**SAMPLE COURSE OUTLINE**

Creation date: March 13, 2020
Revision date:

**Course Code, Number, and Title:**

MATH 1152: Precalculus Algebra

**Course Format:**

Lecture 4.0 h + Seminar 1.0 h + Lab. 0.0 h

**Credits:** 3.0 **Transfer Credit:** For information, visit bctransferguide.ca

**Course Description:**

**Course Description:** A one-term pre-calculus course in algebra and analytic geometry necessary for studying the calculus of basic algebraic functions. It covers many but not all of the topics introduced at high school, with an emphasis on Grade 12 algebra. In particular, MATH 1152 provides a thorough review of intermediate algebra, functions and graphing, as well as an introduction to the exponential and logarithmic functions and basic triangle and trigonometry. This course is not tied to the high school curriculum but is designed to be a fast-paced review of many topics encountered at high school. The material is covered in greater depth, with an emphasis on speed and proficiency of algebraic manipulation, problem-solving and practical applications. The objective is to up-grade existing knowledge to the level required for calculus.

**Prerequisite(s):** A minimum "C-" grade in Principles of Mathematics 12 or Precalculus 12; or permission of the department based on the MDT Process; or a minimum "C-" grade in MATH 1150. Students with an "A" or "B" grade in Principles of Mathematics 11 or Precalculus 11 may take MATH 1152 provided they score sufficiently highly in the MDT. Students with an "A" or "B" grade in Principles of Mathematics 12 or Precalculus 12 may by-pass MATH 1152 and enroll directly into the calculus courses. Prerequisites are valid for only three years.

**Learning Outcomes:**

Upon successful completion of this course, students will be able to…

- Recognize relations and functions in one variable and find their domain and range
- Perform basic operations with functions including: function arithmetic, composition of functions, and the determination of the inverse of one-to-one functions
- Recognize, use, and perform basic operations with the following types of functions and their graphs: linear, absolute value, quadratic, square root, polynomial, rational, exponential, and
- logarithmic
- Use basic techniques to solve equations involving the above-mentioned functions

- Recognize algebraically basic transformations (shifts and reflections) of functions and be able to apply these transformations to the graph
- Set up and solve applied problems involving polynomial, exponential, and logarithmic functions
- Recognize the equation of a conic section centered at the origin, sketch its graph, and identify its important features
- Define degree and radian measure of an angle
- Define the six trigonometric functions of an angle in a right triangle
- Use right-triangle trigonometry to solve applied problems involving angle of elevation or depression

**Instructor(s): TBA**
**Office: TBA** **Phone: (604) 323-XXXX** **Email: TBA**

**Office Hours: TBA**
**Textbook and Course Materials:**
[Textbook selection may vary by instructor. An example of texts and course materials for this course might be:}

Spring 2019:

For textbook information, visit https://mycampusstore.langara.bc.ca/buy_courselisting.asp?selTerm=3|8

Note: *This course may use an electronic (online) instructional resource that is located outside of Canada for mandatory graded class work. You may be required to enter personal information, such as your name and email address, to log in to this resource. This means that your personal information could be stored on servers located outside of Canada and may be accessed by U.S. authorities, subject to federal laws. Where possible, you may log in with an email pseudonym as long as you provide the pseudonym to me so I can identify you when reviewing your class work.*

**Assessments and Weighting:**
**Final Exam** 40%
**Other Assessments** 60%

An example of other assessments might be:

Online Homework 10%
Quizzes 10%
Midterm 1 20%
Midterm 2 20%

**Grading System:**
Specific grading schemes will be detailed in each course section outline.

**Topics Covered:**

Topics covered may vary by instructor. An example of topics covered might be:

- Sets of Real Numbers
- Cartesian Coordinate Plane
- Introduction to Functions
- Function Notation
- Function Arithmetic
- Graphs of Functions
- Transformations
- Linear Functions
- Absolute Value Functions
- Quadratic Functions
- Inequalities with Absolute Value and Quadratic Functions
- Graphs of Polynomials
- The Factor Theorem and the Remainder Theorem
- Real Zeros of Polynomials
- Introduction to Rational Functions
- Graphs of Rational Functions
- Rational Inequalities and Applications
- Function Composition
- Inverse Functions
- Introduction to Exponential and Logarithmic Functions
- Properties of Logarithms
- Exponential Equations and Inequalities
- Logarithmic Equations and Inequalities
- Applications of Exp. And Log. Functions
- Introduction to Conics
- Circles
- Parabolas
- Ellipses
- Hyperbolas

As a student at Langara, you are responsible for familiarizing yourself and complying with the following policies:

**College Policies:**

E1003 - Student Code of Conduct
F1004 - Code of Academic Conduct
E2008 - Academic Standing - Academic Probation and Academic Suspension
E2006 - Appeal of Final Grade
F1002 - Concerns about Instruction
E2011 - Withdrawal from Courses

**Departmental/Course Policies:**

*Information unavailable, please consult Department for details.*