Linnæus University

Course syllabus

Faculty Board of Science and Engineering

School of Computer Science, Physics and Mathematics

1MD305 Små barn och matematik, fortsättningskurs, 7,5 högskolepoäng

1MD305 Small Children and Mathematics, Continuation Course, 7.5 credits

Main field of study
Mathematics

Subject Group
Mathematics

Level of classification
First Level

Progression
G1F

Date of Ratification
Approved 2009-08-11
Revised 2010-08-04 by School of Computer Science, Physics and Mathematics.
Revision of the literature list, prerequisites and course evaluation.
The course syllabus is valid from spring semester 2011

Prerequisites
To be accepted to the course teacher's certificate is required. To be accepted to the course it also requires a course (7.5 credits) regarding pre-school children and mathematics, Small Children and Mathematics (1MD304) or Mathematics and Swedish for Pre-school Children (GU7131) or the equivalent.

Objectives
Having completed the course the students should:

- have a greater knowledge of the subject
- be able to give an account orally and in writing of young children's mathematical development
- demonstrate the ability to analyse and implement the research concerning young children and mathematics in a didactical context
- demonstrate the ability to carry out and evaluate minor studies on children and mathematics and as a result of this be able to come to conclusions concerning their own actions as teachers

- have a certain familiarity with the system of numbers from a historical perspective
- demonstrate the ability to plan, carry out and evaluate problem solving in mathematics
- demonstrate the ability to plan and carry out activities in mathematics in pre-school in the form of mathematics workshops
- show knowledge of the cooperation with parents concerning the work in mathematics in pre-school.

Content
The following topics are examined:

- in depth study around young children's understandin of number
- in depth study around young children's sense of space
- the system of numbers from a historical perspective
- problem solving in mathematics
- the cooperation of parents around mathematics
- research concerning young children and mathematics
- mathematics workshops.

Type of Instruction
Teaching is conducted in the form of lectures, seminars and consideration of teaching methods. The teaching is to a large extent based on the students' active participation individually and in groups, which demands attendence at seminars, teaching methods sessions and presentations.
The content of the course is to a considerable extent closely connected to field studies.

The course is also offered as a distance course.

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

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 partly through the students' active participation in seminars, teaching methods sessions and presentations and partly through written and oral presentations of individual and group assignments. The course is taught in such a way that attendence is obligatory.

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
Björklund, C. *Bland bollar och klossar. Matematik för de yngsta i förskolan.* Studentlitteratur, 2008 195 (195) pages

Björklund, C. *Hållpunkter för lärande. Småbarns möten med matematik.* https://oa.doria.fi/dspace/bitstream/10024/5323/1/BjorklundCamilla.pdf *195 (195) pages.*

*Heidberg-Solem, I. & Lie-Reikerås, E-K.*Det matematiska barnet, *Natur och Kultur, 2004. 345 (345) sidor.*

Rystedt, E. & Trygg, L. Matematikverkstad//, NCM, 2005. 100 (130) pages.

Stencils, Linnæus University, current year. App. 500 pages.