valid from autumn semester 2015

Prerequisites
Ordinary Differential Equations (2MA401), 7.5 credits, and Mathematical Modeling I (1MA411), 7.5 credits, or equivalent courses.

Objectives
After the course the student shall be able to:

- demonstrate a integrated knowledge about an area at the intersection of mathematics and physics.
- in an independent manner use tools from mathematical physics in problem solving and modeling.
- give a presentation about recent research field in mathematical physics.

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

- Lagrange's and Hamilton's formulation mechanics
- Calculus of variation
- Potential theory

and

- Orientation about an active research field

Type of Instruction

Lectures, seminars, computer laboratory sessions and specific literatures.

Examination

The course is assessed with the grades A, B, C, D, E, Fx or F.
The grade A constitutes the highest grade on the scale and the remaining grades follow in descending order where the grade E is the lowest grade on the scale that will result in a pass. The grade F means that the student's performance is assessed as fail (i.e. received the grade F).

Assessment of the students knowledge of the field is made by a written test. The ability to work with the mathematical tools are examined by a project where mathematical software is needed. Finally, an oral presentation by the student is also examined. The topic for the presentation is an active research field in mathematical physics.

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.

Credit Overlap

This course cannot be part of a degree in combination with another course in which the content fully or partly correspond to the content of this course: 2MA107 Mathematical Physics, 7.5 credits

Other

Grade criteria for the A–F scale are communicated to the student through a special document. The student is to be informed about the grade criteria for the course by the start of the course at the latest.

Required Reading and Additional Study Material

Required Reading

Provided by the department. Around 150 pages.