



## Course syllabus

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

1TG123 Teknik för lärare, F-3, 7,5 högskolepoäng  
Technology for primary school teachers, F-3, 7.5 credits

### **Main field of study**

Technology

### **Subject Group**

Other Subjects within Technology

### **Level of classification**

First Level

### **Progression**

G1F

### **Date of Ratification**

Approved by the Board of the School of Computer Science, Physics and Mathematics  
2011-04-18

The course syllabus is valid from autumn semester 2011

### **Prerequisites**

Teacher training certificate.

## Expected learning outcomes

Having completed the course the student is expected to be able:

- to describe the character of technology as a human activity and an area of knowledge as well as its relation to other areas of knowledge and to society in general
- to plan, introduce and allow pupils to work with practical problem solving, including problem identification, construction and evaluation following various teaching models and methods according to the pupils' differences
- to use technical concepts and principles as well as scientific explanation models in order to be able to show the connection and processes in a technical construction or a technical system
- to be able to use ICT as a tool in the educational work
- to follow up and evaluate the quality and progression of the pupils' knowledge as well as the use and evaluation of different methods to judge the pupils' knowledge of technology with regard to the goals in the the local and national governing documents
- to describe and reflect upon the different didactic choices with regard to local and national governing documents.

## Content

The course includes following elements:

- the aim of the technology and its role in education
- the culture of technology and how technology in the past and the present influences people, society and nature
- technological problem solving, including problem identification, solution, construction and evaluation. Theoretical and applied aspects and factors are integrated
- basic technology concepts and principles of material and form, such as structures and mechanisms
- basic electricity concepts and risks associated with the usage of electricity
- technology application related to natural science
- presentation and communication of basic technological functions and solutions with the help of speech, writing, sketches, pictures and models
- national and local guidelines and criteria to assess the pupils' achievements
- safety issues related to activities in the classroom.

Local and national governing documents are important sources used in the course. Didactic theories and processing of relevant policy documents shapes the entire course work.

## Type of Instruction

The course is a distance learning course via the Internet. The students are expected to work individually and in groups. At the start of the different modules of the course the course leader/teacher presents specific reading tasks, study assignments and presentation models.

Work assignments may be presented collectively in the form of group conferences and commented on by the course leader/teacher. The work assignments may also be individually designed.

Attendance at examinations and seminars is obligatory .

## Examination

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

Assessment takes place through oral and/or written tests and/or presentations of compulsory assignments, as well as through participation in web-based seminars. The main form of examination is decided at the start of the course. Students who do not pass the regular examinations are offered a new chance in close connection to time of 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

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

Andersson, B m fl. 2008. Några uppgifter som belyser elevers uppfattningar om vad som är teknik. I NorDiNa 2/08. 8 p. [www.naturfagscenteret.no/binfil/download.php?did=6511](http://www.naturfagscenteret.no/binfil/download.php?did=6511)

Bjurulf. V. 2011. Teknikdidaktik. Norstedts 2011. 224 p. ISBN 9789113028439

Börjesson, G et al. 2009. Teknik Direkt. Bonnier utbildning. 235 p. ISBN 622 868 97

Mylesand, M. 2007. Bygg och konstruktion i förskolan. Lärarförbundets förlag. 123 p. ISBN 91 976 598 19

Persson, A. Wiklund, L. 2008. Hur långt är ett äppelskal? Tematiskt arbete i förskolan. Liber. 230 p. ISBN: 9789147053582

Sundin, B. 2006. Den kupade handen – Historien om människan och tekniken. Carlssons bokförlag (08-54 52 54 80). Andra upplagan. 354 p. ISBN 91 7331 015 8

CETIS (Centrum för teknik i skolan). Teknik tillsammans (web-based material in Technology for children in preschool to grade 5). [www.liu.se/cetis/tekniktillsammans/](http://www.liu.se/cetis/tekniktillsammans/)

Kursplan för ämnet Teknik  
[www.skolverket.se/sb/d/3719/a/19774](http://www.skolverket.se/sb/d/3719/a/19774)

Kommentarmaterial till kursplanen i teknik  
[www.skolverket.se/sb/d/4371/a/23585](http://www.skolverket.se/sb/d/4371/a/23585)

Cedervall Taylor, I. 2002. "Ni har ju inte ens börjat!" "Vadå, vi är ju nästan färdiga!?: Har flickor och pojkar olika strategier och värderingar vid teknisk problemlösning och konstruktion? Studentuppsats: Malmö högskola/Läraryrket. 44 p.  
<http://dspace.mah.se:8080/bitstream/2043/1165/1/cedervall.pdf>

Elgetun, M. 2008. Yngre elevers uppfattning av teknikbegreppet. Studentuppsats: Trollhättan. 33 p. <http://hv.diva-portal.org/smash/record.jsf?pid=diva2:215810>

Moroney, C, Molin, I. 2008. Lärares teknikdidaktiska arbete - lärares uppfattningar av den egna undervisningen i teknik. Studentuppsats Mälardalens högskola. 55 p.  
<http://mdh.diva-portal.org/smash/record.jsf?pid=diva2:121401>

Additional literature: Compendium and literature selected for assignment, 200p.