

MATH 482 Section 01
Fall 2007 TR 1:00-2:15pm
269 Administration Building
Dr. Chad A.S. Mullikin

Contact Information :

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Office : AB 270
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General Information : Lectures will be held TR from 1:00pm until 2:15pm in the Administration Building room 269.

Office Hours : My office hours (AB 270) will be as follows (or by appointment):

Monday	8:00am-10:00am and 1:00pm-2:00pm
Tuesday	10:00am-11:00am
Wednesday	11:10am-2:10pm
Thursday	10:00am-11:00am
Friday	8:00am-10:00am.

Textbook : A Book of Abstract Algebra, Charles C. Pinter.

Course Description : Groups, subgroups, factor groups, homomorphism theorems, rings, ideals, factorization theory, fields, modules, and vector spaces. Prerequisite: MTH 301.

Course Goals : We will help facilitate the use of abstract thought via algebraic generalizations.

Course Objectives This course deals with operations on sets. A common operation is the usual addition we all know and love on the set of real numbers. Another is multiplication. Are these operations different? If so, in what ways? We will be discussing some of the general characteristics of operations on sets and how they form a structure known as a group. Material from this course has direct application to chemistry and biology via symmetries (which form a group), as well as physics and computer science.

Homework and Tests : There will be one in class midterm examination and the final examination. There will be regular homework assigned that will be collected and graded. You are encouraged to work with others on the homework, but please write up your own solutions.

Midterm: October 4, 2007

Final Exam: Dec 7, 2007 1:00-3:00pm

Attendance : Attendance is required. *Any student with a valid excuse for missing an exam must obtain permission to reschedule well before the examination date.* Please let me know of any conflicts immediately. If you have an unscheduled absence and would like to make up any work that is missed, you will need to contact Ms. Anna Gaw in Student Academic Services and provide her with documentation. She will notify me if the absence is excused. In short, it is up to Student Academic Services whether or not your absence is excused, not me.

Grading :

Homework :40%
Midterm :30%
Final Exam :30%

Letter grades are awarded according to the following:

97 \leq **A+**
93 \leq **A** < 97
90 \leq **A-** < 93
87 \leq **B+** < 90
83 \leq **B** < 87
80 \leq **B-** < 83
77 \leq **C+** < 80
73 \leq **C** < 77
70 \leq **C-** < 73
67 \leq **D+** < 70
63 \leq **D** < 67
60 \leq **D-** < 63
F < 60

Accommodations : Students who want to receive disabilities accommodations should contact Mrs. Dunklin, Coordinator for Student Support Services at 380-3470 as soon as possible so that warranted accommodations can be arranged. Her office is located in Student Academic Services, 1st floor, Administration Building.

Withdrawal : Only under extreme circumstances will I award a student a W or WF after the deadline. These grades are reserved for students who for some reason cannot complete the remainder of the course, i.e., students who are physically unable to return to the classroom.

Tentative Schedule : This schedule is subject to change as needed.

Week	Subject
1	History of Abstract Algebra; operations on sets and their properties
2	Def of group, examples, finite and infinite groups
3	Group tables, properties of groups, uniqueness of identities and inverses
4	Some applications of groups, subgroups, defining relations
5	functions (injective and surjective), composite and inverse functions
6	Permutation groups, symmetry groups, dihedral groups, permutations on finite sets
7	Transpositions, isomorphisms, examples
8	Cayley's theorem, order of a group element, laws of exponents
9	Cyclic groups, isomorphisms and subgroups of cyclic groups, cosets
10	Lagrange's theorem, homomorphisms, normal subgroups
11	kernel and range of a homomorphism, quotient groups, examples
12	Fundamental homomorphism theorem, isomorphism theorems
13	Misc.
14	Misc.

Caveat Discipulus: This syllabus is subject to change as necessary.