

YILDIZ TECHNICAL UNIVERSITY

MAT 2092

ALGEBRA II

2023-2024 SPRING

Instructor: Assoc. Prof. Emre Kolotoğlu

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Office: E-2036

Office Hours: Monday 15:00-15:50 & Tuesday 15:00-15:50

Textbook: D.S.Malik, J.N.Mordeson, M.K.Sen, Fundamentals of Abstract Algebra, McGraw-Hill Companies, 1997.

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

Course Outline:

- Ch.10 Introduction to Rings
 - 10.1 Elementary Properties
 - 10.2 Some Important Rings
- Ch.11 Subrings, Ideals and Homomorphisms
 - 11.1 Subrings and Subfields
 - 11.2 Ideals and Quotient Rings
 - 11.3 Homomorphisms and Isomorphisms
- Ch.12 Ring Embeddings
 - 12.1 Embeddings of Rings
- Ch.14 Polynomial Rings
 - 14.1 Polynomial Rings
- Ch.15 Euclidean Domain
 - 15.1 Euclidean Domains
 - 15.2 Greatest Common Divisors
 - 15.3 Prime and Irreducible Elements
- Ch.16 Unique Factorization Domains
 - 16.1 Unique Factorization Domains
 - 16.2 Factorization of Polynomials over a UFD
 - 16.3 Irreducibility of Polynomials
- Ch.17 Maximal, Prime and Primary Ideals
 - 17.1 Maximal, Prime and Primary Ideals
 - 17.2 Jacobson Semisimple Ring

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

Grading:

- Midterm Exam I 30%
- Midterm Exam II 30%
- Final Exam 40%

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