

## Modern Algebra II

Math 5530.001, Spring 2022, MW 12:30-1:50, GAB 473

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

**Office Hours:** MWF 11:30-12:30 & 2:00-3:00, and by appointment.

**Text:** *Abstract Algebra*, 3<sup>rd</sup> edition, by Dummit & Foote.

**Exams, Homework, and Grading:** There will be a 150 point midterm on Wednesday, March 9, and a comprehensive 225 point final on Wednesday, May 11, 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:** Contact me after the first lecture.

**Topics:** We will begin with Chapters 7-9, on rings, fraction fields, EDs, PIDs, UFDs, and polynomial rings. Then we will move to Chapters 13-14 on fields and Galois theory. Any remaining time will be spent on Chapters 10-12, on modules, vector spaces, modules of PIDs, and canonical forms.

**Problem Set 1** (due Wednesday, January 26):

*Section 7.1:* 3, 5-8, 11-12, 13ab, 14-18, 21, 24 (n=3 only), 25

*Section 7.2:* 1, 2\*, 3-4, 6-8

**Problem Set 2** (due Wednesday, February 2):

*Section 7.3:* 1-8, 10, 12ab, 13, 16-17, 18a, 19-20, 23-24, 26a, 28-29, 34

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