Mathematics (MATH) 266

Introduction to Calculus II (Revision 8)

Status:	Replaced with new revision, see the **course listing** for the current revision ⊗
Delivery mode:	**Individualized study online**
Credits:	3
Area of study:	Science
Prerequisites:	**MATH 265**
Precluded:	MATH 212
Challenge:	MATH 266 has a challenge for credit option.
Faculty:	**Faculty of Science and Technology**

Notes:

Mathematics Diagnostic Assessment. This online test contains 70 questions that will help you assess your mathematical skills. Based on your score we will recommend which Athabasca University mathematics course you are likely ready to take successfully.

Overview

Mathematics 266: Introduction to Calculus II continues the study of the calculus begun in MATH 265. The course focuses on definite integrals, which allow exact calculation of surface areas, volumes, the length of curves, and solutions of practical and theoretical problems.

Outline

- Unit 1: Inverse Functions: Exponential, Logarithmic and Hyperbolic Functions
- Unit 2: Inverse Trigonometric and Hyperbolic Functions, L'Hopital's rule
- Unit 3: Techniques of Integration
- Unit 4: Applications of Integration
- Unit 5: Differential Equations
- Unit 6: Sequences and Series

Learning outcomes

Upon successful completion of this course, you should be able to

- demonstrate a foundational understanding of single variable calculus (II), with a focus on integration, differential equations, sequences and infinite series, and applications.

- use single variable calculus methods for applied problem solving in various areas, with a focus on sciences.

- apply knowledge gained in course to pursue further learning in multivariable calculus, including **MATH 365** and other calculus-based courses.

- communicate mathematical ideas and analyses in a clear and organized manner.

Evaluation

To **receive credit** for the course, you must submit all eight course quizzes and four course assignments, and complete them to the satisfaction of your tutor. You must also achieve a grade of at least D (50 percent) on each examination, and a course composite grade of at least **D (50 percent)** 📄 . The weighting of the composite grade is as follows:

Activity	Weight
Quizzes (8)	12%
Assignment 1	10%
Assignment 2	6%
Assignment 3	8%
Assignment 4	10%
Midterm Exam	26%
Final Exam	28%
Total	**100%**

To learn more about assignments and examinations, please refer to Athabasca University's **online Calendar**.

Both the midterm and final exams are administered in the Möbius online platform and are invigilated through **ProctorU**. Your exams must be requested in advance, and you must pay the ProctorU invigilation fees.

Information on exam request deadlines, invigilators, and other exam-related questions, can be found at the **Exams and grades** section of the Calendar.

Materials

Digital course materials

Links to the following course materials will be made available in the course:

Lyryx Learning. *Calculus—early transcendentals: An open text. Adapted for Athabasca University Math 266—Calculus II, November 2017 edition.* Based on the original text by D. Guichard. Creative Commons License (CC BY-NC-SA).

Challenge for credit

Overview

The challenge for credit process allows you to demonstrate that you have acquired a command of the general subject matter, knowledge, intellectual and/or other skills that would normally be found in a university-level course.

Full information about **challenge for credit** can be found in the Undergraduate Calendar.

Evaluation

To **receive credit** ⤤ for the MATH 266 challenge registration, you must complete the two parts of the challenge exam and achieve a minimum grade of at least **D (50 percent)** 🗎 on both parts.

Activity	Weight
Challenge Exam: Part 1	50%
Challenge Exam: Part 2	50%

Activity	Weight
Total	**100%**

Both the midterm and final exams are administered in the Möbius online platform and are invigilated through **ProctorU**. Your exams must be requested in advance, and you must pay the ProctorU invigilation fees. The two parts of the exam must be written on the same day or on two consecutive days.

⬚ **Challenge for credit course registration form**

Important links

- **Academic advising**
- **Program planning**
- **Request assistance**
- **Support services**

Athabasca University reserves the right to amend course outlines occasionally and without notice. Courses offered by other delivery methods may vary from their individualized study counterparts.

Opened in Revision 8, May 31, 2018

Updated February 5, 2025

View **previous revision**