

ALGEBRA

Spring 2019

MATH-UA.0343-003

Instructor:	Liming PANG	Time:	Mon. Wed. 12:00 – 13:45
Email:	liming@cims.nyu.edu	Classroom:	CIWW 317

Course Web Page: <https://cims.nyu.edu/~liming/Algebra/2019.html>

Office Hours: Tuesday 10:00 – 12:00

Textbook: Michael Artin, *Algebra, 2nd Edition*, Pearson, 2010

Other References:

- David Dummit and Richard Foote, *Abstract Algebra, 3rd Edition*, Wiley, 2003
- Thomas W. Judson, *Abstract Algebra: Theory and Applications* (Open Source Textbook)

Teaching Assistant: Rodion Déev (rodion@cims.nyu.edu)

Recitation: Friday 12:30 – 13:45 at CIWW 517

Grading Policy: Homework (20%), Quiz 1 (5%), Quiz 2 (5%), Midterm (30%), Final (40%).

Exam Schedule:

Quiz 1	Mar 01 2019
Midterm	Mar 29 2019
Quiz 2	Apr 26 2019
Final Exam	TBA

Class Policy:

- Homework will be released each Thursday or Friday, and due on the following Friday during recitation. Late homework or emailed version shall NOT be accepted.
- You may discuss with your classmates about homework, but you should organize and write your solutions by yourself. Copying others' homework is violation of university academic integrity 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.
- Exams will be close book. Books, paper or electronic material, calculator or electronic devices are prohibited during exams.

Tentative Course Outline:

01/28: Elementary Set Theory
01/30: Groups
02/04: Subgroups, Additive Integer Group and Its Subgroup
02/06: Cyclic Groups and Cyclic Subgroups
02/11: Homomorphisms, Conjugations and Normal Subgroups
02/13: Isomorphisms and Automorphisms
02/20: Equivalence Relations
02/25: Cosets and Lagrange Theorems
02/27: Quotient Groups
03/04: Congruence of Integers
03/06: First Isomorphism Theorem
03/11: Direct Product of Groups
03/13: Midterm Review
03/25: Symmetric Groups
03/27: Symmetric Groups
04/01: Isometries of Euclidean Spaces
04/03: Isometries of the Plane
04/08: Group Operation
04/10: Group Operation
04/15: Counting Formula and Class Equation
04/17: Sylow Theorems
04/22: Sylow Theorems
04/24: Semidirect Product
04/29: Classification of Groups
05/01: Rings and Integers
05/06: Ideals and Ring Homomorphisms
05/08: Quotient Rings and Integral Domain
05/13: Final Review