

Faculty of Science Course Syllabus
Department of Mathematics and Statistics
MATH 3031 (online)
Abstract Algebra I
Fall 2020

Instructor: Neil J. Ross neil.jr.ross@dal.ca

Lectures: Online (asynchronous)

Office hours: MWF 10:35 – 11:25 on Collaborate Ultra

Course Description

Groups, subgroups, permutation groups, cosets, direct products, fundamental theorem of finitely generated abelian groups, simple groups, group homomorphisms, factor groups, isomorphism theorems of groups, series of groups, Sylow theorems and applications. Additional topics may include free groups, group actions, and groups in Topology.

Course Prerequisites

MATH 2040 or MATH 2135.

Course Objectives/Learning Outcomes

- Become familiar with the objects and methods of group theory.

Course Materials

- *A First Course in Abstract Algebra* (7th ed.) by John B. Fraleigh. The bookstore link for this text is <https://bookstore.dal.ca/CourseSearch/?course%5b%5d=SUB,FALL20,MATH,MATH3031,&>.

Course Delivery

The course material will be delivered through lecture videos and accompanying course notes. Every week (typically on Monday mornings) the videos and notes covering the week's material will be posted on Brightspace.

On Mondays, Wednesdays, and Fridays, the instructor will be available for online office hours on Collaborate Ultra. Students are encouraged to attend these office hours even if they don't have specific questions, as discussing the week's material can help in developing an intuition for mathematical concepts. Alternative meeting times can be arranged on a case-by-case basis.

Questions and concerns about the delivery of the course should be addressed to the instructor.

Course Assessment

Students are required to attend a brief individual introductory online meeting with their instructor during the first week of the term (Sept. 8 – Sept. 11). Students can book these introductory meetings at the address below.

<https://outlook.office365.com/owa/calendar/MATH3031Introduction@dal.onmicrosoft.com/bookings/>

Alternative meeting times can be arranged on a case-by-case basis. In addition to this introductory meeting, students will be asked to complete a few short online surveys throughout the term.

The course grade will be based on assignments and a final exam.

Assignments will be posted weekly on Brightspace. Assignments must be submitted by the due date, through Brightspace, and as a single pdf file. The schedule of assignments is recorded in the table below.

Assignment	Posted	Due
1	18/09/20	25/09/20
2	25/09/20	02/10/20
3	02/10/20	09/10/20
4	09/10/20	16/10/20
5	16/10/20	23/10/20
6	23/10/20	30/10/20
7	30/10/20	06/11/20
8	06/11/20	20/11/20
9	20/11/20	27/11/20
10	27/11/20	04/12/20

The final exam will be a take home exam, similar to the assignments in style and difficulty. Students will be required to briefly meet online with their instructor to discuss the solutions to their final exam. The final exam will be sent to students individually. Students can choose the date during the exam period at which they wish to write their final exam. Students must complete their final exam within 3 days of the start date. The submission protocol for the final exam is the same as for assignments.

The final grade will be computed according to the grading scheme below.

Component	Weight (% of final grade)
Assignments	70%
Final exam	30%

The conversion of numerical grades to Final Letter Grades follows the Dalhousie Common Grade Scale.

Conversion of numerical grades to Final Letter Grades

A+ (90-100)	B+ (77-79)	C+ (65-69)	D (50-54)
A (85-89)	B (73-76)	C (60-64)	F (<50)
A- (80-84)	B- (70-72)	C- (55-59)	

Course Policies

Students are encouraged to collaborate when working on their assignments but must prepare their final copy individually.

Students cannot collaborate on their final exam.

Students must submit their work by the deadline. Late submissions will not be accepted and will result in a grade of 0 unless a prior arrangement was made. There will be some flexibility for late submissions resulting from technology malfunction.

Students are encouraged to review the marking of their work and to challenge it when appropriate. Grade changes, however, will only be granted if an issue is raised within 2 weeks of the posting of grades.

As much as possible, and in order to foster a sense of community, questions about the course content should not be asked through email. Instead, these questions should be raised during office hours or posted on Brightspace (using the appropriate discussion boards).

Student emails as well as questions posted on Brightspace discussion boards will be answered within 48 hours.

Course Content

The course will cover Chapters I, II, III, and IV of the textbook. A detailed breakdown of the course content can be found in the accompanying calendar on Brightspace.

Faculty of Science Course Syllabus (Section B)
Department of Mathematics and Statistics
MATH 3031 (online)
Abstract Algebra I
Fall 2020

University Policies and Statements

This course is governed by the academic rules and regulations set forth in the University Calendar and by Senate

Missed or Late Academic Requirements due to Student Absence

As per Senate decision instructors may not require medical notes of students who must miss an academic requirement, **including the final exam**, for courses offered during fall or winter 2020-21 (until April 30, 2021). Information on regular policy, including the use of the Student Declaration of Absence can be found here: https://www.dal.ca/dept/university_secretariat/policies/academic/missed-or-late-academic-requirements-due-to-student-absence.html.

Academic Integrity

At Dalhousie University, we are guided in all of our work by the values of academic integrity: honesty, trust, fairness, responsibility and respect (The Center for Academic Integrity, Duke University, 1999). As a student, you are required to demonstrate these values in all of the work you do. The University provides policies and procedures that every member of the university community is required to follow to ensure academic integrity.

Information: https://www.dal.ca/dept/university_secretariat/academic-integrity.html

Accessibility

The Advising and Access Services Centre is Dalhousie's centre of expertise for student accessibility and accommodation. The advising team works with students who request accommodation as a result of a disability, religious obligation, or any barrier related to any other characteristic protected under Human Rights legislation (Canada and Nova Scotia).

Information: https://www.dal.ca/campus_life/academic-support/accessibility.html

Student Code of Conduct

Everyone at Dalhousie is expected to treat others with dignity and respect. The Code of Student Conduct allows Dalhousie to take disciplinary action if students don't follow this community expectation. When appropriate, violations of the code can be resolved in a reasonable and informal manner—perhaps through a restorative justice process. If an informal resolution can't be reached, or would be inappropriate, procedures exist for formal dispute resolution.

Code: https://www.dal.ca/dept/university_secretariat/policies/student-life/code-of-student-conduct.html

Diversity and Inclusion – Culture of Respect

Every person at Dalhousie has a right to be respected and safe. We believe inclusiveness is fundamental to education. We stand for equality. Dalhousie is strengthened in our diversity. We are a respectful and inclusive community. We are committed to being a place where everyone feels welcome and supported, which is why our Strategic Direction prioritizes fostering a culture of diversity and inclusiveness.

Statement: <http://www.dal.ca/cultureofrespect.html>

Recognition of Mi'kmaq Territory

Dalhousie University would like to acknowledge that the University is on Traditional Mi'kmaq Territory. The Elders in Residence program provides students with access to First Nations elders for guidance, counsel and support. Visit or e-mail the Indigenous Student Centre (1321 Edward St) (elders@dal.ca).

Information: https://www.dal.ca/campus_life/communities/indigenous.html

Important Dates in the Academic Year (including add/drop dates)

https://www.dal.ca/academics/important_dates.html

University Grading Practices

https://www.dal.ca/dept/university_secretariat/policies/academic/grading-practices-policy.html

Student Resources and Support

Advising

General Advising https://www.dal.ca/campus_life/academic-support/advising.html

Science Program Advisors: <https://www.dal.ca/faculty/science/current-students/academic-advising.html>

Indigenous Student Centre: https://www.dal.ca/campus_life/communities/indigenous.html

Black Students Advising Centre: https://www.dal.ca/campus_life/communities/black-student-advising.html

International Centre: https://www.dal.ca/campus_life/international-centre/current-students.html

Academic supports

Library: <https://libraries.dal.ca/>

Writing Centre: https://www.dal.ca/campus_life/academic-support/writing-and-study-skills.html

Studying for Success: https://www.dal.ca/campus_life/academic-support/study-skills-and-tutoring.html

Copyright Office: <https://libraries.dal.ca/services/copyright-office.html>

Fair Dealing Guidelines <https://libraries.dal.ca/services/copyright-office/fair-dealing.html>

Other supports and services

Student Health & Wellness Centre: https://www.dal.ca/campus_life/health-and-wellness/services-support/student-health-and-wellness.html

Student Advocacy: <https://dsu.ca/dsas>

Ombudsperson: https://www.dal.ca/campus_life/safety-respect/student-rights-and-responsibilities/where-to-get-help/ombudsperson.html

Safety

Biosafety: <https://www.dal.ca/dept/safety/programs-services/biosafety.html>

Chemical Safety: <https://www.dal.ca/dept/safety/programs-services/chemical-safety.html>

Radiation Safety: <https://www.dal.ca/dept/safety/programs-services/radiation-safety.html>

Scent-Free Program: <https://www.dal.ca/dept/safety/programs-services/occupational-safety/scent-free.html>