Mathematics (MATH) 209

Finite Mathematics (Revision 10)

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:	None. Students are expected to have completed Mathematics 30, or an equivalent matriculation-level high school mathematics course, and to have an excellent understanding of high school algebra.
Precluded:	None
Challenge:	MATH 209 is not available for challenge.
Faculty:	**Faculty of Science and Technology** ⬈

Overview

This course covers several areas of mathematics—including linear equations, functions, matrices, linear inequalities, linear programming, and game theory —with applications in economics, business, the social sciences and the life sciences. It is intended as a prerequisite for **MATH 309** ☑ .

Outline

- Unit 1: Linear Equations and Graphs

- Unit 2: Functions and Graphs

- Unit 3: Mathematics of Finance

- Unit 4: Systems of Linear Equations; Matrices

- Unit 5: Linear Inequalities and Linear Programming

- Unit 6: Linear Programming: The Simplex Method

- Unit 7: Properties of Markov Chains

- Unit 8: Games and Decisions

Learning outcomes

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

- demonstrate a foundational understanding of finite mathematics, with a focus on linear equations and inequalities, matrices, functions and graphing, and linear programming.

- apply introductory methods of mathematical finance, Markov chains, and game theory.

- use finite mathematical methods for applied problem solving in economics, business, social sciences, and life sciences.

- apply your knowledge to pursue further learning in discrete mathematics (including MATH 309).

- communicate mathematical ideas and analyses in a clear and organized

Evaluation

To **receive credit** ⎘ for MATH 209, you must submit all four of 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 of the midterm and final assessments, and a course composite grade of at least **D (50 percent)** ⎙ . The weighting of the composite grade is shown below.

Note: Athabasca University reserves the right to amend the assessments/exams in this course as the need arises. Students will be notified well in advance of any changes to assessments/exams in MATH 209.

Activity	Weight
Assignment 1	7%
Assignment 2	8%
Midterm assessment	35%
Assignment 3	10%
Assignment 4	10%
Final assessment	30%
Total	**100%**

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

Materials

Barnett, R. A., Ziegler, M. R., Byleen, K. E., & Stocker, C. J. (2019) *Finite*

mathematics for business, economics, life sciences, and social sciences (14th ed.). Pearson. (eText)

eText

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

Other Resources

Pearson MyLab is an online platform that accompanies your eText. It provides a variety of resources that may help you learn and practice the material presented in MATH 209.

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 10, November 28, 2022

Updated July 29, 2024

View **previous revision** ⏚