



## Course syllabus

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

4MD001 Matematisk problemlösning i europeisk lärarutbildning, 3 högskolepoäng

Mathematics Problem Solving in European Teacher Education, 3 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  
2011-01-17

The course syllabus is valid from spring semester 2011

### **Prerequisites**

At least 60 credits within a Teacher Education Programme or equivalent.

## Expected learning outcomes

The student shall be able to:

- reflect on intercultural commonalities and differences regarding mathematical problems and problem solving processes
- reflect on learning and teaching mathematics in a multi-cultural environment
- prepare, manage, and evaluate mathematical problem solving activities in a multi-cultural environment.

## Content

Learning and teaching mathematics in a multi-cultural environment is treated from different perspectives (teacher, student, and classroom), with particular focus on mathematical problem solving as a classroom activity in compulsory school. Specific content:

- content knowledge, pedagogical knowledge, and pedagogical content knowledge
- realistic mathematics education and action learning
- rich learning environments and mathematical modelling

- designing mathematical problems related to the European train system
- preparing, managing, and evaluating mathematical problem solving activities
- in-school activities
- analyzing intercultural commonalities and differences regarding mathematical problems and problem solving processes
- daily self-reflection based on experiences from course activities, with focus on multi-cultural issues related to learning and teaching mathematics.

### Type of Instruction

The course is given as an intensive course with compulsory daily activities during two weeks. Students are required to participate actively in preparations, discussions, and presentations during lectures, group work, and on the Internet learning platform used in the course.

### Examination

The course is assessed with the grades Fail (U), Pass (G) or Pass with Distinction (VG).

Students also receive ECTSmarks automatically.

The course is examined through assessment of all of the following:

- active participation in group activities and discussions
- written individual reflections on the Internet learning platform
- written and oral presentations.

### Course Evaluation

After the course a written evaluation of the course will take place according to the guidelines of the Erasmus Life Long Learning Programme.

### Required Reading and Additional Study Material

#### **Required Reading**

Materials supplied through the Internet based platform specifically designed for the course.