FSF3706 Matroid Theory 7.5 credits

Matroidteori

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

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

Establishment

Course syllabus for FSF3706 valid from Spring 2019

Grading scale

P, F

Education cycle

Third cycle

Specific prerequisites

A Master degree including at least 30 university credits (hp) in in Mathematics (General knowledge in discrete mathematics).

Language of instruction

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

Intended learning outcomes

To learn the basics of Matroid theory as well as current aspects and applications thereof.

After the course the student should be well acquainted with the basics of matroid theory, and Le able to follow some of the modern research literature on it.

Course contents

• Basic definitions,

• Duality,

• Graphic matroids,

• Representable matroids,

• Hyperplane arrangements,

• Tutte polynomials,

• Current topics in Matroid theory.

Disposition

Lectures, homework and presentation

Course literature

• James Oxley, Matroid theory. Second edition. Oxford Gradueate Texts in Mathematics, 21. Oxford University Press. Oxford, 2011. xiv+684 pp. ISBN: 978-0-19-9603:39-8.

• Handouts and research articles.

Examination

• INL1 - Assignment, 7.5 credits, grading scale: P, 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.

Homework and presentation.

Other requirements for final grade

Homework and presentation.

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.