**Seton Hall University**

**STILLMAN SCHOOL OF BUSINESS**

**Fall 2017**

Instructor: Christakis (Chris) Droussiotis

Office hours: by appointment – Tuesdays- after class

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**Course: BFIN 4234 -Futures, Options and Other Derivatives**

**BFIN 7331 – Futures, Options & Swaps-**

**Wednesdays 6:30pm – 8.45 pm**

**Course Description:**

The course is designed to introduce theoretical and practical applications of financial futures, options and other derivatives such Swaps, Swaptions and FRAs. Over the last 30 plus years, with the expansion of hedge funds, the markets for these asset classes have grown enormously and has generated innovative techniques for hedging, speculating or arbitraging investments. Derivatives have become one of the most important tools of modern finance. We will examine the institutional aspects of futures, options and swap markets and provide an analytical foundation for the pricing these instruments. The subject matter requires relatively greater use of quantitative methods including the binomial option pricing model as well as the classic model of Black-Scholes-Merton.

R**equired Text:**

# An Introduction to Derivatives and Risk Management

**Don Chance & Robert Brooks, Cengage Publishers (South Western)**

**ISBN-13: 9781305104969**

**Bookstore**

**Optional Books:**

# The Quants: How a New Breed of Math Whizzes Conquered Wall Street and Nearly Destroyed It

[**Scott Patterson**](http://www.amazon.com/Scott-Patterson/e/B002J25160/ref=ntt_athr_dp_pel_1)

**Amazon Link:** [http://www.amazon.com/Quants-Whizzes-Conquered-Street-](http://www.amazon.com/Quants-Whizzes-Conquered-Street-Destroyed/dp/0307453375)

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**Materials/Handouts to be provided by the Instructor (can be found on** [**www.ProfessorDrou.com**](http://www.professordrou.com/) **under Seton Hall – Derivatives page including Lecture Notes, Spreadsheets, Homework Assignments, Reading Assignments,**

**Course Requirements:**

**Attendance:**

Students are expected to attend and to participate in classroom discussions. It is important to attend every class because the Exams are based on the instructor’s lectures and classroom notes. Class participation will count as part of the course grade. Attendance accounts for 10% of your grade.

**Homework:**

Reading assignments and application projects will be assigned. Check Homework assignments and datelines on the professor’s website at [www.ProfessorDrou.com](http://www.professordrou.com/) under SHU - Derivatives. Homework accounts for 10% of your grade. Also check datelines on the syllabus schedule below. Please hand in a hard copy of your homework on the due date. If you miss your class, please either email the professor the homework or upload on the professor’s Dropbox found on the website and bring a hard copy the following class.

**Project:**

Construct a Portfolio Analysis using on Excel spreadsheet (See a sample - Exhibit I)

**Exams:**

There will be a midterm and a final exam.

**Midterm Studies**: Text Book Chapters 1-7.

**Final Exam Studies**: Text Book Cumulative - Chapters 3-12 (excluding Ch 9,10) .

**Grading:**

|  |  |
| --- | --- |
| Mid Term Exam \* | 35% |
| Final Exam\* | 35% |
| Homework | 20% |
| Attendance | 10% |
| Total | 100% |

**\*CD Factor:**

This is to give the benefit for students of significant improvement between Mid-Term Exam and Final. The Weighted averages are as follows (based on pre midterm curve score):

|  |  |  |
| --- | --- | --- |
| **Improvement** | **Mid-Term Weighting** | **Final Exam Weighting** |
| 35% and higher | 15% | 55% |
| 30-34% | 20% | 50% |
| 25%-29% | 25% | 45% |
| 20%-24% | 30% | 40% |
| 19% or lower (including negative) | 35% | 35% |

**Academic Integrity**

Cheating and plagiarism are serious offenses. The following definitions are based on the College's Academic Honesty website:

Cheating is the attempted or unauthorized use of materials, information, notes, study aids, devices or communication during an academic exercise.

Examples include but are not limited to:

* Copying from another student during an examination or allowing another to copy your work
* Unauthorized collaborating on a take home assignment or examination
* Using unauthorized notes during a closed book examination
* Using unauthorized electronic devices during an examination
* Taking an examination for another student
* Asking or allowing another student to take an examination for you
* Changing a corrected exam and returning it for more credit
* Submitting substantial portions of the same paper to two classes without consulting the second instructor
* Preparing answers or writing notes in a blue book (exam booklet) before an examination
* Allowing others to research and write assigned papers including the use of commercial term paper services

Plagiarism is the act of presenting another person's ideas, research or writing as your own, such as:

* Copying another person's actual words without the use of quotation marks and footnotes (a functional limit is four or more words taken from the work of another)
* Presenting another person's ideas or theories in your own words without acknowledging them
* Using information that is not considered common knowledge without acknowledging the source
* Failure to acknowledge collaborators on homework and laboratory assignment

My policy is to give a 0 grade to any assignment that has been plagiarized or an exam in which you have cheated. In addition, I am required by College policy to submit a report of suspected academic dishonesty to the Office of the Dean of Students. This report becomes part of your permanent file.

**Other Information**

* Cell phones must be turn off during class

# Course Outline

# (please check website [www.professordrou.com](http://www.professordrou.com) for updates)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Lecture \*** | **Week** | **Chapter \*** |  | **Topics** | **Homework/Assignment\*** |
| 1 | Aug 30 | 1, 2 |  | * Introduction to Derivatives * The Greeks in Finance |  |
| 2 | Sep 6 | 6 |  | * Basic Option Trading Strategies * Protective Put & Cover Calls * Straddles |  |
| 3 | Sep 13 | 7 |  | * Advanced Option Trading Strategies * Bull & Bear Money Spreads * Butterfly Spreads * Collars | **HAND IN**  **HOMEWORK #1**  **Chapter 6: #10,12,13** |
| 4 | Sep 20 | 3 |  | * Arbitrage Pricing & Option Properties * Intrinsic Value Concepts | **HAND IN**  **HOMEWORK #2**  **Chapter 7: #6,9,12** |
| 5 | Sep 27 | 4 |  | * Binomial Pricing Models method #1 and 2 | **HAND IN**  **HOMEWORK #3**  **Chapter 3: #11,12** |
|  | **Oct 4** |  |  | **NO CLASS – Instructor Traveling** | |
| 6 | Oct 11 | 5 |  | * MIDTERM EXAM REVIEW | **HAND IN**  **HOMEWORK #4**  **Chapter 4: #9,10** |
|  | **Oct 18** |  |  | **MID-TERM EXAM** | |
| 7 | Oct 25 | Instructor Notes |    | * Option Pricing Models: * The Black-Scholes-Merton Model  Put Call Parity concepts . Equity Valuation using Options 2 Case Studies |  |
| 8 | Nov 1 | 8 |  | * Futures & Forwards * Case Studies (Nov 9) | **HAND IN**  **HOMEWORK #5**  **Handout**  **(download from website)** |
| 9 | Nov 8 | 11 |  | * Swaps & CDS | **HAND IN**  **HOMEWORK #6**  **Handout**  **(download from website)** |
| 10 | Nov 15 | 12 |  | * Interest Rate Forwards * FRA’s and Swaptions | **HAND IN**  **HOMEWORK #7**  **Handout**  **(download from website)** |
|  | **Nov 22** |  |  | **NO CLASS – Thanksgiving Recess** | |
| 11 | Nov 29 |  |  | * Interest Rate Forwards   FRA’s and Swaptions |  |
| 12 | Dec 6 |  |  | ***FINAL EXAM REVIEW*** | **HAND IN**  **HOMEWORK #8**  **Handout**  **(download from website)** |
|  | **Dec 13** | **FINAL EXAM** | | | |

\* All lecture notes /homework could be obtained by going to Professor’s Website [www.professordrou.com](http://www.professordrou.com/)