MATB13, Mathematics: Discrete Mathematics, 7.5 ECTS credits
Matematik: Diskret matematik, 7,5 högskolepoäng
First Cycle / Grundnivå

Confirmation
The course syllabus was confirmed by the Education Committee of the Faculty of Science 01-03-2007 with a decision about amendment 19-11-2007 (2nd version). The syllabus is valid from 01-01-2008, Spring Semester of 2008.

General information
The course is an optional course at the First cycle in a Bachelor’s degree in science.

Language of instruction: Swedish or English. When needed, the entire course will be given in English.

Main Field of Studies
Mathematics

Specialisation
G1F, First cycle, has less than 60 credits course/s at the first cycle as admission requirements

Learning outcomes
The aim of the course is that students on completion of the course should have acquired the following knowledge and skills:

- have developed the ability for mathematical communication orally and in writing,
- be familiar with the basic theory and applications of discrete mathematics,
- have acquired basic knowledge for further studies in mathematics and other fields of science.

Course content
- Combinatorics, generating functions, recursion formulae and difference equations. Rings and fields with application on coding theory.
Course implementation
Teaching consists of lectures and group exercises. An essential element of the group exercises consists of training in problem solving. Compulsory hand-in exercises might be given during the course.

Course examination
Examination takes the form of a written test and, in connection with this, an oral examination. Oral examination is held only for those who passed the appurtenant written test. Students who fail the ordinary examination are offered a re-examination shortly after.

Grading scale
The grading scale consists of the grades Fail, Pass, Pass with distinction. In order to pass the entire course, it is required to pass both the written and the oral examination. The final grade is determined by the results on the different parts of the examination.

Admission requirements
To be eligible for the course requires basic eligibility and the courses MATA14 Analysis 1, 15 ECTS credits, MATA15 Algebra 1, 15 ECTS credits and MATB11, Linear Algebra, 7.5 ECTS credits, or corresponding.

Additional information
The course can not be credited as part of a degree along with MAT243 Discrete mathematics, 5p.