

ICE0113: Discrete Mathematics I

Fall 2008

Lectures	T: 14:30 ~ 16:00 R: 16:00 ~ 17:30
Classroom	
Course Web Page	LMS on Cyber ICU (학습관리시스템) – check this page regularly
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Objective of the Course

You will study discrete things that can be listed, such as finite processes and sets of elements, in contrast to calculus, which is concerned with infinite processes and real numbers. Discrete mathematics is applied to all level of digital system design and information technology. This course will provide you with important backgrounds required to study follow-up courses such as Logic Design, Data Structures, Algorithms, Computer Architecture, security, etc.

Prerequisites

Basic math

Textbook

Dossey Otto Spence Eynden, Discrete Mathematics, 5th ed., Pearson Education, 2006.

Grading Policy

Homework assignments	30%
Midterm	30%
Final	35%.
Attendance	5% (-1 for a miss)

Cheating Policy

Cheating is **not allowed** in any of exams and homework assignments. You will be given zero points for cheating. Show your own efforts.

Course Schedule (subject to change)

Week	Date	Topic	Reading (textbook)	Assignments
1	8/26	Introduction	Section 1.1, 1.2	
	8/28	An introduction to combinatorial problems	Section 1.3, 1.4	
2	9/2	Sets, relations, and functions	Section 2.1 , 2.2	
	9/4	Sets, relations, and functions	Section 2.3	
3	9/9	Sets, relations, and functions	Section 2.4, 2.5	
	9/11	Coding theory	Section 3.1, 3.2	
4	9/16	Coding theory	Section 3.3	
	9/18	Coding theory	Section 3.4	
5	9/23	Coding theory	Section 3.5, 3.6	
	9/25	Graphs	Section 4.1	
6	9/30	Graphs	Section 4.2	
	10/2	Graphs	Section 4.3	
7	10/7	Recess	No class	
	10/9	Recess	No class	
8	10/14	midterm		
	10/16	midterm		
9	10/21	Graphs	Section 4.4, 4.5	
	10/23	Trees	Section 5.1, 5.2	
10	10/28	Trees	Section 5.3, 5.4	
	10/30	Trees	Section 5.5, 5.6	
11	11/4	Trees	Section 5.6	
	11/6	Matching	Section 6.1, 6.2	
12	11/11	Network flows	Section 7.1, 7.2	
	11/13	Counting techniques	Section 8.1, 8.2, 8.3	
13	11/18	Recurrence relations and generating functions	Section 9.1	
	11/20	Recurrence relations and generating functions	Section 9.2, 9.3	
14	11/25	Recurrence relations and generating functions	Section 9.5, 9.6	
	11/27	Logic and proof	Appendix A	
15	12/2	Combinatorial circuits	Section 10.1, 10.2	
	12/4	Combinatorial circuits	Section 10.4	
16	12/9	Final exam		
	12/11	Final exam		