



## Course syllabus

Board of Education Science

School of Computer Science, Physics and Mathematics

PP7544 Examensarbete i matematikdidaktik med inriktning mot specialpedagogik, 15 högskolepoäng

Degree project in Mathematics Education with focus on special education, 15 credits

### **Main field of study**

Mathematics

### **Subject Group**

Educational Sciences/Theoretical Subjects

### **Level of classification**

Second Level

### **Progression**

A1N

### **Date of Ratification**

Approved by the Board of the School of Computer Science, Physics and Mathematics  
2010-03-15

Revised 2010-10-22. Revision made for English translation of the syllabus, prerequisites and course evaluation.

The course syllabus is valid from spring semester 2011

### **Prerequisites**

PP7504 Mathematical development with a special educational perspective, 3 credits,  
PP7534 Pupils with special needs in mathematics II, 5hp,  
PP7514 Special needs in mathematics I, 12,5 hp, or equivalent.

## Expected learning outcomes

The aim for the course is that the student should have a thorough knowledge and ability to follow the development of knowledge in mathematics education in relation to special education, and have attained the level required for special education with a specialization in mathematics. From an overall perspective, the course also aims for the students to deepen their ability to independently and scientifically based pursue development and change management in future employment.

After the course the student should be able to:

- identify and formulate scientific problems in the field of study mathematics education with relevance to special education placement
- organize and conduct a study of a scientific nature as well as present this study in the scientific essay form

- choose, argue for and apply concepts and relevant scientific approach based on the selected problem and theoretical approach
- seek, obtain, collate, evaluate and critically review the study relevant material and information
- defend, consolidating and reflecting on national and international research and development
- demonstrate ethical awareness into action in the planning and implementation of a scientific study
- from a theoretical perspective and in relation to the selected problem to critically examine, analyze and question the results and from that draw conclusions about the teaching of mathematics from a Special Education
- orally and in writing present and defend a scientific work of a scientific nature
- critically examine and scientifically make an opposition on works of a scientific nature.

## Content

During the course the student carries out an investigation that involves an issue or area relevant to the profession of special education in mathematics.

The following topics are covered in the course:

- selection and focus of interest area
- Information Management
- formulation of purpose and questions
- Scientific theories and practices relevant to the area of interest
- collection, processing and analysis of data sets
- Research Ethics
- design and authoring of a scientific report
- presentation of thesis and disputation

The work is with advantage linked to mathematics education research that is relevant to the special training of teachers specializing in mathematics and to the student's experience of special teacher training and teaching.

## Type of Instruction

Tutorial, tutorials and seminars.

Tutorials and seminars can be implemented via an online education platform.

Teaching is in Swedish.

## 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.

The course content is examined through written expression of a thesis, written memo / essay plan, oral presentation and defense of the thesis, and an oral opposition on another thesis. In cases where two students have made a joint work, the individual efforts need to be distinguished and individually assessed.

## 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

The student, together with the supervisor and examiner, will select relevant literature for the of the thesis.

## Reference Literature

Strömquist, S. *Skrivboken. Skrivprocess, skrivråd och skrivstrategier*. Malmö: Gleerups, 2000: 195-227, 32 pages.

Bryman, A. *Samhällsvetenskapliga metoder*. Malmö: Liber ekonomi, 2000. 498 (498) pages.

Johansson, B. & Svedner, P.-O. *Examensarbetet i lärarutbildningen*. Uppsala: Kunskapsföretaget, 2001. 136 (136) pages.

Schoenfeld, A. H. *Purposes and Methods of Research in Mathematics Education*. Notices of the AMS, Vol. 47, Nr6, 641-649, 2000. 8 (8) pages.

Suter, L. E. & Frechtling, J. *Guiding Principles for Mathematics and Science Education Research Methods: Report of a Workshop*, NSF, 2000. 30 pages.

Jarrick, A. & Josephson, O. *Från tanke till text. En språkhandbok för uppsatsskrivande studenter*. Lund: Studentlitteratur, 1996. 129 pages.

Patel, R. & Davidsson, B. *Forskningsmetodikens grunder*. Lund: Studentlitteratur, 2003. 124 pages.

Patton, M. Q. *Qualitative Research & Evaluation methods (3. ed.)*. Thousand Oaks, California: Sage Publications Inc, 2002. 598 pages.

Kvale, S. *Den kvalitativa forskningsintervjun*. Lund: Studentlitteratur, 1997. 306 pages.

Merriam, S. B. *Fallstudien som forskningsmetod*. Lund: Studentlitteratur, 1994. 228 pages.