Group Theory

Course: MATH 4321

Semester: Winter 2017

Instructor: Yorck Sommerhäuser

Office: HH-3007

Telephone: 864-8097

E-Mail: sommerh@mun.ca

Class meetings: Monday, Wednesday, Friday 12:00 m–12:50 pm, HH 3015

Office hours: Monday, Friday 1:00 pm–3:00 pm and by appointment.

Textbook: J. J. Rotman: An Introduction to the Theory of Groups, 4th ed., Grad. Texts Math., Vol. 148, Springer, Berlin, 1995

Course description: The course provides an introduction to the theory of groups with emphasis on finite groups. Important topics covered are subgroups, Lagrange's theorem, the isomorphism theorems, Sylow's theorems, symmetric groups, solvable and nilpotent groups, and the Jordan-Hölder theorem. Time permitting, we will cover linear groups and the Mathieu groups.

Coverage: The course covers selected parts of the Chapters 1 to 5 of the textbook. Time permitting, parts of Chapter 6 will also be covered. Furthermore, the abstract concepts developed in these chapters will be illustrated by examples taken from Chapters 8 and 9 of the book.

Exams: There will be a midterm exam and a comprehensive final exam. The midterm exam takes place on Wednesday, February 15. The final exam takes place during the examination period from April 10 to April 20 at a time determined by the registrar's office.

Homework: Beginning Monday, January 16, 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 exam 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. Although attendance is not recorded, you are expected to be present at every class meeting, from the beginning to the end. 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 3320

Marking weights:

Homework:	20 %
Midterm exam:	30 %
Final exam:	50 %