

## Modern Algebra I

Math 5520.001, Fall 2012, MW 12:00-1:20, GAB 206

**Professor:** Dr. Conley, GAB 419, 565-3326, conley@unt.edu. Assignments and announcements will be posted at [www.math.unt.edu/~conley](http://www.math.unt.edu/~conley).

**Office Hours:** MW 1:30-3:30 and by appointment.

**Text:** The text is *Abstract Algebra*, third edition, by Dummit and Foote.

**Exams, Homework, and Grading:** There will be a 150 point midterm on Wednesday, October 24, and a comprehensive 225 point final on Monday, December 10, 10:30-12:30. There will be thirteen problem sets, usually worth 10 points each, due at the beginning of Wednesday lectures. There will be no make-up exams, and late homework will be worth half-credit.

**Disabled Students:** Please let me know of your disability at the end of the first lecture.

**Topics:** We will spend most of the first semester on Part I of the text, which covers groups and focuses on finite groups. Highlights will be the classification of abelian groups, the Sylow theorems, and the simplicity of the alternating groups. Towards the end of the semester we will begin discussing Part II of the text, on rings. In the second semester will continue with rings and go on to Parts III and IV, on modules, field theory, and Galois theory.

**Problem Set 1** (due Wednesday, September 5):

*Section 0.2:* 1ab, 3, 5, 7, 10, 11

*Section 0.3:* 4, 8, 9, 11-13, 15b

*Section 1.1:* 1bcd, 9, 8-9, 11-12, 21-22, 25, 31-33

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<b>MONDAY</b>	<b>TUESDAY</b>	<b>WEDNESDAY</b>	<b>THURSDAY</b>	<b>FRIDAY</b>
8/27	8/28	8/29 First lecture	8/30	8/31
9/3 Holiday	9/4	9/5 HW 1	9/6	9/7
9/10	9/11	9/12 HW 2	9/13	9/14
9/17	9/18	9/19 HW 3	9/20	9/21
9/24	9/25	9/26 HW 4	9/27	9/28
10/1	10/2	10/3 HW 5	10/4	10/5
10/8	10/9	10/10 HW 6	10/11	10/12
10/15	10/16	10/17 HW 7	10/18	10/19
10/22	10/23	10/24 Midterm Exam	10/25	10/26
10/29	10/30	10/31 HW 8	11/1	11/2
11/5	11/6	11/7 HW 9	11/8	11/9
11/12	11/13	11/14 HW 10	11/15	11/16
11/19	11/20	11/21 HW 11	11/22 Thanksgiving	11/23 Holiday
11/26	11/27	11/28 HW 12 (5 points)	11/29	11/30
12/3	12/4	12/5 HW 13	12/6	12/7
12/10 Final Exam: 10:30-12:30	12/11	12/12	12/13	12/14