

MATH 517 GRADUATE ALGEBRA I

İzzet Coşkun, MWF 10:00-10:50 p.m.

SEO 423, coskun@math.uic.edu

This course is a continuation of MATH 516. We will discuss field, Galois theory, commutative and homological algebra.

Course webpage: <http://www.math.uic.edu/~coskun/math517.html>

Venue: Taft Hall 305

Office hours: MWF 9:00-10:00 and by appointment in SEO 423.

Text: The text book for the course is Paolo Aluffi, Algebra: Chapter 0, GSM 104, American Mathematical Society, 2009. Some other good references for an introductory course in algebra include

- Serge Lang, Algebra, Addison Wesley, 1995.
- I.N. Herstein, Topics in Algebra, John Wiley & Sons, 1975.
- Dummit and Foote, Abstract Algebra, John Wiley & Sons, 2004.

Prerequisites: MATH 516 or equivalent.

Requirements: There will be weekly homework. Homework is a very important component of this course. It will count for 50 % of your grade. No late homework will be accepted. You may collaborate on the homework problems, but you must write your own solutions and properly acknowledge any help you receive from others. There will be a take home midterm counting for 20 % of your grade and a take home final counting for 30 % of your grade.

Topics: The following is a tentative list of topics that will be covered in the course. The chapter numbers refer to the course text book.

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|--------|------------------------|
| Jan 9 | VII.1 |
| Jan 11 | VII.1, VII.2 |
| Jan 13 | VII.2 |
| Jan 16 | No Class MLK Day |
| Jan 18 | VII.3 |
| Jan 20 | VII.3, VII.4 |
| Jan 23 | VII.4 |
| Jan 25 | VII.5 |
| Jan 27 | VII.6 |
| Jan 30 | VII.7 |
| Feb 1 | VII.7 |
| Feb 3 | VII |
| Feb 6 | VIII.1 |
| Feb 8 | VIII.2 |
| Feb 10 | VIII.3 |
| Feb 13 | VIII.4 |
| Feb 15 | VIII.5 |
| Feb 17 | VIII.6 |
| Feb 20 | VIII |
| Feb 22 | VIII |
| Feb 24 | IX.1 |
| Feb 27 | IX.2 |
| Feb 29 | IX.2 |
| Mar 2 | IX.3 |
| Mar 5 | IX.4 |
| Mar 7 | IX.5 |
| Mar 9 | IX.6 |
| Mar 12 | IX. 6 |
| Mar 14 | IX.7 |
| Mar 16 | IX.7 |
| Mar 19 | No class: Spring Break |
| Mar 21 | No class: Spring Break |
| Mar 23 | No class: Spring Break |
| Mar 26 | IX.8 |
| Mar 28 | IX.8 |
| Mar 30 | IX.9 |
| Apr 2 | IX.9 |
| Apr 4 | |
| Apr 6 | |
| Apr 9 | |
| Apr 11 | |
| Apr 13 | |
| Apr 16 | |
| Apr 18 | |
| Apr 20 | |
| Apr 23 | |
| Apr 25 | |
| Apr 27 | |