SF2741 Enumerative Combinatorics 7.5 credits

Enumerativ kombinatorik

This is a translation of the Swedish, legally binding, course syllabus.

Establishment

Course syllabus for SF2741 valid from Autumn 2022

Grading scale

A, B, C, D, E, FX, F

Education cycle

Second cycle

Main field of study

Mathematics

Specific prerequisites

Completed basic course SF1610 Discrete Mathematics, SF1662 Discrete Mathematics, SF1679 Discrete Mathematics or SF1688 Discrete Mathematics.

Language of instruction

The language of instruction is specified in the course offering information in the course catalogue.

Intended learning outcomes

After the course the student should be able to

- explain basic concepts. theorems and proofs within the parts of enumerative combinatorics described by the course content,
- read and comprehend mathematical text.

Course contents

Basic methods in enumerative combinatorics. Sieve methods, for example inclusion-exclusion and the method of using determinants to count lattice paths. Various aspects of the theory of partially ordered sets, for example lattice theory, Möbius inversion in posets, P-partitions.

Examination

- TEN1 - Examination, 7.5 credits, grading scale: A, B, C, D, E, FX, F

Based on recommendation from KTH's coordinator for disabilities, the examiner will decide how to adapt an examination for students with documented disability.

The examiner may apply another examination format when re-examining individual students.

If the course is discontinued, students may request to be examined during the following two academic years.

Homework problems and possibly a written report on a research paper.

The examiner decides, in consultation with KTHs Coordinator of students with disabilities (Funka), about any customized examination for students with documented, lasting disability. The examiner may allow another form of examination for re-examination of individual students.

Other requirements for final grade

Continuous examination with assignments and presentation of project.

Ethical approach

- All members of a group are responsible for the group's work.
- In any assessment, every student shall honestly disclose any help received and sources used.
- In an oral assessment, every student shall be able to present and answer questions about the entire assignment and solution.