Abstract Algebra

Course: MATH 3320

Semester: Fall 2023

Instructor: Yorck Sommerhäuser

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Class meetings: Monday, Wednesday, Friday 10:00 am–10:50 am, EN 1052

Office hours: Monday 11:15 am–12:15 pm, Tuesday 12:15 pm–1:15 pm, Thursday 12:15 pm–1:15 pm, Friday 11:15 am–12:15 pm, and by appointment.

Textbook: W. K. Nicholson: Introduction to Abstract Algebra, 4th ed., Wiley, Hoboken, 2012 (required resource)

Course description: The course provides an introduction to group theory, ring theory, and field theory. In group theory, the course covers at least cyclic groups, cosets, Lagrange's theorem, normal subgroups, and quotient groups. In ring theory, the course discusses at least ideals, especially prime ideals and maximal ideals, quotient rings, and integral domains. In field theory, we discuss at least extension fields and their degrees. Time permitting, we discuss Sylow's theorems and elementary Galois theory.

Coverage: We cover Chapters 2–6 of the textbook almost completely. Time permitting, we will cover selected topics from Chapters 7–10.

Examinations: There will be a midterm examination and a comprehensive final examination. The midterm examination takes place on Wednesday, October 11 during regular class time in the usual classroom. The final examination takes place during the examination period from December 7 to December 15 at a time and in a room determined by the registrar's office.

Homework: Beginning on Monday of the second week, a weekly exercise sheet will be handed out. This has to be submitted in class on the following Monday. There will be no exercise sheet during the week of the midterm examination and no exercise sheets during the last two weeks of the semester. In addition, a reading assignment from the textbook will be given in every lecture.

Policies: Eating, drinking, and smoking is not permitted in the classroom. You are expected to be present at every class meeting, from the beginning to the end. Attendance will be taken and used to make decisions in borderline cases. The use of electronic devices, especially cellphones, calculators, and laptop computers, is not permitted without explicit permission of the instructor. Electronic devices have to be turned off completely.

Memorial University accommodates students with disabilities and demands academic integrity. The corresponding university policies can be found at http://www.mun.ca/policy/site/policy.php?id=239 and in the Academic Calendar in Paragraph 6.12, respectively.

Prerequisite: MATH 2320 (Discrete Mathematics)

Marking weights:

Homework:	25 %
Midterm examination:	25 %
Final examination:	50 %