

CO446/646 Matroid Theory

This course is an introduction to classical matroid theory with applications to graph theory.

Topics include representable matroids; graphic matroids; duality; minors; graph matching; connectivity; characterizations of binary, graphic, and regular matroids; matroid intersection and its applications; growth rates of minor-closed classes.

Instructor. Jim Geelen (jfgielen@math), MC5020.

Suggested reading.

- *Matroid Theory*, First or Second Edition, James Oxley.

Grading 442/642

Assignments 40%

Final Exam 60%

Assignments. There will be approximately 6

Academic Integrity: In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility. See <http://www.uwaterloo.ca/academicintegrity/> for more information.

Grievance: A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. See <http://www.adm.uwaterloo.ca/infosec/Policies/policy70.htm>. When in doubt contact the department's administrative assistant who will provide further assistance.

Discipline: A student is expected to know what constitutes academic integrity (see <http://www.uwaterloo.ca/academicintegrity/>) to avoid committing an academic offence, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offence, or who needs help in learning how to avoid offences (e.g., plagiarism, cheating) or about rules for group work collaboration should seek guidance from the course instructor, academic advisor, or the undergraduate Associate Dean. For information on categories of offences and types of penalties, see <http://www.adm.uwaterloo.ca/infosec/Policies/policy71.htm>. For typical penalties see <http://www.adm.uwaterloo.ca/infosec/guidelines/penaltyguidelines.htm>.

Appeals: A decision made or penalty imposed under Policy 70 (Student Petitions and Grievances) (other than a petition) or Policy 71 (Student Discipline) may be appealed if there is a ground; see <http://www.adm.uwaterloo.ca/infosec/Policies/policy72.htm>.

Note for Students with Disabilities: The Office for Persons with Disabilities (OPD), located in Needles Hall, Room 1132, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the OPD at the beginning of each academic term.