

ORIGINAL COURSE IMPLEMENTATION DATE: REVISED COURSE IMPLEMENTATION DATE: COURSE TO BE REVIEWED (six years after UEC approval): Course outline form version: 05/18/2018 September 2017 January 2021 October 2026

OFFICIAL UNDERGRADUATE COURSE OUTLINE FORM

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

Course Code and Number: MATH 093		Number of Credits: 3 Course credit policy (105)								
Course Full Title: Trigonometry and Conics										
Course Short Title:										
(Transcripts only display 30 characters. Departments may recommend a short title if one is needed. If left blank, one will be assigned.)										
Faculty: Faculty of Access and Continuing E	ducation	Department (or program if no department): Upgrading and University Preparation								
Calendar Description:										
Supplements MATH 092 to provide students with pre-calculus 12 requirements. Content includes trigonometric and inverse trigonometric expressions, equations, and functions, as well as conics, and systems of nonlinear equations.										
Prerequisites (or NONE): One of the following: MATH 092, M Mathematics 12, Pre-calculus 12, o			IATH 094, MATH 096, MATH 140, Principles of or Upgrading and University Preparation assessment.							
Corequisites (if applicable, or NONE): NONE										
Pre/corequisites (if applicable, or NONE):	uisites (if applicable, or NONE): NONE									
Antirequisite Courses (Cannot be taken for additional credit.) Former course code/number: NONE Cross-listed with: NONE Dual-listed with: Equivalent course(s): NONE (If offered in the previous five years, antirequisite course(s) will be included in the calendar description as a note that students with credit for the antirequisite course(s) cannot take this course for further credit.) Typical Structure of Instructional Hours Lecture/seminar hours 45 Tutorials/workshops Supervised laboratory hours			Special Topics (Double-click on boxes to select.) This course is offered with different topics: ☑ No □ Yes (If yes, topic will be recorded when offered.) Independent Study If offered as an Independent Study course, this course may be repeated for further credit: (If yes, topic will be recorded.) ☑ No □ Yes, repeat(s) □ Yes, no limit Transfer Credit Transfer credit already exists: (See bctransferguide.ca.) ☑ No □ Yes Submit outline for (re)articulation: ☑ No □ Yes (If yes, fill in transfer credit form.)							
Experiential (field experience, practicum, int)	Gradin ⊠ Lott	Grading System							
Other contact hours: individual and small or	oup work			Letter Grades Credit/No Credit						
Other contact hours, individual and small gr	\$ 45	Maxim	Maximum enrolment (for information only): 24							
Labs to be scheduled independent of lecture	e Offerings: r, Fall only, annually, etc.)									
Department / Program Head or Director: Greg St. Hilaire				Date approved:	May 29, 2020					
Faculty Council approval				Date approved:	May 29, 2020					
Dean/Associate VP: Susan Brigden				Date approved:	May 29, 2020					
Campus-Wide Consultation (CWC)			Date of posting:	n/a						
Undergraduate Education Committee (UEC) approval			Date of meeting:	October 2, 2020						

Learning Outcomes:

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

- 1. Use trigonometric concepts to solve applied problems
- 2. Use radian measures
- 3. Solve trigonometric equations
- 4. Graph circular functions and their inverses
- 5. Recognize, analyse, and graph conic equations
- 6. Solve nonlinear systems of equations
- 7. Use technology to enhance understanding of MATH 093 topics

After completion of MATH 092 and MATH 093, students will meet outcomes identified for Provincial Level – Algebra and Trigonometry in the 2019-2020 Adult Basic Education Articulation Handbook available at <u>http://www.bctransferguide.ca/search/abe</u> (accessed April 2020).

 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, online instruction, and problem-solving sessions.

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

Typical Text(s) and Resource Materials (If more space is required, download Supplemental Texts and Resource Materials form.) Title (article, book, journal, etc.) Current ed. Publisher Author (surname, initials) Year Aufman, Barker, Nation College Algebra and Trigonometry W/ Webassign \boxtimes Brooks/Cole 2011 1. 2. 3. \square 4. 5.

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

Graphing calculator

Typical Evaluation Methods and Weighting

Final exam:	40%	Assignments:	20%	Field experience:	%	Portfolio:	%
Midterm exam:	30%	Project:	%	Practicum:	%	Other:	%
Quizzes/tests:	10%	Lab work:	%	Shop work:	%	Total:	100%

Typical Course Content and Topics

- 1. Radian measure
- 2. Solving applied problems involving angular speed
- 3. Solving applied problems involving the Law of Sines and Cosines (optional)
- 4. Properties and graphs of trigonometric functions
- 5. Graphing techniques (transformations of graphs)
- 6. Verifying trigonometric identities (sum, difference, double-, half-angle identities)
- 7. Properties and graphs of inverse trigonometric functions
- 8. Solving trigonometric equations
- 9. Properties and graphs of conic equations (circle, ellipse, parabola, hyperbola)
- 10. Solving nonlinear systems of equations