

NEW YORK UNIVERSITY STERN SCHOOL OF BUSINESS

Debt Instruments and Markets
Syllabus for FINC-UB 26 Spring 2023
Monday-Wednesday 3:30-4:45 PM

Professor Jennifer N. Carpenter

jnc2@stern.nyu.edu

Office: KMC 9-99

<http://people.stern.nyu.edu/jcarpen0/>

Office hours: After class or by appointment

Course Description

This course describes important debt instruments and markets in the US and China and develops analytical methods for pricing and hedging bonds and fixed income derivatives, and for managing and evaluating bond portfolio performance.

Schedule of Lectures

- Jan 23 Overview of Debt Markets in the US and China
- Jan 25 Coupon Bonds and Zeros
- Jan 30 Yield to Maturity
- Feb 1 Duration
- Feb 6 Immunization
- Feb 8 Convexity
- Feb 13 Rate of Return vs. Yield
- Feb 15 Forward Contracts and Forward Rates
- Feb 22 The Repo Market
- Feb 27 Floating Rate Notes and Interest Rate Swaps
- Mar 1 Interest Rate Swap Spreads
- Mar 6 Review Session
- Mar 8 Midterm
- Mar 20 Introduction to Fixed Income Portfolio Management
- Mar 22 Level and Slope Factors in Bond Returns: Evidence from the US and China
- Mar 27 Factor-Based Bond Portfolio Performance Evaluation: Evidence from US ETFs
- Mar 29 Bonds with Embedded Options
- Apr 3 Option Pricing by Replication
- Apr 5 Pricing Multi-Period Options with Dynamic Trading Strategies
- Apr 10 Fixed Income Option Models
- Apr 12 American Options and Callable Bonds
- Apr 17 Swaptions
- Apr 19 The US Mortgage Market
- Apr 24 Mortgage-Backed Securities: Passthroughs
- Apr 26 Mortgage-Backed Securities: CMOs
- May 1 Caps, Floors, and Collars
- May 3 Distinguished Industry Expert Speakers
- May 8 Review Session

Final Exam TBA

Course Materials

Required: Lecture notes and problem sets

Optional: B. Tuckman and A. Serrat, *Fixed Income Securities*, Wiley, 2022, 4th edition.

Course Requirements

Grades will be based on the following.

Class Participation (5%)

Problem Sets (5%)

Midterm (45%)

Final (45%)

Class Participation

Your class participation grade will be based on a mix of attendance and verbal contributions.

Bi-Weekly Problem Sets

Because the material is technical and new concepts build on old ones, it will be essential to do the problem sets in order to follow the lectures and succeed on the exams. To facilitate learning, I encourage students to work together on these problem sets. However, each student must submit his or her own assignment through the Assignments Tool on Brightspace. I cannot accept late assignments.

Exams

The midterm and final will each be timed 75-minute Excel-based exams given through the Assignments Tool on Brightspace. The midterm will be during class time on March 8. The final will be during the scheduled final exam time for this class, TBD. You must take your exam at the scheduled time.

Office Hours

In addition to meeting with students after class or by appointment, I will give office hours at 12:45-1:45 PM on problem set due dates.

ACADEMIC INTEGRITY

Our undergraduate [Academics Pillar](#) states that *we take pride in our well-rounded education and approach our academics with honesty and integrity*. Indeed, integrity is critical to all that we do here at NYU Stern. As members of our community, all students agree to abide by the NYU Stern Student Code of Conduct, which includes a commitment to:

- Exercise integrity in all aspects of one's academic work including, but not limited to, the preparation and completion of exams, papers and all other course requirements by not engaging in any method or means that provides an unfair advantage.
- Clearly acknowledge the work and efforts of others when submitting written work as one's own. Ideas, data, direct quotations (which should be designated with quotation marks), paraphrasing, creative expression, or any other incorporation of the work of others should be fully referenced.
- Refrain from behaving in ways that knowingly support, assist, or in any way attempt to enable another person to engage in any violation of the Code of Conduct. Our support also

includes reporting any observed violations of this Code of Conduct or other School and University policies that are deemed to adversely affect the NYU Stern community.

The entire Stern Student Code of Conduct applies to all students enrolled in Stern courses and can be found here: www.stern.nyu.edu/uc/codeofconduct

To help ensure the integrity of our learning community, prose assignments you submit to NYU Classes will be submitted to Turnitin. Turnitin will compare your submission to a database of prior submissions to Turnitin, current and archived Web pages, periodicals, journals, and publications. Additionally, your document will become part of the Turnitin database.

GENERAL CONDUCT & BEHAVIOR

Students are also expected to maintain and abide by the highest standards of professional conduct and behavior. Please familiarize yourself with Stern's Policy in Regard to In-Class Behavior & Expectations (<http://www.stern.nyu.edu/portal-partners/current-students/undergraduate/resources-policies/academic-policies/index.htm>) and the NYU Student Conduct Policy (<https://www.nyu.edu/about/policies-guidelines-compliance/policies-and-guidelines/university-student-conduct-policy.html>).

GRADING GUIDELINES

At NYU Stern, we strive to create courses that challenge students intellectually and that meet the Stern standards of academic excellence. To ensure fairness and clarity of grading, the Stern faculty have agreed that for elective courses the individual instructor or department is responsible for determining reasonable grading guidelines.

STUDENT ACCESSIBILITY

If you will require academic accommodation of any kind during this course, you must notify me at the beginning of the course and provide a letter from the Moses Center for Student Accessibility (212-998-4980, mosescsa@nyu.edu) verifying your registration and outlining the accommodations they recommend. For more information, visit the CSA website: <https://www.nyu.edu/students/communities-and-groups/student-accessibility.html>

STUDENT WELLNESS

Our aim is for students to be as successful academically as they can, and to help them overcome any impediments to that. Bookmark the NYU Stern Well-being Resource Hub (<https://www.stern.nyu.edu/wellbeing>) for existing services at NYU and Stern covering a wide variety of topics including financial well-being, relationship well-being, mental well-being, and more. Any student who may be struggling and believes this may affect their performance in this course is urged to contact the Moses Center for Student Accessibility (see also the Student Accessibility section of this syllabus) at 212-998-4980 to discuss academic accommodations. If mental health assistance is needed, call the NYU's 24/7 Wellness Exchange hotline 212-443-9999. Furthermore, please approach me if you feel comfortable doing so. This will enable me to provide relevant resources or referrals. There are also drop in hours and appointments. Find out more at <http://www.nyu.edu/students/health-and-wellness/counseling-services.html>

NAME PRONUNCIATION AND PRONOUNS

NYU Stern students now have the ability to include their pronouns and name pronunciation in Albert. I encourage you to share your name pronunciation and preferred pronouns this way. Please utilize this link for additional information: [Pronouns & Name Pronunciation](#)

RELIGIOUS OBSERVANCES AND OTHER ABSENCES

NYU's [Calendar Policy on Religious Holidays](#) states that members of any religious group may, without penalty, absent themselves from classes when required in compliance with their religious obligations. You must notify me in advance of religious holidays or observances that might coincide with exams, assignments, or class times to schedule mutually acceptable alternatives. Students may also contact religiousaccommodations@nyu.edu for assistance.

NYU Stern is committed to ensuring an equitable educational experience for all students regardless of identity or circumstances and strives to recognize the obligations its students have outside of Stern. Please review all class dates at the start of the semester and review all course requirements to identify any foreseeable conflicts with exams, course assignments, projects, or other items required for participation and attendance. If you are aware of a potential conflict, please contact me as soon as possible to discuss any potential conflicts to determine whether/how they can be accommodated.

INCLUSION STATEMENT

This course strives to support and cultivate diversity of thought, perspectives, and experiences. The intent is to present materials and activities that will challenge your current perspectives with a goal of understanding how others might see situations differently. By participating in this course, it is the expectation that everyone commits to making this an inclusive learning environment for all.