



Course syllabus

Faculty Board of Science and Engineering
School of Computer Science, Physics and Mathematics

INT014 Naturvetenskap och Teknik för förskolan, 15 högskolepoäng
Natural Science and Technology intended for Preschool, 15 credits

Subject Group
Educational Sciences/Theoretical Subjects

Level of classification
First Level

Progression
G1N

Date of Ratification
Approved by the Board of the School of Computer Science, Physics and Mathematics
2011-08-20

The course syllabus is valid from spring semester 2012

Prerequisites
NO VALUE DEFINED

Objectives

Having completed the course the student is expected to:

- use scientific and technological concepts for observable phenomena and relationships in the surroundings
- communicate your own knowledge of and about science and technology required to work in preschool
- identify science and technology in everyday life and society and use it as a basis for didactic activities
- use exploratory and experimental methods
- implement learning situations where the interests of the children are stimulated and challenged and where theory and didactic research applied
- treat science and technology in relation to issues of environment, ethics, gender and the historical and global perspective

Content

The course is based on an exploratory and experimental approach in which different forms of expressions are used. Didactic theories and recent policy documents concerning science and technology for preschoolers permeates the course. The course would reinforce confidence in their own ability to work with science and technology in preschool.

The following topics are included:

- phenomena and relationships in science and technology in everyday life
- areas of knowledge like plants and animals in the local environment, cycling/recycling, air, water, heat, sound, light, electricity, astronomy, ecology and the human body
- children's exploratory and constructing
- technology development, basic technical concepts and principles
- technical problem solving - practical and theoretical elements integrated
- planning, implementation and evaluation of learning situations in preschool
- science and technology for Equality
- educational leadership in working with science and technology.

The course includes biology, 3.75 credits, physics, 3.75 credits, chemistry, 3.75 credits and technology 3.75 credits.

Type of Instruction

Teaching consists of lectures, seminars, group exercises, field trips and experiments. Participation in group activities, excursions and seminars is compulsory, as in briefings and presentations in connection together with the above. Mandatory elements are shown in the course schedule.

ICT: The course uses Web-based conferencing system as a communication medium.

Examination

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

Assessment of student performance is made through written test and/or oral examinations and/or presentation of mandatory assignments. The assessment method is decided at the start of the course.

Students who do not pass the regular examination will be offered retrials close to the regular examination.

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.

Course Evaluation

After completing the course, is a course evaluation compiled and written feedback to the students. The statement recognized for the current institutional bodies and for the relevant Programme Board, and filed by the course coordinator department.

Required Reading and Additional Study Material

Required Reading

Espen Dietrichs, Petter Hurlen, Kari Toverud (1998): Den fantastiska människokroppen (Cd-rom), Stockholm: Bonnier utbildning.

Mylesand, Mia & Johansson, Mikael (2007). Bygg & konstruktion i förskolan. Stockholm: Lärarförbundets förlag. Pages 122 (122).

Persson Gode, Karin (2008). Upptäck naturvetenskap i förskolan. Stockholm: Natur & kultur. Pages 80 (80)

Persson, Hans (2004). Boken om fysik och kemi. Stockholm: Liber. Pages 157 (157)

Pleijel, H, Ekologiboken, Göteborgs universitet, inst. för växt- och miljövetenskaper, 2003. Pages 120(120).

Can be downloaded at <http://www.dpes.gu.se/samverkan/publikationer/>

Sundin Bosse (2006) Den kupade handen Människan och tekniken. Stockholm: Carlsson Bokförlag. Pages 358 (358)

Thulin, Susanne (2006). Vad händer med lärandets objekt?: en studie av hur lärare och

barn i förskolan kommunicerar naturvetenskapliga fenomen. Växjö: Växjö University Press.

Kan hämtas från: <http://www.diva-portal.org/vxu/theses/abstract.xsql?dbid=1028>

In addition to the national curriculum for the preschool and material provided by course management and elective literature (such as fiction and nonfiction) to exchange information. Pages 300 (300)

Reference Literature

Brogren, Lisbeth & Jonasson Sune , (2010). No-tips och ideér i förskola och förskoleklass Epago

Elfström, Ingela, Nilsson, Bodil, Sterner, Lillemor, & Wehner-Godée, Christina (2008). Barn och naturvetenskap: upptäcka, utforska, lära. Stockholm: Liber. Pages 176 (176)

Person Hans (2009). Russinhissen : enkla experiment i fysik och kemi. Järfälla: Hands-on Science Text. Pages 157 (157).

Rundgren, Helen, Berglund, Jessika (2010). Små kryp & gummistövlar: fälthandbok för förskolan. Stockholm: Sveriges utbildningsradio. Intellecta infolog.

Optional flora and fauna