

Syllabus

for course at first level

Förskoledidaktik med inriktning mot matematik och teknik 12.0 Higher Education Credits

Early Childhood Education focusing on Mathematics and Technology 12.0 ECTS credits

Technology

Course code:	UB314F
Valid from:	Spring 2024
Date of approval:	2023-06-13
Changed:	2023-09-05
Department:	Department of Child and Youth Studies
Subject group:	Educational Sciences/General Didactics
Specialisation:	G2F - First cycle, has at least 60 credits in first-cycle course/s as entry requirements
Main field:	Early Childhood Education

Decision

Finalized by: Institutionstyrelsen vid Barn- och ungdomsvetenskapliga institutionen, 2023-06-13

Prerequisites and special admittance requirements

60 higher education credits in teacher education, social sciences, natural sciences and/or the humanities (or equivalent). English B/English 6 (Swedish upper secondary school course) or equivalent.

Course structure

Examination code	Name	Higher Education Credits
DEL1	Early Childhood Education perspective on Mathematics and Technology	8.0
DEL2	Early Mathematics and Aesthetic Expressions	4.0

Course content

This course provides an introduction to the field of mathematics and technology in preschool. It covers both children's and students' own relationships to mathematics, as well as learning theories in relation to mathematics. Further discussed mathematics and technology in relation to norms in society. The course considers children's mathematical activities and exploration in their daily lives. In the course mathematics is understood as language and is studied using practical-aesthetic expression, play and dance. The course content is discussed in relation to the task of a preschool teacher and the objectives of the curriculum.

Course module *Early Childhood Education perspective on Mathematics and Technology*, 8 credits

The module gives an introduction to mathematics and technology in preschool from a Early Childhood Education perspective, it covers:

- mathematics and technology in pre-school education — teaching and learning,
- an exploratory approach in relation to mathematics and technology,
- practical-aesthetic learning processes and play in relation to Early Childhood Education focusing mathematics and technology,
- learning theories and knowledge traditions in relation to mathematics, technology and norms in society.

Course module *Early Mathematics and Aesthetic Expressions*, 4 credits

From a subject didactic perspective, the module provides an introduction to mathematics in preschool, it deals with:

- early mathematical concepts and activities,
- the mathematical areas: space, shape, position, direction, quantity, number, order, number concepts, measurement, time and change,
- how children's play, exploration of signs, symbols and other expressions as well as aesthetic expressions are important for mathematical learning,
- practical-aesthetic learning processes and play in relation to mathematics in preschool.

Learning outcomes

In order to pass the course module *Early Childhood Education perspective on Mathematics and Technology*, 8 credits students are expected to be able to:

- account for how pedagogical strategies, practical-aesthetic learning processes and play in different teaching situations can contribute to support children's learning in mathematics and technology,
- demonstrate knowledge of children's learning, the role of the preschool teacher and the importance of the educational environment in Early Childhood Education focusing mathematics and technology,
- demonstrate knowledge of an exploratory approach in relation to the subject areas of mathematics and technology where concrete situations form the basis for children's learning,
- account for the relationship between observable mathematical and technical phenomena in preschool in relation to abstract explanations of mathematics and technology,
- reflect on how the preschool teacher's perspective on knowledge and learning as well as society's norms can constitute opportunities and obstacles for children's learning in mathematics and technology,

- account for different theoretical perspectives and their didactic consequences in relation to mathematics and technique.

In order to pass the course module *Early Mathematics and Aesthetic Expressions*, 4 credits students are expected to be able to:

- account for children's early mathematical learning in preschool,
- demonstrate the ability to plan, apply and review mathematics education work in preschool,
- stage practical-aesthetic learning situations and play in relation to mathematics in preschool

Education

Instruction is given in the form of lectures, seminars, workshops/laboratory work, individual assignments and group assignments, as well as via the university's virtual learning environment.

Attendance at specified teaching sessions is mandatory. Absence must be compensated for as described in the course description.

The language of instruction is English.

Forms of examination

a) Forms of examination

Course module *Early Childhood Education perspective on Mathematics and Technology,*8 credits is examined on the basis of:

- Individual written paper, G = Pass U= Fail
- Individual written paper, grading A-F

Course module *Early Mathematics and Aesthetic Expressions*, 4 credits is examined on the basis of:

- Oral and Individual written paper, grading G = Pass U= Fail

If a student has a certificate with recommendations for special pedagogical support due to a long-term disability, the examiner has the right to adapt the examination or allow the student an alternative examination.

b) Grading

The grade on the final course grade will be set according to a seven-point scale related to the learning objectives of the course:

A = Excellent

B= Very good

C = Good

D = Satisfactory

E = Adequate

Fx = Fail, some additional work needed

F = Fail, significant additional

Grades on Course module *Early Mathematics and Aesthetic Expressions*, 4 credits will be set according to a two-point scale:

G = Pass

U = Fail

c) Assessment criteria

The grading criteria for the course are specified in the course description.

d) Final grade

In order to pass the course, students must receive at least grade E or G on all examinations, complete all assignments as per the course description and fulfil all obligatory attendance requirements.

In specific circumstances and after consultation with the head of course, examiners can grant students exemption from some obligatory tuition attendance requirements; these students might then be required to do make-up assignments.

e) Failing grades

Students are offered two opportunities per term to submit an examination. In addition, one opportunity to retake an examination is given during terms or years when the course is not offered. Further details are provided in the course description.

Students who receive the grade U, Fx or F twice by the same examiner are entitled to request another examiner at the next examination opportunity, unless specific circumstances argue against it. Such requests should be made to the Head of Department.

Students who receive the grade E or higher on an examination or assignment may not retake the examination to attain a higher grade. A passing grade cannot be changed to a failing grade at the student's request.

f) Make-up assignment

Students who receive the grade Fx have the opportunity to complement the submitted examination task

within one week of being informed of the need for supplementation (once per examination opportunity). If this is not done within the specified time limit, the student will have to retake the examination. The grade scale A-E is used for completed assignments that have minor formatting flaws.

Interim

If this course is discontinued, or its contents are substantially altered, students have the right to be examined according to this syllabus once per term for three further terms.

Limitations

If this course is discontinued, or its contents are substantially altered, students have the right to be examined according to this syllabus once per term for three further terms.

- UDG21L Early Childhood Education: Focusing on Mathematics, 15 credits
- UB600Y Early Childhood Education: Focusing Mathematics, 15 credits
- UB303Y Early Childhood Education: Focusing Mathematics, 12 credits
- UB309F Early Childhood Education: Focusing Mathematics, 12 credits

Misc

The course can be taken as a stand-alone course or as part of the Programme in Early Childhood Education.