



## 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 the Board of the School of Computer Science, Physics and Mathematics  
2009-12-15

Revised 2010-11-26. Revision of literature list och förkunskaper.

The course syllabus is valid from spring semester 2011

### **Prerequisites**

Degree of at least 180 credits, whereof 60 credits concern courses in mathematics or mathematics education.

## 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 platform.

### 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 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.

### 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.

Skott, J., Jess, K., Hansen, H. C., & Lundin, S. (2010). *Matematik för lärare*. Gleerups utbildning AB, Malmö.

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

Scientific articles in research of mathematics education.