Modern Algebra I

Math 5520.001, Fall 2019, MW 12:00-1:20, GAB 473

Professor: Conley, GAB 419, 565-3326, conley@unt.edu
    Assignments, announcements: www.math.unt.edu/∼conley

Office Hours: M 2:00-4:00, T 12:00-1:00, W 1:30-2:30, and by appointment
    Walk-ins: brief questions welcome any time (knock if door closed)

Text: *Abstract Algebra,* 3rd edition, Dummit and Foote

Exams, Homework, Grading:
    Midterm: 150 points, Wednesday, October 23
    Final: 220 points, comprehensive, Wednesday, December 11, 10:30-12:30
    Problem Sets: 13, 10 points each, due beginning of Wednesday lectures
    Policies: no make-up exams, late homework worth half-credit

Disabled Students: See me at end of first lecture

Topics: The text has 6 parts. The first 4 are
    Part I: groups; *Part II:* rings; *Part III:* modules; *Part IV:* fields
Math 5520: covers Part I and the beginning of Part II. Highlights:
    Sylow's theorems, simplicity of A_n, classification of finite abelian groups
Math 5530: usually covers Part II and selections from Parts III & IV.

Problem Set 1 (due Wednesday, September 4):
    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

Regarding online solutions: It is well known that independent bloggers have posted solutions to all the problems in Dummit & Foote. The best thing for you to do is never to look at these. For one thing, many of them are strangely convoluted, so I will know you used them if your solution follows them too closely. But much more importantly, if you don't spend time stuck on the harder problems, trying to solve them on your own, you will not really learn the material. Even thinking solely about your grade in this course, it is better not to use the online solutions: the homework counts for only 25% of your overall grade, so it is more important to learn the material well enough to do well on the tests than it is to do well on the homework.

I understand that there will be times when trying to get just one little hint from the online solutions will be very tempting; for example, late the night before a problem set is due, after you have been stuck for a long time! But for most of us, solution manuals are like a drug: they become increasingly difficult to resist once we start using them, so we spend less and less time really struggling with problems that stump us. And the key point is that you learn the most during those periods of struggling. So it is best to get into the habit of turning in only partial solutions to problems you can't completely solve.

All that said, don't feel you are a lost soul if you ever once look at solutions online. From the standpoint of learning the material, it is not that different from working with other students, and I will not consider either activity to be cheating. I do ask that in your solutions to problems you had help with, you write a note letting me know what help you got. You will get credit when the help came from working together with other students, but not when you used online solutions.

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