

Math 14.1 (EMW8) Spring 2009

Instructor: Dr. A.E. Clement

Office hours: Mondays 11:40 - 12:40 PM, 1317a N
Wednesdays 6:30 - 7:30 PM, 1317a N
(and or by appointments)

Phone: 1(718) 951-5000 ext 2707

Textbook: A First Course In Abstract Algebra
Seventh Edition

Author: John B. Fraleigh

Lectures:	Mondays	Wednesdays
	8:00 - 9:15 PM	8:00 - 9:15 PM
Room:	1146 N	1146 N

Exams: There will be a midterm and a final exam. The midterm counts 50% and the final counts 50%. There will be no make-up tests.

Tentative Dates:

Midterm Exam : Wednesday March 25th, in class;

Final Exam: Wednesday May 20th, 8:30 - 10:30 PM, Room TBA

Homework Assignments: A number of selected problems will be assigned every class. These problems should be prepared to be handed in, if requested.

Attendance and Punctuality: Students are required attend all classes and to be punctual.

Extra Credits: Homework assignments, when collected, together with attendance, will count as 4 points extra into the final grade.

Goals and Objectives: Students will

- (1) demonstrate a conceptual understanding of groups, rings, and fields.
- (2) use the language of Abstract Algebra (notations and terms) accurately and appropriately in verbal and written form - learn and work with the abstract notions of groups, rings, and fields using familiar examples.
- (3) understand and apply fundamental algebraic methods and reasoning.
- (4) learn the importance of mathematical rigor - improve their ability to think and learn to read and write correct mathematical proofs.
- (5) participate in class discussions.

A few Study Tips:

- (1) Keep organized notes of class lectures.
- (2) Review notes of class lectures daily to reinforce understanding.
- (3) Spend at least 5-6 hours every week (outside the classroom) on this course reviewing and doing problems.
- (4) Write (in 3-4 sentences) a summary of each class lesson with supporting examples.
- (5) Read the textbook to provide background to lectures.
- (6) Do the homework assignments.
- (7) Allow adequate time to review before the Midterm and Final exams.

Some information regarding College deadlines:

Monday, February 2nd: Last day to add a course;
Monday, February 9th: Last day to file Pass/Fail application;
Tuesday, February 17th: Last day to drop a course without a grade;
Tuesday, April 7th: Last day to apply for withdrawal from
a course with a W (non-penalty) grade.

Center for Student Disability Services:

In order to receive disability-related academic accommodations students must first be registered with the Center for Student Disability Services. Students who have a documented disability or suspect they may have a disability are invited to set up an appointment with the Director of the Center for Student Disability Services, Ms. Valerie Stewart-Lovell at 718-951-5538. If you have already registered with the Center for Student Disability Services please provide your professor with the course accommodation form and discuss your specific accommodation with him/her.

University's policy on Academic Integrity:

The faculty and administration of Brooklyn College support an environment free from cheating and plagiarism. Each student is responsible for being aware of what constitutes cheating and plagiarism and for avoiding both. The complete text of the CUNY Academic Integrity Policy and the Brooklyn College procedure for implementing that policy can be found at this site: <http://www.brooklyn.cuny.edu/bc/policies>.

MATH 14.1 COURSE OUTLINE

Section 0

Sets and Relations

Part I Groups and Subgroups:

Section 1 - Introduction and Examples

Section 2 - Binary Operations

Section 3* - Isomorphic Binary Structures

Section 4 - Groups

Section 5 - Subgroups

Section 6 - Cyclic Groups

Section 7 - Generating Sets

Part II Permutations, Cosets, and Direct Products:

Section 8 - Groups of Permutations

Section 9 - Orbits, Cycles, and the Alternating Groups

Section 10 - Cosets and the Theorem of Lagrange

Section 11 - Direct Products and Finitely Generated Abelian Groups

Part III Homomorphisms and Factor Groups:

Section 13 - Homomorphisms

Section 14 - Factor Groups

Section 15 - Factor-Group Computations and Simple Groups

Part IV Rings and Fields:

Section 18 - Rings and Fields

Section 19 - Integral Domains

Part V Ideals and Factor Rings:

Section 26 - Homomorphisms and Factor Rings