Linnæus University

Dr: UGA 2013/2354-3.1.2

Course syllabus

Faculty of Technology

Department of Physics and Electrical Engineering

4TE006 Det matematiska kulturarvet, 7.5 credits
The cultural heritage of mathematics

Main field of study
Skill and Technology

Subject Group
Other Interdisciplinary Studies

Level of classification
Second Level

Progression
A1F

Date of Ratification
Approved by Faculty of Science and Engineering 2013-10-28
The course syllabus is valid from spring semester 2014

Prerequisites
4TE004 Skill and Epistemology, 7,5 hp and 4TE005 Skill, Art, Literature and Formation, 7,5 hp or corresponding knowledge in consultation with the teacher responsible for the course and examiner.

Objectives
After completing this course the student should be able to:

- see and discuss limits of the use of mathematics within the realm of working life
- understand the consequences of seeing mathematics as an inquiry or as an invention
- understand how the language of mathematics remains silent in the surrounding areas of investigation
- understand the role of mathematics as a bridge between technological and humanistic culture.

Content
The course problemizes the role of mathematics as a dominating scientific language and as a tool for control and steering of human work. Mathematics as a subject of liberal education and as a cultural activity that unites technological and humanistic cultures is brought forth and discussed.

The course includes the following elements:

- what does it mean to understand mathematics
- mathematics and metaphors
- mathematics and analogical thinking
- the third culture – mathematics as a liberal education.

Type of Instruction

The teaching is arranged through two two-days physical meetings comprising of lectures and dialogue seminars and a one-day examination. Additional studies are conducted through the reading and through the presentations of written assignments, individually and in the group, on the web-based learning platform. The obligatory assignments are introduced in connection with the course start.

Examination

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

Assessment of student's knowledge is carried on continuously. An essay is required as a basis for examination. In addition, attendance at 75% of the course's physical meetings and delivery of all written assignments is required for the grade Pass.

Course Evaluation

A course evaluation will be carried out and compiled after the course is completed. The compilation will be presented to the current board as well as to the students and filed by the coordinating department.

Required Reading and Additional Study Material

Required reading

Mouwitz, Lars. (2006). *Matematik och bildning berättelse,gräns, tystnad*. Stockholm: Dialoger

Berg, Gunnar. (2005). *Det matematiska kulturarvet*. Dialoger 71-72

Göranzon, Bo & Mouwitz, Lars (red.). (2006). *Det dubbla greppet*. Dialoger 77-78

Göranzon, Bo & Karlquist, Anders. (2002). ”Bortom All Visshet”. Ingår i Peter Tillberg red. (2002). Dialoger om yrkeskunnande. Stockholm: Dialoger, alternativt Bo Göranzon. *Spelregler- om gränsöverskridande*. (2001). Stockholm: Dialoger.

Additional material provided by the course leaders is also included.