



## Pre-Calculus - MATH 100

### University Studies Program

### Course Outline

COURSE IMPLEMENTATION DATE: February 2004  
OUTLINE EFFECTIVE DATE: January 2021  
COURSE OUTLINE REVIEW DATE: September 2026

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#### GENERAL COURSE DESCRIPTION:

This course is intended for students who wish to strengthen their pre-calculus skills prior to taking MATH 103. MATH 100 presents topics that are necessary for the study of calculus. Students build more advanced concepts and look at the mathematics necessary to study them.

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**Program Information:** This course prepares students for Calculus, which is a required course for a Bachelor of Science degree in most universities.

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**Delivery:** This course is delivered face-to-face.

**COTR Credits:** 3

**Hours for this course:** 45 hours

#### Typical Structure of Instructional Hours:

Instructional Activity	Duration
Lecture Hours	45
Seminars / Tutorials	
Laboratory / Studio Hours	
Practicum / Field Experience Hours	
Other Contact Hours	
<b>Total</b>	45

#### Practicum Hours (if applicable):

Type of Practicum	Duration
On-the-job Experience	N/A
Formal Work Experience	N/A
Other	N/A
<b>Total</b>	

**Course Outline Author or Contact:**

Benjamin Tippett, PhD

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Signature

**APPROVAL SIGNATURES:**

Department Head  
Erin Aasland Hall  
E-mail: [aaslandhall@cotr.bc.ca](mailto:aaslandhall@cotr.bc.ca)

Dean of Business and University Studies  
Darrell Bethune  
E-mail: [bethune@cotr.bc.ca](mailto:bethune@cotr.bc.ca)

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Department Head Signature

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Dean Signature

EDCO

Valid from: January 2021- September 2026

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Education Council Approval Date

**COURSE PREREQUISITES AND TRANSFER CREDIT**

**Prerequisites:** Either MATH 080, Pre-Calculus 11, or Pre-Calculus 12 with a minimum grade of 65%; both Foundations of Math 11 and Foundations of Math 12 with a minimum grade of 65%; or Calculus 12; or equivalent.

Those who have already earned credit for MATH 103 may not enroll in MATH 100 or use MATH 100 for program credit.

**Corequisites:** None

**Prior Learning Assessment (FA):**

Credit can be awarded for this course through FA  Yes  No

Learners may request formal recognition for flexible assessment at the College of the Rockies through one or more of the following processes: External Evaluation, Worksite Assessment, Demonstration, Standardized Test, Self-assessment, Interview, Products/Portfolio, Challenge Exam. Contact an Education Advisor for more information.

**Transfer Credit:** For transfer information within British Columbia, Alberta and other institutions, please visit <http://www.cotr.bc.ca/Transfer>

Students should also contact an academic advisor at the institution where they want transfer credit.

**Prior Course Number:** N/A

## Textbooks and Required Resources:

Textbook selection varies by instructor and may change from year to year. At the Course Outline Effective Date the following textbooks were in use:

Connally, Hughes-Hallett, Gleason, et al, *Functions Modeling Change*, Wiley, 5th Edition

Please see the instructor's syllabus or check COTR's online text calculator

<http://go.cotr.bc.ca/tuition/tCalc.asp> for a complete list of the currently required textbooks.

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## LEARNING OUTCOMES:

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

- perform basic algebra manipulations including factoring polynomials, operations on rational functions, rationalizing numerators and denominators, and partial fraction decomposition;
- work with function notation and the most common algebraic functions;
- recognize the laws of exponents and logarithms and how they are applied;
- explain the definitions of the trigonometric functions; be able to prove and apply the trigonometric identities and the laws of sines and cosines;
- draw the graphs of the functions they have studied and apply rigid transformations to them; and
- find the areas and volumes of geometric figures and apply them.

This course should help students

- use written and oral communication skills effectively, employing methods appropriate to message and context;
  - think clearly and critically, fusing experience, knowledge and reasoning into considered judgment;
  - identify, interpret, and solve problems, effectively implementing and evaluating proposed strategies;
  - to work both independently and in groups;
  - to transfer knowledge to new contexts;
  - to understand and interpret abstract written materials;
  - to use abstract ideas to solve applied problems; and
  - to appreciate the importance of persistence, a positive attitude and energy.
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## COURSE TOPICS:

- Functions
- Exponential and Logarithmic Functions
- Transformations of Functions
- Trigonometric Functions and Identities
- Composition, Inverses and Combinations of Functions
- Polynomial and Rational Functions

See instructor's syllabus for the detailed outline of weekly readings, activities and assignments.

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## EVALUATION AND ASSESSMENT:

Assignments	% Of Total Grade
Assignments	30%
Midterms	30%
Final Exam	<u>40%</u>
Total	100%

*Please see the instructor's syllabus for specific classroom policies related to this course, such as details of evaluation, penalties for late assignments, and use of electronic aids.*

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## EXAM POLICY:

Students must attend all required scheduled exams that make up a final grade at the appointed time and place.

Individual instructors may accommodate for illness or personal crisis. Additional accommodation will not be made unless a written request is sent to and approved by the appropriate Department Head prior to the scheduled exam.

Any student who misses a scheduled exam without approval will be given a grade of "0" for the exam.

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## COURSE GRADE:

Course grades are assigned as follows:

Grade	A+	A	A-	B+	B	B-	C+	C	C-	D	F
Mark (Percent)	≥ 90	89-85	84-80	79-76	75-72	71-68	67-64	63-60	59-55	54-50	< 50

A grade of "D" grants credit, but may not be sufficient as a prerequisite for sequential courses.

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## ACADEMIC POLICIES

See [www.cotr.bc.ca/policies](http://www.cotr.bc.ca/policies) for general college policies related to course activities, including grade appeals, cheating and plagiarism.

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## COURSE CHANGES:

Information contained in course outlines is correct at the time of publication. Content of the courses is revised on an ongoing basis to ensure relevance to changing educational, employment, and marketing needs. The instructor endeavours to provide notice of changes to students as soon as possible. The instructor reserves the right to add or delete material from courses.