

MATH 416 (SECTIONS 200 [HONORS] AND 500 [REGULAR])

MODERN ALGEBRA–II, SPRING 2017

TUESDAYS/THURSDAYS 11:10 A.M. TO 12:25 P.M. IN BLOCKER 605-AX

Instructor: Anne Shiu (annejls@tamu.edu)

Office: Blocker 601E

Office Hours: Tuesdays 2:30–3:55 p.m. and by appointment (ask one day in advance)

Prerequisites. MATH 415 (and proficiency writing proofs)

Textbook. *A first course in abstract algebra* (seventh edition), Fraleigh

Course description. (Proof-based) continuation of Math 415. Group theory, ring theory, field theory: ideals, quotients, field extensions, Sylow theory, Galois theory (Chapters V, VI, VII, X).

Website. <http://math.tamu.edu/~annejls/416-spring-17.html> (Homework posted here.)

We also will use www.piazza.com.

Learning outcomes. This aim of this course is for students to gain a deep understanding of the theory of groups, rings, and fields. Upon successful completion of this course, students will (1) be proficient in writing and understanding proofs on these topics; and (2) be familiar with the main examples of rings and fields, and the properties they possess.

Student expectations. Students will be expected to read the textbook and complete homework. For exams, students will be expected to work with key mathematical concepts, write short proofs, and understand important definitions and statements of theorems.

Homework. Homework will be due each week on Thursday at the beginning of class. Write your name and section number on the top of the first page. Staple your homework, and remove frayed edges from paper torn from spiral notebooks; otherwise the grader will deduct 20 points. Homework solutions must be clear, well organized, and in the order assigned; otherwise the grader will deduct 10%. Group work is encouraged, but you must write up your solutions independently.

Late homework policy. Late homework is *not* accepted (except with a University-approved absence; see Make-up Policy below). However, the lowest two homework scores will be dropped.

Quizzes. At least 3 quizzes will be given (most likely, on some of the following Tuesdays: 1/24, 2/7, 3/7, 3/28, 4/25). The lowest quiz score will be dropped.

Exams. There will be two in-class midterms and one final exam:

- Midterm 1: Tuesday, February 21 (Week 6)
 - Midterm 2: Tuesday, April 11 (Week 12)
 - (Cumulative) final exam: Thursday, May 4 (3:00–5:00 p.m.)
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Grading.

- Homework: 25%
- Quizzes: 5%
- Midterm 1: 15%
- Midterm 2: 15%
- Final exam: 30%
- Midterm corrections: 10%

Final grades: did you accomplish the learning outcomes?

- A: 90%+
- B: 80–89%
- C: 70–79%
- D: 60–69%
- F: < 60%

The precise cut-offs will be determined when final grades are assigned.

Attendance Policy. Attendance is required in this class.

Make-up Policy. No make-up exams or late assignments are possible or accepted without a University-approved excused absence (see <http://studentrules.tamu.edu/rule07>). An absence for a non-acute medical service or regular check-up does not constitute an excused absence.

To be excused, you must notify the instructor in writing (by email is fine) prior to the date of absence, if possible. *Consistent with Texas A&M Student Rules, in cases where advance notification is not feasible (e.g. accident or emergency) the student must provide notification by the end of the second working day after the absence.* This notification must include an explanation of why notice could not be sent prior to the class. For injury or illness too severe or contagious to attend class, you must provide confirmation of a visit to a health care professional affirming date and time of visit. The Texas A&M University Explanatory Statement for Absence from Class form will not be accepted. It is the student's responsibility to schedule a make-up in a timely manner.

If you must miss class, please get notes from another student in the class.

Special Services. The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please contact the Department of Student Life, Services for Students with Disabilities.

Academic Integrity Statement. Academic dishonesty will not be tolerated.

An Aggie does not lie, cheat, or steal or tolerate those who do.

Upon accepting admission to Texas A&M University, a student immediately assumes a commitment to uphold the Honor Code, to accept responsibility for learning, and to follow the philosophy and rules of the Honor System. Students will be required to state their commitment on examinations, research papers, and other academic work. Ignorance of the rules does not exclude any member of the TAMU community from the requirements or the processes of the Honor System. For additional information please visit <http://www.tamu.edu/aggiehonor/>.

As commonly defined, plagiarism consists of passing off as one's own the ideas, words, writings, etc., which belong to another. In accordance with this definition, you are committing plagiarism if you copy the work of another person *or a solutions manual* and turn it in as your own. Any student found guilty of cheating, plagiarism, or other dishonorable acts in academic work is subject to disciplinary action. If you are caught cheating, you will receive a grade of "0" and it could result in your failing the course.

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