



**CAMOSUN COLLEGE**  
**School of Access**  
**Academic and Career Foundations Department**

**MATH 053 Intermediate Mathematics 2**  
**Winter 2014**

**COURSE OUTLINE**

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*The Approved Course Description is available on the College website*  
<http://www.camosun.bc.ca/learn/calendar/index.html>

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**1. Instructor Information**

**Instructor:** Alison Bowe  
**Office:** CBA 150

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**e-mail:** [bowe@camosun.bc.ca](mailto:bowe@camosun.bc.ca)

**Text only:** 250.881.0264

**January-April 2014**  
**Office Hours by Appointment**

| Time          | Monday                     | Tuesday                       | Wednesday                  | Thursday                      | Friday                     |
|---------------|----------------------------|-------------------------------|----------------------------|-------------------------------|----------------------------|
| 8:30 – 10:30  |                            |                               |                            | Chairs Meeting                |                            |
| 10:30 – 11:30 | Help Centre<br>CBA 109     |                               | Help Centre<br>CBA 109     | Chairs Meeting                |                            |
| Noon – 12:30  |                            | Off Campus<br>Office<br>Hours |                            |                               |                            |
| 12:30- 3:30   | In Class<br>S05<br>CBA 117 | In Class<br>S20<br>Off Campus | In Class<br>S05<br>CBA 117 | In Class<br>S20<br>Off Campus | Interurban<br>Office Hours |
| 3:30 – 5:00   |                            | Off Campus<br>Office<br>Hours |                            | Off Campus<br>Office<br>Hours |                            |

**2. Intended Learning Outcomes**

(complete ABE Intermediate Mathematics learning outcomes at ABE Articulation Handbook website <http://www.aved.gov.bc.ca/abe/handbook.pdf>)

At the end of the course, students will be able to:

1. use mathematics at an ABE Intermediate level with competence
2. demonstrate knowledge and skills in using the language, principles, and operations of introductory algebra
3. apply a variety of strategies in solving math-related problems
4. apply knowledge and skills in introductory algebra to solve problems
5. use knowledge of introductory algebra as a basis for further study in Advanced-level algebra, math for technology, and other courses and programs

### 3. Required Materials

- (a) textbook: *Developmental Mathematics*, 8<sup>th</sup> or 7<sup>th</sup> edition, Marvin Bittinger & Judith Beecher
- (b) scientific calculator (Sharp EL531W for MATH 072)

#### Supplementary Materials

- (c) *Student's Solutions Manual*, Judith Penna  
(for sale in the bookstore; available for reference in the classroom)
- (d) *Instructor's Solutions Manual*, Judith Penna (for reference in the classroom)
- (e) website [www.mymathlab.com](http://www.mymathlab.com) (online text, tutorials, videos, and testing)

### 4. Course Content and Schedule

#### 2014W Semester classes run from January 6 - April 11, 2014

Our class meets on **Monday** and **Wednesday** afternoons.

|                        |                |                         |
|------------------------|----------------|-------------------------|
| Other important dates: | February 10    | Holiday, College Closed |
|                        | February 13-14 | Reading Break           |
|                        | March 10       | Withdrawal Deadline     |
|                        | April 18 & 21  | Holiday, College Closed |
|                        | April 11       | Last day of classes     |

#### Self-paced Instructions

The course completion time will vary for each student, depending on a number of factors, including your current level of math skills, motivation, learning rate, and how much time you have to study math, either at the college or at home. Students generally need to spend 5–15 hours of study time per week to complete each math course within 4 months.

- (a) before starting unit 1, students must pass a competency test to demonstrate that they can add, subtract, multiply, and divide whole numbers, fractions, and decimals without the use of a calculator – if necessary, use the Arithmetic Review booklet to review these operations before writing the competency test
- (b) for each section of the 053 text listed in the table below, read the explanations, study the Examples, do the Margin Exercises, and then work through and check all or at least some of the more difficult odd-numbered problems in the Exercise Set
- (c) note that unit 4 includes text chapter 10, 11.1, & 11.2, and a supplement on exponents
- (d) to prepare for the final test for each unit, do the Summary and Review Exercises and write the Chapter Test at the end of the chapter, and correct all of your errors
- (e) review your final test results with the instructor, and proceed to the next unit if you score 75% or better, or rewrite the final test if you score less than 75% (all test scores count)
- (f) note: calculators are not allowed for parts of MATH 072 and for all of MATH 172, so 053 students who intend to take either of these courses should be able to add, subtract, multiply, and divide with whole numbers, fractions, and decimals, without the use of a calculator.

| 8th ed'n | 7th ed'n | MATH 053 course content   | video CD |
|----------|----------|---|----------|
|          |          | <b>Unit R – Arithmetic Review (no calculator)</b>   |          |
| R.2      | R.2      | Fraction Notation   |          |
| R.3      | R.3      | Decimal Notation  |          |
|          |          | Arithmetic Review test (no calculator)  |          |
|          |          | <b>Unit 1 – Real Numbers and Algebraic Expressions</b><br>(for 4-month completion: 20 days) |          |
| 7.1      | 7.1      | Introduction to algebra   | 7.1      |
| 7.2      | 7.2      | The real numbers  | 7.2      |
| 7.3      | 7.3      | Addition of real numbers  | 7.3      |
| 7.4      | 7.4      | Subtraction of real numbers   | 7.4      |
| 7.5      | 7.5      | Multiplication of real numbers  | 7.5      |
| 7.6      | 7.6      | Division of real numbers  | 7.6      |
| 7.7      | 7.7      | Properties of real numbers  | 7.7      |
| 7.8      | 7.8      | Simplifying expressions; order of operations  | 7.8      |
|          |          | Summary and review  |          |
|          |          | Chapter test  |          |
|          |          | Unit 1 final test   |          |

| 8th ed'n | 7th ed'n | MATH 053 course content   |           | video CD |
|----------|----------|---|-----------|----------|
|          |          | <b>Unit 2 – Solving Equations and Inequalities</b>                  | (30 days) |          |
| 8.1      | 8.1      | Solving equations: the addition principle                           |           | 8.1      |
| 8.2      | 8.2      | Solving equations: the multiplication principle                     |           | 8.2      |
| 8.3      | 8.3      | Using the principles together                                       |           | 8.3      |
| 8.4      | 8.4      | Formulas  |           | 8.4      |
| 8.5      | 8.5      | Applications of percent   |           | 8.5      |
| 8.6      | 8.6      | Applications and problem solving                                    |           | 8.6      |
| 8.7      | 8.7      | Solving inequalities  |           | 8.7      |
| 8.8      | 8.8      | Applications and problem solving with inequalities                  |           | 8.8      |
|          |          | Summary and review  |           |          |
|          |          | Chapter test  |           |          |
|          |          | Unit 2 final test   |           |          |
|          |          |   |           |          |
|          |          | <b>Unit 3 – Graphs of Linear Equations</b>                          | (22 days) |          |
| 9.1      | 9.1      | Graphs and applications of linear equations                         |           | 9.1/2    |
| 9.2      | 9.2      | More with graphing and intercepts                                   |           | 9.3      |
| 9.3      | 9.3      | Slope and applications  |           | 9.4      |
|          |          | Summary and review  |           |          |
|          |          | Chapter test  |           |          |
|          |          | Unit 3 final test   |           |          |
|          |          |   |           |          |
|          |          | <b>Unit 4 – Polynomials: Operations and Factoring</b>               | (28 days) |          |
| 10.1*    | 10.1*    | Integers as exponents   |           | 10.1     |
| 10.2*    | 10.2*    | Exponents and scientific notation                                   |           | 10.2     |
|          |          | * after 10.2, complete supplementary exercises on exponents (#1-25) |           |          |
| 10.3     | 10.3     | Introduction to polynomials   |           | 10.3     |
| 10.4     | 10.4     | Addition and subtraction of polynomials                             |           | 10.4     |
| 10.5     | 10.5     | Multiplication of polynomials                                       |           | 10.5     |
| 10.6     | 10.6     | Special products  |           | 10.6     |
| 10.7     | 10.7     | Operations with polynomials in several variables                    |           | 10.7     |
| 10.8     | 10.8     | Division of polynomials   |           | 10.8     |
| 11.1     | 11.1     | Introduction to factoring   |           | 11.1     |
| 11.2     | 11.2     | Factoring trinomials of the type $x^2 + bx + c$                     |           | 11.2     |
|          |          | Summary and review  |           |          |
|          |          | Chapter test  |           |          |
|          |          | Unit 4 final test   |           |          |
|          |          |   |           |          |
|          |          | MATH 053 review   |           |          |
|          |          | MATH 053 final exam   | day 105   |          |

## 5. Basis of Student Assessment (Weighting)

(a) **Tests** 75% of the course grade is based on the average of **all** unit final test scores for units 1–4 (including both passing and failing test scores)

(b) **Exams** 25% of the course grade is based on the average of **all** final exam scores (including both passing and failing exam scores)

### Note:

1. Effective September 2005, returning self-paced MATH 053 students must start at the beginning of the course (no credit will be given for partial completion of ABMA 050 before September 2004).

2. Students with a record of poor attendance OR poor progress may be restricted from re-registering in Academic and Career Foundations Department courses.

## 6. Grading System

|    |         |    |        |    |             |
|----|---------|----|--------|----|-------------|
| A+ | 90–100% | B+ | 77–79% | C+ | 65–69%      |
| A  | 85–89%  | B  | 73–76% | C  | 60–64%      |
| A– | 80–84%  | B– | 70–72% | IP | in progress |

## 7. Recommended Materials or Services to Assist Students to Succeed Throughout the Course

### LEARNING SUPPORT AND SERVICES FOR STUDENTS

There are a variety of services available for students to assist them throughout their learning. This information is available in the College calendar, Registration, or on the College website <http://www.camosun.bc.ca>

### STUDENT CONDUCT POLICY

It is the student's responsibility to become familiar with the content of the Student Conduct Policy. The policy is available in each School Administration Office, Registration, and on the College website <http://camosun.ca/about/policies/education-academic/e-2-student-services-&-support/e-2.5.pdf>

### ACADEMIC PROGRESS POLICY

The Academic Progress Policy designed to enhance a learner's likelihood of success. Students should become familiar with the content of this policy. The policy is available in each School Administration Office, Registration, and on the College website <http://camosun.ca/about/policies/education-academic/e-1-programming-&-instruction/e-1.1.pdf>