

DEPARTMENT OF MATHEMATICS

MATH 2020 Algebra 1

January – April 2020

A01: Instructor: G.I. Moghaddam, 426 Machray Hall, 474-8345, e-mail: moghadm@cc.umanitoba.ca
Office hours: Monday, Wednesday 11:00 AM - 12:00 PM and Friday 10:00 - 11:00 AM ; and or by appointment
Lecture: 315 Buller, Slot 1, Monday, Wednesday and Friday 8:30–9:20 AM
Tutorial: 244 University College, Monday 12:30–1:20 PM

Pre-Requisites: A grade of C or better in one of MATH 2090, or the former MATH 2352; a grade of B or better in the former MATH 2300 (B) or MATH 2301.
Not to be held with the former MATH 3350.

Textbook: Abstract Algebra, Theory and Applications by Thomas W. Judson,
Free Online Via: <http://abstract.ups.edu/download.html>

Course Outline:

1. **Integers:** Introduction to proofs, basic set theory, functions, equivalence relations. (Chapter 1)
2. **Functions:** Divisors, Primes, Congruences, Permutations. (Chapter 2)
3. **Groups:** Definition of a Group, Subgroups, Constructing Examples, Isomorphisms, Cyclic Groups, Permutation Groups , Homomorphisms, Cosets, Normal Subgroups, and Factor Groups.(Chapters 3-6, 9-11)
4. **Rings:** Rings, Integer Domains and fields, Ring Homomorphisms, maximal and prime ideals Quotient Fields. (We may only cover part of this topic) (Chapter 16)
5. **Polynomials and Integral Domains:** Polynomial rings irreducible polynomials, Fields of fractions, Factorization in integral domain. (We may only cover part of this topic) (Chapters 17 and 18)

Course webpage : <http://home.cc.umanitoba.ca/~moghadm/Math2020>

Term Tests: Two term tests 50 minutes each will be administered in the tutorial sessions on the following dates:

Mondays February 24, March 23

Calculators and/or reference material will NOT be allowed on tests or final examination.

Evaluation:

The two term tests will each counts as 20% of the final grade.
A three hour final examination, to be scheduled by the Registrar's Office, will count for the remaining 60% of the final grade.

Grading Table: The following is the grading table which may be adjustable downwards:

Letter Grade	Minimum percentage to guarantee	Final Grade Point
A+	92	4.5
A	83	4.0
B+	77	3.5
B	71	3.0
C+	65	2.5
C	60	2.0
D	50	1.0

Notes:

(1) If you miss a midterm exam, you will be assigned a mark of “zero” unless reasons and acceptable supporting evidence are provided. In that case the weight of the final exam will be 80% of the final grade. A student missing a midterm exam must contact the instructor within 2 days of the scheduled midterm (email contact is sufficient).

(2) Notes, books, calculators or other computing devices are not allowed for the midterms or the final exam.

(3) Students are expected to attend all classes and tutorials and are responsible for all material presented in class even if they are not present.

(4) Student should not participate in personal direct electronic messaging / posting activities (e-mail, texting, video or voice chat, wikis, blogs, social networking (e.g. Facebook) online and offline “gaming” during scheduled class time. If student is on call (emergency) the student should switch his/her cell phone on vibrate mode and leave the classroom before using it.

(5) G.I. Moghaddam and the University of Manitoba hold copyright over the course materials, presentations and lectures which form part of this course. No audio or video recording of lectures or presentations is allowed in any format, openly or surreptitiously, in whole or in part without permission. Course materials (both paper and digital) are for the participant’s private study and research.

(6) If you are a student with a disability, please contact SAS for academic accommodation supports and services such as note-taking, interpreting, assistive technology and exam accommodations. Students who have, or think they may have, a disability (e.g. mental illness, learning, medical, hearing, injury-related, visual) are invited to contact SAS to arrange a confidential consultation.

Student Accessibility Services <http://umanitoba.ca/student/saa/accessibility>
 520 University Centre
 204 474 7423
 Student_accessibility@umanitoba.ca

(7) Students are advised to familiarize themselves with the General Academic Regulations of the University contained in the Undergraduate calendar. All forms of academic dishonesty are treated very seriously by the Department of Mathematics, and the Faculty of Science. Submitting another person’s work as your own, copying from another person at an exam, or bringing unauthorized information into a test or examination is a serious offense. For further information, please see reverse.

(8) Voluntary Withdrawal Deadline is Wednesday **March 18, 2020**.

Academic Integrity

The Department of Mathematics, The Faculty of Science and The University of Manitoba regard acts of academic dishonesty in quizzes, tests, examinations, laboratory reports or assignments as serious offences and may assess a variety of penalties depending on the nature of the offence.

Acts of academic dishonesty include, but are not limited to bringing unauthorized materials into a test or exam, copying from another individual, using answers provided by tutors, plagiarism, and examination personation.

Note: cell phones, pagers, PDAs, MP3 units or electronic translators are explicitly listed as unauthorized materials, and must not be present during tests or examinations.

Penalties that may apply, as provided for under the University of Manitoba's Student Discipline By-Law, range from a grade of zero for the assignment or examination, failure in the course, to expulsion from the University. The Student Discipline By-Law may be accessed at:

http://umanitoba.ca/admin/governance/governing_documents/students/868.htm

Suggested minimum penalties assessed by the Faculty of Science for acts of academic dishonesty are available on the Faculty of Science web page:

http://umanitoba.ca/faculties/science/resources/Discipline_Penalties_Table_Jul09.pdf

All Faculty members (and their teaching assistants) have been instructed to be vigilant and report all incidents of academic dishonesty to the Head of the Department.