

MATH 346: Mathematics of Finance I

Spring 2023 Course Syllabus

NJIT Academic Integrity Code: All Students should be aware that the Department of Mathematical Sciences takes the University Code on Academic Integrity at NJIT very seriously and enforces it strictly. This means that there must not be any forms of plagiarism, i.e., copying of homework, class projects, or lab assignments, or any form of cheating in quizzes and exams. Under the University Code on Academic Integrity, students are obligated to report any such activities to the Instructor.

Please be sure you read and fully understand our [DMS Online Exam Policy](#).

COURSE INFORMATION

Course Description: The main topics include basic problems in interest, annuities, certain amortization and sinking funds, bonds and related securities.

Number of Credits: 3

Prerequisites: **MATH 112** with a grade of C or better or **MATH 133** with a grade of C or better.

Course-Section and Instructors:

Course-Section	Instructor
Math 346-002	Professor M. Ryduchowski

Office Hours for All Math Instructors: [Spring 2023 Office Hours and Emails](#)

Required Textbook:

Title	<i>Theory of Interest</i>
Author	Kellison
Edition	3rd
Publisher	McGraw-Hill
ISBN #	978-0073382449

University-wide Withdrawal Date: The last day to withdraw with a **W** is **Monday, April 3, 2023**. It will be strictly enforced.

COURSE GOALS

Course Objectives

This course will teach students the mathematical analysis of interest rates.

Course Outcomes:

On successful completion of this course, the student will be able to:

- Demonstrate understanding of the forms of interest rate calculation used in finance and accounting in a mathematically precise manner.
- Explain how investments grow over time.
- Explain the concepts of interest, discounts, and their use in standard forms of annuities.
- Apply the techniques to practical problems.

Course Assessment: Assessment of objectives is achieved through homework assignments, projects, two mid-terms and a comprehensive final exam.

POLICIES

DMS Course Policies: All DMS students must familiarize themselves with, and adhere to, the [Department of Mathematical Sciences Course Policies](#), in addition to official [university-wide policies](#). DMS takes these policies very seriously and enforces them strictly.

Grading Policy: The final grade in this course will be determined as follows:

Homework, Projects & Quizzes	20%
Midterm Exam 1	25%
Midterm Exam 2	25%
Final Exam	30%

Attendance Policy: Attendance at all classes will be recorded and is **mandatory**. Please make sure you read and fully understand the [Math Department's Attendance Policy](#). This policy will be strictly enforced.

Exams: There will be a cumulative final exam during the final exam week:

Midterm Exam I	Tuesday, February 14th
Midterm Exam II	Tuesday, March 28th
Final Exam Period	May 5 - May 11, 2023

The final exam will test your knowledge of all the course material taught in the entire course. Make sure you read and fully understand the [Math Department's Examination Policy](#). This policy will be strictly enforced.

Makeup Exam Policy: There will be **NO MAKE-UP QUIZZES OR EXAMS** during the semester. In the event an

exam is not taken under rare circumstances where the student has a legitimate reason for missing the exam, the student should contact the Dean of Students office and present written verifiable proof of the reason for missing the exam, e.g., a doctor's note, police report, court notice, etc. clearly stating the date AND time of the mitigating problem. The student must also notify the Math Department Office/Instructor that the exam will be missed.

Cellular Phones: All cellular phones and other electronic devices must be switched off during all class times.

ADDITIONAL RESOURCES

Math Tutoring Center: Located in the Central King Building, Lower Level, Rm. G11 (See: [Spring 2023 Hours](#))

Further Assistance: For further questions, students should contact their instructor. All instructors have regular office hours during the week. These office hours are listed on the Math Department's webpage for [Instructor Office Hours and Emails](#).

Accommodation of Disabilities: The Office of Accessibility Resources and Services (OARS) offers long term and temporary accommodations for undergraduate, graduate and visiting students at NJIT.

If you are in need of accommodations due to a disability please contact Scott Janz, Associate Director of Disability Support Services at [973-596-5417](tel:973-596-5417) or via email at scott.p.janz@njit.edu. The office is located in Kupfrian Hall, Room 201. A Letter of Accommodation Eligibility from the Office of Accessibility Resources and Services office authorizing your accommodations will be required.

For further information regarding self identification, the submission of medical documentation and additional support services provided please visit the Office of Accessibility Resources and Services (OARS) website at:

<https://www.njit.edu/accessibility/>

Important Dates (See: [Spring 2023 Academic Calendar, Registrar](#))

Date	Day	Event
January 17, 2023	Tuesday	First Day of Classes
January 23, 2023	Monday	Last Day to Add/Drop Classes
March 13, 2023	Monday	Spring Recess Begins
March 18, 2023	Saturday	Spring Recess Ends
April 3, 2023	Monday	Last Day to Withdraw
April 7, 2023	Friday	Good Friday - No Classes
May 2, 2023	Tuesday	Friday Classes Meet
May 2, 2023	Tuesday	Last Day of Classes
May 3 - May 4, 2023	Wednesday and Thursday	Reading Days
May 5 - May 11, 2023	Friday to Thursday	Final Exam Period

Course Outline

Week	Chapter	Topic
1 - 2	Chapter 1	<i>Measurement of Interest</i>
3 - 4	Chapter 2	<i>Equations of Value</i>
5 - 10	Chapter 3	<i>Basic Annuities</i>
11 - 14	Chapter 4	<i>More General Annuities</i>

*Updated by Professor M. Ryduchowski - 1/4/2023
Department of Mathematical Sciences Course Syllabus, Spring 2023*