Linnæus University

Course syllabus

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

4MD337 Introduktion till matematikdidaktisk forskning, 7,5 högskolepoäng

Introduction to research in mathematics education, 7.5 credits

Main field of study
Mathematics

Subject Group
Mathematics

Level of classification
Second Level

Progression
A1N

Date of Ratification
Approved by Organisational Committee 2009-12-15

The course syllabus is valid from autumn semester 2010

Prerequisites
To be accepted to the course a student is required to fulfill one of the two alternatives given below.

Altenative I

- Bachelour degree i mathematics, or at least 90 higher education credits in mathematics if the student has another degree of at least 180 higher education credits on basic level

Alternative II

- Teacher's certificate.
- Courses in mathematics and mathematics education that in combination reach the amount of at least 60 higher education credits.

Expected learning outcomes

Having completed the course the students should be able to:

- account for grand theories in research of mathematics education, e.g. constructivist theory and sociocultural theory on learning
- reflect on the role of theories in research studies in the research field of mathematics education

- account for research questions, methods and results in research of mathematics education
- review and interpret scientific articles in research in mathematics education, with regard to theoretical assumptions, applied method and the validity of the results.

Content
The purpose of the course is to introduce the students to the research field of mathematics education The course covers the following items:

- grand theories in research of mathematics education
- the role of theories in research studies in mathematics education
- research, methods and results in research of mathematics education
- the study of scientific literature and articles of relevance (see other information) for research in mathematics education.

Type of Instruction
Seminar, self-tuition and exchange of experiences. Discussions and seminars can occur on a web-based learning plattform.

Examination
The course is assessed with the grades Fail (U), Pass (G) or Pass with Distinction (VG).
A translation of the grade to the ECTS scale may be obtained upon request. The request for a translation should be made before the grade for the course is awarded.

Litterature and articles are examined through written examinations and/or oral presentations at seminars. The principal assessment method for the course is determined at the beginning of the course.

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

Other
The student will, together with the course responsible, choose and study a number of scientific articles in mathematics education.

Required Reading and Additional Study Material
Required reading
Engström, A (red.), *Matematik och reflektion. En introduktion till konstruktivismen inom matematikdidaktiken*,
Studentlitteratur, 1998. 100 (151) pages.

Grevholm, B (red.), *Matematikdidaktik – ett nordiskt perspektiv*, Studentlitteratur, 2001. 200 (340) pages.

Säljö, R, *Lärande i praktiken. Ett sociokulturellt perspektiv*, Prisma, 2000. 150 (250) pages.

Scientific articles in research of mathematics education.