MAS477 Introduction to Graph Theory, Fall 2008

Syllabus

Overview

This course is an introduction to some of the major topics of graph theory. They include graph connectivity, matchings, planar graphs, graph coloring, and nowhere-zero flows.

Basic notions and theorems covered in Discrete Mathematics (MAS275) will be assumed; but we will review them in the first week.

Here is a plan for this course:

- Week 1: Basics. Reviews.
- Week 2-3: Matchings
- Week 4-5: Connectivity
- Week 6-7: Planar Graphs
- Week 8: Midterm
- Week 9-11: Coloring and Flows
- Week 12-13: Graph minors and Well-quasi-ordering
- Week 14-15: Introduction to Matroids (*optional)
- Week 16: Final Exam

Lecture

MWF 1:00PM-1:50PM, E6-1(Natural Science Bldg 자연과학동), 2413

General Information

- Professor: Sang-il Oum (엄상일)
- Email: sangil. Add @kaist.edu
- Homepage: http://math.kaist.ac.kr/~sangil/course/mas477fall2008
- Office: E6-1 bldg, 3403 (Telephone 869-2728)
- Office Hours: Monday 4pm-5pm (tentative), or by appointments
- Textbook: R. Diestel, "Graph Theory", Springer. 3rd edition.

Grading

- Grading: 20% Homework, 30% Midterm, 50% Final. The lowest, the second lowest, and the third lowest scores from assignments will be dropped.
- Midterm Exam: Oct. 22, Wednesday 1PM-2:50PM (tentative)

- Final Exam: Dec. 17, Wednesday 1PM-2:50PM (tentative). There will be no make-up exams. Exams will “closed book”, “closed notes”. Calculators are not allowed in the exams. Any violation of honor code will be reported. Read the rule for the homework below.
- Homework: (Tentative) Homework will be given (mostly) weekly in class on Wednesday. The assignment is due at the beginning of class on the following Monday. You may collaborate with other students. But homework should be written by yourself independently and you must understand your solution. Only samples will be graded.

Extra information

- In the fall semester, there is a related course *"Extremal Graph Theory" (MAS480A and CS492)* by Andreas Holmsen and Otfried Cheong. We have organized the course so that taking both courses at the same time would still be interesting.
- Ask questions!