

Instructor: Dr. Tefjol Pllaha

Office: 238 Avery Hall, office hours Tuesday 4–5 pm (or by appointment)

Email: tefjol.pllaha@unl.edu

Class Times and Location: TR 11:00–12:15 pm, Avery Hall – Room 118.

Optional Text Book: *Contemporary Abstract Algebra*, 10th edition by Joseph A. Gallian.

Our primary source will be lecture notes provided by the instructor and worksheets, but the text will be helpful as a secondary resource to enhance your understanding.

ACE 10: This course satisfies ACE (Achievement-Centered Education) outcome 10, with which the learning outcomes include *the ability to generate a creative or scholarly product that requires broad knowledge, appropriate technical proficiency, information collection, synthesis, interpretation, presentation, and reflection*.

Course Description: The primary goal of this course is to understand groups, whatever they are. This course will be inquiry-based, meaning that there will be very little conventional lecturing. Rather, we will explore known objects – such as an equilateral triangle or Rubik’s cube – and try to discover associated features. The course will also be somewhat flipped, meaning that, often, you will have preparatory readings ahead of class time, which will then be used as a base for worksheets.

Grades: Grades for the course will be computed as follows:

Homework	50%
Midterms	30% (2×15%)
Final	20%

Guaranteed grade cutoffs are below; these may be lowered based on the course difficulty.

A 93 % A- 89 % B+ 85 % B 81 % B- 78 % C+ 74 % C 70 %

To be successful in this course, plan to budget at least 6 hours of work outside of class weekly.

Homework: There will be weekly homework assignments. The purpose of the homework is to simultaneously deepen and complement concepts discussed in class. The homework will be graded for logic, ability to reason abstractly and the rigorous presentation of your arguments, but also for clarity and appropriate use of language, including full sentences. Collaboration among students in this class on homework is not only allowed, but encouraged as the best way to come up with a solution and to understand it is to explain it to your peers and get their feedback. However, each student is required to turn in their own assignment, written in a way that indicates their individual understanding of the solutions. The (one) lowest homework score will be dropped.

Any student who posts homework questions online or turns in solutions to homework that are taken from any source outside of class material will be charged with academic dishonesty. Identical (or nearly identical) homework will receive 0.

Worksheets: Most class periods we will be working in groups using worksheets. It is your responsibility to take individual notes based on class work.

Midterm Exams: There will be two midterm exams. Makeup midterms are only allowed for reasons limited to serious illness or travel to university approved events. Proof of these circumstances will be required. The *tentative* dates for the midterm exams are

Thursday, October 6 and Thursday, November 10.

Final Exam: The final exam is cumulative. Students are expected to arrange their personal and work schedules to allow them to take the final exam at the scheduled time. Our final exam is on

Wednesday, December 14, 3:30 – 5:30 pm

Course schedule The following table shows the material expected to be covered each week and the important academic schedule events. The numbers in parentheses refer to corresponding sections of the optional textbook. Note that what is shown below is *tentative and subject to change*. Please be alert for changes. Any changes will be announced in class.

Date	Chapter covered
Week of August 22	Introduction to Groups (Chap. 1)
Week of August 29	Groups (Chap. 2)
<i>Friday, September 2 is the last day to remove a course from a student's record.</i>	
Week of September 5	Finite Groups and Subgroups (Chap. 3)
Week of September 12	Cyclic Groups (Chap. 4)
Week of September 19	Group homomorphisms, Isomorphisms (Chaps. 10 & 6)
Week of September 26	Permutation Groups and Cayley's Theorem (Chaps. 5 & 6)
Week of October 3	Exam 1: Thursday, October 6
Week of October 10	Cosets and Lagranges Theorem (Chap. 7)
<i>Friday, October 14 is the last day to change the grading option to Pass/NoPass.</i>	
<i>October 17–18 Enjoy Fall break!</i>	
Week of October 17	Normal Subgroups and Factor Groups (Chap. 9)
Week of October 24	Isomorphism Theorems (Multiple Chapters)
Week of October 31	External Direct Products (Chap. 8)
Week of November 7	Exam 2: Thursday, November 10
<i>Friday, November 11 is the last day to withdraw from the course.</i>	
Week of November 14	Fundamental Theorem of Finite Abelian Groups (Chap. 11)
<i>November 23–25 Enjoy Thanksgiving break!</i>	
Week of November 28	Group Actions (Notes)
Week of December 5	Applications (Notes)
The Final Exam is 3:30 – 5:30 pm on Wednesday, December 14.	

Course Evaluations: The Department of Mathematics course evaluation form will be available through Canvas during the last two weeks of class. Evaluations are anonymous and instructors do not see the responses until after final grades have been submitted. Evaluations are important – the department uses them to improve instruction. Please complete the evaluation and take the time to do so thoughtfully.

Grading Appeals Policy: The Department of Mathematics does not tolerate discrimination or harassment on the basis of race, gender, religion, or sexual orientation. If you believe you have been subject to such discrimination or harassment, in this or any other math course, please contact the department. If, for this or any other reason, you believe your grade was assigned incorrectly or capriciously, then appeals may be made to (in order) the instructor, the vice chair, the Department grading appeals committee, the College of Arts and Sciences grading appeals committee, and the University grading appeals committee.

Students with Disabilities: Students with disabilities are encouraged to contact me for a confidential discussion of their individual needs for academic accommodation. It is the policy of UNL to provide flexible and individualized accommodation to students with documented disabilities that may affect their ability to fully participate in course activities or to meet course requirements. To receive accommodation services, students must be registered with the Services for Students with Disabilities (SSD) office in 117 Louse Pound Hall.

UNL Course Policies and Resources: Students are responsible for knowing the university policies and resources found on this page <https://go.unl.edu/coursepolicies>:

- University-wide Attendance Policy
- Academic Honesty Policy
- Services for Students with Disabilities
- Mental Health and Well-Being Resources
- Final Exam Schedule
- Fifteenth Week Policy
- Emergency Procedures
- Diversity & Inclusiveness
- Title IX Policy
- Other Relevant University-Wide Policies