

MATH 4613/5003 INFORMATION

SECTION 1, MWF 9:30 AM, MS 509

Instructor: David Wright, MS 527, 744-5775, FAX: 744-8275

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Online Classroom (D2L): online.okstate.edu (Main location of class resources)

URL: <http://www.math.okstate.edu/~wrightd/4613>

Office hours: MWF 1:00–2:30PM and TTh 11:00AM-1:00PM at MS 527 and at other times by appointment. You can always email questions, call on the phone or knock on the door at any other time. If I am not occupied with something else, I will be happy to help you.

Text: *Contemporary Abstract Algebra*, 9th ed., [4], by Joe Gallian. A secondary source that I will use is *A Book of Abstract Algebra* [8] by Charles Pinter, available as an inexpensive Dover edition.

Prerequisites: Math 3613: Intro. to Modern Algebra, Math 3013: Linear Algebra. I would also strongly recommend that you complete Math 4023: Intro. to Modern Analysis, before taking this course. You should also be familiar with certain basic concepts in math: the rudiments of logic and proof, particularly proof by induction. This course will require detailed and complete written proofs.

Syllabus: See attached calendar.

EXAMINATIONS: Two one-hour exams will be given, on Wednesdays *Sep. 26* and *Oct. 31*. These will have shorter questions to be answered during class and some longer questions to be answered at home and turned in later. A comprehensive final exam is also scheduled on *Wednesday, Dec. 12, 8:00-9:50 AM*. There will be no scheduled makeup exams.

Assignments: All students will be expected to complete written solutions to all the regularly assigned homework. Assignments and due dates will be announced in class.

Methodology: Due to its small size, this class will mostly be a discussion of your dedicated reading and work outside class. Occasionally, I may “lecture”, but you should remind me the emphasis is on your work and your speaking. It will therefore be important to come to class having read the sections marked on the calendar.

Study Journal: Each student will maintain a notebook dedicated to recording their reading and work on the assigned problems. A spiral notebook or a slim looseleaf would probably be best for this.

The notes on readings should identify each section that is read and the date it was read. On these pages you records thoughts and questions on the reading, any details that you worked out that were not in the book, interesting examples that you created related to the reading.

The work on assigned problems should be recorded in this notebook, on separate pages from the reading notes. These pages should be dated as well. Your notes should be double-spaced, so that you go back and easily make corrections, or I can make comments.

This journal will be collected about 10 times during the term, and I will assign progress scores from 0 to 15 (or more if you find something really exceptional) each time.

Maple: I will give some instruction of the use of computer algebra systems, focusing primarily on *Maple*, since it is inexpensive and widely available on department and MLSC computers. I have put a code for discount on D2L in case you wish to install it on a home computer.

Grading: Examinations and assignments are weighted according to the following system. The one-hour exams and final will be worth 100 and 150 points, respectively. The assignments will be worth a total of 150 points, for a grand total of 500 points for all course work.

Students who achieve at least 90%, 80%, 70%, or 60%, respectively, of 600 will be guaranteed of receiving at least an A, B, C, or D, respectively. Depending on the median scores, these cutoffs may be lowered and borderline cases may be decided by judgment of the instructor.

Academic Honesty: It is a cornerstone of academic integrity that written work submitted under your own name should be prepared entirely by yourself. Informal discussion between students is permitted. You are also encouraged to seek help on the homework from myself during office hours. However, academic misconduct includes organized collaboration between students on homework assignments that involve, say, jointly writing solutions on the blackboard and then copying down the alleged solutions on each individual's paper. Also, examination of another student's written work before an assignment has been collected and graded is strictly forbidden.

Attendance Policy: Attendance of lectures is mandatory, but roll will not be taken every class.

References

- [1] M. ARTIN, *Algebra*, Prentice-Hall, 1995. ISBN=0-13-004763-5.
- [2] P. B. BHATTACHARYA, S. K. JAIN, AND S. R. NAGPAUL, *Basic abstract algebra*, Cambridge University Press, Cambridge, 2nd ed., 1994.
- [3] D. S. DUMMIT AND R. M. FOOTE, *Abstract algebra*, John Wiley & Sons, 3rd ed. ed., 2004.
- [4] J. A. GALLIAN, *Contemporary abstract algebra*, Cengage, 2017.
- [5] N. JACOBSON, *Basic algebra. I*, W. H. Freeman and Co., San Francisco, Calif., 1974.
- [6] S. LANG, *Algebra*, Addison-Wesley, 3rd ed., 1993.
- [7] N. H. MCCOY, *Algebra: groups, rings, and other topics*, Allyn and Bacon, Boston, 1977.
- [8] C. C. PINTER, *A book of abstract algebra*, Dover Publications, Inc., Mineola, NY, 2010.
- [9] K. SPINDLER, *Abstract algebra with applications, v. I & II*, M. Dekker, New York, 1994.
- [10] J. STILLWELL, *Elements of Algebra: geometry, numbers, equations*, Springer-Verlag, New York, 1994. 512.02 S857e.
- [11] B. VAN DER WAERDEN, *History of algebra*, Springer, Berlin, Heidelberg, New York, 1985.