Algebra
Autumn 2020
MATH-UA.0343-005

Instructor: Liming PANG
Email: liming@cims.nyu.edu
Lecture Time: Tue. Thu. 12:30 – 13:45
Classroom: Online
Office Hour: Wed. 10:30 – 11:30
Office: Online

Recitation: Friday 15:30 – 16:45 Online

Teaching Assistant: Eric Thoma (emt408@cims.nyu.edu)

TA Office Hour: Monday 10:00 – 11:00 Online

Reference Books:

• Thomas W. Judson, Abstract Algebra: Theory and Applications (Open Source Textbook)

Grading Policy: Quiz (10%), Homework (20%), Midterm (30%), Final (40%).

Exam Schedule:

Quiz 1 .................................................. Oct 02 2020
Midterm .................................................. Oct 23 2020
Quiz 2 .................................................. Nov 20 2020
Final Exam .......................................... TBD

Class Policy:

• Homework will be released each Thursday or Friday, and due on the following Friday. Late homework or emailed version shall NOT be accepted. One LOWEST homework score shall be dropped.

• You may discuss with your classmates about homework, but you should write your solutions by yourself. Copying others’ homework is violation of university academic integrity policy.

• If you miss any due day of assignments or exams due to emergency such as illness, the corresponding documentation proofs should be submitted no later than 24 hours after the deadline or scheduled exam time in order to apply for making up.

• 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.

Integrity: We value integrity and do not tolerate academic dishonesty. You are expected to uphold academic integrity as specified by the university and the College of Arts and Science.
Tentative Course Outline:

09/03: Elementary Set Theory
09/08: Groups
09/10: Subgroups, Additive Integer Group and Its Subgroup
09/15: Cyclic Groups and Cyclic Subgroups
09/17: Homomorphisms, Conjugations and Normal Subgroups
09/22: Isomorphisms and Automorphisms
09/24: Equivalence Relations
09/29: Cosets and Lagrange Theorems
10/01: Quotient Groups
10/06: Congruence of Integers
10/08: First Isomorphism Theorem
10/13: Direct Product of Groups
10/15: Symmetric Groups
10/20: Symmetric Groups
10/22: Midterm Review
10/27: Isometries of Euclidean Spaces
10/29: Isometries of the Plane
11/03: Group Operation
11/05: Group Operation
11/10: Counting Formula and Class Equation
11/12: Sylow Theorems
11/17: Semidirect Product
11/19: Classification of Groups
11/24: Classification of Groups
11/26: Thanksgiving Day, no class
12/01: Rings and Integers
12/03: Ideals and Ring Homomorphisms
12/08: Quotient Rings
12/10: Final Review