# Math 073 D19
## Advanced Mathematics 2
Winter 2013 Course Outline

**This course outline is available online at** http://www.lwebs.ca/index.php/courses/

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

## Calendar Description
See the Mathematics Course Descriptions and Prerequisites at
http://camosun.ca/learn/calendar/2012/web/math.html

## Course Requirements:

(a) An Access Code for our online classroom based on *Intermediate Algebra*, 10$^{th}$ or 11$^{th}$ edition, Marvin Bittinger Bittinger and *Trigonometry* (excerpt from *Trigonometry and Algebra*), 3$^{rd}$ or 4th Edition, Addison-Wesley, Boston, J.A. Beecher, J.A. Penna, and M.L. Bittinger.  This access code is available for purchase online at the publisher's website -- http://mathxl.com.
>    NOTE: The Access Code also provides access to a plethora of textbook publisher online resources including animations, videos, podcasts and digital pages of the textbook. A hard copy of the text book is optional.

(b) Unrestricted access to an Internet connected computer. See Computer System Requirements at http://mathxl.com/support/system.htm.

(c) Scientific calculator. The Sharp EL 531W model is the calculator recommended by the Camosun math department.

Exit Grade: You need a minimum of C+ in Math 073 to continue into Math 107 or a B to continue into Math 115. See the college calendar at http://camosun.ca for other prerequisites.

## Important Dates

See http://camosun.ca/learn/calendar/current/important-dates.html

## Instructor Information

Instructor -- Martin Buck

a) Office hours: Online classroom available 24 hours a day and seven days a week. See the contact info below. Expect a response within one school day or less. Skype and phone appointments with the instructor are also available by prior arrangement.

b) Location: The online classroom is located at http://mathxl.com.

c) Instructor's website: http://lwebs.ca

d) Students will receive an invitation to join my math circle at Google +

(d) E-mail: martin@lwebs.ca
Skype: mbuck_skype

## Course Information

This mastery learning and fixed paced course is designed to be completed in one term or less. For details on how the online system works, review the information at http://www.lwebs.ca/index.php/the-online-math-system/ . Currently this online section is only offered in the Fall and Winter terms. Instructions on how to gain access to the online classroom are available at http://www.lwebs.ca/index.php/the-online-math-system/gaining-access/ . When you have logged into the course homepage, you will see a list of assignments and their due dates

## Assignments

All assignments will be completed online. You are responsible for regular communication with your instructor as well as logging into the website and completing the assignments well ahead of the due dates. Please note that the MathXL system keeps track of how much time you devote to each of the assignments. If you miss a due date for a pre-test or a post-test, a score of zero will be applied, but you will be allowed to move on to the Homework Assignments. Late penalties of 10% per day will be applied to Homework Assignments as well as Unit Finals. The last day to submit assignments will be last day of instruction for the term as listed at the college website.

### Tips for Success

The secret to success in math is practice, practice and practice. Plan on spending 15 to 20 hours each week on your math. Plan on completing at least one assignment per week day. Work several days ahead of the assignment due date so that if life intervenes, you will have bought yourself an extension.

| **Grade Calculation:** | *Online Pre and Post-tests | 10% |
|---|---|---|
| | *Online Homework Assignments | 10% |
| | Study Plan Exercises | 10% |
| | **Five Unit Tests | 20% |
| | ***Final Exam | 50% |

*The goal for each pre and post-test is 80% or better.
**If you score less than 75% on a unit test, you will need to rewrite the test before you continue.
   Note: Tests can only be rewritten once for a total of two times and all test scores are averaged to calculate a final mark.
***There is no rewrite on the final exam. If the average of your term mark and your exam mark is not high enough to proceed to your chosen program, then you need to repeat Math 073.

## Standard Grading System (GPA)

| 0-49 | 50-59 | 60-64 | 65-69 | 70-72 | 73-76 | 77-79 | 80-84 | 85-89 | 90-100 |
|---|---|---|---|---|---|---|---|---|---|
| F | D | C | C+ | B− | B | B+ | A− | A | A+ |

**NS --** Students who do not login to the online classroom by the first day of class and who do not contact the instructor within two working days following the first class with a satisfactory explanation for their absence will be assigned a "NS" grade and their seat will be forfeited.

**W --** If you unable to devote the time required to succeed in the course, then you need to officially withdraw to avoid getting an F. See Important Dates link above for the last day to do that.

**I** -- A temporary grade assigned when the requirements of a course have not yet been completed due to hardship or extenuating circumstances, such as illness or death in the family.

**IP --** An "in-progress" grade is only given in self-paced courses.  If you have not finished the course at the end of the term but have successfully completed at least 3 unit tests that term, then you may request a transfer to a self-paced section. If such a seat is available you will be awarded an IP grade so you can complete the course next term. NOTE: You may only receive two IP grades for a course; the third time you register for the course, you will be assigned an F if you do not complete the course.

## Assignments

All assignments are completed online. Access your online assignments at http://mathxl.com by logging in and clicking on the **Homework and Tests** button. Details at http://www.lwebs.ca/index.php/the-online-math-system/ .

The final exam is completed under invigilated or supervised conditions either on campus or through an invigilator arranged by the student and approved by the instructor. More details will be found in **Announcements** area of the online classroom at http://mathxl.com.

For specific assignment details and due dates, login to your online classroom at http://mathxl.com. Upcoming assignments are listed on the course homepage. Click on the **Calendar** button for a list of all assignments and their due dates.

| Chapter | MATH 073 course content |
|---|---|
| | ***Unit 1   Polynomials and Polynomial Functions*** |
| | **Unit 1 Pre-test** |
| **4.1** | Introduction to polynomials and polynomial functions |
| **4.2** | Multiplication of polynomials |
| **4.3** | Introduction to factoring |
| **4.4** | Factoring trinomials: $x^2 + bx + c$ |
| | Mid-Chapter Review |
| **4.5** | Factoring trinomials: $ax^2 + bx + c$, $a \neq 1$ |
| **4.6** | Special factoring |
| **4.7** | Factoring: a general strategy |
| **4.8** | Applications of polynomial equations and functions |
| | Chapter Review |
| | **Unit 1 Post-test** |
| | **Unit 1 Final** |
| | ***Unit 2–Rational Expressions, Equations, & Functions*** |
| | **Unit 2 Pre-test** |
| **5.1** | Rational expressions and functions: multiplying, dividing, and simplifying |
| **5.2** | LCMs, LCDs, addition, and subtraction |
| **5.3** | Division of polynomials |
| **5.4** | Complex rational expressions |
| | Mid-Chapter Review |
| **5.5** | Solving rational equations |
| **5.6** | Applications and proportions (omit section b) |
| **5.7** | Formulas and applications |
| **5.8** | Variation and applications |
| | Chapter Review |
| | **Unit 2 Post-test** |
| | **Unit 2 Final** |
| | ***Unit 3 Radical Expressions, Equations, & Functions*** |
| | **Unit 3 Pre-test** |
| **6.1** | Radical expressions and functions |
| **6.2** | Rational numbers as exponents |
| **6.3** | Simplifying radical expressions |
| **6.4** | Addition, subtraction, and more multiplication |
| | Mid-Chapter Review |
| **6.5** | More on division of radical expressions |
| **6.6** | Solving radical equations |
| **6.7** | Applications involving powers and roots |
| **6.8** | The complex numbers |
| | Chapter Review |
| | **Unit 3 Post-test** |
| | **Unit 3 Final** |

| Text | MATH 073 course content |
|---|---|
| | **_Unit 4 – Quadratic Equations and Functions_** |
| 7.1 | The basics of solving quadratic equations |
| 7.2 | The quadratic formula |
| 7.3 | Applications involving quadratic equations |
| 7.4 | More on quadratic equations |
| | Mid-Chapter Review |
| 7.5 | Graphing $f(x) = a(x - h)^2 + k$ |
| 7.6 | Graphing $f(x) = ax^2 + bx + c$ |
| 7.7a | Mathematical modeling with quadratic functions |
| | Chapter Review |
| | **Unit 4 Post-test** |
| | **Unit 4 Final** |
| | |
| | **_*Unit 5 – Trigonometry (located in different online classroom)_** |
| | **Unit 5 Pre-test** |
| 6.1 | Trigonometric functions of acute angles |
| 6.2 | Applications of right triangles |
| 6.3 | Trigonometric functions of any angle |
| | Mid-Chapter Review |
| 8.1 | The law of sines |
| 8.2 | The law of cosines |
| | Chapter Review |
| | **Unit 5 Post-test** |
| | **Unit 5 Final** |
| | |
| | **_Final Exam_** |
| | **MATH 073 Final Pre-test** |
| | **MATH 073 Final Post-test** |
| | **MATH 073 Final Exam** |

*Contact your instructor for information on how to access the trigonometry online classroom.

## LEARNING SUPPORT AND SERVICES FOR STUDENTS

In addition to the instructor, there are a variety of resources and services available for students to assist them throughout their learning. For more information on the college Math Help Centres, see http://camosun.ca/learn/programs/math/labs.html. There is also information available in the College Calendar, Student Services or the College web site at http://www.camosun.bc.ca

## STUDENT CONDUCT POLICY

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

# ACADEMIC PROGRESS POLICY

There is an 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 web site in the Policy Section.

http://camosun.ca/about/policies/education-academic/e-1-programming-&-instruction/e-1.1.pdf