Discrete Mathematics

Autumn 2019

MATH-UA.0120-001

Instructor:	Liming PANG	**Email:**	liming@cims.nyu.edu
Lecture Time:	Mon. Wed. 08:55–10:45	**Classroom:**	GCASL 369
Office Hour:	Tue. 10:00 – 12:00	**Office:**	CIWW 720

Textbook: Scheinerman, Edward R, *Mathematics: A Discrete Introduction* 3rd Edition, Boston, MA: Brooks/Cole, 2013

Grading Policy:

Item	Final	Midterm I	Midterm II	Homework	Quiz
Weight	30%	20%	20%	15%	15%

Exam Schedule:

Midterm 1 ..... Oct 07 2019, in class
Midterm 2 ..... Nov 18 2019, in class
Final Exam ..... TBD

Exam Policy:

- We will not be able to accommodate out-of-sequence exams for purposes of more convenient travel, including already purchased tickets. Please note again the date of the exams and plan your travel accordingly.
- If you miss any exams due to emergency such as illness, the corresponding documentation proofs should be submitted no later than 24 hours after the scheduled exam time in order to apply for making up.
- Exams will be close book. Books, paper or electronic material, calculator or electronic devices are prohibited during exams.

Homework Policy:

- You need to type your homework by LaTeX and upload a PDF version to NYU Classes. Other formats shall NOT be accepted.
- Homework will be released on NYU Classes with due day specified. Late homework, paper copy or email copy shall NOT be accepted.
- One lowest Homework score will be dropped when calculating overall grade.
- You may discuss with your classmates about homework, but you should organize and write your solutions by yourself. Make an acknowledgment of collaborators, if any.
- You may contact me if you have any question on Homework grading. Appeals should be made within one week after graded homework is returned.

Quiz Policy:

- There will be a quiz each Monday during lecture, except the midterm weeks.
- One lowest Quiz score will be dropped when calculating net score.
- You may contact me if you have any question on Quiz grading. Appeals should be made within one week after graded Quiz is returned.

Tutoring Center: There is free math tutoring sponsored by the math department, meeting in room 524 of Warren Weaver Hall. Check the signs posted throughout Warren Weaver Hall and the tutoring web page: http://math.nyu.edu/dynamic/undergrad/tutoring/ On the tutor calendar, any name that has ** next to it is able to tutor Discrete Mathematics.

Integrity: We value integrity and do not tolerate academic dishonesty. You are expected to uphold academic integrity as specified by New York University(https://www.nyu.edu/about/policies-guidelines-compliance/policies-and-guidelines/academic-integrity-for-students-at-nyu.html).

Tentative Course Outline:

09/04: Speaking and Writing of Mathematics; Definition
09/09: Theorem; Proof
09/11: Counterexample; Boolean Algebra
09/16: Lists; Factorial
09/18: Sets
09/23: Quantifiers
09/25: Relations; Equivalence Relations
09/30: Partitions
10/02: Binomial Coefficients
10/07: Midterm 1
10/09: Contradiction
10/15: Smallest Counterexample
10/16: Induction
10/21: Recurrence Relations
10/23: Functions; Composition
10/28: The Pigeonhole Principle
10/30: Sample Space; Events
11/04: Conditional Probability and Independence
11/06: Random Variables
11/11: Expectation
11/13: Dividing
11/18: Midterm 2
11/20: Greatest Common Divisor
11/25: Introduction to Graphs
12/02: Subgraphs
12/04: Connectivity
12/09: Trees
12/11: Eulerian Graphs