NYU TANDON SCHOOL OF ENGINEERING
Finance & Risk Engineering

FRE-GY9733
Derivatives Structuring and Financing
Part I

Instructor Information

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Course Information

- FRE GY-9733
- Derivatives Structuring and Financing, part I
- Time & Place: As Announced in Albert

Course Overview and Goals

The availability of data and financial information together with open source software and pricing engines has greatly impacted the job market for "quants." While machines have started to replace some trading positions such as market making in very liquid instruments like Foreign Exchange (FX) or EuroDollar Futures ED), there is still a growing need for structuring skills where the knowledge of derivatives instruments and their workings are used to create structures that will help companies and investors to manage their financial risks efficiently.

Structuring skills are also in demand at Corporate Treasuries where the emphasis is on the application of derivatives to better manage various financial exposures such as interest rates, Foreign Exchange (FX), or commodities. Treasuries of companies usually do not engage in developing pricing models but rather apply FE techniques to their hedging, funding, and investment activities to ensure that they receive the best values from the market. Moreover, the accounting treatment of derivatives is also of utmost importance to public companies because accounting impacts their income statement and ROE and ROA. Consequently, structurers should be knowledgeable of the accounting treatment of products and solutions that they recommend to corporations or investors.

Investment management is another area where structuring skills are in demand. Many investors have more complex and nuanced views than just being "Bullish" or "Bearish" about an asset. Their view can be conditional on certain events and the chance of them happening. Structuring can help in devising structures and instruments that reflect these views- structured notes such as equity linked notes or commodities linked notes are cases in point.

Upon completion of this course, students will be able to:

This course will provide the students with practical knowledge that should help them in their job search and also expand the universe of their choices by including opportunities at Corporate Treasuries.

Course Requirements

- Courses in Investment, Probability and Statistics, working knowledge of EXCEL and high level language such as R, Python, or VBA

Class Participation

Lectures

Assignments

There will be weekly assignments dealing with actual situations in the market

Tests & Quizzes

There will be a short midterm

Assigned Readings

Articles will be posted regarding current events in the financial markets and their relevance to the topics being covered in the course.

Grading of Assignments

The grade for this course will be determined according to the following formula:

Assignments/Activities	% of Final Grade
Homework	35%
Short Midterm	10%
Final	55%

Letter Grades

Letter grades for the entire course will be assigned as follows:

Letter Grade	Percent

A	95% and Higher
A-	90%-95%
B+	85%-90%
B	80%-85%
B-	75%-80%
C+	70%-75%
C	60-70%
F	Less thab 60%

Course Schedule

Topics and Assignments

Week	Topic	Assignment Due
1	Interest rates swaps, Caps, Floors, Swaptions	Sunday, two weeks from the lecture
2	Structured Swaps and use of options as cheapeners	Sunday, two weeks from the lecture
3	Cross-Currency Swaps, Total Return Swaps	Sunday, two weeks from the lecture
4	Credit Risk, Credit Models, Structural & Reduced form, Credit Derivatives	Sunday, two weeks from the lecture
5	Equity Derivatives, Equity Linked Notes, Reverse Convertibles	Sunday, two weeks from the lecture
6	Commodities, Commodity derivatives and commodity linked notes Cross Currency Swaps,	Sunday, two weeks from the lecture
7	Review of accounting & accounting treatment of derivative products	Sunday, two weeks from the lecture

Tests and Quizzes

- In class short quiz

Course Materials

Required Textbooks & Material

No required Text

- **Access your course materials**: NYU Classes (nyu.edu/its/classes)
- **Obtain 24/7 technology assistance:** Tandon IT Help Desk (soehelpdesk@nyu.edu, 646.997.3123)
  NYU IT Service Desk (AskIT@nyu.edu, 212-998-3333)

Policies

Academic Misconduct

A. Introduction: The School of Engineering encourages academic excellence in an environment that promotes honesty, integrity, and fairness, and students at the School of Engineering are expected to exhibit those qualities in their academic work. It is through the process of submitting their own work and receiving honest feedback on that work that students may progress academically. Any act of academic dishonesty is seen as an attack upon the School and will not be tolerated. Furthermore, those who breach the School's rules on academic integrity will be sanctioned under this Policy. Students are responsible for familiarizing themselves with the School's Policy on Academic Misconduct.

B. Definition: Academic dishonesty may include misrepresentation, deception, dishonesty, or any act of falsification committed by a student to influence a grade or other academic evaluation. Academic dishonesty also includes intentionally damaging the academic work of others or assisting other students in acts of dishonesty. Common examples of academically dishonest behavior include, but are not limited to, the following:
    1. Cheating: intentionally using or attempting to use unauthorized notes, books, electronic media, or electronic communications in an exam; talking with fellow students or looking at another person's work during an exam; submitting work prepared in advance for an in-class examination; having someone take an exam for you or taking an exam for someone else; violating other rules governing the administration of examinations.
    2. Fabrication: including but not limited to, falsifying experimental data and/or citations.
    3. Plagiarism: Intentionally or knowingly representing the words or ideas of another as one's own in any academic exercise; failure to attribute direct quotations, paraphrases, or borrowed facts or information.
    4. Unauthorized collaboration: working together on work that was meant to be done individually.

5. Duplicating work: presenting for grading the same work for more than one project or in more than one class, unless express and prior permission have been received from the course instructor(s) or research adviser involved.
6. Forgery: altering any academic document, including, but not limited to, academic records, admissions materials, or medical excuses.

Disability Disclosure Statement

Academic accommodations are available for students with disabilities. Please contact the **Moses Center for Students with Disabilities** (212-998-4980 or mosescsd@nyu.edu) for further information. Students who are requesting academic accommodations are advised to reach out to the Moses Center as early as possible in the semester for assistance.

Inclusion Statement

The NYU Tandon School values an inclusive and equitable environment for all our students. I hope to foster a sense of community in this class and consider it a place where individuals of all backgrounds, beliefs, ethnicities, national origins, gender identities, sexual orientations, religious and political affiliations, and abilities will be treated with respect. It is my intent that all students' learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength and benefit. If this standard is not being upheld, please feel free to speak with me.