



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

**MATH 057-S04 Intermediate Math for Trades**  
**Spring 2012**

**COURSE OUTLINE**

**The Approved Course Description is available on the College website**

<http://www.camosun.bc.ca/learn/calendar/index.html>

Ω Please note: This outline will not be kept indefinitely. It is recommended students keep this outline for their records.

**1. Instructor Information**

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

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OFFICE HOURS BY APPOINTMENT

May - June 2012 Schedule

| Time          | Monday                 | Tuesday                | Wednesday              | Thursday               | Friday          |
|---------------|------------------------|------------------------|------------------------|------------------------|-----------------|
| 10:00 – 11:30 |                        | Office Hours           |                        | Office Hours           |                 |
| 12:00 – 12:30 | Help Centre<br>CBA 109 | Help Centre<br>CBA 109 | Help Centre<br>CBA 109 | Help Centre<br>CBA 109 |                 |
| 12:30 – 3:20  | Math<br>S01<br>CBA 117 | Math<br>S03<br>CBA 117 | Math<br>S01<br>CBA 117 | Math<br>S03<br>CBA 117 | Office<br>Hours |
| 3:30 – 4:00   | Office Hours           | Office Hours           | Office Hours           | Office Hours           |                 |
| 4:30 – 5:00   | Office Hours           |                        | Office Hours           |                        |                 |
| 5:00 – 7:50   | Math<br>S04<br>CBA 117 |                        | Math<br>S04<br>CBA 117 |                        |                 |

**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 and trigonometry
3. apply a variety of strategies in solving math-related problems
4. apply knowledge and skills in introductory algebra and trigonometry to solve problems
5. use knowledge of introductory algebra and trigonometry as a basis for further study in the Electrical ELT program, Advanced-level mathematics, and other courses and programs

### 3. Required Materials

- (a) textbook: *Developmental Mathematics*, 7<sup>th</sup> or 8<sup>th</sup> edition, Marvin Bittinger & Judith Beecher
- (b) module: Trigonometry (*ABE Intermediate Mathematics* module 14), British Columbia
- (c) module: Vectors (Camosun College)
- (d) scientific calculator (Sharp EL531W for MATH 072)

#### Supplementary Materials

- (e) *Student's Solutions Manual*, Judith Penna  
(for sale in the bookstore; available for reference in the classroom)
- (f) *Instructor's Solutions Manual*, Judith Penna (for reference in the classroom)
- (g) video CDs (cover each section of the text, for viewing at the college or at home)
- (h) website [www.mymathlab.com](http://www.mymathlab.com) (online text, tutorials, videos, and testing)

### 4. Course Content and Schedule

Classes run from May 7, 2011 to June 22, 2011.

The College will be closed on Monday, May 21, for Victoria Day.

#### 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 057 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)

| 6th ed'n | 7th ed'n | MATH 057 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 |  |  |
|--|--|-------------------|--|--|

| 6th ed'n |       | 7th ed'n   |  | MATH 057 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  |  |                         | 9.1      |
| 9.2      | 9.1   | Graphing linear equations  |  |                         | 9.2      |
| 9.3      | 9.2   | More with graphing and intercepts                                  |  |                         | 9.3      |
| 9.4      | 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                 |          |
|          |       | <b>Unit 5 – Trigonometry</b> (supplementary module)                |  | (25 days)               |          |
| 5.1      | 5.1   | The right triangle   |  |                         |          |
| 5.2      | 5.2   | Angles and sides   |  |                         |          |
| 5.3      | 5.3   | The Pythagorean theorem (more in 6e text p 1087, 7e text p 1059)   |  |                         |          |
| 5.4      | 5.4   | The tangent ratio  |  |                         |          |
| 5.5      | 5.5   | Using the tangent ratio  |  |                         |          |
| 5.6      | 5.6   | The sine and cosine ratios   |  |                         |          |
| 5.7      | 5.7   | Solving triangles  |  |                         |          |
|          |       | Practice test  |  |                         |          |
|          |       | Unit 5 final test  |  |                         |          |
|          |       | <b>Unit 6 – Vectors</b> (supplementary module)                     |  |                         |          |
| p 10     | p 10  | Problem Sets   |  |                         |          |
|          |       | Vectors Final Test   |  | day 130                 |          |

## 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 1–6 (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:**

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://camosun.ca/services/>

### ACADEMIC CONDUCT POLICY

It is the student's responsibility to become familiar with the content of the Academic 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>