



Course syllabus

Faculty of Technology

Department of Mathematics

1MD317 Att bedöma kunskap i matematik, 7,5 högskolepoäng

To Evaluate Proficiency in Mathematics, 7.5 credits

Main field of study

Mathematics

Subject Group

Mathematics

Level of classification

First Level

Progression

G1F

Date of Ratification

Approved 2009-12-01

Revised 2015-06-10 by Faculty of Technology.

The course syllabus is valid from autumn semester 2015

Prerequisites

To be accepted to the course a teacher's certificate and Mathematics A are required.

Objectives

Having completed the course the students should:

- be able to perceive the different dimensions and forms of proficiency in mathematics
- be able to use basic theories of proficiency evaluation to examine and reflect upon questions concerning the work of teachers when making evaluations in mathematics
- be able to plan and conduct independently the evaluation of pupils' competence in mathematics as well as defend and motivate the evaluations
- be able to use adequate subject language to discuss assessment tools and analyse and appraise proficiency evaluation in mathematics
- use self-assessment tools to develop students' mathematical skills
- be able to use pupils' self assessment to develop their mathematical competence.

Content

The course focuses on the evaluation of proficiency in mathematics. During the course the role of the school in the pupils' learning of mathematics is discussed. Furthermore the question of which mathematical proficiency it is possible to measure as well as how that may be achieved is considered. The course covers the following items:

- proficiency and learning in mathematics
- basic theories concerning measuring and evaluating both generally and in

- basic theories concerning measuring and evaluating both generally and in mathematics
- the construction of tasks
- different evaluation strategies
- feedback from evaluations and evaluation as an aid in developing pupils' mathematical abilities.

Type of Instruction

Teaching is conducted in the form of lectures, field studies and seminars, individual and group work. The teaching is to a large extent based on the students' active participation individually and in groups, which demands attendance at seminars, lectures and presentations. Theory and practice are interwoven in the course. To a certain extent the content of the course is treated in close connection to the field studies. When given as a distance course special forms of distribution are used appropriate for the method of teaching.

Examination

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

A translation of the grade to the ECTS scale may be obtained upon request. The request for a translation should be made before the final grade for the course is awarded.

The students are examined partly through their active participation in seminars and presentations and partly through written and oral presentations of individual and group assignments. Assessment is continuous throughout the course together with individual assignments. Part of the assessment is of the field work assignments the students conduct and present.

Course Evaluation

A course evaluation will be carried out and compiled after the course is completed. The compilation will be presented to the current board as well as to the students and filed by the coordinating department.

Other

The course is offered in collaboration with the University of Linköping.

Students who receive a passing grade in the course may download a course certificate through the Student Portal. Otherwise they may request a course certificate from the school secretary.

Required Reading and Additional Study Material

Required reading

Andersson, Andreas, *Begreppskartor - ett verktyg för bättre förståelse*, Nämnaren 2/2002, www.ncm.gu.se – sök under Artikelregister. Pages 3.

Björklund Boistrup, Lisa, *Bedömning i matematik pågår! Återkoppling för elevers engagemang och lärande*. Libers förlag. ISBN 978-91-47-10542-7. Pages 224

Boesen, Jesper, *Bedömarreliabilitet. : Med fokus på aspektbedömningen i det nationella B-kursprovet i matematik våren 2002*(Umeå universitet Pm nr 195). www8.umu.se/edmeas/publikationer/pdf/Pm%20nr%20195.pdf - pages 63.

Grevholm, Barbro, *Kognitiva verktyg för lärande i matematik- tankekartor och begreppskartor*, (Tangenten 1/2005). www.caspar.no/tangenten/innhald051.html - Pages 8.

McIntosh, Alistair, *Förstå och använd talen handbok*. NCM, Göteborgs universitet (2008). Sidor 240.

Hodgen, Jeremy; William Dylan, *Mathematics inside the black box – Bedömning för*

lärande i matematikklassrummet 41 pages.

Palm, Torulf; Bergqvist, Ewa; Eriksson, Ingela; Hellström, Timo; Häggström, Carl-Magnus, *En tolkning av målen med den svenska gymnasie matematiken och tolkningens konsekvenser för uppgiftskonstruktion*. Umeå universitet Pm nr 199, (2004).

www8.umu.se/edmeas/publikationer/pdf/Pm%20nr%20199.pdf - pages 55.

PRIM-gruppen, *Bedömning av kunskap- för lärande och undervisning i matematik*, ISBN:978-91-7656-670-1. 104 pages.

Skolverket, Läroplaner och kursplaner för aktuell åldersgrupp. www.skolverket.se

Skolverket, Kommentarmaterial till kursplanen i matematik

Skolverket, Kommentarmaterial till kunskapskraven I matematik

Skolverket, Kommentarmaterial till kunskapskraven i matematik del 2

Skolverket, Betygsskalan och betygen B och D

Articles and stencils Faculty of Technology, Linnæus University. Pages app. 100.

Reference Literature

Helenius, Ola, *Kompetenser och matematik*(om danska KOM - rapporten), Nämnaren 3/2006, ncm.gu.se/pdf/namnaren/1115_06_3.pdf - Pages 5.

Häggblom, Lisen. *Med matematiska förmågor som kompass*. Lund: Studentlitteratur

Löwing, Madeleine, *Matematikundervisningens dilemma –hur lärare kan hantera lärandets komplexitet*. Lund: Studentlitteratur (2006). Pages 246.

Myndigheten för skolutveckling, *Baskunnande i matematik*,(2003). www.skolverket.se – sök under ”Publikationer - Pages 110.

Nyström, P, *Rätt mätt på prov. Om validering av bedömningar i skolan*. Umeå: Pedagogiska institutionen, Umeå universitet, (2004). Pages 54.

Selghed, Bengt, *Betygen i skolan - kunskapssyn, bedömningsprinciper och lärarpraxis*. Stockholm: Liber, latest edition. Pages 201.