MATH 2108B/3101B, Winter 2021

Abstract Algebra I / Algebraic Structures with Computer Applications

Instructor:
Dr. Ayse Alaca
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Textbook:
Elements of Modern Algebra. Gilbert/Gilbert, 8E.

Prerequisite(s): (i) MATH 1102 or MATH 2107; and (ii) either COMP 1805/MATH 1805 or MATH 1800 (MATH 1800 may be taken concurrently); or permition of the School.

First class: Tuesday January 12.
Last class: Thursday, April 13.
Tutorials begin: Thursday, January 21.
Tutorials end: Thursday, April 13.

~	Day	Time
Lectures	Tuesday and Thursday	2:35--3:55pm
Tutorials	Thursday	4:35--5:25 pm
My Office hour	TBA	TBA

Tutorials are an integral part of this course and students are required to have a course-conflict free timetable. During the tutorial sessions, the selected problems will be solved, questions will be answered, the tests will be administered.

TA information:

Office hour	TBA
E-mail: @cmail.carleton.ca	danieljohnson2

Term Tests: There will be three 50-minute tests during the regular tutorial hours on

February 4, March 4 and March 25. No make up, early, or delayed tests. Tests will be administered via cuLearn. Detailes will be post on cuLearn in due course.

Assignments: There will be two assignments which are due in **February 25 and April 1**. They must be submitted into cuLearn by 11:00pm on the due date. Late assignments will not be accepted.

Final Examination: This is a three hour exam scheduled by the University and will take place sometime during the examination period **April 16-27**. It is the responsibility of each student to be available at the time of the examination.

Evaluation: Two assignments 24% (12% each), Thre tests 36% (12% each) and Final examination 40%.

Notes:

- Tests, assignments and final examination will be run through cuLearn. Details will be posted on cuLearn.
- It is your responsibility to make sure that your test/assignment marks are recorded correctly in **cuLearn.** The deadline to make any corrections on your term marks is **April 7.**
- You are responsible for keeping up with information announced in class, on cuLearn, or sent to your Carleton e-mail account.
- According to Carleton University policy under the Freedom of Information of Privacy Act (FIPPA), please use your Carleton e-mail account for all course related e-mails.
- Plagiarism and violations of academic integrity standards will not be tolerated. All suspected cases of violations will be reported to the Faculty Dean and will be dealed by the Faculty. For more details see the Academic Integrity Policy: https://carleton.ca/secretariat/wp-content/uploads/Academic-Integrity-Policy.pdf

Policies:

Academic Integrity: Be sure that you know the academic integrity standards at Carleton which can be found here.

Religious obligations and/or accommodations for pregnancy: Write to me with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, see the Student Guide: Academic Accommodation.

Academic Accommodations for Students with Disabilities: The Paul Menton Centre

for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or pmc@carleton.ca for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send me your Letter of Accommodation at the beginning of the term, and no later than two weeks before the first scheduled test or exam requiring accommodation (if applicable). For the deadline to request accomodations, and for more details, visit the PMC website.

MATH 2108B/3101B, CLASS OUTLINE FOR WINTER 2021

LECTURE #	DATES	TESTS/ASSIGNMENTS	SECTIONS	TOPICS
1 & 2	Jan. 12, 14	~	2.3, 2.4	Divisibilty, Prime Factors, Greatest Common Divisor (gcd), Unique Factorization Theorem
3 & 4	Jan. 19, 21	~	2.5	Congruence of Integers, Chinese Remainder Theorem
5 & 6	Jan. 26, 28	~	2.6, 2.8	Congruence Classes, Introduction to Cryptography
7 & 8	Feb. 2, 4	**Feb. 4 Test 1**	3.1, 3.2	Groups, Properties of Group Elements
9 & 10	Feb. 9, 11	~	3.3, 3.4	Subgroups, Cyclic Groups
~	**Feb. 15--19**	**WINTER**	**BREAK**	**NO CLASSES**
11 & 12	Feb. 23, 25	**Feb. 25 Assgn 1 due**	3.5, 3.6	Isomorphisms and Homomorphisms
13 & 14	Mar. 2, 4	**Mar. 4 Test 2**	4.1, 4.2	Finite Permutation Groups, Cayley's Theorem

15 & 16	Mar. 9, 11	~	4.4, 4.5	Cosets of a Subgroup, Lagrange's Theorem, Normal Subgroups
17 & 18	Mar. 16, 18	~	5.1, 5.2	Rings, Integral Domains and Fields
19 & 20	Mar. 23, 25	**Mar. 25 Test 3**	6.1, 6.2	Ideals and Quotient Rings, Ring Homomorphisms
21 & 22	Mar. 30, Apr. 1	**Apr. 1 Assgn 2 due**	8.1, 8.2	Polynomials over a Ring, Divisibility and Greatest Common Divisor
23 & 24	Apr. 6, 8	~	8.3, 8.4	Factorization in F[x], Zeros of a Polynomial
25	Apr. 13	~	8.6	Algebraic Extensions of a Field

Last Modified: January 11, 2021.