Linnæus University

Course syllabus

Faculty Board of Science and Engineering

School of Computer Science, Physics and Mathematics

1MD315 Matematik och matematikdidaktik för grundskolan, 15 högskolepoäng

1MD315 Mathematics and Mathematics Didactics for Compulsory School, 15 credits

Main field of study
Mathematics

Subject Group
Mathematics

Level of classification
First Level

Progression
G1F

Date of Ratification
Approved 2009-08-11
Revised 2012-08-17 by School of Computer Science, Physics and Mathematics.
Literature list and course evaluation are revised.
The course syllabus is valid from spring semester 2013

Prerequisites
Completed Teacher Education and working as teacher in the Swedish school system.

Objectives

The student shall be able to

- show deepened and broadened understanding of the mathematical content in compulsory school
- use, describe and present mathematical content using several different forms of representation.
- plan and carry out teaching for students with varying abilities and interests.
- describe the importance of variation for the individual student's learning.
- use different learning environments, including concrete and laborative materials, outdoor activities, computer guided learning and problem solving, to create experiences and possi-bilities for students' learning in mathematics.
- describe the importance of variation for teaching students with varying abilities and interests.

- design tasks and activities and assess students' performance with respect to relevant course plans.

Content
The following subject areas are treated from mathematical and didactical perspective:

- arithmetic
- geometry
- algebra and functions

Type of Instruction
The course is given as a distance course with compulsory meetings. Students are required to participate actively in discussions and presentations both at the meetings and through the Internet platform used in the course.
Discussions and presentations will often be based on classroom observations of pupils solving problems. The problems will be selected to fit the group of pupils.

Examination
The course is assessed with the grades Fail (U) or Pass (G).

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 is examined through assessment of all of the following:

- active participation in discussions
- written and oral presentations
- home examination

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
Sollervall, H. *Tal och de fyra räknesätten,*
Studentlitteratur, 2007. 153 (153) pages.

Emanuelsson G m.fl (red) *Matematik - ett kommunikationsämne,* Nämnaren Tema NCM Göteborgs universitet 1996. 154 (210) pages.

Emanuelsson G m.fl (red) *Algebra för alla,* Nämnaren Tema NCM Göteborgs universitet 1997. 100 (160) pages.

Löwing M & Kilborn W. *Baskunskaper i matematik för skola, hem och samhälle,* Studentlitteratur, 2002. 100 (360) pages.

Häggmark P, *Laborativ geometri,* Studentlitteratur, 1998, 206 (206) pages.

Ekstig, Hellström, Sollervall *Matematik startbok* Bokförlaget KUB, 2002, 150 pages

Kompendier MSI, Växjö universitet, 2008. ca 100 pages.