

PRACTICAL INFORMATION

Class time: TR 2:00–3:20 pm
Class room: MATH 010
Instructor: Lars Winther Christensen
Office: Weeks Hall 347
Office hours: W 1.00–2.30 pm, R 3.30–5 pm, or by appointment
E-mail: lars.w.christensen@ttu.edu
Homepage: www.math.ttu.edu/~lchrste/teaching.html

COURSE DESCRIPTION

This course is intended to be *the* introduction to abstract mathematics, with proofs. It is also a Communication Literacy course.

Required text: *Algebra. Pure & Applied* by Papantonopoulou; Pearson (2002).

Prerequisites: Math 2360 and Math 3310.

Expected learning outcomes: Students learn how to think and reason abstractly in the context of algebraic structures and learn how to write correct and clear mathematical arguments in this context. Concepts to be mastered by the students include but are not limited to the following:

- Groups and group homomorphisms.
- Group actions.
- Rings and ring homomorphisms.
- Polynomial rings.

LEARNING ASSESSMENT

Graded assessment is done through homework and exams. Other assessment techniques will also be used; these include direct questioning, problems to be solved in class, and discussions during office hours. Additionally, problems will be assigned for student self-assessment. The homework problems will focus on the concepts listed above. They will be constructed such that they facilitate the students' development of skills in reasoning about algebraic objects and communicating their thoughts. Exam problems will be constructed such as to test if the students have acquired the expected command of the concepts and developed the expected skills in abstract algebra.

COURSE ORGANIZATION

Of the 30 class periods, 26 will be spent on lectures and in-class activities and 4 on exams and feedback. The plan is to cover sections 1.1–1.4 (6 class periods), 2.1–2.5 (6 c.p.), 3.1–3.4 (3 c.p.), 4.1–4.2 (2 c.p.), 6.1–6.3 (3 c.p.), 7.1–7.3 (4 c.p.), and 8.1–8.2 (2 c.p.). Exact reading assignments are posted on Blackboard, which is updated after every class.

Exams: In-class exams take place on Thursday 2 March and Thursday 13 April. The final exam is on Friday 5 May, 4:30–7:00 pm.

Other important dates:

Martin Luther King Jr. Day	16 January
Last day to drop a course without penalty	27 January
Spring Break	11–19 March
No classes	10 April
Last day to drop a course	26 April
Last day to withdraw	26 April

ASSIGNMENTS, GRADES, AND GRADING

Two in-class exams are given during the semester. Regular homework will be assigned 12 times during the semester and is due on Thursdays. Students are encouraged to work together on the homework problems. Results and grades are posted at Blackboard.

Grading: On exams and homework, partial credit for correct steps will be awarded even if the final answer is wrong. Full credit will be given only if the final answer and all intermediate steps are correct. A correct final answer does not *per se* guarantee any credit.

Deadlines and make ups: Homework is not accepted after the deadline. Make-up exams are only given if the original exam was missed for a valid, university approved, reason.

Final grade: Homework (10 of 12 assignments) and exams (3) are counted towards the final grade with weights as follows: Homework 30% (3% ea.), in-class exams 40% (20% ea.), and final exam 30%.

GENERAL POLICIES**Academic Integrity, Students with Disabilities, Religious Holy Days, and COVID-19:**

Please see Texas Tech University's required policies
www.depts.ttu.edu/tlpcdc/RequiredSyllabusStatements.php.

What to do in case of emergency: If a student encounters a personal problem that affects their ability to attend class or complete their work on time, they should immediately contact the Dean of Students office via phone (806-742-2984) or email (deanofstudents@ttu.edu). The Dean of Students can help with emergencies including COVID, car accidents, death of a family member, inability to afford food, health issues, and more.

In exceptional circumstances, the Dean of Students can authorize exceptions to class policies. That is why it is critically important to immediately inform both your teacher and the Dean of Students office of any emergency. In addition, Title IX reporting and support resources are available at www.depts.ttu.edu/titleix/.

What to do in case of an issue with your teacher: Should a student encounter an issue in this course, they must follow these steps, in order. 1. First discuss the issue with the teacher. Explaining your concern calmly and clearly will usually resolve the problem. 2. If the issue is not resolved, or the issue is of a matter that the student is not comfortable discussing with the instructor, the student should contact Dr. Brock Williams (brock.williams@ttu.edu), the Associate Chair for Undergraduate Studies. Do not contact the Dean, Provost, Chancellor, etc, without first following these steps.