# CAMOSUN COLLEGE
*School of Access*
*Academic and Career Foundations Department*
*MATH 053    Intermediate Mathematics 2*

*Winter 2017(January 9 - April 21, 2017)*

*Section S02*
## COURSE OUTLINE

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*The Approved Course Description is available on the College website* *http://www.camosun.ca/learn/calendar/current/*

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**My Schedule     Jan. 9-April. 27, 2017**
Website: **https://sites.camosun.ca/acf-math/**

*Winter 2017 Schedule     Nicolas Mai   Ph: 370 – 3848*
Office:  Interurban CBA 149

| Time | Monday | Tuesday | Wednesday | Thursday | Friday |
|---|---|---|---|---|---|
| 8:30 / 10:30 / 11:20 | Math S02 CBA 117 | Office CBA 149 | Math S02 CBA 117 | Office CBA 149 | Office CBA 149 |
| 12:20 | Lunch | **Math** S03 CBA 117 | Lunch | **Math** S03 CBA 117 | **Math** S03 CBA 117 |
| 12:30-3:20 / 4:30 | Math S05 | Lunch / Help Centre CBA 109 1-2 / Office CBA 149 | Math S05 | Lunch / Help Centre CBA 109 1-2 / Office CBA 149 | Lunch / Dept. Meetings |

*e-mail:* *mai@camosun.bc.ca*

*Office Hours By Appointment*

## 2.  Intended Learning Outcomes
(complete ABE Intermediate Mathematics learning outcomes at ABE Articulation Handbook website http://www.aved.gov.bc.ca/abe/docs/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*, 6th/7th/8th edition, Marvin Bittinger/Judith Beecher
    (b) scientific calculator (Sharp EL-531X or EL-531W for next level MATH 072 or 135)
    **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* (online text, tutorials, videos, and testing)

### 4. Course Schedule, Content and Instructions

### Schedule:
**2015W Semester classes run from January 5 - April 10, 2015**

Other important dates:
| | | |
|---|---|---|
| | February 9 | Holiday, College Closed |
| | February 12-13 | Reading Break |
| | March 9 | Withdrawal Deadline |
| | April 3 & 6 | Holiday, College Closed |
| | April 10 | Last day of classes |

### 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, 11.5, 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)

| 8th ed'n | 7th ed'n | MATH 053 course content | | |
|---|---|---|---|---|
| | | ***Unit R – Arithmetic Review (no calculator)*** | | |
| R.1 | R.1 | Place value | | |
| R.2 | R.2 | Comparing numbers | | |
| R.3 | R.3 | Rounding numbers | | |
| R.4 | R.4 | Adding and subtracting whole numbers and decimals | | |
| R.5 | R.5 | Multiplying whole numbers and decimals | | |
| R.6 | R.6 | Dividing whole numbers and decimals | | |
| R.7 | R.7 | Order of operations | | |

| R.8 | R.8 | Operations with fractions | | |
|---|---|---|---|---|
| R.9 | R.9 | Equivalent fractions | | |
| R.10 | R.10 | Adding and subtracting fractions | | |
| R.11 | R.11 | Multiplying fractions | | |
| R.12 | R.12 | Dividing fractions | | |
| R.13 | R.13 | Converting fractions and decimals | | |
| R.14 | R.14 | Estimation | | |
| | | Practice Test | | |
| | | Unit R final test (no calculator) | | |

| 8th ed'n | 7th ed'n | MATH 053  course content | | |
|---|---|---|---|---|
| | | ***Unit 1 − Real Numbers and Algebraic Expressions***   (20 days) | | |
| 7.1 | 7.1 | Introduction to algebra | | |
| 7.2 | 7.2 | The real numbers | | |
| 7.3 | 7.3 | Addition of real numbers | | |
| 7.4 | 7.4 | Subtraction of real numbers | | |
| 7.5 | 7.5 | Multiplication of real numbers | | |
| 7.6 | 7.6 | Division of real numbers | | |
| 7.7 | 7.7 | Properties of real numbers | | |
| 7.8 | 7.8 | Simplifying expressions; order of operations | | |
| | | Summary and review | | |
| | | Chapter test | | |
| | | Unit 1 final test | | |
| | | | | |
| | | ***Unit 2 − Solving Equations and Inequalities***      (30 days) | | |
| 8.1 | 8.1 | Solving equations: the addition principle | | |
| 8.2 | 8.2 | Solving equations: the multiplication principle | | |
| 8.3 | 8.3 | Using the principles together | | |
| 8.4 | 8.4 | Formulas | | |
| 8.5 | 8.5 | Applications of percent | | |
| 8.6 | 8.6 | Applications and problem solving | | |
| 8.7 | 8.7 | Solving inequalities | | |
| 8.8 | 8.8 | Applications and problem solving with inequalities | | |
| | | Summary and review | | |
| | | Chapter test | | |
| | | Unit 2 final test | | |
| | | | | |
| | | ***Unit 3 − Graphs of Linear Equations***          (22 days) | | |
| 9.1 | 9.1 | Graphs and applications of linear equations | | |
| 9.2 | 9.2 | More with graphing and intercepts | | |
| 9.3 | 9.3 | Slope and applications | | |
| 9.4 | 9.4 | Equations of lines | | |
| 9.5 | 9.5 | Graphing using the slope and y-intercept | | |
| | | Summary and review | | |
| | | Chapter test | | |
| | | Unit 3 final test | | |
| | | | | |
| | | ***Unit 4 − Polynomials: Operations and Factoring***    (28 days) | | |
| 10.1* | 10.1* | Integers as exponents | | |
| 10.2* | 10.2* | Exponents and scientific notation | | |
| | | * after 10.2, complete supplementary exercises on exponents #1−25 | | |
| 10.3 | 10.3 | Introduction to polynomials | | |
| 10.4 | 10.4 | Addition and subtraction of polynomials | | |
| 10.5 | 10.5 | Multiplication of polynomials | | |
| 10.6 | 10.6 | Special products | | |
| 10.7 | 10.7 | Operations with polynomials in several variables | | |
| 10.8a | 10.8a | Division of polynomials by a monomial | | |

| | | | | |
|---|---|---|---|---|
| 11.1ab | 11.1ab | Introduction to common factoring | | |
| 11.2 | 11.2 | Factoring trinomials of the type $x^2 + bx + c$ | | |
| 11.5cd | 11.5cd | Factoring differences of squares | | |
| | | 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:** 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. Learning Support and Services for Students

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**ACADEMIC UPGRADING HELP CENTRE (CBA 109)**

Help with coursework, reference & learning materials library,
computers & printer, quiet testing & study areas

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There are many other Camosun services available to help you succeed in and out of the classroom, including education planning, learning and personal support, campus life, work and housing, and getting around. This information is available at Registration or the College web site http://camosun.ca/services/

## 8. College Policies

### ACADEMIC PROGRESS

The purpose of this policy is to enhance a learner's likelihood of success, and to encourage the learner to use College resources effectively.
http://camosun.ca/learn/calendar/current/procedures.html

### GRADING

The purpose of this policy is to ensure that grading and promotion are consistent and fair. http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf

### STUDENT CONDUCT

The purpose of this policy is to provide clear expectations of appropriate academic and non-academic student conduct, and to establish processes for resolution of conduct issues or the imposition of sanctions for inappropriate conduct.

http://camosun.ca/about/policies/education-academic/e-2-student-services-and-support/e-2.5.pdf