



## Mathematics 072-S02 Advanced Mathematics 1 Winter 2017

**Instructors:** Gemma Cuizon

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Timetable:

Time \ Day	Monday	Tuesday	Wednesday	Thursday	Friday
4:30 – 5:20 pm		Office Time		Office Time	
5:30 – 7:50 pm		Math 072/073 E346		Math 072/073 E346	

1. Important Dates:

- Jan 10 First day of classes for the Fall term
- Jan 23 Fee Deadline (Winter '17)
- Feb 13 Family Day – College closed
- Feb 14-17 Reading Break
- Feb 17 College Conversations Day – College closed
- Mar 13 Withdraw Deadline
- Apr 13 Last day of instruction
- Apr 14 Good Friday – College closed
- Apr 17 Easter Monday – College closed
- Apr 18-26 Final Exam Period (No exam on Sunday, Apr. 23)

2. Intended Learning Outcomes (4 credits)

This is an algebra course that corresponds and expands upon material covered in senior high school mathematics programs. The emphasis is on algebra skills and when it is appropriate to use a calculator.

Topics include an arithmetic and algebra review; linear equations and inequalities in one variable; an introduction to functions; a comprehensive study of linear functions; system of linear equations in two variables; linear inequalities in two variables; polynomials; and rational exponents. Application problems are sprinkled throughout the course.

The sections covered in the textbook are:

Unit 1: Ch R Review of Basic Algebra	R.1 – R.7
Unit 2: Ch 1 Solving Linear Equations and Inequalities	1.1 – 1.6 (omit 1.6e)
Unit 3: Ch 2 Graphs, Functions and Applications	2.1 – 2.6
Unit 4: Ch 3 System of Equations	3.1 – 3.4a, 3.7ab
Unit 5: Ch 4 Polynomials and Polynomial Functions	4.1 – 4.7

For a detailed synopsis of material covered in the course, refer to Course Content section below.

See Camosun College calendar for more information:

<http://camosun.ca/learn/calendar/current/web/math.html>

### 3. Building for Success

The course completion time will vary for each student. Factors that may influence completion time may include the student's entry-level math skills, motivation, learning rate, time devoted to studying and attendance. It takes 2 – 4 hours to read through one section and do both the margin exercises and sufficient exercises in the exercise set to feel comfortable with the material. There are 30 sections in this course, many with subsections; this means that you have between **70 – 140 hours of work** ahead of you not including study time for tests and the final exam! If you work 5 days a week on this course, then you need to put in 2 – 4 hours a day to finish the course in one term. There is lots of help available; you can ask me questions during class or during office times, or you can get help from the math tutors in the Math Labs.

### 4. Required Materials

- i. *Intermediate Algebra*, 12th Edition, Marvin Bittinger  
Textbook comes packaged with the Student's Solution Manual, Algebra Review Study Card and *MyMathLab* (*pirated electronic copies of MyMathLab or the textbook are NOT allowed*).
- ii. The only calculator allowed on tests and the final exam is the **Sharp EL-531** scientific calculator (available in the Campus Bookstore).

### 5. Math Labs

Ewing 342 & 224 (LANS) and Tec142 (INT): These drop-in centres are available for you to work on math homework and to seek **free** help from the Instructional Assistant. See the hours posted on the math lab doors or go to <http://camosun.ca/learn/programs/math/labs.html>.

Study Tips: It is recommended that approximately 3-6 hours per week be spent studying and completing homework for this course outside of class time. Find a study buddy to discuss math problems and **use the math labs**.

### 6. Student Assessment, Grading and Policies

Assessment and Evaluation: There are 5 tests and the final exam. The tentative dates and topics are on the pacing schedule.

If you get less than 65% on a test you must complete a rewrite (to a maximum of 2 rewrites). There are NO rewrites for the final exam. If you get more than 65% on a unit test, you have the option of rewriting it once. The highest test mark for each section will count towards your final term mark. To re-register for the course for one extra term, *you must demonstrate to the instructor that you have completed at least **75% of the work** or have attended at least **75% of the classes***.

You may write the tests when you feel you are ready. You must demonstrate to the instructor that you have completed and understand the assigned homework and that you have done the Summary & Review and the textbook Chapter Test which accompanies each unit. You are also encouraged to attempt the quizzes using MyMathLab. *You must get written permission of your instructor to write each test and the comprehensive final exam.*

Tests and the final exam are to be written in Math Lab (E342) during math lab hours which are posted on the math lab door. Please be aware that lab hours may change during the term due to staff availability. Allow one and a half hours to write the tests and 3 hours to write the final exam. **You are not allowed to commence a test 1-hour before the close of the Math Lab.** If you want to complete the course in one term, you should plan to write a test every 2-3 weeks. Again, there is **no rewrite for the final exam.** If the average of your term mark and your exam mark is not high enough to proceed into Math 073 or your chosen program, then you need to repeat Math 072. The final exam has non-calculator and calculator-permitted sections.

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

Tests..... 50%  
 Final Exam..... 50%

Grade Scale:

Percent Range	0-49	50-59	60-64	65-69	70-72	73-76	77-79	80-84	85-89	90-100
Letter Grade	<b>F</b>	<b>D</b>	<b>C</b>	<b>C+</b>	<b>B-</b>	<b>B</b>	<b>B+</b>	<b>A-</b>	<b>A</b>	<b>A+</b>

For information on Camosun College's grading policy, see the webpage:

<http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.5.pdf>

#### 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, Registrar's Office or the College web site at <http://camosun.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-and-support/e-2.5.pdf>

#### ACADEMIC PROGRESS POLICY

The College has an academic progress policy geared mainly toward "at risk" students, the stated intention for which is to improve a student's likelihood of success. To view the policy, see the webpage <http://camosun.ca/about/policies/education-academic/e-1-programming-and-instruction/e-1.1.pdf>

7. Course Content

Homework for Unit 1 (Review Chapter)				
Unit 1	Section	Margin Exercises	A Bit More Practice	Lots More Practice
R.1	The Set of Real Numbers	All	1 – 24, 45 – 56	1 – 70
R.2	Operations with Real Numbers	All	45 – 56, 67 – 92, 103-128	1 – 130
R.3	Exponential Notation and Order of Operations	All	29-59, 85-108	1 – 108
R.4	Introduction to Algebraic Expressions	All	7, 23, 25, 35, 37, 41, 43	1 – 44
R.5	Equivalent Algebraic Expressions	All	9 – 40, 45, 47, 61, 63	9 – 64
R.6	Simplifying Algebraic Expressions	All	9, 15, 21, 35, 41, 43, 53, 57, 65, 67, 71, 79, 83	1 – 84
R.7	Properties of Exponents and Scientific Notation	All	11, 13, 15, 35, 37, 39, 47, 49, 51, 55, 57, 59, 63, 79, 83, 87, 93, 97, 101	1 – 110
Important Concepts		Also review the components of each of the <b>sets belonging to the Real Numbers</b> on pgs. 2 – 5. Making and using flash cards are a great way to learn definitions.		
Unit 1 Test: Chap Review		No calculators and no checking answers until you have finished this practice test! Grade yourself; hard questions are worth 2 marks each and other questions are worth 1 mark each. If you are satisfied with the results, then you are ready for the Unit 1 Test.		
Homework for Unit 2 (Chapter 1)				
Unit 2	Section	Margin Exercises	A Bit More Practice	Lots More Practice
1.1	Solving Equations	Start at #9	15, 23, 31, 35, 37, 43, 45, 47, 51, 57, 75, 77, 79, 81	13 – 84
1.2	Formulas and Applications	All	5 – 30, 33, 35, 37	1 – 38
1.3	Applications and Problem Solving	All	1 – 31	1 – 31
1.4	Sets, Inequalities, and Interval Notation	All	5, 7, 11, 15, 21, 29, 31, 33 – 70 Odd, 73, 77, 81, 83	1 – 86
1.5	Intersections, Unions, and Compound Inequalities	All	7, 9, 13, 17, 21, 31, 45 – 58 Odd, 59, 63	1 – 66
1.6 a-d	Absolute-Value Equations (and Inequalities)	1 – 19	5, 9, 15, 33, 43, 51, 57, 61, 65	1 – 70

<b>N.B.</b>	You may omit the Principles for Solving Inequalities Involving Absolute Value at the bottom of the page.
Unit 2 Test: Chap 1 1 – 42	No checking answers until you have finished the test! Grade yourself; word problems and hard questions are worth 2 marks each and other questions are worth 1 mark each. If you are satisfied with the results, then you are ready for the Unit 2 Test. If you want more practice, go to MyMathLab.

### Homework for Unit 3 (Chapter 2)

Unit 3	Section	Margin Exercises	A Bit More Practice	Lots More Practice
2.1	Graphs of Equations	All	17, 21, 27, 43, 47, 49	1 – 52
2.2	Functions and Graphs	All	13, 17, 19c, 19f, 31, 39, 43, 49, 53, 57, 61	1 – 62
2.3	Finding Domain and Range	All	1 – 32 Odd	1 – 34
2.4	Linear Functions: Graphs and Slope	All	3, 11, 15 – 21 Odd, 27, 33,	1 – 36
2.5	More on Graphing Linear Equations	All	3, 5, 9, 15, 17, 19, 23, 29, 31, 41 – 56 Odd	1 – 56
2.6	Finding Equations of Lines; applications	All	5, 7, 13, 19, 22, 23, 27, 31 – 44 Odd, 49, 51	1 – 54
Important Concepts		Also learn the definitions of <b>function</b> , <b>domain</b> and <b>range</b> and know the <b>vertical line test</b>		
Unit 3 Test: Chap 2 1 – 35		When you finish a test, check the answers and grade yourself. No peeking at the answers until you have completed a test. Use your calculator sparingly.		

### Homework for Unit 4 (Chapter 3)

Unit 4	Section	Margin Exercises	A Bit More Practice	Lots More Practice
3.1	Systems of Equation	1 – 5	3, 13 – 19 Odd	1 – 20
3.2	Solving by Substitution	All	1 – 18 Odd	1 – 18, 20
3.3	Solving by Elimination	All	1 – 28 Odd, 29, 31	1 – 34
3.4 a	Applied Problems in Two Variables (Motion problems are only tested in Math 073)	1 – 4	5, 7, 11-19 Odd	1 – 19
3.7 a,b (omit c)	Systems of Inequalities	1 – 6	1, 3, 5 – 25 Odd	1 – 24
Vocabulary and Rules		Know the meaning of consistent & inconsistent systems of equations and dependent & independent equations but you won't be tested on it.		
Unit 4 Test: Chap 3: 1 – 9, 10, 12, 13, 16, 17		You must be competent solving systems in all 3 manners.		

Homework for Unit 5 (Chapter 4)				
Unit 5	Section	Margin Exercises	A Bit More Practice	Lots More Practice
4.1	Introduction to Polynomials and Polynomial Functions	All	5, 19, 21, 25, 27, 29, 35 – 60 Odd, 65 – 80 Odd	1 – 80
4.2	Multiplication of Polynomials	All	1 – 60 Odd, 63 – 84 Odd, 85, 89	1 – 92
4.3	Introduction to Factoring	All	1 – 30 Odd, 33, 37 – 54 Odd	1 – 54
4.4	Factoring Trinomials: $x^2 + bx + c$	All	1 – 44 Odd	1 – 44
4.5	Factoring Trinomials: $ax^2 + bx + c$ , $a \neq 1$	All	Start with the FOIL method (systematic trial); switch to the $ac$ -method as needed 1 – 50 Odd	1 – 50
4.6	Special Factoring	All	3 – 17 Odd, 23, 25, 33 – 48 Odd, 53 – 99 Odd	1 – 100
4.7	Factoring: A General Strategy	All	1 – 55 Odd	1 – 56
Concepts and Formulas		<ul style="list-style-type: none"> <li>classification of polynomials by the number of terms and degree</li> <li>squaring a binomial (using Mental Math)</li> <li>factoring formulas (diff. of squares, sum/diff of cubes)</li> </ul>		
Function Notation: Sections 2.2, 4.1, 4.2		Study about evaluating functions or how to find function values, and also how to find $x$ -values for which the function value $f(x)$ is given.		
Unit 5 Test: Chap 4: 1 – 31		No peeking at the answers until you have finished the test! Grade yourself; hard questions are worth 2 marks each and the other questions are worth 1 mark each.		
Final Exam Preparation				

8. Pacing Schedule (suggested)

Week	Month	Tuesday	Thursday	Notes
1	Jan	10 Intro, R.1 - R.2	12 R.2 - R.3	
2	Jan	17 R.3 - R.4	19 R.4 - R.5	
3	Jan	24 R.6 - R.7	26 R.7, Review	
4	Jan/Feb	31 Test 1	2 1.1 - 1.3	
5	Feb	7 1.4	9 1.5	
6	Feb	14 <i>Reading Break</i> 1.6	16 <i>Reading Break</i> Review	
7	Feb	21 Test 2	23 2.1 - 2.3	
8	Feb/Mar	28 2.4 - 2.5	2 2.6, Review	
9	Mar	7 Test 3	9 3.1 - 3.2	
10	Mar	14 3.3 - 3.4a	16 3.7ab, Review	
11	Mar	21 Test 4	23 4.1 - 4.2	
12	Mar	28 4.3 - 4.4	30 4.5	
13	Apr	4 4.5 - 4.6	6 4.6 - 4.7	
14	Apr	11 Review	13 Test 5	
1	Apr	18-20, 24-26 Final Exam Period		

**\*Accelerated course completion (7 weeks) requires doubling of workload.**

## 9. Class Protocols

- a. Sign-in/Check-in with the instructor.
- b. Bring your textbook, calculator and work materials to every class.
- c. Work quietly. I encourage you to help each other but please keep the noise level down and keep cell phones on vibrate mode. If you would like to work with a partner or in a group, please feel free to use the math lab. If you would like to take a break from math (and this is totally understandable) please chat outside the classroom.
- d. If you bring snacks to class, please be respectful of others and tidy up afterwards. Let me know if you have any allergies. Thanks.
- e. If you need help and I'm with another student, please put your name on the board so I know you're waiting. If others are waiting, I may have to limit the time I spend with you. i.e.; 2 questions at a time.
- f. When doing the exercises, label each question clearly, write out the question and **show your work**. This makes it easy to review for the test and to get help if you don't understand.
- g. If you have trouble with an exercise, highlight the question and make a note in your margin about what you don't understand. When you ask for help in class, bring the question and your work for the instructor to see. Be organized!
- h. When requesting a Permission Slip to write a test or your final exam, you must demonstrate competency to the instructor (sufficient homework, reviews and chapter checks completed).
- i. Tests and the final exam are to be written in the **Math Lab E342** (exclusively).

## 10. Ensuring Success

- a. Come to class every day. If you don't attend class, it's easy to fall behind and much tougher to catch up as you have to relearn the material.
- b. Do the suggested exercises from your course outline. Work through the problems thoughtfully, not just to get them done. Think about what the instruction means, what a similar question might look like on the test and what are some of the pitfalls that you need to avoid.
- c. Try to find time to do at least a bit of math at least 5 days a week. On your timetable, schedule time each day for your math homework; it is really important to establish a routine. You can't put your math course on the back burner and hope to cram it in at the end.
- d. **It is imperative that you notify the instructor** asap if you anticipate being absent for any period of time due to illness or other unforeseen events.
- e. If you don't understand something seek help right away from your instructor or from the Instructional Assistants in the Math Labs in E224 and E342.  
**Hours: E342 4:00pm – 8:00pm**  
**E224 9:00am – 4:30pm**
- f. Keep working, stay positive and do the best you can, given all the other demands in your life.



## Pearson's MyMathLab Student Registration Instructions

To register for [MATH 072\\_073 W2017](#):

1. Go to <http://www.pearsonmylabandmastering.com/>.
2. Under Register, select **Student**.
3. Confirm you have the information needed, then select **OK! Register now**.
4. Enter your instructor's course ID: [cuizon64056](#), and **Continue**.
5. Enter your existing Pearson account **username** and **password** to **Sign In**.  
You have an account if you have used a Pearson product, for example: MyMathLab, MyITLab, MyPsychLab, MySpanishLab or Mastering, such as MasteringBiology.  
If you don't have an account, select **Create** and complete the required fields.
6. Select an access option.
  - Use the access code that came with your textbook or that you purchased separately from the bookstore.
  - Buy access using a credit card or PayPal account.
  - If available, get 14 days temporary access. (The link is near the bottom of the screen.)
7. From the confirmation page, select **Go To My Courses**.
8. On the My Courses page, select the course tile [MATH 072\\_073 W2017](#) to start your work.

To sign in later:

1. Go to <http://www.pearsonmylabandmastering.com/>.
2. Select **Sign In**.
3. Enter your Pearson account **username** and **password**, and **Sign In**.
4. Select the course tile [MATH 072\\_073 W2017](#) to start your work.

To upgrade temporary access to full access:

1. Go to [www.pearsonmylabandmastering.com](http://www.pearsonmylabandmastering.com).
2. Select **Sign In**.
3. Enter your Pearson account **username** and **password**, and **Sign In**.
4. Select **Upgrade access** from the course tile [MATH 072\\_073 W2017](#).
5. Enter an access code or purchase access with a credit card or PayPal account.

For a registration overview, go to <http://www.pearsonmylabandmastering.com/students/get-registered>. Scroll down to **Need a little help?** and select a video.