

Course Syllabus

Mathematical Problem Solving in Secondary School 7.5 Credits*, First Cycle Level 1

Learning Outcomes

On completion of the course, students shall be able to:

- Describe relevant scientific theories and research associated with mathematical problem-solving.
- Communicate mathematical thought and reasoning in written and spoken form, and through the use of symbols, pictures, diagrams and action.
- Use different mathematical forms of expression and ideas in association with mathematical problem-solving.
- Demonstrate the ability to creatively produce, formulate and solve mathematical problems that have no given solution.
- Interpret and critically analyse pupils' solutions to mathematical problems in order to gain an understanding of the pupils' development of mathematical knowledge.
- Analyse in a scientific manner the teaching of mathematics through mathematical problem-solving.

Course Content

The main aim of the course is to help students develop their knowledge of mathematics through their development of their mathematical competencies. The course aims to assist students in broadening their ability to teach mathematics in lower secondary school. Students are given the opportunity to develop their understanding of the logical and axiomatic nature of mathematics. Participating students will be expected to describe in general terms different scientific theories and research related to the development of mathematical knowledge.

Assessment

Students are assessed through active participation in obligatory seminars and through written assignments and a final written report.

Forms of Study

The course consists of lectures, obligatory seminars, and other group and individual assignments.

Grades

The Swedish grades A–F.

- Seminars, written presentations and written report, 7.5 credits.

Prerequisites

General entry requirements and English 6, Mathematics 3c or Mathematics D, Physics 1a or 1b1+1b2

Other Information

This course is designed primarily for teachers and teacher students in mathematics at lower secondary school level.

The course is equivalent to MD1055.

Subject:

Mathematics Education

Group of Subjects:

Educational Sciences/Theoretical Subjects

Disciplinary Domain:

Natural Science, 100%

This course can be included in the following main field(s) of study:

1. No main field of study

Progression Indicator within (each) main field of study:

1. G1N

Approved:

Approved 5 March 2015

Valid from 5 March 2015