

YILDIZ TECHNICAL UNIVERSITY

MAT 5120

ADVANCED ALGEBRA

2021-2022 SPRING

Instructor: Assoc. Prof. Emre Kolotoğlu

E-mail: kolot@yildiz.edu.tr

Office: E-2036

Office hours: Monday 13:00-14:50

Textbook: D. S. Dummit and R. M. Foote, Abstract Algebra, 3rd Edition, Wiley, 2004.

Course Website: <http://avesis.yildiz.edu.tr/kolot/dokumanlar>

Course Content:

- PART I - GROUP THEORY

- Ch.1 Introduction to Groups
- Ch.2 Subgroups
- Ch.3 Quotient Groups and Homomorphisms
- Ch.4 Group Actions
- Ch.5 Direct and Semidirect Products and Abelian Groups

- PART II - RING THEORY

- Ch.7 Introduction to Rings
- Ch.8 Euclidean Domains, Principal Ideal Domains and Unique Factorization Domains
- Ch.9 Polynomial Rings

- PART IV - FIELD THEORY AND GALOIS THEORY

- Ch.13 Field Theory

Homework Assignments: There will be some homework assignments throughout the semester. For homework assignments and due dates, check the course website regularly.

Exams: There will be one midterm exam and one final exam. The exam dates will be announced later.

Grading:

- Homework Assignments 30%
- Midterm exam 30%
- Final Exam 40%

Note: The instructor has the right to make reasonable changes in this syllabus.