

MATH 3020A Course Outline

1. Course Information

Course Information

Course: Mathematics 3020A - Introduction to Abstract Algebra

Academic term: Fall 2026; **Course weight:** 0.50; **Breadth:** Category C

Delivery and schedule:

Prerequisite

Mathematics 2156A/B.

Unless students have either the prerequisites for this course or written special permission from the Department of Mathematics to enroll in it, they may be removed and withdrawn from this course in accordance with university policy. This may be done after the add/drop deadline of the academic term, and the course will be marked as withdrawn (WDN) on their academic record. This decision may not be appealed.

2. Instructor Information

Instructor	Email	Office	Office Hours
Prof. Ajneet Dhillon	adhill3@uwo.ca		

Students must use their Western (@uwo.ca) email addresses when contacting the instructor.

3. Course Syllabus, Schedule, Delivery Mode

Course Description. Groups, permutation groups, subgroups and normal subgroups, homomorphisms and quotient groups, the first isomorphism theorem for groups, Lagrange's theorem, and the fundamental theorem of finite abelian groups. Rings, integral domains and fields, subrings and ideals, homomorphisms and quotient rings, the first isomorphism theorem for rings, and polynomial rings.

Course Learning Outcomes

By the end of the course, successful students should be able to:

- work with groups, permutation groups, subgroups, normal subgroups, homomorphisms, and quotient groups;
- apply Lagrange's theorem and the first isomorphism theorem for groups;
- use the fundamental theorem of finite abelian groups to analyze finite abelian groups;
- work with rings, integral domains, fields, subrings, ideals, quotient rings, and polynomial rings; and

- apply the first isomorphism theorem for rings.

Delivery and Schedule.

Tentative Topic Sequence

Groups and permutation groups; subgroups and normal subgroups; homomorphisms and quotient groups; Lagrange's theorem and the first isomorphism theorem for groups; finite abelian groups; rings, integral domains and fields; subrings, ideals, quotient rings, ring homomorphisms, the first isomorphism theorem for rings, and polynomial rings.

Key Sessional Dates

Classes begin: September 9, 2026

Fall Reading Week: October 10-18, 2026

Classes end: December 9, 2026

Exam period: December 11-22, 2026

4. Course Materials

The course will use the following texts and materials posted to OWL Brightspace.

Cost of Course Materials

Approximate cost: \$0. No purchase is required. The course texts and other materials are available online at no additional cost through Western Libraries or freely on the web.

Textbooks and Other Learning Materials

- Nadiya Gubareni, *Introduction to Modern Algebra and Its Applications*, 1st ed., CRC Press, 2021. Available online through Western Libraries.
- Thomas W. Judson, *Abstract Algebra: Theory and Applications*, current online ed., 2026. Available free online at judsonbooks.org.

All course materials will be posted to OWL Brightspace: <https://westernu.brightspace.com/>

Students are responsible for checking the course OWL Brightspace site regularly for news and updates. This is the primary method by which information will be disseminated to all students in the class.

If students need assistance with the course OWL Brightspace site, they can seek support on the [OWL Brightspace Help](#) page. Alternatively, they can contact the Western Technology Services Helpdesk. They can be contacted by phone at 519-661-3800 or ext. 83800.

Technical Requirements

There are no course-specific technical requirements.

5. Methods of Evaluation

Grading Scheme and Assessment Dates

The overall course grade will be calculated as listed below:

In-class quizzes (best 6 of 8)	15%
Midterm test (no risk)	35%
Final examination	50%

The final examination is cumulative and will cover the full course content. If a student's Final exam performance exceeds their midterm performance, the weight of the midterm will be shifted to the final.

Tentative Assessment Schedule

Midterm test: Tuesday, October 20, 2026, 6:00-8:00 p.m. (tentative; location to be announced).

In-class quizzes: eight quizzes are tentatively scheduled weekly during class. Each of the six counted quiz scores contributes 2.5% to the course grade.

Information about Missed Coursework

Students must familiarize themselves with the *University Policy on Academic Consideration – Undergraduate Students in First Entry Programs*, posted on the Academic Calendar:

https://uwo.ca/univsec/pdf/academic_policies/appeals/academic_consideration_Sep24.pdf,

This policy does not apply to requests for Academic Consideration submitted for **attempted or completed work**, whether online or in person. The policy also does not apply to students experiencing longer-term impacts on their academic responsibilities. These students should consult [Accessible Education](#).

For procedures on how to submit Academic Consideration requests, please see the information posted on the Office of the Registrar's webpage: https://registrar.uwo.ca/academics/academic_considerations/

Academic Consideration requests are not required or accepted for in-term assessments. Missed midterm tests are handled automatically through the reweighting provision below, and missed quizzes are handled through the built-in flexibility described below. The final examination is the only course assessment for which an Academic Consideration request with supporting documentation must be submitted through the Student Absence Portal (SAP). A request for a missed final examination must be made within 48 hours after the scheduled examination date.

Midterms and Tests

There is one midterm test. If a student misses it, its 35% weight will be transferred to the final examination; the final examination will then be worth 85% of the course grade. There is no makeup midterm. Students who miss the midterm do not need to submit, and should not submit, an Academic Consideration request through the Student Absence Portal (SAP).

The only exception is an early sitting, offered solely for a university-sanctioned schedule conflict (e.g., conflict of two midterms, Varsity competitions) or a religious accommodation that prevents a student from writing the midterm at its scheduled time. If a student requires this accommodation, they must notify their instructor in writing no later than two weeks before the test. No other circumstance, including illness, qualifies for an early sitting or makeup; these are addressed through the automatic reweighting described above.

In-Class Quizzes

There will be eight in-class quizzes. The quiz component will be calculated using each student's best six quiz scores. This built-in flexibility accommodates up to two missed quizzes. Students should not submit requests for Academic Consideration through the Student Absence Portal for missed quizzes. No makeup quizzes will be offered. If fewer than six quizzes are completed, each missing score needed to make six grades will be recorded as zero.

Special Examination

Per university policy, Academic Consideration requests with supporting documentation are required for the final examinations scheduled during official examination periods by the Registrar's Office.

When Academic Consideration is granted for a missed final examination, the student will write a Special Examination (SPC). Special Examinations are scheduled centrally, normally approximately two weeks after the end of the examination period (in January for a Fall-term course). Students should consult the Academic Calendar under Special Examinations for details.

If the student misses their SPC exam and is approved for Academic Consideration, they will be withdrawn from the course without academic penalty. If they experienced extenuating circumstances such as prolonged illness, they may appeal to the Associate Dean (Academic), on a case-by-case basis, for the opportunity to write the final exam the next time the course is offered. An outstanding SPC will reduce their course load for the term in which the exam is deferred, as outlined in the [Definitions of Types of Examinations](#) policy.

If the student misses their SPC exam and Academic Consideration is not approved, or was not requested, they will receive a grade of zero on the exam.

6. Additional Statements

6.1 Religious Accommodation

When a recognized religious holiday either requires a student to be absent from the University, or requires or prohibits an activity that makes it impossible for them to complete an academic requirement scheduled that day, they are entitled to accommodation. No student will be penalized for an absence for religious reasons, and an alternative means of satisfying the requirement will be arranged. This accommodation is provided in accordance with the University's policy on Accommodation for Religious Holidays:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/accommodation_religious.pdf

The student should submit their religious-accommodation requests through the Student Absence Portal (SAP), identifying the conflict and the specific course component(s) affected (e.g., test, midterm, exam).

Midterms and Tests: If a religious observance conflicts with a midterm test, they must submit their request no later than **one week** before the test. Their instructor will arrange an early sitting of the test. As set out above, no makeup test is offered for any other reason; this early sitting is available specifically for this accommodation.

Final Examinations: If a religious observance conflicts with the final exam, the student must submit their request no later than **two weeks** before the exam. If the request is approved, the student will write a centrally scheduled Special Examination in accordance with the process described above.

Students are responsible for finding out what was covered in any class they miss due to a religious observance, and for taking the appropriate steps to keep up with the course.

If a suitable arrangement cannot be reached between a student and their instructor, they should consult the Undergraduate Chair of the department offering the course, and if necessary, the Associate Dean (Academic) of the Faculty of Science. Reasonable efforts will be made to accommodate late religious-accommodation requests. The instructor will consult the Associate Dean's office before declining a difficult short-notice request.

For a list of recognized religious observances, please visit the calendars posted on the Equity, Diversity & Inclusion website - <https://www.edi.uwo.ca> (About Us – Resources – Additional Resources – Calendars).

6.2 Academic Accommodation Policies

Students with disabilities are encouraged to contact Accessible Education, which provides recommendations for accommodation based on medical documentation or psychological and cognitive testing. The policy on Academic Accommodation for Students with Disabilities can be found at:

https://www.uwo.ca/univsec/pdf/academic_policies/appeals/Academic_Accommodation_disabilities.pdf.

6.3 General Academic Policies

The website for Registrar Services is <https://www.registrar.uwo.ca/>.

Use of @uwo.ca email: In accordance with policy, https://www.uwo.ca/univsec/pdf/policies_procedures/section1/mapp113.pdf, the centrally administered e-mail account provided to students will be considered the individual's official university email address. It is the responsibility of the account holder to ensure that emails received from the University at their official university address are attended to in a timely manner.

Requests for Relief (formally known as “appeals”)

Policy on Request for Relief from Academic Decision:

https://uwo.ca/univsec/pdf/academic_policies/appeals/requests_for_relief_from_academic_decisions.pdf

Procedures on Request for Relief from Academic Decision (Undergraduate):

https://uwo.ca/univsec/pdf/academic_policies/appeals/undergrad_requests_for_relief_procedure.pdf

6.4 Scholastic Offences

Policy on Scholastic Offences:

https://uwo.ca/univsec/pdf/academic_policies/appeals/scholastic_offences.pdf

Procedures on Scholastic Offences (Undergraduate):

https://uwo.ca/univsec/pdf/academic_policies/appeals/undergrad_scholastic_offence_procedure.pdf

Use of Electronic Devices During Assessments

In courses offered by the Faculty of Science, the **possession** of unauthorized electronic devices during any in-person assessment (such as tests, midterms, and final examinations) is strictly prohibited. This includes, but is not limited to: mobile phones, smart watches, smart glasses, hidden cameras and wireless earbuds or headphones.

Unless explicitly stated otherwise in advance by the instructor, the presence of any such device at a student's desk, on their person, or within reach during an assessment will be treated as a scholastic offence, **even if the device is not in use**.

Effective September 2026, the typical penalty for this offence is a failing grade in the course AND a 12-month prohibition on retaking the course.

Only devices expressly permitted by the instructor (e.g., non-programmable calculators) may be brought into the assessment room. It is their responsibility to review and comply with these expectations.

Use of Generative AI Tools

Unless otherwise stated, the use of generative AI tools (e.g., ChatGPT, Microsoft Copilot, Google Gemini, or similar platforms) is **not permitted** in the completion of any course assessments, including but not limited to: assignments, lab reports, presentations, tests, and final examinations.

Using such tools for content generation, code writing, problem solving, translation, or summarization—when not explicitly allowed—will be treated as a **scholastic offence**.

If the use of generative AI is permitted for a particular assessment, the conditions of use will be specified by the instructor in advance. If no such permission is granted, students must assume that use is prohibited. It is the student's responsibility to seek clarification before using any AI tools in academic work.

6.5 Support Services

Academic Advising. Please visit the Science & Basic Medical Sciences Academic Advising webpage for information on adding/dropping courses, academic considerations for absences, requests for relief, exam conflicts, and many other academic-related matters: <https://www.uwo.ca/sci/advising/>.

Mental Health Support. Students who are in emotional/mental distress should refer to Mental Health@Western (<https://uwo.ca/health/>) for a complete list of options about how to obtain help.

Gender-Based and Sexual Violence. Western is committed to reducing incidents of gender-based and sexual violence (GBSV) and providing compassionate support to anyone who has gone through these traumatic events. If a student has experienced GBSV (either recently or in the past), they can find information about support services for survivors, including emergency contacts, at:

https://www.uwo.ca/health/student_support/survivor_support/get-help.html.

To connect with a case manager or set up an appointment, please contact support@uwo.ca.

Accessibility for Coursework. A student may contact the course instructor if they require lecture or printed material in an alternate format or if any other arrangements can make this course more accessible to them. If they have any questions regarding accommodations, they may also contact Accessible Education at http://academicsupport.uwo.ca/accessible_education/index.html

Learning Development and Success. Learning-skills counsellors at Learning Development and Success (<https://learning.uwo.ca>) are ready to help students improve their learning skills. The facility offers strategies for improving time management, multiple-choice exam preparation/writing, textbook reading, and more. Individual support is offered throughout the Fall/Winter terms in the drop-in Learning Help Centre, and year-round through individual counselling.

Student Councils.

Student-run support services are offered by the University Students' Council (<https://westernusc.ca>) and the Science Students' Council (<https://www.westernssc.ca>).