Mathematics (MATH) 209

Finite Mathematics (Revision 9)

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-level algebra.
Precluded:	None
Challenge:	MATH 209 has a challenge for credit option.
Faculty:	Faculty of Science and Technology
Status:	Replaced with new revision, see the **course listing** for the current revision

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 manner.

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 examination, and a course composite grade of at least **D (50 percent)** . The weighting of the composite grade is shown below.

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

The **midterm and final examinations** for this course must be taken online with an AU-approved exam invigilator at an approved invigilation centre. It is your responsibility to ensure your chosen invigilation centre can accommodate online exams. For a list of invigilators who can accommodate online exams, visit the **Exam Invigilation Network** .

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

Materials

Barnett, Raymond A., Michael R. Ziegler, and Karl E. Byleen. *Finite Mathematics for Business, Economics, Life Sciences, and Social Sciences: Custom Edition for Athabasca University*. Toronto, ON: Pearson Canada / Pearson Custom Publishing, 2008. (eText)

This textbook is a customized monograph prepared exclusively for Athabasca University's *Mathematics 209* from (eText)

Barnett, R. A., M. R. Ziegler, and K. E. Byleen. *Finite Mathematics for Business, Economics, Life Sciences, and Social Sciences*, 11th ed. Upper Saddle River, NJ: Pearson / Prentice Hall, 2008. The customized solutions manual included with the textbook contains all the solutions to odd-numbered exercises. It is based on (eText)

Barnett, R. A., M. R. Ziegler, and K. E. Byleen. *Student Solutions Manual for Finite Mathematics for Business, Economics, Life Sciences, and Social Sciences*, 11th ed. Upper Saddle River, NJ: Pearson / Prentice Hall, 2008. (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 209 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.

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**

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.

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View **previous revision**