

## CO749 Planar graphs

Instructor: Jim Geelen ([jim.geelen@uwaterloo.ca](mailto:jim.geelen@uwaterloo.ca))

Overview: This is intended to be a fun course delving into some of the many weird and wonderful characterizations of planar graphs. We will also consider the more general problems of characterizing graphic matroids and circle graphs.

Format: The course will be delivered live and in-person! There will be a few lectures at the start of the course, but subsequent classes will be discussion based. The instructor will give an overview of the main results in the lecture and the students will work together to fill in the details and will present their solutions in class and on the Piazza discussion board. Students will also do a project (in groups) later in the course.

Assessment: Assessment is based on participation in class and on the Piazza discussion board, as well as the project.

Prerequisites: This is not intended as a first course in graph theory. Students should already know the definition of a minor and be familiar with Menger's Theorem (for vertex-disjoint paths). Prior knowledge of matroids is not required.

Text: There is no text-book or notes for the course.