

**NYU Tandon School of Engineering**

Department of Finance and Risk Engineering

Course Outline FRE-GY 7821 - Derivative Strategies in Financial Risk Management

Adjunct Professor Ronald T. Slivka, Ph.D.

Tuesdays, at assigned times and classroom locations

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Office hours: At classroom location one hour prior to the start of any class or by appointment. Available otherwise by phone / email

Course Pre-requisites

Prerequisite: Graduate Standing; FRE 6073 (Introduction to Derivatives) or a solid working knowledge of basic derivatives.

Course Description

This elective course replaces lectures with participant-centered and problem-based learning using in-class discussions of case studies and independent readings to examine how derivatives are used to solve financial risk management problems arising in financial firms and corporations. Special emphasis is placed upon the role of derivatives. One practical case study is examined in detail each week. Relevant analytical exercises in Excel normally accompany the case. Applications include interest rate, equity, foreign currency and credit derivative strategies for investing, hedging, trading and issuing.

By the end of the course students should be able to identify an array of firm risks that can benefit from the application of practical derivative strategies. The place of derivative-based strategies in creating firm value and achieving strategic goals will be better understood.

Course Objectives

The objectives of this elective course are

- To strengthen and advance student skills for creatively designing derivative solutions to financial risk management problems arising in investing, hedging, trading and issuing.
- To challenge student thinking about how to include the organizational context in which risk management problems arise and quantitative derivative solutions are devised.
- To develop presentation skills and build confidence in employment interview situations through role playing opportunities
- To practice thinking outside the book.

Students should expect to achieve a detailed understanding of the following

- The financial risk management uses for derivative strategies within both financial and non-financial organizations.
- How derivative strategies can create new firm opportunities or competitive advantages.
- When derivative strategies can create unwanted risk.

Course Structure

To broaden student understanding of the organizational context in which risk management situations arise, case studies relating to actual historical situations are assigned each week. Separate case studies contain risk management situations in a firm where derivative strategies have been employed. Readings deal with the risk management problems faced by an organization and a series of questions are posed with answers to be submitted in writing and others discussed in class.

To strengthen creative skills, challenging derivative design exercises on Excel spreadsheets will be assigned.

Classes will contain brief discussions of the weekly assigned case with most of the time devoted to interactive classroom discussion. Students will be expected to participate vigorously and lead these discussions.

**Readings**

Weekly Case Study Guides will be used to structure the lecture and class discussion. These Guides will contain a list of required readings, exercises and questions to answer. Answers to exercises and specific risk management questions must be submitted prior to the start of the following lecture.

The text for this course is Risk Management and Financial Institutions, 5th Edition by John Hull, ISBN-13: 978-1119448112.

An alternative text is Scott P. Mason et. al, editors, Cases in Financial Engineering: Applied Studies of Financial Innovation, 1995, Prentice Hall, Upper Saddle River, New Jersey, ISBN 0-13-079419-8 available on Amazon.com.

Initial Readings Available on NYU Classes for this course.

- 6MistakesExecutivesMakeinRiskMgt-1 – Nassim Taleb
- Meulbroek, L. (2002). "A Senior Manager's Guide to Integrated Risk Management". Journal of Applied Corporate Finance, 56, winter, 56-70.
- Stulz, R. (1996). "Rethinking Risk Management". Journal of Applied Corporate Finance, Fall, 8-24
- The Case For Participant-Centered Thinking – Video at <http://www.hbs.edu/teaching/case-method-in-practice/core-principles.html> and text transcript TheCaseForParticipantCenteredLearning.docx

Course requirements

Throughout the course students will be expected to actively participate and at times lead discussions. There may be a final course project but there will be no final exam.

Grading

- 55% ...will be based on classroom participation in discussions
- 45% ...will be based on completed assigned questions and exercises
- A = 90+; B+ = 87.5 – 89.99; B = 82.5-87.49; B- = 80-82.49; C = 70 – 80 Available on NYUClasses

Six Weekly Case Studies

Course Times: Assigned dates, times and locations as scheduled by the Business Office.

Course Location: NYU Tandon Campus at Metrotech Center

Students should verify the exact times and locations vary each semester.

Week 1 - Introduction to Case Studies

Explanation of Participant-Centered Learning vs. Lecturer-Centered Learning

Performance Expectations

Weekly Assignments and Submissions

Conduct of Weekly Classes

Case 2: Gold Hedging At American Barrick

This firm's management questions whether or how to hedge its annual gold mine production.

Assigned Readings with Questions

One Written Answer To Be Submitted Prior To Start Of Class

Excel Spreadsheet Exercises To Submit

Case 3: Barings Bank Collapse

Futures strategies used in Japanese market arbitrage are studied along with risk management controls.

Assigned Readings with Questions

One Written Answer To Be Submitted Prior To Start Of Class

Excel Spreadsheet Exercises To Submit

Case 4: Jet Fuel Hedging at Southwest Air

The motivation for hedging jet fuel is discussed. Separate strategies are designed and evaluated.

Assigned Readings with Questions

One Written Answer To Be Submitted Prior To Start Of Class

Excel Spreadsheet Exercises To Submit

No Case 5

Case 6: GM Liability Management

GM's use of derivatives to implement liability management policy is reviewed. Derivative solutions using swaps, caps, swaptions and interest rate options are examined in detail.

Assigned Readings with Questions

One Written Answer To Be Submitted Prior To Start Of Class

Excel Spreadsheet Exercises To Submit

Case 7: London Whale

Students analyze this recent Case Study by developing their own critical exercises and questions regarding derivatives risk management and solutions.

Case 8: Metro do Porto (Snowball Swap)

Students analyze this recent Case Study by developing their own critical exercises and questions regarding derivatives risk management and solutions.

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.



Ronald T. Slivka, Ph.D. is an Adjunct Professor in the Finance and Risk Engineering Department at NYU Tandon School of Engineering. With over 35 years of practical Wall Street experience, Dr. Slivka has held equity derivative sales and management positions at Salomon Brothers, J.P. Morgan and ABN AMRO. He has written over 40 articles and book chapters on a broad range of derivative topics and holds a Ph.D. in Physics from the University of Pennsylvania. Ron presently serves on the Editorial Board of the Indian Journal of Finance and reviews for the International Journal of Emerging Markets and Journals of Investing and Index Investing (RTslivka@msn.com).

Find me on LinkedIn at <http://www.linkedin.com/pub/ronald-t-slivka/21/275/316>

Access my recent papers on SSRN at: <http://ssrn.com/author=1530815>



University Grade Change Policy - 3 July 2013

"Grades on file with the Registrar at the end of the semester, with the exception of incomplete (I) and temporary grades (S or U), are considered final unless an error in calculating or recording the grade is discovered. No correctly reported final grade may be changed based upon re-taking an examination or completion of additional work. Incomplete (I) grades are handled according to the policies described under Incomplete Grades. Temporary grades (S or U), used for continuing projects, thesis or dissertation, will be converted to standard letter grades upon completion of the project, thesis or dissertation. Once recorded with the Registrar, these grades are treated as all other final grades. If an error in calculating or reporting a grade is discovered, the instructor will submit the change of grade request to the Department Head. Upon approval of the Department Head, the request will be submitted to the appropriate Associate Provost for approval. Any incorrectly assigned grade must be corrected within one semester."

Iraj Kalkhoran

Walter Zurawsky

NYU School of Engineering Policies and Procedures on 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 has 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.

Inclusivity 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.