Syllabus

FIN 5241 – Derivative Securities (1.5 Units)

Section 07 – Fall 2026 (Mini B)

Last updated: November 2, 2026

Instructor:	Lorenzo Naranjo
Office:	Simon Hall 281
Office Hours:	Tuesday / Thursday (2:30pm – 4:00pm)
Email:	naranjo@wustl.edu
Classroom:	Simon Hall 108
Meeting Times:	Tuesday / Thursday 6:15pm – 9:15pm
Class Modality:	In-person

Class Information

Course Description

Covers Black-Scholes option pricing model. Provides an in-depth analysis of valuation and trading strategies for options and other derivative securities. Potential applications could include hedging, swaps, index arbitrage, corporate decision making, and financial market innovation.

Classroom Etiquette

Class time is important and I will make sure that every minute we spend in the class is productive. Therefore, any activity that prevents me or other students to use class time in a productive manner is forbidden.

Make sure to arrive on time as I will take take attendance at the beginning and before each break and/or the end of each class. You have my commitment that the class will start and end on time.

> ! Important
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> No computers are allowed in class unless authorized by the instructor for a specific activity that requires the use of a computer. You can use a tablet only if you plan to take notes with it and as long as you keep your tablet horizontal at all times. The usage of an external keyboard, a computer mouse or headphones in class is also forbidden.

> ! Important
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> We are a very small section, so please do not seat in the back of the classroom, as this might affect negatively your attendance grade.

Class Materials

All class materials are available in https://lorenzonaranjo.com/teaching/fin5241-fall26b/. I have linked all the material we will cover in the class to Canvas.

The lecture notes are self-contained and are the main source for the course. If you would like an additional source, the following textbook is a standard reference on derivatives that you may find useful in this course and later in your career:

- Hull, J. *Options, Futures, and Other Derivatives*. Pearson.

Any recent edition is fine.

> ! Important
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> You will need a calculator for this class. Any scientific calculator that can compute exponential functions and logarithms should do the job. These type of calculators sell for around $10. I do not recommend using a financial calculator since typing long expressions is hard and prone to errors. You cannot use your phone during the final exam.

Course Schedule

The tentative course schedule is given below. The topics covered on each proposed date may change as the course progresses, but the main content and the general order should not vary.

Session	Date	Topic	Due
1	11/12	Options Strategies and Spreads; The Lognormal Distribution	
2	11/17	Modeling Stock Prices in Continuous-Time	
3	11/19	The Black-Scholes Model	PS #1
4	11/24	Options on Indices, Currencies, and Futures	Quiz #1
–	11/26	Thanksgiving Break (no classes)	
5	12/1	The Greeks; Exotic Options (1)	PS #2
6	12/3	Exotic Options (2); Review for Final Exam	Quiz #2
–	12/7	Last Day of Classes	PS #3
7	12/10	Final Exam (6:15pm to 9:15pm, Simon 108)	

Grading

Following is the summary of weights on the various components that I will use to evaluate your performance in this course:

Assignment	Weight
Problem Sets	30
Quizzes	20
Final Exam	40
Class Attendance	10

The precise grade cutoffs between and within letter grades will be chosen so that the average grade for the class is around 3.5 GPA. For MBA students, as per school rules no more than 20% high passes can be awarded in total.

Grades are non-negotiable. If you feel I have graded one of the course requirements incorrectly, please bring it to my attention immediately. Grade appeals (e.g., because your points were not added up correctly) must be submitted within a week after the grades are released. I certainly want all of you to receive the grades you have earned.

Attendance and Participation Policy

Class participation, interaction, and collaboration are central to learning in this course. Prompt attendance is expected for every class.

Attendance will be recorded by roll call, a sign-in sheet, or a short Canvas activity. Students who arrive more than 20 minutes late will receive half of the attendance credit for that session. Students who do not participate in required in-class activities will receive reduced or no attendance credit for that session.

To have an absence excused, students must notify the instructor as soon as possible and provide verifiable documentation (for example, a physician's note or official university documentation). Documentation should be emailed within one week of the missed class. Absences without acceptable documentation will be treated as unexcused and will not receive attendance credit.

> ! Important
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> All students are expected to attend **in person**. There will be no hybrid option via Zoom in this class except for PMBA students who have been previously authorized to attend remotely.

Problem Sets

There will be three problem sets so you can practice the concepts covered in class and that will help you prepare for the final exam. Each problem set is due at 11:59 pm Central Time on the date shown in the course schedule. All problem sets are individual and must be handwritten. You must submit your work via Canvas as a PDF file. If you do not have a scanner, download a scanner app such as Adobe Scan that allows you to scan on your phone and generate a PDF.

There is a 0.2% grade deduction per hour, i.e. 4.8% per day, for late submissions.

Quizzes

There will be two in-class quizzes, on **Tuesday, November 24** and **Thursday, December 3**, as shown in the course schedule. Each quiz is based on the most recently submitted problem set: Quiz #1 covers Problem Set #1 and Quiz #2 covers Problem Set #2. The quizzes follow the same rules as the final exam: closed-book and closed-notes, with no electronic devices other than a calculator.

Final Exam

There will be a comprehensive final exam that will allow you to demonstrate your learning on each of the course units. The final exam will be held on **Thursday, December 10 from 6:15pm to 9:15pm Central Time in Simon 108**, our regular classroom. The exam is closed-book and closed-notes. No electronic devices including computers, laptops, tablets, cellphones, smart watches and smart glasses are allowed. I will provide you with a formula sheet, and you must bring a calculator.

The exam time is non-negotiable. If you have a conflict, you must inform me by the end of the second class of the course. Hence, I encourage you to check your schedule early (e.g., make sure that the exam dates do not conflict with a religious holiday, etc.). If you think you will miss the final exam, please (1) immediately e-mail me prior to the exam time and (2) send me a justifiable and reliable proof of absence. Without clear and hard evidence, you will get no credit.

Required Policies

Academic Integrity

In all academic work, the ideas and contributions of others (including generative artificial intelligence) must be appropriately acknowledged and work that is presented as original must be, in fact, original. You should familiarize yourself with the appropriate academic integrity policies of your academic program(s).

Unauthorized Recording and Distribution of Classroom Activities and Materials

The following applies to all students in my class: "Except as otherwise expressly authorized by the instructor or the university, students may not record, stream, reproduce, display, publish or further distribute any classroom activities or course materials. This includes lectures, class discussions, advising meetings, office hours, assessments, problems, answers, presentations, slides, screenshots or other materials presented as part of the course. If a student with a disability wishes to request the use of assistive technology as a reasonable accommodation, the student must first contact the Office of Disability Resources to seek approval. If recording is permitted, unauthorized use or distribution of recordings is also prohibited."

Disability Resources

WashU supports the right of all enrolled students to an equitable educational opportunity and strives to create an inclusive learning environment. In the event the physical or online environment results in barriers to your inclusion due to a disability, please contact WashU's Disability Resources (DR) as soon as possible and engage in a process for determining and communicating reasonable accommodations. As soon as possible after receiving an accommodation from DR, send me your WashU Accommodation Letter. Remember that accommodations cannot be applied retroactively. https://disability.wustl.edu/

Sexual Harassment and Assault

If you are a victim of sexual discrimination, harassment or violence, we encourage you to speak with someone as soon as possible. Understand that if you choose to speak to me as an instructor, I must report your disclosure to my department chair, dean, or the Gender Equity and Title IX Compliance Officer, which may trigger an investigation into the incident. You may also reach out to the Relationship & Sexual Violence Prevention (RSVP) Center to discuss your rights and your options with individuals who are not mandatory reporters. https://titleix.wustl.edu/students/confidentiality-resources-support/

Religious Holidays

To ensure that accommodations may be made for students who miss class, assignments, or exams to observe a religious holiday, you must inform me in writing before the end of the third week of class, or as soon as possible if the holiday occurs during the first three weeks of the semester. For more information, please see the university's Religious Holiday Class Absence Policy.

Emergency Preparedness

Before an emergency affects our class, students can take steps to be prepared by downloading the WashU SAFE App. In addition, each classroom contains a "Quick Guide for Emergencies" near the door.

Resources for Students

WashU provides a wealth of support services that address academic, personal, and professional needs. To start exploring resources that can help you along the way, please visit: Resources for Students.