

Study guide

Early Childhood Education: Focusing Mathematics

12 credits, Full time studies

Course code: UB309F

Spring semester, 2017

April 4 until June 4

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Welcome!

Hello everyone and a big welcome to the course, “Early Childhood Education: Focusing Mathematics”. In this study guide you will find information about the course, literature lists along with other details of a practical nature.

All courses at the Department of Child and Youth Studies have their own course website, where you will find all the information you need regarding the course; as e.g. the course syllabus, schedule, course literature and study guide. You can find the course web site here: www.buv.su.se/UB309F

This course will also be using Stockholm University's common digital collaboration and learning environment MONDO <https://mondo.su.se/portal> as a means of collective communication. On registering onto the course, you will be able to log onto the Mondo course site with your university username and password, browsing for the course code.

The course is a **full-time course** for **eight weeks** of study **4/4-17 –4/6-17**. The course is taught by a team of lecturers: Karin Hultman (Department of Child and Youth Studies BUV) and Linda Öhlund (Department of Mathematics and Science Education MND).

Literature

The course literature is listed on the course website, and in the end of this Study Guide. In addition recommended reading before lectures is presented in a document at mondo in the beginning of the course.

The reference system recommended in the course follows the American Psychological Association APA. There is a manual available in Engdahl & Sandqvist, (2012), *Writing a Thesis*.*, or watch the tutorial at the APA style website

[http://flash1r.apa.org/apastyle/basics/index.htm?_utma=185732729.1059821654.1441365468.1441365468.1442571215.2&_utmb=185732729.10.10.1442571215&_utmc=185732729&_utmz=-&_utmz=185732729.1441365468.1.1.utmcsr=\(direct\)|utmccn=\(direct\)|utmcmd=\(none\)&_utmv=-&_utmh=213931415](http://flash1r.apa.org/apastyle/basics/index.htm?_utma=185732729.1059821654.1441365468.1441365468.1442571215.2&_utmb=185732729.10.10.1442571215&_utmc=185732729&_utmz=-&_utmz=185732729.1441365468.1.1.utmcsr=(direct)|utmccn=(direct)|utmcmd=(none)&_utmv=-&_utmh=213931415)

You can also follow the Harvard reference system if you wish. There is a short manual for the Harvard reference system available at Örebro University Library homepage

<https://www.oru.se/ub/skriv/referera-och-citera/referenssystem-och-stilguider/harvard/>

Additional information

Other important information about being a student at Stockholm can be found at the following web site: <http://www.su.se/english>

You will find the short guide **A Smooth Start** for international and exchange students here:

<http://www.su.se/english/study/admitted-students/a-smooth-start-1.157668>

We advise you to take some time to **read the International Handbook**, especially pages 17-28, about rules, regulations and services for you as a student at Stockholm University:

<http://www.su.se/english/study/student-services/handbook-for-international-and-exchange-students-1.1627>

Extra-curricular activity: International Café

Exchange students and local students at the Teacher Education Departments are most welcome to a series of international cafés. The cafés are informal seminars where you listen to a presentation and then get the opportunity to reflect and discuss together with other local and international students. At the cafés there will also be some tea/coffee and a light snack. Read more and see the schedule at

<http://www.buv.su.se/IC>

Evaluation

Students are invited to participate in discussions about the course and are free to bring up suggestions for changes during the course. An on-line evaluation form will be distributed to all students at the end of the course.

Early Childhood Education: Focusing Mathematics

Course content

Early Childhood Education Focusing on Mathematics is given at the Department of Child and Youth Studies, Stockholm University for 12 ECTS.

This course provides an introduction to the field of mathematics. It covers both children's relationship to and the students' own relationship to mathematics, as well as mathematical learning theories related to gender. The course considers children's mathematical activities and exploration in their daily lives. In the course, mathematics is treated as a language and studied using practical-aesthetic and multimodal forms of expression, games and ICT (information and communication technology). The use of pedagogical documentation is extended as a tool to monitor and challenge learning processes, as well as to reflect on the students' own pedagogical actions. The course content is consistently discussed in relation to the task of a preschool teacher and the objectives of the curriculum: - the importance of play for children's use of mathematics; - how children create meaning from the study of signs and symbols; - various practical-aesthetic approaches that stimulate mathematics; - listening and conversation as didactic tools.

Intended Learning Outcomes

Upon completion of the course, students are expected to be able to:

- be able to describe and compare different theories of mathematical learning and relate these to the preschool's policy documents;
- be familiar with the basics of the mathematical concepts of space, form, position and direction, the basic properties of quantities, amounts, orders and number concepts, as well as the basics of measurement, time and change.
- based on the literature and their own studies in workshops, be able to create an understanding of in what ways children's play and exploration of signs, symbols and other expressions affect mathematical learning;
- be able to use practical-aesthetic and multimodal forms of expression, games and ICT (information and communication technology) in the planning of activities to stimulate mathematics;
- be able to use pedagogical documentation as a tool to monitor mathematical learning processes;
- be able to reflect on their own relationship to mathematics;
- be able to reflect on mathematical learning theories related to gender.

Schedule

There is an **up-dated** schedule on the course web site: www.buv.su.se/UB309F

Examination dates

- EX01: Participation in workshops (1 cr).
- EX02: Group assignment presented at the seminar **April 20th.** (2.5 cr)
- EX03: Group assignment (2.5 cr). Presented at the seminar 5 with Karin Hultman.
- EX04: Individual paper focusing on mathematics (6 cr) – uploaded on MONDO in the assignment folder not later than **June 4th.**

The examinations are presented in a compendium that you will find at MONDO when the course starts.

Plagiarism and regulations for disciplinary matters

As a student you have to be conscientious about clearly accounting for the material used in the texts that are submitted for examination. To use other people's expressions or ideas without stating where they are from is plagiarism. To translate and/or change some words in someone else's text and present it as one's own is obviously also a form of plagiarism. The teachers in the course may use the web-based tool Urkund to check your text for plagiarism.

Plagiarism is considered to be cheating and if discovered in an exam or paper, the exam or paper will immediately be failed and disciplinary measures may be taken. Any student who is caught cheating or disrupting academic activities can be suspended from lectures and exams for a period of up to six months. The Vice-Chancellor or the Disciplinary Council decides whether the student is to be subject to any disciplinary measures.

Grade for the whole course

To get a grade for the whole course, all examinations must be finished with at least the grades G or E. The grade for the whole course is based on the grade of EX03.

Re-examination and Fail

A student who has received a grade of E or higher may not take a re-examination for a higher grade. In addition, a registered passing grade may not be altered to Fail.

A student who receives the grade Fx once has the possibility of complementing the exam within two weeks after receiving the grade. If improvements are not done in the time allotted, the student is required to retake the examination.

A student who has received the grade of F, Fx or U twice on a given examination and by the same examiner may apply and be granted a new examiner. The application should be addressed to the director of studies.

The next opportunity for re-examination will take place on August 23 2017. Students who want to re-take the examination shall contact the course administrator before August 20.

Course Literature

- Baroody, Arthur J., Lai, Meng-lung & Mix, Kelly S. (2006). "The development of young children's early number and operation sense and its implications for early childhood education", in Bernard Spodek & Olivia N. Sacharo (eds.) *Handbook of Research on the Education of Young Children*, Mahwah, NJ, US: Lawrence Erlbaum Associates Publishers, 2nd ed., pp. 187-221. (Available online)
- Carruthers, Elisabeth & Worthington, Maulfry (2006). *Children's Mathematics: Making Marks, Making Meaning*. London: Sage publications, 2nd ed. (Available online)
- Castagnetti, Marina & Vecchi, Vea (eds.) (1997). *Shoe and Meter. Children and Measurement: first approaches to the discovery, function and use of measurement*. Reggio Emilia: Reggio Children.
- Clements, Douglas H. & Sarama, Julie (2009). *Learning and Teaching Early Math: The Learning Trajectories Approach*. New York and Abingdon: Routledge.
- Cross, Christopher T., Woods, Taniesha A. & Schweingruber, Heidi (eds.) (2009). *Mathematics Learning in Early Childhood: Paths Toward Excellence and Equity*. Washington: National Academies Press. (Available online)
- Palmer, Anna (2010). 'Let's Dance!' Theorising Alternative Mathematical Practices in Early Childhood Teacher Education. *Contemporary Issues in Early Childhood*, 11(2), ss. 130-143. (Available online)
- Palmer, Anna (2009). 'I'm not a "maths-person"! Reconstituting mathematical subjectivities in aesthetic teaching practices. *Gender and Education*, 21(4), ss. 387- 404. (Available online)
- Additional course literature such as articles, reports etc. as assigned by the teacher (approximately 150 pages).