

University of Management and Technology



Dr Hasan Murad School of Management (HSM)

Course Outline: Future, Options & Swap Strategies-FN-732

Course Instructor:

Course Description

Derivatives securities are the most rapidly advancing are in global financial market. In 2015, the market value of derivatives reached up to 553 trillion \$. Taking into account the large size of derivatives market, a careful and inclusive study of derivative securities becomes worthy to finance students. This course is designed to provide a comprehensive analysis on the properties of options and futures and to offer a theoretical framework within which all derivatives can be valued and hedged.

Module Outline

• <i>Introduction to Derivatives and its types</i>
• <i>Understand the Forwards and Futures</i>
• <i>Introduction to Margin Accounts & Daily Resettlement</i>
• <i>Understand the Swaps, Interest Rate Swaps, Currency Swaps and CDS</i>
• <i>Understand the Options and Trading Strategies</i>
• <i>Price Options Using Black Scholes Model</i>
• <i>Price option using Binomial Model</i>
• <i>Understand the Greek Letters</i>
• <i>Exotic options and Over-the-Counter Market</i>
• <i>Understand the Credit, Weather and Insurance Derivatives and their gaining momentum in recent era</i>
• <i>The Importance of Ethics in Financial Risk Management</i>
• <i>Review of the Overall course</i>

Course objectives

- I. To provide a comprehensive analysis on the properties of options and futures.*
- II. To offer a theoretical framework within which all derivatives can be analyzed and valued.*
- III. To provide a solid foundation for advanced risk management approaches which are applicable in real world scenarios*

Teaching and Learning activities

- Lectures: *The lectures will be given on all concepts and issues. Class attendance and active participation in class are required for all students. The students' attendance and participation will be strictly monitored and recorded.*
- Assignments & Presentation: *There will be assignments which are designed to help students review some of the basic concepts and to practice applying the concepts. There will be one individual assignment and one group assignment which will be uploaded in due course of time.*
- Case Study: *The case studies will be presented for class discussion to enlighten students about the real world scenarios and advancement of derivatives around the globe. Students are required to actively participate in case study discussions as it would be significantly graded.*
- Term Paper: *At the end of semester, the students are required to write individually one paper that would be themed on comprehensive research about derivatives market. It will evolve the analytical skill in students to observe and present the real world scenarios.*
- Guest Lecture: *There will be one professional guest lecture session that would help students to clearly understand the different practical approaches of industry. All of the students will be required to attend this session and to ask questions.*
- Quizzes and Exams: *There will be 2-4 quizzes, mid-term exam and a comprehensive final exam (both closed-book, closed-notes) to test the students' breadth and depth of the understanding of the major concepts covered in the course and students' ability to integrate and apply this knowledge.*

Consultation

The students are supposed to contact me during my office hours regarding their queries or problems. The schedule of office hours is shown in front of my office door which is situated in Finance Department. If any student needs immediate access, he/she can communicate through an email mentioned on the top of this course outline.

Assessment Criteria

In order to assess the students during the course of semester, following criteria will be followed

Assignments	10%
Case Studies Discussion	5%
Quizzes	10%
Term paper	15%
Class Participation	5%
Mid Term Exam	25%
Final Term Exam	30%
Total	<u>100%</u>

Weekly Schedule	Topics Covered	Learning Activity
Week 1-2	Course overview Introduction to derivatives Brief Introduction about Financial Risk Fundamental derivatives concepts Pay off Diagrams Risk Management Value at Risk Forward Contracts	Lectures/Assignment

	<p>Long Position Vs Short position</p> <p>Payoff Diagrams</p> <p>Future contracts & Future markets</p> <p>Forward Vs Future Contracts</p> <p>Price of Derivatives Vs Value of Derivatives</p> <p>Short Overview</p>	
Week 3-4	<p>Introduction to Margin Accounts and Daily Resettlement</p> <p>Introduction to Hedging</p> <p>Hedge Ratio, Optimal Hedge Ratio, Tailing the Hedge</p> <p>Index Hedge, its types and problem solving</p> <p>Introduction to Swaps</p> <p>Currency Swaps, Interest Rate Swaps</p> <p>Valuation of Swaps and Approaches</p> <p>Valuing Currency Swaps and Valuing Bonds</p>	Lectures/Quiz/Articles
Week 5-6	<p>Introduction to Credit Derivatives</p> <p>Credit Default Swaps and Swaps comparative advantages</p> <p>Introduction to the options</p> <p>Types of options and Trading Strategies</p> <p>European Vs American Options</p>	Lectures/Case Study/Quiz
Week 7	Midterm Exam	
Week 8-9	<p>Introduction to the Exotic options</p> <p>Introduction to Over-the-Counter Market</p> <p>Introduction to the weather and Insurance Derivatives</p> <p>The importance of weather derivatives in recent era</p> <p>Introduction to the Greeks</p>	Lectures/Term paper Discussion
Week10-11	Pricing options Using Black Scholes Model	Lectures/Presentations

Week 12	Pricing options using Binomial Model The Ethics in Financial Risk Management	Lectures/Quiz
Week 13-14	Overall Revision Term Paper	Viva on Term Paper
Week 15	Final Exam	

Recommended Books

"McDonald, Robert L., 2013, Derivatives Markets, 3rd edition, Pearson Higher Education, Inc"

"McDonald, Robert L., 2009, Fundamentals of Derivatives Markets, (Pearson Education, Inc)"

"Hull, John, 2008, Sixth Edition, Fundamentals of Futures and Options Markets (Pearson Education, Inc)"

Wish you Good Luck!