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|  | <p>School of Access Department of Mathematics & Statistics MATH 073 S02 Advanced Mathematics 2 Summer 2017</p> |
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COURSE OUTLINE

The course description is online @ <http://camosun.ca/learn/calendar/current/web/math.html>

⚡ Please note: the College electronically stores this outline for five (5) years only. It is **strongly recommended** you keep a copy of this outline with your academic records. You will need this outline for any future application/s for transfer credit/s to other colleges/universities.

1. Instructor Information

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|-----|---------------|--|
| (a) | Instructor: | Crystal Lomas |
| (b) | Office Hours: | Interurban: Mon & Wed 9:30-10:20 Lansdowne: Tues 1:30-2:20 & 4:30-5:20 Thurs 1:30-2:20 & 4:30-5:20 |
| (c) | Location: | Ewing 270 (Lansdowne) & CBA 156 (Interurban) |
| (d) | Phone: | 250-370-3428 |
| (e) | Email: | LomasC@camosun.bc.ca |
| (f) | Websites: | D2L: http://online.camosun.ca MyMathLab: http://pearsonmylabandmastering.com |

2. Intended Learning Outcomes

(4 credits) This course is the second half of Math 11 is an excellent refresher for those wishing to upgrade before Math 12 or pre-calculus. Topics include rational and radical expressions and equations, quadratic equations and functions, right triangle trigonometry, trigonometric functions of any angle and the Sine and Cosine Laws.

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

3. Prerequisites and Exit Grade

- (a) Prerequisites: "C" in Principles of Math 11, or Pre-Calculus 11, or Foundations of Math 12; or "C+" in Math 072 or Math 135; or assessment.
- (b) Exit Grade: You need a grade of "C+" in Math 073 to continue into Math 107 or a "B" to continue into Math 115.

4. Required Materials

- (a) Textbook: *Intermediate Algebra*, 12th Edition, M.L. Bittinger. If you do not want a print text, then you can purchase the standalone MyMathLab (MML) digital code since it grants access to the digital textbook (and student solutions manual). Our textbook does not contain trigonometry, so there is a PDF on D2L that has the necessary materials for the trigonometry section (6.1*-6.3* & 8.1*-8.2*).
- (b) Calculator: The only calculator allowed on tests and the final exam is the *Sharp EL-531* scientific calculator.

5. Basis of Student Assessment (Weighting)

Grade Calculation

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

| | |
|----------------|-----------|
| Chapter Tests: | 50% total |
| Final Exam: | 50% |

Term Tests

There will be 5 chapter tests. Each chapter test is written in the Math Help Centre (E342) after you feel comfortable with the chapter contents.

- The Math Help Centre is open 4pm-8pm Monday-Thursday. The latest you can start a test is at 6:30 pm. You must finish tests in one sitting. They take about 1.5 hours.
- No electronic device other than the approved calculator may be used on tests.
- No papers, references, books, etc., may be used on term tests.
- If you score lower than 65% on a test, you must rewrite (up to three attempts).
- If you score lower than you would like on a test, you have the option of rewriting once.
- You must get permission from your instructor to write each test and the final exam.

Final Exam

The final exam will cover the entire course and will take approximately 3 hours. There are **no rewrites** for the final exam.

6. Grading System

Standard Grading System (GPA)

| Percentage | Grade | Description | Grade Point Equivalency |
|------------|-------|---|-------------------------|
| 90-100 | A+ | | 9 |
| 85-89 | A | | 8 |
| 80-84 | A- | | 7 |
| 77-79 | B+ | | 6 |
| 73-76 | B | | 5 |
| 70-72 | B- | | 4 |
| 65-69 | C+ | | 3 |
| 60-64 | C | | 2 |
| 50-59 | D | Minimum level of achievement for which credit is granted; a course with a "D" grade cannot be used as a prerequisite. | 1 |
| 0-49 | F | Minimum level has not been achieved. | 0 |

NS You will be assigned a “no show” grade if you do not attend the first class and you do not contact your instructor within two days of the first class.

W If you find you are too busy to work on the course, then you need to officially withdraw before the withdrawal deadline to avoid getting an F for the course. The withdrawal deadline will depend on when you joined the course, so please talk to registration to find out more.

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 attended at least 75% of the classes or have successfully completed at least 3 unit tests that term, then you may be awarded an IP grade. 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.

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, at Student Services, or the College web site at camosun.ca.

STUDENT CONDUCT POLICY

There is a Student Conduct Policy **which includes plagiarism**. It is the student’s responsibility to become familiar with the content of this policy. The policy is available in each School Administration Office, at Student Services, and the College web site in the Policy Section.

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-and-instruction/e-1.1.pdf>

STUDY TIPS

Approximately **72-144** hours (2-4 hours per section) will be required to work through the concepts in this course (this does not count studying for or writing tests). Create a schedule, stick to it, and make use of class time and the Math Help Centre.

8. Course Content

| Section | Topic | Section | Topic |
|------------------|---|----------------------|--|
| Chapter 4 | Polynomials and Polynomial Functions | Chapter 7 | Quadratic Equations and Functions |
| 4.1 | Introduction to Polynomials and Polynomial Functions | 7.1 | Basics of Solving Quadratic Equations |
| 4.2 | Multiplication of Polynomials | 7.2 | The Quadratic Formula |
| 4.3 | Introduction to Factoring | 7.3 | Applications Involving Quadratic Equations |
| 4.4 | Factoring Trinomials: $x^2 + bx + c$ | 7.4 | More on Quadratic Equations |
| 4.5 | Factoring Trinomials: $ax^2 + bx + c$ | 7.5 | Graphing $f(x) = a(x - h)^2 + k$ |
| 4.6 | Special Factoring | 7.6 | Graphing $f(x) = ax^2 + bx + c$ |
| 4.7 | Factoring: A General Strategy | 7.7a | Mathematical Modeling with Quadratic Functions |
| Chapter 5 | Rational Expressions, Equations, and Functions | Trigonometry* | Trigonometry* |
| 5.1 | Rational Expressions, Functions: Mult./Div. | 6.1* | Trig Functions of Acute Angles |
| 5.2 | LCMs, LCDs, Addition and Subtraction | 6.2* | Applications of Right Triangles |
| 5.3 | Division of Polynomials | 6.3* | Trig Functions of Any Angle |
| 5.4 | Complex Rational Expressions | 8.1* | The Law of Sines |
| 5.5 | Solving Rational Equations | 8.2* | The Law of Cosines |
| 5.6c | Uniform Motion Applications | | |
| 5.7 | Formulas and Applications | | |
| 5.8 | Variation and Applications | | |
| Chapter 6 | Radical Expressions, Equations, and Functions | | |
| 6.1 | Radical Expressions and Functions | | |
| 6.2 | Rational Numbers as Exponents | | |
| 6.3 | Simplifying Radical Expressions | | |
| 6.4 | Addition, Subtraction, and More Multiplication | | |
| 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 | | |

*Trigonometry material posted on D2L.

9. Other Information

Extra Help

You can get free face-to-face tutoring from our instructional assistant in the Math Help Centre E342. Hours are posted on the lab doors and on the web <http://camosun.ca/services/help-centres/math.html>.

You are also very welcome to stop by my office hours and ask any questions you have.

Class time is another great time to ask questions!

D2L

This class uses Desire2Learn (D2L), an online course management system. All course-related materials, grades, and announcements will be available on D2L.

MyMathLab

MyMathLab (MML) is a resource that can help with course content if you purchased the digital access code.

- (a) Textbook: A digital version of the textbook and student solution manual can be accessed through MML.
- (b) Study Plan: The study plan on MML contains questions that can help you practice concepts. It adapts to you to aid you in mastering all the course content.
- (b) Videos: There are videos explaining each of the textbook sections if you would like to listen to and watch concepts instead of (or in addition to) reading.

Class Time

Class time is optional for Math 073. It is a resource for you to use as much or as little as you need.

However, it is much easier to keep on top of your studies if you work on them regularly. So I encourage you to come to class, work on your readings and practice problems and ask me questions! If you'd like to watch videos in class, please wear headphones and be respectful to your classmates.

Class Protocol

1. Sign in when you come into class. Please indicate what you'll be working on.
2. Let me know if you need help or if you've finished a test I need to mark. I don't want to bother you while you're studying, but I do want to help!
3. Please be patient while I'm working with someone else, but (politely) make sure I know you're waiting for me so I don't take too long.
4. You may bring drinks and food to class as long as you clean up afterward. If you have an allergy, please let me know.
5. Work quietly. Discussing math is a great way to learn, but if you're bothering others you'll need to move to another room.

Good Habits

- Do the margin exercises as you read through each section to get an idea of how the concept works.
- Do the recommended exercises. Complete them one at a time until you feel comfortable with the skill, then move onto a new section. The exercises are to guide you through thinking about the skill you're learning – you should not rush through them just to get them done. Think about each one, how it relates to the basic skills you learned in the section, how it could be extended to other problems, and how it could be used with other skills you know.
- Always check your answer with the answer in the back of the text and correct any mistakes (even better, try to figure out how to check your own work before you look at the answers).
- Stay organized. Label each set of notes and problem set. Highlight, circle, or list questions that you need to ask about.
- Study for an hour or two each day. Using the skills everyday helps retention, and cramming learning into longer blocks of time does not give your brain time to organize the information.
- Create a schedule and stick to it. There is a suggesting pacing schedule on the next page – it shows which sections you should work on before the next class in order to finish Math 073 in one semester.
- Fill out the blank pacing schedule with any commitments you have, then plan out your semester and stick to it!

Suggested Pacing Schedule, Math 073 Summer 2017

May 2017

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|-----|------------|--------------------|-----|----------------|-----|-----|
| | 1 | FIRST 2 4.1-4.2 | 3 | 4 4.3-4.4 | 5 | 6 |
| 7 | 8 | 9 4.5-4.6 | 10 | 11 4.7-4.8 | 12 | 13 |
| 14 | 15 | 16 Ch 4 Test | 17 | 18 5.1-5.2 | 19 | 20 |
| 21 | HOLIDAY 22 | 23 5.3-5.4 | 24 | 25 5.5-5.6c | 26 | 27 |
| 28 | 29 | 30 5.7-5.8 | 31 | | | |

June 2017

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|-----|-----|-----------------|-----|---------------|-----|-----|
| | | | | 1 Review | 2 | 3 |
| 4 | 5 | 6 Ch 5 Test | 7 | 8 6.1-6.2 | 9 | 10 |
| 11 | 12 | 13 6.3-6.4 | 14 | 15 6.5-6.6 | 16 | 17 |
| 18 | 19 | 20 6.7-6.8 | 21 | 22 Review | 23 | 24 |
| 25 | 26 | 27 Ch 6 Test | 28 | 29 7.1-7.2 | 30 | |

July 2017

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|-----|-----------|-----------------|-----|-----------------|-----|-----|
| | | | | | | 1 |
| 2 | HOLIDAY 3 | 4 7.3-7.4 | 5 | 6 7.5-7.6 | 7 | 8 |
| 9 | 10 | 11 7.7a | 12 | 13 Review | 14 | 15 |
| 16 | 17 | 18 Ch 7 Test | 19 | 20 6.1*-6.3* | 21 | 22 |
| 23 | 24 | 25 8.1*-8.2* | 26 | 27 Review | 28 | 29 |
| 30 | 31 | | | | | |

August 2017

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|-----|-----------|-------------------|-----|-------------------------------|-----|-----|
| | | 1 Trig Test | 2 | 3 Review | 4 | 5 |
| 6 | HOLIDAY 7 | 8 Review/Final | 9 | 10 LAST 10 Review/Final | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | 29 | 30 | 31 | | |

May 2017

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|-----|------------|---------|-----|-----|-----|-----|
| | 1 | FIRST 2 | 3 | 4 | 5 | 6 |
| 7 | 8 | 9 | 10 | 11 | 12 | 13 |
| 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 21 | HOLIDAY 22 | 23 | 24 | 25 | 26 | 27 |
| 28 | 29 | 30 | 31 | | | |

June 2017

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|-----|-----|-----|-----|-----|-----|-----|
| | | | | 1 | 2 | 3 |
| 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 11 | 12 | 13 | 14 | 15 | 16 | 17 |
| 18 | 19 | 20 | 21 | 22 | 23 | 24 |
| 25 | 26 | 27 | 28 | 29 | 30 | |

July 2017

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|-----|-----------|-----|-----|-----|-----|-----|
| | | | | | | 1 |
| 2 | HOLIDAY 3 | 4 | 5 | 6 | 7 | 8 |
| 9 | 10 | 11 | 12 | 13 | 14 | 15 |
| 16 | 17 | 18 | 19 | 20 | 21 | 22 |
| 23 | 24 | 25 | 26 | 27 | 28 | 29 |
| 30 | 31 | | | | | |

August 2017

| Sun | Mon | Tue | Wed | Thu | Fri | Sat |
|-----|-----------|-----|-----|---------|-----|-----|
| | | 1 | 2 | 3 | 4 | 5 |
| 6 | HOLIDAY 7 | 8 | 9 | LAST 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| 20 | 21 | 22 | 23 | 24 | 25 | 26 |
| 27 | 28 | 29 | 30 | 31 | | |

Math 073 Recommended Exercises

Complete all the margin exercises as you read through each section. Then, practice the problems below.

| Section | Practice these | Practice as many of these as needed to feel comfortable | MML materials available |
|--------------------------------|--|---|--|
| 4.1 | 1, 5, 7, 19, 21, 25, 29, 35, 41, 51, 55, 67, 73, 79 | 1-80 odd | Study Plan; Section Video; Section Video Lecture; Animations |
| 4.2 | 1, 5, 11, 13, 15, 21, 23, 27, 33, 41, 51, 55, 65, 71, 77, 81, 85, 91 | 1-92 odd | " |
| 4.3 | 1, 5, 9, 11, 17, 21, 25, 29, 33, 37, 43, 47, 49, 55 | 1-54 odd | " |
| 4.4 | 1, 5, 7, 11, 13, 19, 21, 23, 25, 27, 29, 33, 35 | 1-44 odd | " |
| 4.5 | 1, 5, 9, 19, 25, 29, 33, 41, 45, 51 | 1-50 odd | " |
| 4.6 | 1,5,11,17,25,33,35,39,43,47,53,61,63,69,71,75,79,89,95 | 1-100 odd | " |
| 4.7 | 1,3,5,7,11,17,19,23,25,29,31,35,43,49,51 | 1-56 odd | " |
| 4.8 | 1, 5, 9, 13, 17, 21, 29, 33, 37, 39, 41, 47, 51, 53, 55, 63, 65, 69, 71, 73,75, 77, Translating for Success p. 387 | 1-82 odd | " |
| | Summary and Review p. 393-398 | Chapter 4 Review on D2L | Chapter 4 Review |
| | Chapter Test | | Chapter Test Prep Video |
| Chapter 4 (Unit 1) Test | | | |
| 5.1 | 1, 3, 5, 7, 13, 15, 19, 21, 25, 27, 29, 31, 35, 37, 41, 45, 49, 51, 55, 57, 65 | 5-64 odd | Study Plan; Section Video; Section Video Lecture; Animations |
| 5.2 | 3, 11, 13, 19, 23, 27, 31, 33, 35, 39, 45, 49, 55, 63, 67, 71, 77 | 1-74 odd | " |
| 5.3 | 1, 5, 9, 11, 15, 19, 21, 23, 29, 31, 33 | 1-38 odd | " |
| 5.4 | 1, 5, 9, 13, 17, 19, 21, 23, 27, 29 | 1-30 odd | " |
| 5.5 | 1, 5, 9, 11, 15, 19, 23, 25, 27, 33, 35, 41, 43 | 1-45 odd | " |
| 5.6c | 27, 29, 31, 33 | | " |
| 5.7 | 1-23 odd | 1-24 odd | " |
| 5.8 | 1, 5, 7, 9, 15, 17, 21, 25, 29, 31, 39, 41, 55 | 1-46 odd | " |
| | Summary and Review p. 481-486 (omit 5.6ab) | Chapter 5 Review on D2L | Chapter 5 Review |
| | Chapter Test #1-23, 25, 27-36 | | Chapter Test Prep Video |
| Chapter 5 (Unit 2) Test | | | |
| 6.1 | 7, 9, 11, 13, 15, 19, 23, 27, 29, 35, 43, 45, 51, 53, 61, 63, 65, 67, 69, 71 | 1-80 odd | Study Plan; Section Video; Section Video Lecture; Animations |
| 6.2 | 3, 7,15, 21, 29, 33, 39, 41, 43, 45, 49, 51, 53, 55, 59, 63, 69, 71, 73, 75, 79 | 1-88 odd | " |
| 6.3 | 1, 3, 5, 9, 13, 17, 21, 25, 29, 33, 39, 41, 49, 53, 55, 59, 67, 71, 75,79, 83, 87, 89 | 1-96 odd | " |
| 6.4 | 1, 5, 9, 13, 17, 19, 23, 33, 37, 43, 47, 51, 57, 61, 67, 71, 73, 81 | 1-78 odd | " |
| 6.5 | 1, 5, 9, 13, 17, 21, 25, 29, 31, 33, 39, 41 | 1-40 odd | " |
| 6.6 | 1, 5, 9, 17, 19, 21, 27, 29, 33, 37, 41, 47, 53, 55, 57 | 1-58 odd | " |

| | | | |
|-----------------------------------|--|--|--|
| 6.7 | 1, 5, 7, 11, 13, 17, 19, 21, 23, Translating for Success p. 545 | 1-30 odd | “ |
| 6.8 | 1, 5, 13, 17, 19, 27, 31, 35, 39, 47, 71, 77, 81, 87, 99, 111 | 1-94 odd | “ |
| | Summary and Review p. 561-566 | Chapter 6 Review on D2L | Chapter 6 Review |
| | Chapter Test | | Chapter Test Prep Video |
| Chapter 6 (Unit 3) Test | | | |
| 7.1 | 1, 5, 9, 13, 17, 21, 25, 33, 39, 43, 47, 49, 51, 55, 57 | 1-54 odd | Study Plan; Section Video; Section Video Lecture; Animations |
| 7.2 | 1, 3, 11, 17, 21, 29, 33, 35, 41, 45, 59 | 1-44 odd | “ |
| 7.3 | 3, 5, 9, 11, 13, 19, 21, 25, 31, 35, 37, 39, 41, 43, 47 | 1-48 odd | “ |
| 7.4 | 1, 5, 9, 15, 17, 21, 23, 29, 31, 33, 35, 37, 39, 43, 47, 49, 55 | 1-62 odd | “ |
| 7.5 | 1, 5, 9, 13, 17, 19, 21, 23, 27 | 1-26 odd | “ |
| 7.6 | 1, 5, 7, 9, 15, 19 | 1-20 odd | “ |
| 7.7a | 1, 3, 7, 9, 11 | 1-18 odd | “ |
| | Summary and Review p. 653-658 (omit 7.7b, 7.8) | Chapter 7 Review on D2L | Chapter 7 Review |
| | Chapter Test | | Chapter Test Prep Video |
| Chapter 7 (Unit 4) Test | | | |
| 6.1* | 1, 7, 9, 15, 17, 23, 29, 55, 61, 71, 79, 83, 89, 93, 97 | 1-29 odd, 59, 63-67 odd, 71- 97 odd | “ |
| 6.2* | 1, 9, 13, 15, 17, 21, 25, 29, 31, 35 | 3, 9-35 odd | “ |
| 6.3* | 1,5,9,13,15,19,23,25,29,39, 41,45,47,51,61,75, 83, 87, 93, 97,105 | 7-19 odd, 23-87 odd, 91-107 odd | “ |
| 8.1* | 1, 5, 7, 13, 15, 17, 27 | 9-27 odd | “ |
| 8.2* | 1, 3, 7, 9, 13, 17, 19, 21, 25, 31 | 11-33 odd | “ |
| | Trigonometry Practice Test on D2L | Trigonometry Review on D2L | Trigonometry Review |
| Trigonometry (Unit 5) Test | | | |
| Final Exam | Cumulative Review p.661 #4-25, 31- 40, 47-48, 51-53, 55-58 Trigonometry resources on D2L | Final Exam Review on D2L Section exercises corresponding to any problems incorrect in cumulative review. | Practice Final Exam |
| Final Exam (cumulative) | | | |

*Trigonometry material posted on D2L.