MAS477, 2009 Fall, KAIST

Introduction to Graph Theory / 그래프이론개론

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.

Lecture	TTh 9:00AM-10:15AM	Classroom: E6-1 (자연과학동), Room 2413
Instructor	Sang-il Oum (엄상일)	`http://mathsci.kaist.ac.kr/~sangil/`
	Email: sangil@kaist.edu	Office: E6-1 Room 3403.
Office Hours	Wednesday 4PM or by appointments.	
	We will discuss homework solutions during the office hour following the due date. Therefore it is recommended to attend office hours.	
Course website	`http://moodle.kaist.ac.kr/`. (Passcode: tutte)	
Textbook	R. Diestel, "Graph Theory", 3rd edition. Springer.	
Grading	20% Homework, 30% Midterms, 50% Final.	
	The lowest score and the second lowest, and the third lowest scores from assignments will be dropped. You will earn A if (but not only if) your score is at least 90, B if your score is at least 80, C if your score is at least 70.	
Midterm Exams	Oct. 24, Saturday, 7PM–	
Final Exam	Not yet decided.	
	There will be no make-up exams. Exams will be "closed book", "closed note". Calculators are not allowed in the exams. Any violation of honor code will be reported.	
Homework	Homework will be given weekly in class on Thursday. The assignment is due at the beginning of class on the following Tuesday. You may collaborate with other students. But homework should be written by yourself independently and you must understand your solution.	
Plan	Week 1-2 Basics. Reviews. (chapter 1)	
	Week 2-4 Matchings (chapter 2)	
	Week 4-5 Connectivity (chapter 3)	
	Week 6-7 Planar graphs (chapter 4)	
	Week 8-10 Coloring (chapter 5)	
	Week 9 Midterm Exam	
	Week 11-12 Flows (chapter 6)	
	Week 13-14 Graph minors and well-quasi-ordering (chapter 12)	
	Week 14-15 Matroids (optional)	
	Week 16 Final Exam	

- For week 13-15, we may cover alternative materials.
- Hint for the course: Attend the class, Ask questions, Do the homework.