

Classroom: Tues & Thurs 2:30-3:50 pm in PKH 304

Contact Info: PKH 462, 817-272-3932, vancliff@uta.edu

Web: <http://www.uta.edu/math/vancliff/T/S09>

Office Hours: Tues & Thurs 2:00-2:25 pm in PKH 462, 3:50-4:20 pm in classroom or in PKH 462, (5:20-5:50 pm in PKH 462) or by appointment

Textbook: A First Course in Abstract Algebra, 7th Ed., by J. B. Fraleigh, Addison-Wesley.

Prerequisite: A, B or C in Math 3321

Tests: • 3 comprehensive 50-minute tests on Th Feb 19, Th Mar 26, Th April 23;

• one comprehensive **Final** on Tues May 12, 2:00-4:30 pm.

Bring photo ID to all tests. Make a note of these dates.

Grading: Test 1 = 15%, Test 2 = 20%, Test 3 = 20%, Final = 30%,  
graded assignments = 15%.

Each test will be curved separately and its grade (not score) will contribute to your course grade. Attendance & participation will contribute to your course grade if your grade is borderline. Attendance will be recorded from approximately Jan 27 onwards.

Important Dates: Wed Feb 4 = Census Date    Mar 16-20 = Spring Break,  
Fri April 3 = last day to drop course with W (see page 2),  
Thurs May 7 = last class,  
test dates given above.

## CALCULATORS

On tests, you will be allowed to use nonprogrammable calculators with basic computational features, such as arithmetic and transcendental functions. Calculators with the following features are NOT allowed: graphing, equation solving, differentiation & integration; any device that has internet or e-mail capabilities – this includes cell phones – and any devices with a QWERTY keyboard are also not permitted (use of such a calculator on a test will disqualify that test). Recommended calculators are TI-30XA or TI-30XIIS.

## COURSE CONTENT & LEARNING OUTCOMES

The topics to be covered are: rings, ideals, factor rings, fields, extension fields and Galois theory. We will cover most of chapters 4-6, 10, and possibly some of chapter 9.

Expected Learning Outcomes: upon completion of this course, for any of the topics listed above, you should be able to: 1. write the definition of many of the terms; 2. solve problems; 3. construct correct and detailed mathematical arguments to justify your claimed statements.

There will be a lot of homework assigned, some of which will be graded. The best way to guarantee a good grade in this class is to do ALL the assignments and to work with each other on homework etc. It is very important that you know how to work out the homework problems correctly. At least half of each test will be based on homework problems. Some reading will also be assigned, due to the amount of material that we need to cover.

Rings are useful in classical mechanics, quantum mechanics, coding theory & other areas. In particular, they play a crucial role in the mathematics behind robotics, and in the theory describing the movement of electrons in the nucleus of an atom.

## HOW TO DO WELL IN THIS COURSE

The best way to guarantee a good grade in this course is to take good lecture notes and to read them over after class, and to do ALL the assignments on a regular basis (this is your *brain exercise!*) and to discuss the material with each other. After completing any one assignment, put together a list of the ideas you have learned in doing that assignment; keep your list as help when you study for the tests. **You are expected to spend at least 6 hours/week on this course outside class time.**

## HELP OUTSIDE CLASS TIME

Feel free to ask me questions during class and after class. My office hours are times I am planning to be in my office or in a predecided classroom where you can drop by without an appointment to ask me questions. You can also e-mail me your questions, or e-mail me to schedule an appointment.

My web page (given above) will list the homework as the semester progresses as well as other miscellaneous information pertinent to this course. You are advised to check it every couple of days.

## DISABILITY ACCOMMODATIONS

The University of Texas at Arlington is on record as being committed to both the spirit and letter of federal equal opportunity legislation; reference Public Law 93112 — The Rehabilitation Act of 1973 as amended. With the passage of the Americans with Disabilities Act (ADA), pursuant to Section 504 of the Rehabilitation Act, there is renewed focus on providing this portion of the population with the same opportunities enjoyed by all US citizens. In particular, students in this situation who desire accommodation should **notify me informally this week**, and notify the Disabilities Office as soon as possible with official authorized documentation; the Disabilities Office will give you documentation that will authorize me to provide accommodation and inform me of the nature of the accommodation.

## CONFLICT WITH EXAMINATION DATES

Students who miss tests due to UNauthorized reasons will NOT be accommodated.

If you have a conflict with a test, or if you miss a test, you should contact me as soon as possible (in person, or by phone (leave a message on my answering machine (NOT with the math office) if I am not there) or by e-mail). If you miss any test for an authorized reason which can be verified with official documentation (e.g., hospitalization), then accommodations will be offered.

## DROP POLICY

The last day this semester to drop a course is Friday April 3 at 5 pm. Any student who drops the course on or before April 3 will receive a W. **Students must contact an advisor in their major in order to drop a course.**

## TUITION NONPAYMENT

If you are dropped from this class for non-payment of tuition, you may secure an Enrollment Loan through the Bursar's Office.

## GRADE-REPLACEMENT & GRADE EXCLUSION POLICIES

These policies are described in detail in the University catalog and can also be found online at <http://www.uta.edu/catalog/general/academicreg> . The deadline for filing a grade replacement request is Census Date, Feb 4.

## DISTRACTION IN THE 21ST CENTURY!!

Cellular phones should be SWITCHED OFF during all classes & all tests. Cellular-phone use is not permitted in class. If you NEED to use your cellular phone for an URGENT reason during class, you may leave the room to talk & return to class when you are done. If you leave class for a nonurgent reason, the class & I prefer that you do not return, & I will subtract your name from the attendance sheet. During tests, your cellular phone should be out of sight. If you need to use your cellular phone for any reason during a test, then you may leave the room to talk, but **you will not be able to continue the test.**

The University reserves the right to impose disciplinary action for any kind of infraction of University policies. Engagement in conduct which disrupts, obstructs or interferes with activities authorized by the University will result in disciplinary action against the perpetrator(s). Such action includes leaving and returning to the room frequently.

## SCHOLARLY INTEGRITY

It is the philosophy of The University of Texas at Arlington that academic dishonesty is a completely unacceptable mode of conduct and will not be tolerated in any form. All persons involved in academic dishonesty will be disciplined in accordance with University regulations and procedures. Discipline includes suspension or expulsion from the University and a grade of FAIL in the class given to involved student(s). Part One, Chapter VI, Section 3, Subsection 3.2, Subdivision 3.22 of the Regents' Rules and Regulations states the following. "Scholastic dishonesty includes, but is not limited to, cheating, plagiarism, collusion, the submission for credit of any work or material that are attributable in whole or in part to another person, taking an examination for another person, any act designed to give unfair advantage to a student or the attempt to commit such acts".

Photo-ID is REQUIRED at all tests. The University has informed all its faculty that steps should be taken to discourage cheating on tests. As such I will uphold the following during the tests:

- if you wish to leave the room during a test, you should ask permission first and turn in your test to me — only in exceptional circumstances will I let you continue the test should you return (so it is better to be 3 minutes late to the test, rather than ask to go to the restroom during the test);
- if you finish a test early but prefer to stay in the room, then you should NOT get out any work, book nor item, no matter what the subject matter is.

Remember, in any test, keep your eyes on your own work only.

First week's homework:

1/20: Read lecture notes & do page 174/5: 1, 3, 5, 7, 9, 11.

1/22: Read lecture notes & do page 175/6: 14, 16, 19, 20, 31, 27, 38, 46, 22, 23, 40. Read pages 167-174 & pages 177-182.