

# ECONUN3025 Financial Economics Spring 2022

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Office Hours: Wed, 11:00 AM- 1:00 PM EST

Course Website: <https://courseworks2.columbia.edu/courses/147903>

## 1 Course Meeting Times

Lectures: Tu, *and* Th 2:40pm to 3:55pm

- In Person Instruction
  - Altschul Hall Room 202

Office Hours:

- Weds 10:00 AM - 1:00 PM EST
- Zoom Meeting Join URL ; Meeting ID: 696 746 8649

## 2 Course Description

A course in derivatives valuation. Arbitrage, risk neutral pricing, binomial trees. Black-Scholes theory, early exercise, barriers, interest rate models, floors, caps, swaptions. Introduction to credit-based instruments.

## 3 Prerequisites

Intermediate Macroeconomics and Intermediate Microeconomics

### **Tentative Course Outline**

Determination of forward and futures prices	Chapter. 5
Interest rate futures	Chapter. 6
Swaps	Chapter. 7
Securitization and the credit crisis of 2007	Chapter. 8
Mechanics of options markets	Chapter. 10
Binomial trees	Chapter. 13
The Black—Scholes—Merton model	Chapter. 15
Futures options and Black’s model	Chapter. 18
The Greek Letters	Chapter. 19

## **4 Textbook**

The main sources for this course are:

- Required:
  - **Options, Futures, and Other Derivatives**, by John C. Hull, 10th Edition, 2018
- Recommended:
  - **Investment**, by Zvi Bodie and Alex Kane and Alan Marcus, 12th edition.

## **5 Lectures**

–The material is difficult and cumulative. To be successful in the class it is very important for you to read the relevant material before class.

## **6 FT/WSJ articles**

Every lecture will begin by a discussion of an FT/WSJ article. Students must read these articles carefully before coming to the class.

## **7 Grade Distribution**

The composition of the final grade will be roughly as follows:

- **Midterm** 20%
  - **Midterm1** Exam 10%
  - **Midterm2** Exam 10%
- **bi-Weekly** Quizzes 10%
  - **Lecture Attendance** Classes 5%

- **Recitation Attendance** Classes 5%
- **Project: TBA** 30%
  - Proposal 5%
  - Final project 25%
- **Final** 30%

### 7.1 Hours Per Week

- **In Class:** 3.5 hours
  - **Classroom:** 2.5 hours
  - **Recitation Class:** 1 hours
- **Out of Class:** 3 hours
- **Total:** 6.3 hours

## 8 TA Sessions

- Attendance is required.
- There is one TA session per week.
- The cap for each session is **15 students**.
- Attendance counts as 5 percent of the overall grade.
- Missing each session leads to *a half a-point* loss.

## 9 Important Dates

- Class starts **Tuesday, Jan. 18**
- Midterm 1 **Tuesday, Mar. 8**
- Deadline to submit the proposal for the term paper **Tuesday, Feb 22**
- Spring Break **Monday, Mar. 14 - Friday, Mar. 18**
- Midterm 2 **Tuesday, Apr. 19**
- Deadline to submit final version of the term paper **Friday, May 6**
- Last day of classes (before exams) **Monday, May 2**
- Reading period **Tuesday, May 3 - Thursday, May 5**

- Final Exam **Friday, May 6**
- Final exam period for Spring courses **Friday, May 6 - Thursday May 12**
- **Quiz Dates:**
  - Quiz 1 **Thu, Feb 17, at 11:59 PM EST**
  - Quiz 2 **Thu, Mar 3, at 11:59 PM EST**
  - Quiz 3 **Thu, Mar. 24, at 11:59 PM EST**
  - Quiz 4 **Thu, Apr, 7, at 11:59 PM EST**
  - Quiz 5 **Thu, Apr. 28, at 11:59 PM EST**

## 10 Final Project: TBD

## 11 Late Policy

### 11.1 Late policy: just the facts

- The cutoff for on-time submission is 11:59pm on the due date. Late days are counted in 24-hour periods. Submitting between 12:00am on the due date and 11:59pm the next day is one day late, and so on.
- You are given 2 “grace days” (self-granted extensions) which you can use to give yourself extra time without penalty.
- Instructor-granted extensions are only considered after all grace days are used and only given in exceptional situations.
- Late work handed in when you have run out of grace is **discounted 10 %** per day late.
- Every assignment has a hard deadline, usually 2 days past the original due date. Late submissions (penalty or not) are not accepted after the hard deadline.
- No late submissions (penalty or not) will be accepted for the last assignment in the quarter.

### 11.2 Late policy: long-winded version

The philosophy driving this late policy has three goals:

- Discourage lateness. We want to provide incentives for you to balance your commitments and adapt/triage as necessary to meet deadlines. We curtail lateness by providing only a limited amount of grace, applying a penalty for lateness beyond grace, and enforcing a hard deadline.
- Empower you to make your own decisions. You decide when your situation warrants the use of a grace day.
- Keep things fair. Students are allowed an equal amount of grace. Only a truly exceptional situation is granted extension beyond the grace days.

### 11.3 Self-granted extensions (AKA “grace days”)

Grace days are “self-granted extensions”. We recognize that the competing demands of a challenging courseload and extracurriculars can be an unforgiving landscape and even the most careful of plans can be derailed by an unforeseen event. When the unexpected happens – you get the flu, the network goes down, you delete a critical file, a personal situation escalates – you would usually have to request an extension from the staff. Instead you are given the privilege to grant yourself an extension without our oversight. One grace day extends the deadline by 24 hours. **Grace days are your means to cover real problems: illness, stolen laptops, bike accidents, and so on. We don’t intend them to cover ski trips, overcommitment, or poor planning, but you can use them as you choose and we don’t check up on you.** You may use all of your grace days for one assignment, distribute them across several assignments, or even better, hoard them for a crisis that thankfully never comes.

### 11.4 Instructor-granted extensions

Grace days are extensions, no different than what would be given by the instructor (other than you have the authority to determine when one is warranted). Your first line of recourse when crisis strikes is always to grant your own extension through use of a grace day. **A request for an instructor-granted extension instead of using your own grace days will never be approved.** Only after you have exhausted all of your grace days in valid use should you request further accommodation. In those extenuating circumstances, please contact Sanjay, preferably in person.

Students often go to great lengths to meet deadlines and conserve grace days: pull all-nighters, ignore other classes, miss events they wanted to attend, work when feeling poorly, submit unpolished programs, or take penalty late days as a last resort. It would not be respectful of their efforts to hand out extra days to students who were less committed to meeting deadlines or not as cautious in conserving grace days. If asking for an instructor-granted extension, you will be expected to legitimize how all of your grace days were used, and make a compelling case for additional accommodation beyond the grace days everyone else receives. We use this information to find an appropriate balance between providing relief to you and maintaining fairness to others.

### 11.5 Late work with penalty

When you are out of grace days, submitting late work will be penalized 10% per day. By this calculation, it is worth taking a penalty late day if you have significant work you can complete, but if you have only small details to polish, it is better to turn it in and move on.

### 11.6 Submitting work

- Only online submission will be accepted.
- The originality of your piece will be checked via Turnitin.

## 11.7 Plagiarism

1. Your work must be at least **80 percent original**.
2. You will lose 10% if your originality is between 80-70 percent.
3. You will lose 20% if your paper's originality is between 70-60 percent.
4. You will lose 50% if your paper is less than 60 percent original.

**Plagiarism** is the unattributed use of other's creative effort, writing or ideas. It is a form of anti-social, dysfunctional behavior that impedes the acquisition and dispersion of knowledge. It is not acceptable to:

- use someone else's exact words (oral or written) without citing the sources and giving them credit;
- paraphrase someone else's work without citing the source and giving them credit;
- use someone else's statistics, tables, images, etc. without citing the source and giving them credit;
- use someone else's ideas without without citing the source and giving them credit.

### 11.7.1 PENALTIES FOR PLAGIARISM

Fortunately, the key to avoiding plagiarism is contained within the phrase "citing the source and giving them credit." Proper citation gives credit where credit is due, and provides readers of your work with a valuable research tool.

The penalty for plagiarism is at the discretion of the course instructor, and depends on the severity of the offence. Penalties for plagiarism may include:

1. de novo rewriting and resubmission
2. a failing grade on the plagiarized assignment
3. a grade reduction for the course
4. a failing grade for the course

## 11.8 Submitting late work

- If you miss the deadline, then your submission is counted as late.
- If you are choosing to use one of your grace days, you do not need to confirm with us, just submit your work normally and it will be time-stamped accordingly.
- **Note that no assignments (penalty or not) will be accepted after the hard deadline.**

## 12 Rubric for grading your papers

Papers will be graded on a scale of 1 to 6 based on the rubric.

1. Each paper will receive its own score, 1-6. (A score of 6 is the highest.)
2. Use of the passive voice is acceptable in social science and technical writing, so long as it does not interfere with, intrude upon, or obscure the meaning of the passage. The active voice tends to read better and be more engaging.
3. I will be grading your writing, **but mainly the content**. Still, the writing will likely add to the strength of the essay.

### 4-6 Point papers are considered upper-half

A six point essay will be characterized by the following:

- Excellent organization of ideas
- Clarity and conciseness
- Be virtually error-free in grammar and usage

A five point essay will:

- Display the features of a 6-point essay, but be slightly weaker in clarity, concision, and organization.

A four point essay will be characterized by the following:

- Basic competence in grammar and usage
- Lacks the structural and organizational sophistication of a 5 or 6 point essay

### 1-3 Point papers are considered lower-half

A three point essay will be characterized by the following:

- Overly formulaic organization or lacking organization
- Problems with grammar and usage
- Vague and wordy construction (excessive use of passive voice, excessive nominalization)

A two point essay will compound the problems of a three point essay, and display:

- Consistent flaws in syntax, diction, grammar, or spelling
- Significant flaws in organization and a lack of overall coherence;
- Usage of terms without prior definition

A one point essay will compound the weaknesses of a two point essay.

## 13 Written work

Written work must be typed, spell-checked, and neatly formatted. Please include your name, the course number, assignment number, and date at the top of the page or on a cover sheet. While an occasional typo or editing error may slip through, the presence of several mistakes indicates a lack of attention and will lower your grade. Specific formatting conventions are negotiable, based on standards in your field and appropriateness for your intended audience. **All work must be professional looking and designed for easy reading.**

## 14 Documenting sources

Do not cut and paste material from web pages or other documents without making evident the source of the information. Using work that is not your own without attribution is a serious offense and subject to formal action by the Institute. Inadequately documented papers (including bibliography and footnotes or in-text citations) will not receive a passing grade. When in doubt, document the source.