1. Course Information

**Course Title:** Futures, Swaps and Options  
**Course number:** 5341  
**Credit hours:** 3  
**Semester:** Spring 2017  
**Course Section:** N  
**Prerequisites:** FINA 5318, 5319  
**Room #:** Strake 201  
**Days & hours:** MW 5:30 - 6:45 pm

**BlackBoard site:** https://blackboard.stthom.edu/webapps/blackboard/content/listContentEditable.jsp?content_id=_1105397_1&course_id=_26054_1

2. Instructor Information

**Name:** Dr. Yiying Cheng  
**Office location:** Welder 206  
**Office phone:** 713-525-2108  
**Emergency phone:** 401-339-9820  
**E-mail:** chengy@stthom.edu  
**Fax number:** 713-525-2110  
**Where to leave assignments:** BlackBoard  
**Office Hours:** MW 2:00 – 3:00 pm, 4:30 – 5:30 pm, Tue 2:00- 4:00pm, Th 4:30 – 5:30 online virtual office hour

3. Course Catalog Description

The purpose of this course is to introduce the student to financial derivatives, including options, swaps, futures and forward contracts and explain how they are used to transfer financial risk from risk-averse hedgers to speculators who are willing to accept this risk. Topics include hedging and trading strategies, portfolio insurance, and the valuation of financial derivatives, including the binomial model and the Black-Sholes model. Prerequisite: FINA 5318, 5319.

4. Program Goals

The Master of Science in Finance program has five goals.

When students complete the MSF degree at the University of St. Thomas:

**Goal 1. Core of Finance Knowledge**

**Objective 1.** Demonstrate competency in the field by linking core financial knowledge with financial and business environments to draw valid conclusions.
Objective 2. Demonstrate competency in conducting financial research and analyses.

Goal 2. Analytical and Critical Thinking Skills

Objective 1. Demonstrate skills in analyzing financial reports.

Objective 2. Evaluate data thoroughly

Goal 3. Ethical Awareness

Objective 1. Identify ethical standards and accountability as applicable to the financial regulations and financial aspects of business decisions

Objective 2. Apply ethical standards and accountability to the financial regulations and financial aspects of business decisions

Goal 4. Global Awareness

Objective 1. Demonstrate knowledge of dynamic global financial markets

Objective 2. Develop portfolio strategies of allocating global financial assets

Goal 5. Leadership and Communication Skills

Objective 1. Graduates will develop and deliver a compelling oral presentation grounded in relevant information and facts.

Objective 2. Graduates will write professional quality documents.

Objective 3. Graduates will foster teamwork and clarify roles and responsibilities.

5. Course Learning Objectives

Upon finishing the course I expect that you can:

- Know how futures are used for hedging risks (Goal 1,2)
- Show how futures prices are determined (Goal 2)
- Have basic understanding of interest rate and interest rate futures (Goal 1,2)
- Show the price bounds on options (Goal 2)
- Understand when to use what strategies to trade options (Goal 2)
- Talk about swaps and CDS and how their prices are determined (Goal 4)
- Price options using binomial tree and Black-Scholes model (Goal 1,2)
- Discuss about 2007 credit crisis (Goal 3)
• Present your analysis in a presentation or a written paper (Goal 5)

6. Texts, Readings, Materials

Required text citation:
Options, Futures and Other Derivatives, 8th ed. By John C. Hull

Required reading: As posted on Blackboard

Supplementary material: Wall Street Journal

7. Instructional methods:
- Lecture, Q&A
- Group discussion/Problem solving
- Peer review/critic
- You are also encouraged to use Bb discussion so that peer students and I can add to the discussion any time.

8. Use of Technology

1) Online data retrieval and/or research:
   Data collection at Bloomberg terminal

2) Online communication or collaboration
   BlackBoard Forum; BlackBoard Collaborative Ultra

3) Use of general productivity software (e.g., Microsoft Office) to complete assignment
   Excel, Word

4) Use of BlackBoard learning platform
   All HW assignments are assigned and submitted through BlackBoard.

5) Deriva-Gem: We will discuss topics using Deriva-Gem (the software that comes with the textbook) with Microsoft Excel. Some optional group project may use Deriva-Gem as well.
9. Course Tentative Schedule:

<table>
<thead>
<tr>
<th>Assignments of topics, exams</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chap 1, 2 - Introduction, Mechanics of Futures Markets</td>
<td>1/23, 1/25</td>
</tr>
<tr>
<td>Chap 3 - Hedging Strategies Using Futures</td>
<td>1/30, 2/1</td>
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<tr>
<td>Chap 4 - Continuous Compounding interest rate and FRA</td>
<td>2/6, 2/8</td>
</tr>
<tr>
<td>Chap 5 -- Determination of Forward and Futures Prices</td>
<td>2/13, 2/15</td>
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<tr>
<td>Review 1</td>
<td>20-Feb</td>
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<tr>
<td>Midterm exam 1</td>
<td>22-Feb</td>
</tr>
<tr>
<td>Chap 10 -- Mechanics of Options Markets</td>
<td>2/27, 3/1</td>
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<tr>
<td>Chap 11 -- Properties of stock options</td>
<td>3/6, 3/8</td>
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<tr>
<td>Spring Break</td>
<td>3/13, 3/15</td>
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<tr>
<td>Chap 12 -- Trading Strategies Involving Options</td>
<td>3/20, 3/22</td>
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<tr>
<td>Chap 13 -- Intro to Binomial Trees</td>
<td>3/27, 3/29,</td>
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<tr>
<td>Review 2</td>
<td>3-Apr</td>
</tr>
<tr>
<td>Midterm exam 2</td>
<td>5-Apr</td>
</tr>
<tr>
<td>Chap 15 -- Application of Black-Scholes model</td>
<td>4/10/, 4/12</td>
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<tr>
<td>Chap 14, 19 -- Black-Scholes assumptions and The Greek Letters</td>
<td>17-Apr</td>
</tr>
<tr>
<td>Chap 7 – Swaps and CDS</td>
<td>4/19, 4/24, 4/26</td>
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<tr>
<td>Chap 8 – 2007 Financial Crisis</td>
<td>1-May</td>
</tr>
<tr>
<td>Final Review</td>
<td>3-May</td>
</tr>
<tr>
<td>Final Exam</td>
<td>5/8: 6:00 pm – 8:30 pm</td>
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The above schedule and procedures in this course are subject to change based on the progress we make in class, opportunities for guest speakers or attendance at topical events, and in the event of circumstances beyond the instructor’s control. The most up-to-date schedule is the one on Blackboard.

10. Course Policies

1) Pre-class readings

Although the textbook is good reference for review and studying, many students reflect that it is hard to understand without first learning the material in class. To promote in-class understanding and discussion, I highly suggest that you preview the relevant textbook material with a goal to get whatever made sense to you. Namely, please do not get stuck reading the book for hours, since it leads to procrastination.
2) **Open feedback**

To better my teaching, I require that you please give me feedback by: 1) fill out informal surveys throughout the semester; 2) email me; 3) private talk. Please try to avoid open discussion of feedback in the middle of class, as it takes up precious class time.

I may also survey you informally during the semester to see the progress on my teaching goals.

3) **Attendance/lateness**

Attendance is an essential part of class participation, full and prompt attendance is expected for all students. Some class activities are designed specifically for the number of students in class, so please inform me way ahead of time if you expect to miss part of a class. Attendance will be taken various forms and will count towards part of your semester grade (please see the Student Grading Processes). However, if you miss more than three classes, your semester grade, at my discretion, will be down one letter grade (A- to B-). If you miss six classes, the grade is automatically F.

4) **Class Participation**

Participation is a part of course work designed for this class. You are required to show concentration and full participation in all class activities, including notes taking (yes, you read it right!), discussion, constructive questions and comments, trying to solve problem in class, and presentations.

Note that private discussion or chatting or giggling with your peers are discouraged and will be viewed as destructive for the learning environment. Please respect the class by not doing so.

5) **Make-up Exams**

Make up exams will not be given unless you convince me with hard evidence that the circumstance is inevitable. In this case, I may arrange an alternative test (which is not the same as the original test to be fair) and grade accordingly.

6) **Assignments (12%)**

Assignments will be given throughout the semester. They are designed to help you learn through practice, to deepen your understanding of class material and to help prepare for the exams. Assignments will be assigned on BlackBoard, with an email notice specifying the due date. **Students MUST submit their answer through BlackBoard.**
The collection of all assignment questions will serve as review material for the exams. Answers will be posted on BlackBoard after the due date of last HW set.

No late assignment will be accepted. Make-up assignments will only be considered if there are medical reasons prohibiting the prompt completion.

7) In-class quizzes (counts toward class-participation)
   To better your learning and provide feedback besides exams, there will be several quizzes throughout the semester. The quizzes will be graded by your peer students and discussed immediately after. You will have a chance to correct your own quizzes with a red pen. All properly corrected quizzes will count as full score. However, students came in later than 5 minute past the beginning of class will not get the quiz.

8) Term project (15%)
   A term project of trading derivatives in a simulated environment will start after the first midterm when we discuss about Options. The project is designed to train you to discipline your trading towards you goal and track your performance along the way.

   A mid-term oral presentation of your progress is scheduled after the second midterm.

   A written report summarizing all your trading goals, activities and performance is due on the last day of class.

9) Cell phones, electronic media
   o During lectures – Please be nice to me and other students by refraining from using ANY electronic media during the class, including cell phones, tablets and so on, except for studying purpose.
   o During exams – Cell phones and electronic devises will be kept in your own bag, which will be put at the podium of the classroom.

10) Plagiarism and Academic Integrity Certificate is required before submitting any assignment. You must complete the online tutorial, "Plagiarism and Academic Integrity at UST," at http://www.stthom.edu/libtraining/ustplagiarism/ustplagiarism.htm Read the tutorial carefully and answer all quiz questions. When you have received a passing quiz score (70%), you will be allowed to fill your name in to a certificate of completion. Fill in your complete name, print the certificate, and submit it by end of this semester. Keep this certificate in case instructors from other courses require it. If you do not pass the quiz questions, you will need to retake the tutorial until you do.
11) **Small Tasks for Small Scores** (3 Completed Activities = 3% of your grade)

The list of Grovo and other workshops can be found on BlackBoard, next to the syllabus

In order to (1) bolster the student’s performance in courses in the business school and (2) better prepare students for their professions and careers after school, each student is required to complete a minimum of three (three hours total) workshops. In doing so, CSB will provide numerous workshops for all students taking CSB courses (the complete list of workshops is available on BB). As can be seen in the list, the workshops are being offered by different academic support services on campus and the workshops on computer applications are being offered through an online provider (www.grovo.com).

- Workshops are being offered during the activity period and in the evening on weekdays in the Fall semester.
- In addition, workshops are being scheduled for two Saturdays in the Fall semester.
- Workshops are also being offered online via Grovo.
- While the students have to complete a minimum number of workshops per semester, the same workshops could be used for various courses.
- Students need to attend a workshop lasting at least one hour to complete one activity. For instance, if a student decides to take a half hour session on Excel training via Grovo, she/he then needs to take an additional half hour session on something else to complete one required activity.

11. **Student Grading Processes: (including weighting of factors)**

There are one midterm exams, one final exam, two homework assignments and one term paper.

Course grading break down:

- HW Assignments 12%
- Min (Midterm1, midterm 2, Final Exam) 10%
- Max (Midterm1, midterm 2, Final Exam) 25%
- Term project 15%
- Attendance/class participation 10%
- Small task and small points: workshops 3%

**Grading Scale:**

- 93-100 A
- 90-92 A-
- 87-89 B+
12. Available Support Services:

- **Tutorial Services Center (TSC)**
  The Tutorial Services Center offers assistance to all current UST students in a variety of content areas, including academic subjects, general concepts, and writing skills. Tutors are available anytime the center is open. The TSC offers on-site tutoring, online tutoring, and tutorial workshops. Office hours and schedules can be found at [http://www.stthom.edu/public/index.asp?page_ID=100289](http://www.stthom.edu/public/index.asp?page_ID=100289). Please contact the center at 713-525-3878 or tutoring@stthom.edu.

- **CSB Tutorials**
  The Cameron School of Business offers tutoring in business subjects. Please visit [http://libguides.stthom.edu/cameron](http://libguides.stthom.edu/cameron) (under the “CSB Tutorial Services” tab) for the most current tutorial schedule and available subjects.

- **Information Technology Services**
  The UST IT Solution Center offers assistance with technical issues related to general computer issues, software, email, passwords, MyStThom, and blackboard. Manuals, contact information, and discounted software and hardware purchase information may be found at [http://www.stthom.edu/Offices_and_Services/Information_Technology/Index.asp](http://www.stthom.edu/Offices_and_Services/Information_Technology/Index.asp).
The Cameron School of Business at the University of St. Thomas

MISSION STATEMENT

Inspired by the Basilian Fathers’ motto of Goodness, Discipline and Knowledge, the Cameron School of Business provides a comprehensive, high quality, ethically oriented business education to a diverse student body enabling graduates to serve as leaders of faith and character in a global economy.

ACADEMIC HONESTY

Ethical conduct is essential to a community of scholars and students searching for truth. Anything less than total commitment to honesty and honorable conduct undermines the efforts of the entire community. Academic integrity lies at the very heart of any institution of higher learning. In the Cameron School of Business, students and faculty are expected to commit to a code that exemplifies each individual's honor and integrity. Any conduct that violates this standard and betrays the respect of others is a matter of grave concern and, accordingly, is deemed unacceptable.

The tests/exams will be individual efforts. Student may work together on homework assignments, but must submit their own assignments.

The penalty for an incident of academic dishonesty is, at the discretion of the professor, either a mark of zero for the work in question or the grade of F for the course.

ACCOMMODATIONS

The University of St. Thomas abides by the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973, which stipulates that no student shall be denied the benefits of an education "solely by reason of a handicap." If you have a documented disability that may impact your performance in this class and for which you may require accommodations, you must be registered with and provide documentation of your disability to Counseling and Disability Services which is located on the second floor of Crooker Center. Contact Debby Jones or Rose Signorello at 713-525-6953 or 713-525-3162.

Any student with a documented disability needing academic adjustments or accommodations is requested to speak with me during the first two weeks of class. All discussions will remain confidential.