

Course Syllabus

A History of Mathematics for Teachers 7.5 Credits*, First Cycle Level 1

Learning Outcomes

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

- describe in general terms the development of mathematical knowledge throughout history
- demonstrate knowledge of the emergence and development of different number systems, different arithmetical operations and different mathematical symbols
- describe from a historical perspective different manners in which to formulate and solve mathematical problems
- formulate and solve mathematical problems and activities with different historical methods and display a knowledge of how these methods function
- interpret and critically review different mathematical ideas and expressions throughout history
- describe and compare ways in which the history of mathematics can be included and utilised in the planning and execution of teaching based on both the Swedish curriculum and other national school curriculums.

Course Content

This course highlights the history of mathematics with special focus on the occurrence and use of different number systems, mathematical symbols and arithmetical operations throughout history. Specific examples from different historical periods and cultures, such as ancient African, Sumerian, Babylonian, Egyptian, Mayan and ancient Chinese, are given. A range of mathematical problems and tasks along with their historical methods of solution are tested and discussed. Similarities and differences between ancient and modern mathematical methods are illustrated and analyzed. Mathematicians of historical significance are presented along with an analysis of the mathematics they worked with and the importance of their contributions to the continued development of mathematics. Included in the course is an in-depth study of the development throughout history of one specific mathematical concept or field of knowledge. The course also includes a comparison of the role of the history of mathematics in the curriculum and governing documents of school systems in both Sweden and other countries. How teachers in these different school systems can include and utilize the history of mathematics in the planning, execution and analysis of teaching is also addressed.

Assessment

Students are assessed through seminar activities and written assignments.

Forms of Study

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

Grades

The Swedish grades A–F.

- Seminars and written assignments, 7.5 credits.

Prerequisites

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

Other Information

The course is equivalent to MD1072.

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