

## Mathematics 230 Modern Algebra Winter, 2005

**Instructor:** George Ballinger  
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**Website:** [www.camosun.bc.ca/~ballinge/](http://www.camosun.bc.ca/~ballinge/) (click the [Math 230](#) link for course information)  
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**Schedule:**

Time	Monday	Tuesday	Wednesday	Thursday	Friday
10:30 am - 11:20 am	Math 072-01 E346	Math 072-01 E346	Math 072-01 E346	Math 072-01 E346	Math 072-01 E346
11:30 am - 11:50 am	Lunch	Lunch	Lunch	Lunch	Lunch
11:50 am - 12:20 pm	Office	Office	Office	Office	Office
12:30 pm - 1:20 pm	Math 072-02 E346	Math 072-02 E346	Math 072-02 E346	Math 072-02 E346	Math 072-02 E346
1:30 pm - 2:20 pm	Office	Office		Office	
2:30 pm - 3:20 pm	Math 230 Y219	Math 230 Y219		Math 230 Y219	
3:30 pm - 4:20 pm					

**Important Dates:**

January 10	First day of class
January 24	Tuition fees due date
February 10	Reading Break (no class)
March 14	Withdrawal date deadline
March 28	Easter Monday (no class)
April 14	Last day of class
April 18-26	Final Exam Period (specific date, time, and location TBA in February)

**Calendar Description:** A first course in proofs and theoretical mathematics for mathematics, physics and computer science students. Topics: sets, mappings, integers including postulates, induction, factorization and congruencies, groups including permutations, rings, integral domains, fields and polynomials and their factorization. [4 Credits]

(Source: Camosun College 2004-2005 Calendar)

**Prerequisites:** A- in MATH 110 or B in MATH 111 or C+ in MATH 220.

**Required Textbook:** *Modern Algebra* by Clive Reis, Camosun College Printshop, 2005.

**Course Content:** Chapter 1 Logic and Proofs  
 Chapter 2 Set Theory  
 Chapter 3 Cartesian Products, Relations, Maps, and Binary Operations  
 Chapter 4 The Integers  
 Chapter 5 Elementary Properties of Groups  
 Chapter 6 Further Properties of Groups  
 Chapter 7 The Symmetric Groups  
 Chapter 8 Rings, Integral Domains, and Fields  
 Chapter 9 Polynomial Rings  
 Chapter 10 Rational, Real, and Complex Numbers  
 Chapter 11 Latin Squares

**Assignments:** Periodic assignments will be given for homework to be handed in. Notices of assignments and due dates will be posted on the course website.

**Study Time:** It is recommended that approximately 8-10 hours per week be spent studying for this course outside of class time.

**Math Lab:** Ewing 224: This drop-in centre is freely available for your use to work on math homework and to seek help from the tutor on staff.

**Calculator Policy:** Calculators are **not** permitted on term tests or the final exam, nor are electronic devices such as cell phones, PDAs, laptops, electronic translators, etc.

**Grade Calculation:** The final grade will be calculated according to the following breakdown:

Assignments:	20%
Two Term Tests:	30%
Comprehensive Final Exam:	50%

**Grade Scale:** Final letter grades are assigned as follows:

0-49	50-59	60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-100
F	D	C	C+	B-	B	B+	A-	A	A+