

CSC400 702/711
Discrete Structures for Computer Science
Fall 2019

Instructor : Dr. I-ping Chu
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Lecture and office hours:

Lecture W 5:45 to 9:00 pm Room : LEWIS 01508
Office Hour : W 4:15 – 5:45 pm

Text :

Mathematics for Computer Science

Author(s):

Eric Lehman Google Inc.

F Thomson Leighton MIT, Akamai Technologies

Albert R Meyer MIT

Publisher: <https://courses.csail.mit.edu/6.042/spring18/mcs.pdf>

Other References:

Discrete Mathematics with Applications, 4th edition,

by Susanna Epp, Brooks/Cole Cengage Learning, 2011, ISBN: 978-0495391326.

Summary of the course:

This course covers the basic mathematical tools essential for solving problems in computer science. The mathematical topics are presented with emphasis on their applications in computer science. The topics covered include: logic and set theory, relations, functions, graphs, and counting and probability.

Course Management System : [D2L](https://d2l.depaul.edu/d2l/home) (<https://d2l.depaul.edu/d2l/home>)

Course Works :

	In-class section	DL
Exam	Midterm(40%)	Midterm 40%

	Final (40%)	Final 40%
Homework/Quizzes	20%	20%

Grading Policy:

- 90 - 100 A | 80 - 89 B | 70 - 79 C | 60 - 69 D | 0 - 59 F

Learning Outcomes :

After successfully passing this course (by doing all the assignments and passing all the exams), student should be prepared to solve the problems in computer science.

[university academic calendar](#)

CSC400 (702/711) Tentative Schedule

Week#	Date	Subject	Text (Reference)
1	09/11	Logics (Propositional & predicate) Number systems	Ch 1 , 3 (ch. 2, 3)
2	09/18	Method of Proof, Inference rules Number Theory, Mathematical Induction and recursions	Ch 1, 5, 7, 9 (ch. 4, 5)
3	09/25	Set & Functions Relations	Ch 4.1 , 4.3 4.4 (ch 6, 7, 8)
4	10/02	Sequences, recurrence relation Asymptotic notation Generating Functions	Ch 4.2 14, 16, 22 (ch 5, 8, 16)
5	10/09	Counting Methods	Ch 15 (Ch 9)
6	10/16	Midterm exam	Week 1 through 5
7	10/23	Introduction to probability	Ch 17 18 19 20 21 (Ch 9)
8	10/30	Introduction to Graphs and Trees	Ch 10 12 13 (Ch 10)
9	11/06	Introduction to Graphs and Trees (cont.)	Ch 1 Ch 10 12 13 (Ch 10)
10	11/13	Finite State Machine, Automata Languages and Grammars (optional, if time allows)	Ch 6 (Ch 12)
11	11/21	Final exam	Comprehensive

