
MATH 1051: Functions and Trigonometry

Course Outline, Fall 2025

Instructor Information

Name: Dr. Christopher Chlebovec
Office: RB 2007
Office Hours: F 11:00 AM - 12:00 PM, or by appointment
Email: cchlebov@lakeheadu.ca

Course Description

This course introduces students to fundamental concepts of functions and trigonometry, covering topics such as the concept of functions, graphing, domain and range, composing functions, one-to-one and onto functions, inverses, linear equations and inequalities, interval notation, angle measures, trigonometric ratios and equations, and coordinate conversions between polar and rectangular systems.

Course Textbook

This course uses the textbook *Algebra and Trigonometry 2e* by Jay Abramson (2021) available at <https://openstax.org/books/algebra-and-trigonometry-2e/>.

Course Format (Asynchronous Learning)

- This course is **asynchronous**, meaning weekly lessons, assignments, and discussion boards are completed independently.
- Homework assignments are completed through the **discussion board**, where typed solutions and peer interaction are expected.
- Three recorded video presentations (approximately 5 minutes each) will be submitted during the course to demonstrate understanding.
- Students are encouraged to progress steadily and reach out for help whenever needed.

Course Learning Outcomes

By the end of this course, successful students will be able to:

- Understand the concept of a function and correctly use function notation.
- Graph functions using the Cartesian coordinate system.
- Find domain and range for a variety of functions.
- Compose two functions and evaluate the composite.
- Define and identify one-to-one and onto functions.
- Compute inverse functions and verify their properties.
- Solve linear equations and inequalities, expressing solutions in interval notation.
- Convert angle measures between degrees and radians.
- Compute trigonometric ratios and recall properties of special triangles.
- Solve trigonometric equations.
- Convert between polar and rectangular coordinate systems.

Assessments & Grading Breakdown

- **Discussion Board Homework & Participation:** 25%
Weekly typed homework posts and active class discussion.
- **Video Presentations (3 total):** 25% each (75% total)
Three brief videos demonstrating mastery of course concepts. The due dates will be Oct 22, Nov. 7, and Dec. 1. More information will be provided to you on D2L.

Schedule of Textbook Sections and Due Dates

Due Date	Sections
September 15	1.4, 1.5, 1.6
September 22	2.1, 2.2, 2.3
September 29	2.4, 2.5, 2.6
October 6	2.7, 3.1, 3.2
October 20	3.3, 3.4, 3.5
October 27	3.6, 3.7
November 3	7.1, 7.2, 7.3
November 10	7.4, 9.1, 9.2
November 17	9.3, 9.4, 9.5
November 24	10.3, 10.4

Instructor Availability

Although this course is designed for independent learning, you are not alone:

- Please post questions on the discussion board to receive peer support.
- Contact me directly through email to discuss questions or concerns.
- I am available to set up one-on-one Zoom meetings to assist you as needed.

Accommodations

Lakehead University is committed to achieving full accessibility for persons with disabilities, including arranging academic accommodations. If you have a disability or medical condition that requires accommodations, you are encouraged to contact Student Accessibility Services (SAS) and register as early as possible to ensure equitable participation in academic activities.

For more information, please visit: <http://studentaccessibility.lakeheadu.ca> or contact SAS at SC0003, phone 343-8047, or email sas@lakeheadu.ca.