NJIT New Jersey's Science & Technology University

THE COLLEGE OF SCIENCE AND LIBERAL ARTS

THE DEPARTMENT OF MATHEMATICAL SCIENCES

MATH 347: Mathematics of Finance II
Spring 2021 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.

COURSE INFORMATION

Course Description: This course introduces mathematical models of advanced annuities, bonds and loans. Topics include yields, bonds, amortization, and sinking funds.

Number of Credits: 3

Prerequisites: Math 346 and Math 244 or Math 333 all with a grade of C or better.

Course-Section and Instructors

Course-Section	Instructor
Math 347-002	Professor K. Rappaport

Office Hours for All Math Instructors: Spring 2021 Office Hours and Emails

Required Textbook:

Title	*The Theory of Interest*
Author	Kellison
Edition	3rd
Publisher	Irwin
ISBN #	978-0073382449

University-wide Withdrawal Date: The last day to withdraw with a **W** is **Monday, April 5, 2021**. It will be strictly enforced.

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	14%
Projects 1 -4 (chapters) @10%each	40%
Mini-projects 5-8 @4% each	16%
Final Exam	30%

Your final letter grade will be based on the following tentative curve.

A	90 - 100	**C**	65 - 76
B+	87 - 89	**D**	55 - 64
B	80 - 86	**F**	0 - 54
C+	77 - 79		

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.

Homework Policy: Integrity – Your homework is expected to be your own. Help from tutors, classmates etc is encouraged but you are responsible for mastering the material. Homework will be assigned at all classes. Assigned homework will be collected. Late homework will not receive full credit and homework will not be accepted after the class review of homework. There will be no makeup tests, quizzes or homework.

Quiz Policy: There will be announced quizzes periodically.

Exams: There will be one comprehensive final exam. The final exam will be held during the following week:

Final Exam Period	May 7 - 13, 2021

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.

Exams will be proctored by using both Respondus Lockdown Browser+Monitor and Webex. Students will be required to join a Webex meeting from their phone with their cameras on, and to access the exam through Lockdown Browser on a Mac or Windows PC with webcam. Students must follow all instructions related to environment checks and camera positioning. After the exam is submitted the student will log out of Respondus and will be required to submit their work within 15 minutes of submitting their exam.

Projects – There will be 8 total projects during the semester. Projects 1-4 are chapter projects and are worth 10% of the grade each. Projects 5-8 are mini-projects, worth 4% each. One is a Bloomberg module on bonds. The other 3 are excel projects. The Bloomberg login information will be posted for the class.

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 2021 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.

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

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 Chantonette Lyles, Associate Director of the Office of Accessibility Resources and Services at 973-596-5417 or via email at lyles@njit.edu. The office is located in Kupfrian Hall, Room 201. A Letter of Accommodation Eligibility from the Office of Accessibilty Resources and Services 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/studentsuccess/accessibility/

Important Dates (See: Spring 2021 Academic Calendar, Registrar)

Date	Day	Event
January 19, 2021	T	First Day of Classes
January 23, 2021	S	Saturday Classes Begin
January 25, 2021	M	Last Day to Add/Drop Classes
March 14 - March 21, 2021	Su - Su	Spring Recess - No Classes
April, 2, 2021	F	Good Friday - No Classes
April 5, 2021	M	Last Day to Witdraw
May 4, 2021	T	Friday Classes Meet
May 4, 2021	T	Last Day of Classes
May 5 & May 6, 2021	W & R	Reading Days
May 7 - May 13, 2021	F - R	Final Exam Period

Course Outline

Lecture	Section	Topic
1	4.1 -4.2	General Annuities
2	4.3 – 4.6	General Annuities
3	4.3 – 4.6	General Annuities
4	4.7 -4.8	General Annuities
5	4.7 -4.8	General Annuities

6	Chap 5	Cash Flow
7	Chap 5	Cash Flow
8	Chap 5	Yield Rates
9	Chap 5	Yield Rates
10		**EXAM**
11	Chap 5	Yield Rates
12	Chap 5	Portfolio Methods
13	Chap 5	Portfolio Methods
14	Chap 6	Amortization Schedules
15	Chap 6	Amortization Schedules
16		Spring Recess
17		Spring Recess
18	Chap 6	Sinking Funds
19		**EXAM**
20	Chap 6	Sinking Funds
21	Chap 6	Sinking Funds
22	Chap 6	Varying Payments
23	Chap 7	Bonds
24	Chap 7	Bonds
25		No Class
26	Chap 7	Bonds
27	Chap 7	Bonds
28	Chap 7	Bonds
29	Chap 7	Bonds
30	Chap 7	Other Securities
31		**REVIEW**