Introduction to Abstract Algebra
Math 3510 Syllabus, Spring 2011 UNT

Lecture:	LANG 311, T Th 11:00--12:20 PM
Professor:	Anne Shepler, GAB 471B, ph: 940-565-4943, email: "ashepler" at "unt.edu"
Office hours:	T Th 12:20--1:20 and by appointment
Prerequisite:	Math 2510 or equivalent
Text:	A First Course in Abstract Algebra , Seventh Edition, by John B. Fraleigh
Course Webpage:	http://www.math.unt.edu/~ashepler/AbstractAlgebraS11.html

COURSE DESCRIPTION AND LEARNING OBJECTIVES: This course introduces the student to concepts of modern abstract algebra, including (for example) symmetries and group theory, rings, domains, fields. By the end of the course, students will be able to prove some basic properties of groups, rings, and fields; prove Cayley's theorem; prove Lagrange's theorem; classify finitely generated abelian groups; compute in cyclic groups, dihedral groups, symmetric groups, and finite fields; and work with examples naturally arising in modern algebra.

GRADES are based on

- Homework and Quizzes worth 30%,
- Two Exams, each worth 20%,
- Comprehensive Final (mandatory to pass class) worth 30%.

HOMEWORK AND QUIZZES: Homework is due at the *beginning* of class each Thursday. No late homework will be accepted. The two lowest homework scores will be dropped. (This includes work missed due to illness, family emergency, transportation problems, oversleeping, work schedule changes, financial crisis, etc.) During the semester, there may also be quizzes reviewing material from the previous lecture and before. Such periodic quizzes will count toward the homework total.

First homework assignment: Each student must attend 2 math talks offered by the mathematics department BEFORE pre-finals week: undergrad colloquium, seminar talk, Millican talk, or talk sponsored by the Math Club. After attending each talk, the student will submit one page of notes from the talk including the date, title of talk, speaker's name and affiliation. No talk-summaries will be accepted after April 28th.

ATTENDANCE: Students may be dropped for non-attendance after six unexcused absences.

EXAMS: There will be two exams during the semester. The final exam will be Tuesday, May 10, 10:30--12:30. Students MUST take the final exam then. There will be NO make-up exams. **In the event of a documentable emergency or illness, students should contact the instructor immediately** (BEFORE the scheduled exam when possible).

DISABILITIES: It is the responsibility of students with certified disabilities to provide the instructor with appropriate documentation from the Dean of Students Office **before Feb 1st**.

EXPECTATIONS: Students are expected to come to every lecture and come on time. Students are expected to complete the assigned reading and problems before each lecture. Beverages (coffee, cola, tea, water, etc.) or quiet snacks are allowed in class. Use of laptops/netbooks/personal organizers/cell phones/MP3s/computers during class is not allowed, as it distracts other students. Please turn CELL PHONES OFF.

CHEATING: Academic honesty is a minimal expectation for this class. Anyone caught cheating will receive an F for the course. Furthermore, a letter will be sent to the appropriate dean who may take further disciplinary action.

PROOFS: This is a proof-based course. Every homework assignment and exam will ask the student to supply proofs of mathematical claims (or counter-examples to false claims). Every time a question is asked in this course, the student must provide the answer "with proof". If the student's proof is not correct, the default score on that problem is zero. There is NO partial credit for long non-proofs, nor for working examples (unless specifically asked), nor for computations giving evidence of the claim.

Students are asked not only to supply a correct proof, but to present that proof in a clean, clear, and concise fashion, and homework and exams will be graded accordingly. A *correct* proof with slight ambiguity, wandering logic, or insufficient level of explanation *may* warrant partial credit. Students are not graded on the amount of work and effort put into a problem, nor the time spent on the problem, but rather on the quality of the proof as it appears on the page.

Students may discuss problems with others in the course but must write up solutions independently in a way that shows individual understanding. In other words: Duplicate solutions earn zero points. Solutions in the back of the book and solution manuals to various textbooks give only an outline; students are expected to turn in solutions with a much higher level of detail. How much detail is required? A student must provide enough detail so that the solution is clear to an *average* student in the same course, a student who has read the problem carefully but does not yet know a solution. Rule of thumb: If a fact is "obvious", then it can be proved in one or two lines, so you might as well include those lines. In general, proofs without enough detail or with confused steps will earn little or no credit.