



ORIGINAL COURSE IMPLEMENTATION DATE: September 1995  
 REVISED COURSE IMPLEMENTATION DATE: September 2018  
 COURSE TO BE REVIEWED (six years after UEC approval): January 2021  
 Course outline form version: 10/27/2017

## OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

**Note: The University reserves the right to amend course outlines as needed without notice.**

<b>Course Code and Number:</b> MATH 094	<b>Number of Credits:</b> 2 <a href="#">Course credit policy (105)</a>														
<b>Course Full Title:</b> Provincial-Level Math: Principles of Math I <b>Course Short Title:</b> Principles of Math I															
<b>Faculty:</b> Faculty of Access and Continuing Education	<b>Department:</b> Upgrading and University Preparation														
<b>Calendar Description:</b> Manipulation of algebraic expressions; zeroes of quadratic and polynomial functions; equations involving rational exponents, radicals, rational functions, and absolute values. Functions, with emphasis on notation, graphing, transformations, inverses, and compositions. Nonlinear systems and complex numbers. Applications include optimization, motion, and area problems.  Note: This course, followed by MATH 095, is recommended for students intending to major in a science, engineering, or technology program who do not have the required Grade 12 math prerequisites. MATH 094 and MATH 095 are together equivalent to provincial Mathematics 12 and they provide the foundation for calculus courses.															
<b>Prerequisites (or NONE):</b>	One of the following: (Principles of Mathematics 12 or Pre-calculus 12) or (C or better in Principles of Mathematics 11, Pre-calculus 11, MATH 085, or Applications of Mathematics 12) or (B or better in Foundations of Mathematics 12).														
<b>Corequisites (if applicable, or NONE):</b>	NONE														
<b>Pre/corequisites (if applicable, or NONE):</b>	NONE														
<b>Antirequisite Courses</b> ( <i>Cannot be taken for additional credit.</i> ) Former course code/number: N/A Cross-listed with: N/A Dual-listed with: N/A Equivalent course(s): N/A	<b>Special Topics</b> This course is offered with different topics: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, different lettered courses may be taken for credit: <input type="checkbox"/> No <input type="checkbox"/> Yes, repeat(s) <input type="checkbox"/> Yes, no limit														
<b>Typical Structure of Instructional Hours</b> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td>Lecture/seminar hours</td><td style="text-align: center;">60</td></tr> <tr><td>Tutorials/workshops</td><td></td></tr> <tr><td>Supervised laboratory hours</td><td></td></tr> <tr><td>Experiential (field experience, practicum, internship, etc.)</td><td></td></tr> <tr><td>Supervised online activities</td><td></td></tr> <tr><td>Other contact hours:</td><td></td></tr> <tr><td style="text-align: right;"><b>Total hours</b></td><td style="text-align: center;"><b>60</b></td></tr> </table>	Lecture/seminar hours	60	Tutorials/workshops		Supervised laboratory hours		Experiential (field experience, practicum, internship, etc.)		Supervised online activities		Other contact hours:		<b>Total hours</b>	<b>60</b>	<b>Transfer Credit</b> Transfer credit already exists: (See <a href="http://bctransferguide.ca">bctransferguide.ca</a> ) <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes Submit revised outline for rearticulation: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes
Lecture/seminar hours	60														
Tutorials/workshops															
Supervised laboratory hours															
Experiential (field experience, practicum, internship, etc.)															
Supervised online activities															
Other contact hours:															
<b>Total hours</b>	<b>60</b>														
	<b>Grading System</b> <input checked="" type="checkbox"/> Letter Grades <input type="checkbox"/> Credit/No Credit														
	<b>Expected Frequency of Course Offerings:</b> Annually: Fall														
Labs to be scheduled independent of lecture hours: <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes															
<b>Department / Program Head or Director:</b> Greg St. Hilaire	<b>Date approved:</b> January 10, 2018														
<b>Faculty Council approval</b>	<b>Date approved:</b> January 31, 2018														
<b>Dean/Associate VP:</b> Sue Brigden	<b>Date approved:</b> January 31, 2018														
<b>Campus-Wide Consultation (CWC)</b>	<b>Date of posting:</b> February 16, 2018														
<b>Undergraduate Education Committee (UEC) approval</b>	<b>Date of meeting:</b> February 23, 2018														

**Learning Outcomes:**

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

1. utilize their algebraic skills in manipulating algebraic expressions
2. solve linear, quadratics, and absolute value equations and nonlinear systems of equations
3. find solutions for linear, quadratic, absolute value, and rational inequalities
4. recognize, formulate, solve, and interpret a variety of applied problems
5. solve problems using the language of functions as required for the study of calculus
6. use technology to enhance their understanding of topics represented by graphs
7. graph and analyze polynomial and rational functions

**Prior Learning Assessment and Recognition (PLAR)**

Yes       No, PLAR cannot be awarded for this course because

**Typical Instructional Methods** (*Guest lecturers, presentations, online instruction, field trips, etc.; may vary at department's discretion.*)

Lectures mixed with problem sessions. Graphing calculators are used to aid in the understanding of topics.

**NOTE: The following sections may vary by instructor. Please see course syllabus available from the instructor.**

**Typical Text(s) and Resource Materials**

Author (surname, initials)	Title (article, book, journal, etc.)	Current ed.	Publisher	Year
1. Bittinger, Beecher, et al	Algebra & Trig, Graphs & Models	5 <sup>th</sup>	Addison Wesley	2006
2.		<input type="checkbox"/>		
3.		<input type="checkbox"/>		
4.		<input type="checkbox"/>		
5.		<input type="checkbox"/>		

**Required Additional Supplies and Materials** (*Software, hardware, tools, specialized clothing, etc.*)

A graphing calculator (without a computer algebraic system)

**Typical Evaluation Methods and Weighting**

Final exam:	40%	Assignments:	15%	Field experience:	%	Portfolio:	%
Midterm exam:	15%	Project:	%	Practicum:	%	Other:	%
Quizzes/tests:	30%	Lab work:	%	Shop work:	%	Total:	100%

**Details (if necessary):****Typical Course Content and Topics**

1. Basic algebra skills:
  - a) Exponents
  - b) Factoring
  - c) Rational expressions
  - d) Radicals
2. Solutions of equations:
  - a) Linear
  - b) Quadratic
  - c) Rational
  - d) Radical
  - e) Absolute value
  - f) Nonlinear systems
3. Functions:
  - a) Notation
  - b) Evaluation
  - c) Transformations
  - d) Domain and range
  - e) Compositions
  - f) Inverses
  - g) Linear and quadratic applications
4. Graphing, use of technology to aid in graphing and in interpreting graphs:
  - a) Linear functions
  - b) Quadratic functions

c) Rational functions

5. Applications:

a) Uniform motion

b) Geometric

c) Optimization