FIU Business
FLORIDA INTERNATIONAL UNIVERSITY

FINANCE 6489: MSF Advanced Risk Management (Fall 2019)

Saturdays from 9:00am to 1:40pm, FIU at I-75 (Miramar)

Oct 19th – Dec 14th 2019, Classroom: FIU at I-75, room 335

GENERAL INFORMATION

Instructor: Brice Dupoyet	**Phone: 305-328-3328**
Office: RB 229A	**Fax: 305-348-4245**
Office Hours: after class or by appointment **Link to professor's site:** http://faculty.fiu.edu/~dupoyetb/Advanced_Risk_Mgt/class.htm	**E-mail: dupoyetb@fiu.edu**

COURSE DESCRIPTION

Advanced Risk Management starts with an in-depth understanding of the Binomial option-pricing model. It is then shown how, in the limit, the Binomial option-pricing model converges to the Black-Scholes formula. Market-making and delta-hedging is paid special attention to, as well as the assumptions going into the lognormal model and the role of Brownian motion in derivatives pricing. Various types of Exotic options are covered, along with the pricing of options through Monte Carlo simulations including possible jumps in the process. Finally, portfolio protection and risk assessment using Value-at-Risk (VAR) is demonstrated in the lognormal setting.

COURSE OBJECTIVES

1) Be at ease with the mathematics of option pricing: lognormal model, Diffusions, jumps.

2) Understand the mechanics of Binomial option pricing.

3) Be able to explain the issues faced by a market-maker and the concept of delta-hedging.

4) Be capable of describing the most common exotic options and how they work.

5) Understand and implement Monte Carlo simulations to price complex derivatives.

5) Be able to implement VAR for risk assessment and corporate decisions.

MAJOR & CURRICULUM OBJECTIVES TARGETED

Finance Major (Master of Science in Finance degree), Understanding of Derivative Securities.

TEXTBOOK

“Derivatives Markets”, Third Edition. Robert L. McDonald, Addison-Wesley Publishing.

TEACHING METHODOLOGY

Theory, applications, and weekly practical assignments testing the students’ grasp of the material. An in-class final examination is administered at the end of the semester.

COURSE PREREQUISITES

FIN 6487, Financial Risk Management.

For more information about prerequisites, click here.

COMMUNICATING WITH THE INSTRUCTOR

At the end of each lecture, by e-mail, and/or through appointments.

GRADING

Course Requirements	Weights
Weekly Assignments	50%
Final Examination	50%
Total	**100%**

Note: The final exam will be a multiple-choice test and will cover every chapter studied (approximately 50 questions).

Letter Grade	Range	Letter Grade	Range	Letter Grade	Range
A	95-100%	B-	80-83		
A-	90-94	C+	77-79	F	<60
B+	87-89	C	67-76		
B	84-86	D	60-66		

ASSURANCE OF LEARNING

As a college, we care about the quality of the business education we are providing you. More on the College's commitment to Assurance of Learning can be found at the following link:

http://businessonline.fiu.edu/course_addons/Learning_Commitment.pdf

QUIZZES

No quizzes in this course.

DISCUSSION

Some discussion will be part of the class, but not graded.

ASSIGNMENTS

Assignments will be given every week, with each assignment due the following week. The weekly group assignments are to be completed in groups of 3 students maximum. Choose your group partner(s) at the end of the first day, and do not change later on. Only one solution per group is to be turned in every week, and answers **must be typed**.

Weekly homework assignments must be turned in to me in paper format only (printed); no e-mail submissions will be accepted.

There will be a 10% penalty for each day that a group weekly assignment is turned in late. If you do choose to turn in a group assignment late, be aware that you will lose some points, and place it in my mailbox in the Finance department, as e-mail attachments will not be accepted.

Additionally, 10% of the homework grade will go towards the quality of the presentation. Results should be clearly emphasized (not lost in a sea of numbers) either in bold or color. The layout should be concise and reader-friendly. Tables and graphs should not be cut in random places from one page to the next; "set print area" must be used with care. The final output should visually be of work/office quality.

RESEARCH PAPER

No research paper in this course.

DISABILITY NOTICE

If you have a disability and need assistance, please contact the Disability Resource Center

(University Park: GC190; 305-348-3532) (North Campus: WUC139, 305-919-5345). Upon contact, the Disability Resource Center will review your request and contact your professors or other personnel to make arrangements for appropriate modification and/or assistance.

RELIGIOUS HOLIDAYS

The University's policy on religious holy days as stated in the University Catalog and Student Handbook will be followed in this class. Any student may request to be excused from class to observe a religious holy day of his or her faith.

RULES, POLICIES, and ACADEMIC MISCONDUCT

Assignments from the text and other resources are listed below for each class session. Students are expected to be pace their learning according to the posted course assignments.

It is expected that interactive learning and teaching will enrich the learning experience of all students, and that each student will work in partnership with the professor to create a positive learning experience for all. Student engagement is a necessary condition for an effective learning experience, and includes contributions to debate and discussion (if any), positive interactive learning with others, and an enthusiastic attitude towards inquiry. Everyone is expected to be a positive contributor to the class learning community, and students are expected to share the responsibility of teaching each other.

Statement of Understanding between Professor and Student

Every student must respect the right of all to have an equitable opportunity to learn and honestly demonstrate the quality of their learning. Therefore, all students must adhere to a standard of academic conduct, demonstrating respect for themselves, their fellow students, and the educational mission of the University. As a student in the College of Business taking this class:

- I will not represent someone else’s work as my own
- I will not cheat, nor will I aid in another’s cheating
- I will be honest in my academic endeavors
- I understand that if I am found responsible for academic misconduct, I will be subject to the academic misconduct procedures and sanctions as outlined in the Student Handbook

Failure to adhere to the guidelines stated above may result in one of the following:
Expulsion: Permanent separation of the student from the University, preventing readmission to the institution. This sanction shall be recorded on the student's transcript.
Suspension: Temporary separation of the student from the University for a specific period of

time.

Additionally the following two documents should be used by every student in business classes that require individual or group written assignments:

- Certification of Authorship Assignment Cover Page (Individual)
- Certification of Authorship Assignment Cover Page (Groups)

For details on the policy and procedure go to ACADEMIC MISCONDUCT. (Section 2.44)

NOTE: Intensive Auditing of the course will be conducted to prevent academic misconduct.

EXPECTATION OF THIS COURSE

To master the major course objectives and topics listed in the course description. Students are also expected to attend class regularly and come to class on time. If you must be late, please enter the room in a way that does not disturb the lecture.

No make-up examination will be given for the final exam, unless you can compellingly prove a very serious unavoidable event.

The course website contains PowerPoint slides of the lectures. It is in your best interest to print the slides prior to the lecture. This will help you follow more easily by not having to write down everything as I present the material.

COURSE CALENDAR

Oct 19, 2019	**Calculus Review**	
Oct 26, 2019	**Binomial Option Pricing I**	**10.1, 10.3, 10.6, 10.8, 10.14**
Nov 2, 2019	**Binomial Option Pricing II**	**11.12, 11.16**

Nov 9, 2019	**Black-Scholes, Market-Making, and Delta-Hedging**	**12.3, 12.6, 12.11, 13.1, 13.7**
Nov 16, 2019	**Lognormal Model, Monte Carlo Simulations**	**18.1, 18.2, 18.3, 18.7, 19.2, 19.6, 19.7**
Nov 23, 2019	**Portfolio Protection**	**HW on class website**
Dec 7, 2019	**Exotic Options, Value-At-Risk**	
Dec 14, 2019	**Final Examination**	

ADDITIONAL INFORMATION

At this time, the professor has not requested the insertion of any information into this section. Please contact the professor directly if you have any questions.

Copyright © 2006 FIU College of Business