

**University of Texas at Dallas  
School of Management**

Finance 6360  
Options and Futures Markets

Professor Day  
Summer 2016

**Course Syllabus**

**Course Description:**

This course examines the valuation of derivative securities such as options and futures contracts, and the use of these instruments in managing business and financial risks. Lecture topics include the pricing of futures contracts, swaps, and options, use of derivatives in hedging, portfolio insurance, and the valuation of exotic options. The course prerequisites include a working knowledge of Excel and either successful completion of Finance 6310 or the permission of the instructor. The Learning Objectives for the course are to (1) demonstrate proficiency in pricing both futures and option contracts, (2) construct optimal options and futures hedges, and (3) to demonstrate an understanding of the similarities and differences between the valuation of standard options and exotic options. Success in achieving the learning objectives will be assessed using examination problems on both the midterm and final examinations.

**Course Requirements:**

Grades for Finance 6360 will be based on both a midterm examination and a *cumulative* final examination. The midterm and final exams will be *closed* book and *closed* notes, and will include problems and short essay questions. Additionally, several homework sets will be assigned during the semester. Homework sets will be due one week following distribution in class. Group discussions of homework problems are encouraged. However, each student must prepare a “custom solution” to each problem. By contrast, group construction of solutions to Spreadsheet exercises is prohibited. Each student is required to create a unique spreadsheet from scratch for each spreadsheet exercise. *Late* homework will *not* be accepted.

Your semester grade for Finance 6360 will be determined by the total number of points earned in completing the course requirements listed below:

Class Participation and Homework	30
Midterm Examination	70
Final Examination	100

In the event of an **approved** conflict with the mid-term exam, the final examination will be weighted more heavily (170 points) in determining your semester grade. Although each student should complete each homework assignment in a timely manner, the points that you earn for class participation and homework will be determined by both the quantity and the quality of your homework and participation. Students who complete most of the homework assignments with most of the problems solved approximately correctly will receive maximum possible credit for homework and class participation.

**Required Textbook:**

John Hull. *Options, Futures, and Other Derivative Securities*. Prentice Hall, Ninth Edition, 2014, ISBN 978-0133456315.

## **Instructor Contact Information**

My office is room 14.330 on the 4<sup>th</sup> floor of the new SOM building. I can be reached by phone at 972-883-2743 or e-mail at [tday@utdallas.edu](mailto:tday@utdallas.edu). During the semester, I will be available by phone, e-mail and in person to discuss lecture materials or other issues. Although scheduled office hours will be 4:00 P.M. to 6:00 P.M. on Thursdays, I am pleased to schedule late afternoon and early evening appointments on relatively short notice (often that day).

## **Scholastic Dishonesty:**

In accordance with the *Rules and Regulations* of the Regents of the University of Texas System, students in Finance 6360 must be above reproach in all scholastic activities, including but not limited to homework assignments and in-class examinations. Many of the homework problems and spreadsheet exercises that will be assigned this semester have been used previously at UTD by either myself or by my colleagues. The term “above reproach in all scholastic activities” specifically prohibits any use of homework solutions, spreadsheet templates, or case analyses from previous semesters, as well as the use of any other materials that have previously been developed at UTD or at other institutions of learning. The use of **any** prohibited materials or **any violations** of the rules for taking in-class or take-home examinations will be treated as a serious violation of the honor code. Although lenient penalties for violations of the honor code are often imposed by the Office of Judicial Affairs, my referral to the Office of Judicial Affairs with regard to **any and all violations** of the honor code will be accompanied by my strongest recommendation that the student in question receive a failing grade for the course and be placed on **permanent academic suspension** from the University. The University Policy on [Scholastic Dishonesty](#) is explained in detail on the web page for the Office of Judicial Affairs.

## **Classroom Decorum**

Classroom attire may range from casual (shorts/t-shirt) to business attire (coat and tie). However, students must be dressed in **good taste** at all times. Students will be required to wear shoes or sandals at all times during class. Further, students will not be permitted to wear hats, stocking caps, scarves or other head coverings during class. While I am pleased to make **exceptions for any headwear having a traditional link to the observance of religious custom**, no religious significance will be attributed to broad-brimmed hats, stocking caps, or hats bearing logos, including sports franchises (Texas Rangers), automotive products (Valvoline), and vacation destinations (Durango), whether such headwear is worn forwards or backwards. In the interest of keeping the classroom facilities in good condition, I plan to **enforce the School of Management ban on the consumption of food and beverages in the classroom**.

## **Course Access**

Lecture presentations, Homework Sets and Homework Solutions will be available on the eLearning course site. Students may use their UTD NetID to login on at: [elearning.utdallas.edu](http://elearning.utdallas.edu). More details are available on [course access and navigation information](#). To become familiar with the eLearning tool, please see the [Student eLearning Tutorials](#). Technical support for the eLearning course site is available 24 hours a day/7 days a week, including toll free telephone assistance (1-866-588-3192). The UTD eLearning Support Center can be accessed at: <http://www.utdallas.edu/elearninghelp>.

## Grading Policies

*Completion of the requirements for Finance 6360 requires satisfactory completion of every individual assignment.* Semester grades will be based on an end-of-semester ranking of students according to the total points accumulated in fulfilling the course requirements. Both the absolute number of points accumulated and students' respective rankings will be used in assigning each student to one of four groups: excellent, good, below average and substandard, although I may at my discretion use plus and minus grades on occasion. While I have a general standard for the absolute point totals required to enter each of the four groups, the precise cutoff points used to assign grades will be an end-of-semester decision based on my perceptions of overall class effort, the difficulty of the exams, and other factors that I consider appropriate. In the past, point totals of 165 and 130 have usually been sufficient to earn grades of A and B respectively, while point totals less than 100 have usually resulted in a failing grade. There will be no constraint on the percentage of the class that is assigned any given grade. Further, there will be no extra credit or special assignments during the semester.

## Midterm Examination

Each student in Finance 6352 is required to take *proctored Midterm and Final examinations* consisting of eight to twelve problems related to homework assignments and classroom lectures, although questions on the Midterm and Final examinations will tend to be more limited in scope than the problems included on homework assignments. Your answers to the problems and questions on the Midterm exam are to be worked in the blank spaces included on the examination copy, and do not require either a Blue Book or a Scantron. Both the Midterm and Final examinations will be *closed book* and *closed notes, although students will be allowed to reference a one page formula sheet as described in the section of the course syllabus describing the procedures for administration of the Final examination.* Each student is required to complete the proctored Midterm examination within a 3-hour time period.

The Midterm exam (but not the final exam) will be administered at the [UTD Student Success Center](#) located in the McDermott Library basement **Room MC 1.304**. Each student must [make an appointment to reserve a seat at the Testing Center](#) (free of charge) for the Midterm examination. The *time window for the Midterm exam is Tuesday July 5 through Saturday July 9*. See the [Testing Center's RESERVE-A-SEAT page](#) for additional information on scheduling or rescheduling your Midterm and Final exams. Hours of operation and testing center policies are available on the [Testing Center Information for Students page](#). Please carefully read and follow all testing center policies. When you arrive to take your Midterm exam, you must sign in with your **Comet Card** or with a **photo ID & UTD ID number** if you do not have a Comet Card.

Students requiring special accommodations for the taking the Midterm and Final exam should inform both the course instructor and the UTD Testing Center prior to June 15 in order to help assure that the appropriate accommodation is achieved. If you have questions concerning the use of UTD's on-campus testing center please email [TestingCenter@utdallas.edu](mailto:TestingCenter@utdallas.edu).

## **Final Examination**

Each student in Finance 6360 is required to take a *comprehensive Final examination* during the final exam period designated by the University. The Final exam will include problems and short answer questions to be worked out in blank spaces included on the examination copy. Students are not permitted to use either a Scantron or a Blue Book during the final examination.

Each student is required to *present photo identification such as a valid driver's license or student ID* if requested during the examination. To maximize compliance with the honor code, *talking during the examination is expressly prohibited. Possession or use of cell phones or other wireless devices and methods of communication* during the exam is *expressly prohibited. All backpacks, books, notebooks, handbags, or other objects must be placed on the table (or floor) at the front of the classroom.* Any failure to follow these instructions and prohibitions, talking during the examination, or any attempt to circumvent the instructions described above will be treated as a serious violation of the honor code.

Students will have *3 hours to complete the final examination.* The examination will be *closed book and closed notes*, defined to mean that students *will not be allowed* to refer to textbooks, class notes, or any other class materials during the examination. Each student *is allowed to bring one "formula sheet" to the exam.* Content of the formula sheet is *limited to formulas and must not include worked examples, labels, definitions of symbols used in formulas, or notes of any sort (i.e., do not include any words).* The *formula sheet must be hand written* (no cutting and pasting) and fully contained on the two sides of a *single sheet of paper no larger than 8 1/2 inches x 11 inches.* Students *will not be permitted to use laptop or tablet computers* during the examination. Each student *will be allowed to use a calculator*, although programmable calculators and calculators with extensive memory capacity are prohibited. Acceptable calculators include the Casio fx-260 and fx-65 or either of the calculators authorized for use on the CFA exam, the TI BA II Plus and HP 12C (including HP 12C Platinum and 12C Prestige).

## **About the Instructor**

Theodore E. Day is Professor of Finance in the School of Management at the University of Texas at Dallas, where he teaches courses in corporate finance and portfolio management. Prior to joining the UTD faculty in 1990, Professor Day held faculty positions at Vanderbilt University and at the University of North Carolina. A Certified Public Accountant born in Collinsville, Oklahoma, Professor Day earned his M.B.A. from the University of Oklahoma and a Ph.D. in Finance from Stanford University's Graduate School of Business. Professor Day's research on inflation and stock market returns, the term structure of interest rates, analysts' earnings forecasts, the volatility of derivative asset markets, along with more recent research on the discounts for closed-end mutual funds, has been published in academic journals such as the *Journal of Financial Economics*, the *Review of Financial Studies*, the *Journal of Finance*, and the *Journal of Political Economy*. In addition, Professor Day is the co-author of *Taxes, Financial Policy, and Small Business*, a monograph funded by a grant from the Small Business Administration. Professor Day's research on the quality of analysts earnings forecasts, "Following the Leader: An Analysis of Analyst's Earnings Forecasts", with Rick Cooper and Craig M. Lewis, received the 2002 Fama/DFA prize as the best paper on Capital Markets and Asset Pricing published in the *Journal of Financial Economics*.

## Course Outline:

The articles listed in the syllabus are available online or from the electronic collections of the McDermott Library

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|---|---------|
| I. Forward and Futures Prices   | May 25  |
| Hull: pages 1-8 and 77-81, and Chapters 2 and 5.  |         |
| II. Futures Market Hedging  | June 1  |
| Hull: Chapter 3   |         |
| III. Hedging with a Maturity Mismatch in Markets with Convenience Yield   | June 8  |
| Antonio Mello and John Parsons, 1995. "Maturity Structure of a Hedge Matters: Lessons from the Metallgesellschaft Debacle." <i>Journal of Applied Corporate Finance</i> 8, pages 106-120. |         |
| IV. Forward Rate Agreements and the Term Structure  | June 15 |
| Hull: Pages 81-98 and Chapter 6.  |         |
| V. Hedging Interest Rate Risk using Treasury-Bond Futures   | June 22 |
| Hull: Chapter 6.  |         |
| Philippe Jorion, 1997. "Lessons from the Orange County Bankruptcy." <i>Journal of Derivatives</i> 4, pages 61-66.   |         |
| VI. Swaps, Securitization and Credit Default Swaps  | June 29 |
| Hull: Chapters 7, 8 and pages 571-579   |         |

## Midterm Exam:

The 3-hour closed-book midterm exam will be administered by the UTD Testing Center during a 3-hour period for which each student must register individually during the time period from *July 5 through July 9*.

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| VIII. Arbitrage Restrictions and Option Trading | July 6 |
| Hull: Chapters 10, 11, and 12.                  |        |

- IX. Risk Neutrality and the Valuation of Options July 13  
Hull: Chapters 15, 17, and 18 .
- X. Binomial Option Valuation July 20  
Hull: Chapter 13 and pages 450-469.  
Richard J. Rendleman, Jr., 1999. "Option Investing from a Risk-Return Perspective." *Journal of Portfolio Management* 25.
- XII. Portfolio Insurance and Structured Derivative Products July 27  
Hull: Chapter 19  
Craig Merrill and Steven Thorley, 1996. "Time Diversification: Perspectives from Option Pricing Theory." *Financial Analysts Journal* 53, pages 13-19.
- XIII. Exotic Options August 3  
Hull: Chapter 26 and 34.  
Henry M. Kat, 1994. "Contingent Premium Options." *Journal of Derivatives* 2, pages 44-54.  
Robert H. Litzenberger, David R. Beaglehole, and Craig E. Reynolds, 1996. "Assessing Catastrophe Reinsurance-Linked Securities as a New Asset Class." *Journal of Portfolio Management* 23, pages 76-86.
- XIV. Final Exam August 9 or 10