Modern Algebra I

Math 5520.001, Fall 2016, MW 12:00-1:20, GAB 461

Professor: Dr. Conley, GAB 419, 565-3326, conley@unt.edu. Assignments and announcements will be posted at www.math.unt.edu/∼conley.

Office Hours: MW 1:30-3:00, T 11-12, and by appointment (brief questions welcome any time, just knock if the door is closed).

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

Exams, Homework, and Grading: There will be a 150 point midterm on Wednesday, October 26, and a comprehensive 220 point final on Wednesday, December 14, 10:30-12:30. There will be thirteen problem sets, 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 may begin discussing Part II of the text, on rings.

This year the second semester of the 5520-30 sequence will be taught by Dr. Shepler, who will probably cover rings and then modules and/or fields.

Problem Set 1 (due Wednesday, September 7):

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

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

Section 1.1: 1bcd, 6, 8-9, 11-12, 21-22, 25, 31-33

Online solutions: Three reasons why you should never look at these, in increasing order of wisdom: (a) I'll know because many of them are bizarrely convoluted; (b) you'll get crushed on the tests; (c) you won't learn the material.

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