

## SAMPLE COURSE OUTLINE

Creation date: March 25, 2020

Revision date:

### Course Code, Number, and Title:

MATH 1162: Finite Mathematics I

### Course Format:

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

**Credits:** 3.0

**Transfer Credit:** For information, visit [bctransferguide.ca](http://bctransferguide.ca)

### Course Description:

A presentation of mathematical models in a social, business or biological context and a consideration of specific applied problems in these areas. Some background material of historical, cultural and philosophical interest will be included. Covers basic symbolic logic, set theory, counting methods, probability and statistics. Especially appropriate (usually together with MATH 1262) for students requiring only one year of college mathematics, and will serve as basic science requirement for liberal arts students.

Prerequisite(s): A minimum "B" grade in Precalculus 11 or Foundations of Mathematics 12; or a minimum "B-" grade in MATH 1150; or a minimum "C" grade in Precalculus 12; or permission of the department based on the MDT process (MDT 065). Prerequisites are valid for only three years.

### Learning Outcomes:

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

- Use properties of sets to solve problems in logic
- Use truth tables to investigate the truth value of statements and the validity of arguments
- Write numbers and operate with them in various numeration systems
- Solve linear equations, and word problems involving them, in applications using graphical and algebraic methods
- Use counting methods to solve problems relating to introductory probability
- Display data graphically
- Recognize incorrect/misleading graphs of data
- Calculate and interpret statistical measures of centre and spread in order to describe a dataset

**Instructor(s):** TBA

**Office:** TBA

**Phone:** (604) 323-XXXX

**Email:** TBA

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**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:

For textbook information, visit [https://mycampusstore.langara.bc.ca/buy\\_courselisting.asp?selTerm=3|8](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:

Assignments 10%

Quizzes 10%

Midterm Examinations 40%

**Grading System:**

Specific grading schemes will be detailed in each course section outline.

*Information unavailable, please consult Department for details.*

**Topics Covered:**

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

## 1. Linear Equations and Systems

- Linear Equations
- The Slope of a Straight Line
- System of Linear Equations

## 2. Matrices

- Matrix Form of System of Linear Equations
- General Matrices and Their Arithmetic Operations
- Inverses, Determinants, and Traces of Square Matrices
- Eigenvalues and Eigenvectors of Square Matrices

## 3. Set and Counting

- Sets
- Principle of Counting

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- Venn Diagrams and Counting
- Permutations and Combinations

#### 4. Probability

- Experiments, Outcomes, Sample Spaces and Events
- Assignment of Probability
- Calculating Probabilities of Events
- Conditional Probability and Independent Events

#### 5. Statistics

- Sampling and Categorizing Data
- Visual Representations of Data
- The Mean, Variance and Standard Deviation

#### 6. Logic

- Introduction to Truth Tables
- Logical Implication and Equivalence
- Valid Argument (Optional)

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.*

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