

Instructor: Dr. Alexandra Seceleanu

Office hours: TBA (depending on class preference) in 338 Avery Hall and by appointment.

Email: aseceleanu@unl.edu

Class Times and Location: TR 2:00 p.m. - 3:15 p.m., Brace Laboratory – Room 210.

Course Description: There are two primary goals in this course:

- The first goal is to understand properties of the integers and of polynomials, including the overarching algebraic framework that applies to both.
- The second goal is to learn to write clear, logical proofs and solutions to problems. Of paramount importance will be your ability to clearly communicate mathematics.

ACE Outcome 3: This course satisfies ACE Outcome 3: "Use mathematical, computational, statistical, or formal reasoning (including reasoning based on principles of logic) to solve problems, draw inferences, and determine reasonableness." Your instructor will provide examples, you will discuss them in class, and you will practice with numerous homework problems. The exams will be the primary means of assessing your achievement of ACE Outcome 3.

Text: *A Concrete Introduction to Higher Algebra, 3rd Edition* by Lindsay Childs (2009 hardcover).

Web Page: All course material, including your grades, will be posted on Blackboard.

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

Homework	20%
Quizzes/Worksheets	5%
Proof Portfolio	10%
Midterms	40% (2×20%)
Final	25%

Homework: The schedule on the reverse page (which will be adjusted as the course proceeds), indicates the chapters/sections that will be discussed each week and the tentative assigned problems. Homework will be collected in class on the Thursday following the week in which it was assigned. Collaboration 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 receive their feedback. However, each student should turn in their own write-up of the solutions.

Quizzes/Worksheets: Frequently there will be either quizzes (solo) or in class worksheets (collaboration allowed) that will be collected. They will reinforce your knowledge of the main concepts, methods and theoretical results. No make-up quizzes will be given, however your lowest 2 scores will be dropped.

Proof portfolio: The goal of maintaining a proof portfolio is to perfect your proof-writing skills. You will get a chance to work on several drafts of your write-ups for some of the most relevant homework problems, getting feedback each time, before you include them in your proof portfolio.

Exams: There will be two in-class midterm exams and a final. Your lowest midterm exam score can be replaced by the final exam score IF that improves your average (so as not to punish someone whose final does not go well). The final exam is on **Thursday, December 18, 1:00-3:00 pm** in the Brace Laboratory room 210.

Department Grading Policy: Students who believe their academic evaluation has been prejudiced or capricious have recourse for appeals to (in order) the instructor, the department chair, the departmental appeals committee, and the college 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, 132 Canfield Administration, 402-472-3787 voice or TTY.

Course schedule: this schedule and the assignments therein are subject to change at any time. Additional problems may be assigned that are not from the textbook. *=problem for the proof portfolio

Week of	Section (in bold) and Homework problems	Due date
August 25	1: 2; 2A: 2, 8, 13 (use induction, not #5), 20*; 2B: 27, 30; 2C: 32*.	Sept 4
September 1	3A: 3, 5; 3B: 19, 25, 30; 3C: 35 (iii), 37. <i>Friday, September 5 is the last day to remove a course from a student's record</i>	Sept 11
September 8	3D: 40, 41, 43, 44; 3E: 57, 58, 60 (iii), 64*.	Sept 18
September 15	4A: 1, 2, 3, 5 (typo: \leq); 4B: 14, 19, 21, 32.	Sept 25
September 22	4C: 43*; 5A: 1, 7 (use #1); 5B: 12, 16, 20; 5E: 41; 5F: 44.	Oct 2
September 29	Review for the exam Exam 1 – Thursday October 2, in class	<i>work on portfolio</i>
October 6	6C: 8, 10; 6D: 17, 22, 27; 6E: 43; 6F: 62. Proof portfolio – first draft due Thursday October 9	Oct 16
October 13	7A: 1, 4, 10, 16, 17; 7C: 21, 24*, 26, 33. <i>Friday, October 17 is the last day to change to P/NP</i>	Oct 23
October 20	<i>October 20-21 – Fall break !</i> 9A: 3, 4, 8*, 14, 15; 9B: 17, 20, 26, 27.	Oct 30
October 27	9C: 40, 42, 44, 45, 51*, 53*; 10A: 3, 4.	Nov 6
November 3	Review for the exam Exam 2 – Thursday November 6, in class	<i>work on portfolio</i>
November 10	12A: 1, 2, 7, 12, 15*(t,u,v are integers); 12 B: 34 Proof portfolio – second draft due Thursday November 13 <i>Friday, November 14 is the last day to withdraw from one or more courses</i>	Nov 20
November 17	13A: 1; 13B: 3,5; 14 A: 4, 10; 14B: 15, 16.	Dec 4
November 24	14C: 37, 39, 40*(parts i and iv only), 41, 42, 43, 45; <i>November 26-29 – Thanksgiving break !</i>	Dec 11
December 1	15A-F: selected topics	
December 8	Review for the final exam Proof portfolio– final draft due Thursday December 11	<i>work on portfolio</i>
	Final exam – Thursday December 18, 1–3 pm	