Linnæus University

Course syllabus

Faculty Board of Science and Engineering
School of Computer Science, Physics and 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 by Organisational Committee 2009-12-01

The course syllabus is valid from autumn semester 2010

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

Expected learning outcomes

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 analyse and appraise proficiency evaluation in mathematics
- be able to identify and counteract factors that influence an impartial and equitable evaluation
- 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 achieved is considered. The course covers the following items:

- proficiency and learning in mathematics
- 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 attendence 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 written course evaluation will be carried out at the end of the course in accordance with the guidelines of the University. The course evaluation will be filed at the 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.

Asplund, Maria, *Att tala och skriva matematik -Redskap för bedömning*, NCM, Nämnaren 4/2008. www.ncm.gu.se - Pages 5.

Black, Paul och Williams, Dylan, *Inside the Black Box*,ngfl.northumberland.gov.uk/keystage3ictstrategy/Assessment/blackbox.pdf - Pages 14.

Engström, Arne; Engvall, Margareta; Samuelsson, Joakim, *Att leda den tidiga matematikundervisningen*. Skapande vetande, Linköpings universitet (2007). Pages 125.

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 använda tal- en handbok*. NCM, Göteborgs universitet (2008). Pages 240.

Selghed, Bengt, *Betygen i skolan - kunskapssyn, bedömningsprinciper och lärarpraxis*. Stockholm: Liber, (2006). Pages 224.

Selghed, Bengt, *Ännu icke godkänd*. Malmö högskola, senaste upplaga. Pages 230

Skolverket, *Analysschema i matematik för relevant åldersgrupp*, www.skolverket.se/sb/d/260/a/14694 - Pages 45/60.

Skolverket, *Att bedöma eller döma*. Malmö: Liber distribution (2002). Pages 162.

Skolverket, *Att visa vad man kan - en samling artiklar om ämnesproven i år 5*, www.skolverket.se – sök under ”Publikationer”. Pages 212.

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

Articles and stencils DFM, Linnæus University. Pages app. 100.

Reference Literature

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.

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

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.

Palm, Torulf; Bergqvist, Ewa; Eriksson, Ingela; Hellström, Timo; Häggström, Carl-Magnus, *En tolkning av målen med den svenska gymnasiematematiken och tolkningens konsekvenser för uppgiftskonstruktion*. Umeå universitet Pm nr 199, (2004).
www8.umu.se/edmeas/publikationer/pdf/Pm%20nr%20199.pdf - Pages 55.