BRANDON UNIVERSITY

**62:090 BASIC MATHEMATICS AND 62:091 CORE MATHEMATICS**

# **COURSE OUTLINE 2016-2017**

**Instructor:** Kathleen Nichol

 Room 2-11 Brodie Bldg.

 Telephone: 727-9691(Office), 725-0952(Home)

 Email: nichol@BrandonU.ca

**Texts:** 1) Introductory and Intermediate Algebra, 5th Edition

 by Bittinger and Beecher - new $196.75 for

 - used $187.25 Core for

 2) Geometry & Right Triangle Trigonometry Booklet - new $ 6.25 Math Basic

 - used $ 4.75 Math

 3) More Trigonometry Booklet - new $ 7.00

 - used $ 5.25

**Lectures:** Slot 1 (Monday, Wednesday, Friday at 8:30 am – 9:20 am)

 Room 1-53 BB

**Labs:** Slot 12 (Tuesday 11:40 am – 12:30 pm, and Thursday 11:40 am – 1:30 pm)

Room 1-53 (Tests are in the Thursday lab, every second week).

 **One Term Option: (see page 3)**

**Credit:** 3 credit hours

## **Course Description**

**Basic Mathematics** is offered for students without Senior 4 Mathematics or its equivalent. The course will give you a strong background in Algebra to prepare you for first year mathematics and science courses, including Linear Algebra, Introduction to Statistics, Introduction to Computer Science I, General Chemistry I, General Physics, Mathematics of Finance. Students going into

Calculus I may also wish to take PreCalculus 62:150 to help prepare themselves.

Students with grade 12 General Math (Math 301 or 40G), or with grade 12 PreCalculus (Math 40S) more than five years ago, may be given permission by the Department of Mathematics to take the course for credit. (See the Instructor)

**Core Mathematics** is offered to students without credit in Senior 4 Mathematics (or equivalent) nor any university level mathematics course, who wish to prepare their math skills for areas of life, earth or social science, or elementary education.

The courses overlap. Students in Core Mathematics will study only the Chapters 1 to 5 and Chapter 8 plus some geometry, trigonometry, statistics and measurement, and will write their final exam at Christmas. Students in Basic Mathematics will continue into second term, studying the remaining topics, and take their final exam in April.

**A mark of 45% or better on the final exam is required in order to pass the course.**

**PROGRESS RATE:**

# Chapters Concepts Tentative Test Date:

 1, Introduction to Real Numbers and Algebraic Expressions

Booklet Geometry (in Geometry & Right Triangle Trigonometry Booklet) Sept 22

Booklet, Geometry (in Geometry & Right Triangle Trigonometry Booklet)

2 and 6.8 Solving Equations and Inequalities and Proportions Oct. 6

2 and 6.8, Solving Word Problems and Proportions,

Appendix G

& Handout, Statistics,

3.1, 3.2 Graphing Oct. 20

3.3-3.4, Graphs of Linear Equations,

2.7, 2.8, Solving Inequalities,

7.3-7.5, Slope and Equations of Lines,

4 Polynomials: Operations Nov. 3

4.6, 4.7, 4.2, Polynomial multiplication, Operations with Powers,

Handout, Measurement,

 5, Polynomials: Factoring

Booklet Congruent and Similar Triangles Nov. 17

8, Systems of Equations

 Booklet Right Triangle Trigonometry Dec. 1

 **Core Math Final Exam / Basic Math Progress Exam: Monday, Dec. 12 p.m., 2016**

9, 5.2, 5.5, 5.6 More on Inequalities & More on Factoring Jan. 12

 6 Rational Expressions and Equations Jan. 26

 10, Radical Expressions & Equations

 7.1, 7.2, Graphs, Functions, and Applications

Appendix I The Algebra of Functions Feb. 9

 11, Quadratic Equations and Functions

Appendix L Distance, Midpoint and Circles Mar. 2

 Booklet More Trigonometry

 (Radians, The Unit Circle, Trig Graphs, Trig Identities,

 Solving Trig Equations) Mar. 16 & 30

 12 Exponential and Logarithmic Functions On exam.

 **Final Exam for Basic Math: Monday, April 17 a.m., 2017**

**MARKING SCHEME:**

**Basic Mathematics Marking Scheme: Core Mathematics Marking Scheme:**

Chapter tests (12 x 3%) 36% Chapter tests (6 x 6%) 36%

Assignments (12 x 1%) 12% Assignments (6 x 2.3%) 14%

Progress Exam 12% Problem Solving group work 5%

Problem Solving group work 5% Final Exam 45%

Final Exam 35% Total value for the course: 100%

# Total Value for the course: 100%

#

Tests will be scheduled on alternate Thursdays, in the Lab Period. **The pass mark on the chapter tests is 65%.**

**Basic Maths: Each student *may rewrite two tests per term,* the tests beingof the student’s choosing.**

**Core Math: Each student *may rewrite two tests,* of the student’s choosing.**

Assignments will be due on the Thursdays when tests are to be written.

In December and in April a set of review questions will be handed out. Students may hand in their completed set of review questions in order to discard a low-test mark.

**GRADING SYSTEM:**

**90% - 100% A+**

**85% - 89.9% A**

**80% - 84.9% A-**

**75% - 79.9% B+**

**70% - 74.9% B**

**65% - 69.9% C+**

**60% - 64.9% C**

**50% - 59.9% D**

**Less than 50% F**

**LEARNING GOALS:**

**\* see/hear/discuss/work through concepts so understand them**

**\* recognize technique to solve a problem**

**\* carry out the technique**

**\* check, by approximation or plugging in or by using another method to solve the problem**

**\* estimate**

**\* recognize and develop own learning style**

**\* enjoy the math**

**\* succeed**

**Some interesting websites:**

[**https://aimath.org/textbooks/approved-textbooks/lippman/**](https://aimath.org/textbooks/approved-textbooks/lippman/)*The text “Math in Society” is a free on-line text with many of our topics, with video mini-lectures.*

[**http://www.brandonu.ca/student-services/**](http://www.brandonu.ca/student-services/) *For study skills, math help and academic advising on campus.*

[**http://www.khanacademy.org/**](http://www.khanacademy.org/) *For lectures on many topics.*

[**http://wolf.brandonu.ca/moodle/**](http://wolf.brandonu.ca/moodle/) *For the assignments and answer keys for this course.*

 *The course password is “7+3x6=25”.*

**ONE TERM OPTION:**

Students with a mathematics background of

 Maths 30S Precalculus,

or Maths 40S Applied,

or Maths 40S Precalculus (more than five years ago)

have a good chance of completing the course in one term.

Students will be asked to **write a pretest** in the first lab period. Those students showing sufficient mastery may join the class in January.

The marking scheme is given below. **Students *may rewrite two tests*.**

**One Term Marking Scheme:**

Tests (6 x 7%) 42%

Assignments (6 x 1.3%) 8%

Problem Solving group work 5%

Final Exam 45%

### Total Value for the course: 100%