Mathematics (MATH) 265

Introduction to Calculus I (Revision 15)

Status:	Replaced with new revision, see the **course listing** ☐ for the current revision ✖
Delivery mode:	**Individualized study online** ☐ with **eText** ☐
Credits:	3
Area of study:	Science
Prerequisites:	Math 30 or an equivalent pre-calculus math course is strongly recommended. Students should have a deep understanding of basic algebra and trigonometry.
Precluded:	MATH 212 (MATH 265 may not be taken for credit if credit has already been obtained for MATH 212.)
Challenge:	MATH 265 has a challenge for credit option.
Faculty:	**Faculty of Science and Technology** ☐
	Mathematics Diagnostic Assessment ☐. This online test contains 70 questions that

Notes:	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

MATH 265 is an introductory calculus course covering real numbers, functions, continuity and limits, derivatives, curve sketching, optimization areas between curves, applications of the derivative, anti-derivatives, integrals, and areas.

Outline

- Unit 1: Brief Review of Algebra and Trigonometry for Calculus

- Unit 2: Functions

- Unit 3: Limits

- Unit 4: Differentiation

- Unit 5: Applications of the Derivative

- Unit 6: Integration

- Unit 7: Applications of the Definite Integral

Learning outcomes

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

- demonstrate a foundational understanding of single variable calculus (I), with a focus on limits, differentiation, optimization, and anti-differentiation.

- use single variable calculus methods for applied problem solving in

various areas, with a focus on sciences.

- apply background knowledge to pursue further learning in single variable calculus, including MATH 266 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 the course assignments and complete them to the satisfaction of your tutor. You must also achieve a grade of at least 50 percent on each examination, and a course composite grade of at least **D (50 percent)** 🗎 .

Students requiring special accommodations should contact **Accessibility Services** ☑ .

The weighting of the composite grade is as follows:

Activity	Weight
Assignment 1	5%
Assignment 2	10%
Assignment 3	10%
Midterm Exam	25%
Assignment 4	10%
Final Exam	40%
Total	**100%**

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

Both the midterm and final are closed-book, short-answer, machine-marked exams 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. You will have three (3) hours to complete each exam.

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

Materials

Stewart, James. *Readings from Stewart: Single Variable Calculus, Fifth Edition: Custom Edition for MATH 265 Introduction to Calculus*, Athabasca University. Scarborough, ON: Cengage, 2006. 📖 (eText)

MATH 265: Student Solution Manual to Accompany Introduction to Calculus. Scarborough, ON: Cengage, 2006. 📖 (eText)

eTexts

Registration in this course includes electronic textbooks. For more information on **electronic textbooks** ☐ , please refer to our **eText Initiative site** ☐ .

Other Resources

All other learning resources will be available online.

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 265 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. The two parts of the exam must be written on the same day, or on two consecutive days.

Both parts of the challenge exam are closed-book, machine-marked exams in the Möbius online platform and are invigilated through ProctorU. You will have three hours to complete each part.

Activity	Weight
Part 1: Exam	50%
Part 2: Exam	50%
Total	**100%**

📄 **Challenge for credit course registration form**

Important links

> **Academic advising** ☐

> **Program planning** ☐

> **Request assistance** ☐

> **Support services** ☐

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View **previous revision** 🗗