

## Section 1

# Instructor, Course Information & Objectives

**Advanced Academic Programs  
Zanvyl Krieger School of Arts and Sciences  
Johns Hopkins University**

**Economics of Derivatives – 440.646**

### Instructor Information

Instructor:	Ken Danger
Telephone Number:	(202) 418 - 5576
Email Address:	kdanger1@jhu.edu
Office Hours:	by appointment

### Course Description

This course is designed to provide students a thorough introduction to the theoretical and practical aspects of forwards, futures, options and swaps. Derivatives are important tools in financial markets and students will learn how to price, value and use them from a practical perspective. This course is particularly important for students seeking to work in finance. Topics covered include, no arbitrage based pricing, the pricing of forwards and futures, interest rate products and commodities, valuation based on market prices, and option pricing and strategies.

Prerequisite: 440.640 Financial Economics.

### Course Goals & Learning Objectives

By the end of this course, you will be able to:

- Apply commonly used models to determine market based prices for forwards, futures, and options
- Evaluate common hedging programs
- Build “synthetic positions”
- Evaluate fair payoffs for forwards, futures and swaps
- Employ option trading strategies

## Section 2

# Course Materials

### Textbooks

Required:

**Options, Futures and other Derivatives** by John Hull. I will use the ninth edition.

**ISBN-10:** 0133456315

**ISBN-13:** 978-0133456318

**Publisher:** Prentice Hall; 9th edition (January 25, 2014)

**Students Solutions Manual for Options, Futures, and Other Derivatives, ninth Edition**

**ISBN-10:** 0133457419

**ISBN-13:** 978-0133457414

**Publisher:** Prentice Hall; 9th edition (March 27, 2014)

These textbooks can be purchased on the internet at places like Amazon.

Learning online requires some basic knowledge of computer technology. At a minimum, you need to be able to:

- Navigate in and use Blackboard; the Blackboard Student Orientation course on your “My Institution” page
- Create and save MS Word documents; see [MS Word tutorials](#) for PC users (all versions); [Word Help](#) for Mac users
- Find basic resources on the Internet
- Create and organize files & folders on your computer
- Send, receive, and manage email

## Section 3

# About Your Course

### Course Topics

Unit 1: Introduction to Futures Markets  
Unit 2: Interest Rates with a Focus on Zero Rates  
Unit 3: Forward and Future Prices  
Unit 4: Hedging Strategies Using Futures  
Unit 5: Forward Rate Agreements and Interest Rate Futures  
Unit 6: Interest Rate Swaps  
Unit 7: Currency Swaps  
Unit 8: Midterm  
Unit 9: Mechanics of Option Markets and Properties of Options  
Unit 10: Put-Call Parity, Early Exercise and Option Strategies  
Unit 11: Binomial Trees  
Unit 12: Wiener processes and Ito's Lemma  
Unit 13: Black-Scholes-Merton Model of Option Prices  
Unit 14: Final

### Directions for Students

**Next Steps:** Carefully review the remaining sections of the syllabus section of this course before beginning Unit 1 activities, which are located in the **Lessons** folder in your Blackboard Course.

- Once you feel that you are ready to dive into the first week's activities, click on the **Lessons** button on the left-side navigation menu. Then, click on **Unit 1** and begin with the Introduction and Objectives.

### What To Expect in this Course

This course is 14 weeks in length and includes individual, group, and whole group activities in a weekly cycle of instruction. Each week long Unit begins on a Monday and ends on the following Sunday. Please review the course syllabus thoroughly to learn about specific course outcomes and requirements.

Each Unit, you will complete readings that may include videos, multimedia presentations, and web-based resources.

In this course, you will also experience online learning activities, which include discussion boards and online multimedia presentations.

Be sure to refer to the Student Checklist in each Unit, which provides a week-at-a-glance and shows targeted dates for the completion of activities.

## Section 4

**Assessments and Grading Policy****Assignments**

There are two tests (a midterm and a final) and 6 problem sets. Late problem sets are graded as a zero. Your final grade is based on the following weights:

Problem sets – 30%

Midterm – 35%

Final – 35%

**Midterm and Final - How they work**

You have 6 hours to complete both the midterm and final after you download the exam. Thus, after you download it, you must submit your answers within six hours. You must take the midterm and final within 4 days of the day that the exam is first available. Thus, if the first day you can take the exam is Saturday, you can take the exam on Sunday, Monday, or Tuesday.

<b>Assignments</b>	<b>Due Dates</b>	<b>Points Possible</b>
Problem set 1	<b>May 29</b>	50
Problem set 2	<b>June 12</b>	50
Problem set 3	<b>July 3</b>	50
Midterm Exam	<b>July 7-10</b>	350
Problem set 4	<b>July 10</b>	50
Problem set 5	<b>July 24</b>	50
Problem set 6	<b>August 7</b>	50
Final Exam	<b>August 8-11</b>	350

## Grading

All work must be shown. Extra credit is not available in this course. Grades are **not** based on a curve. The grading schema applied to this course is as follows:

<b>Letter Grade</b>	<b>Percentage Range</b>
A+	98% to 100%
A	94% to less than 98%
A-	90% to less than 94%
B+	88% to less than 90%
B	84% to less than 88%
B-	80% to less than 84%
C	70% to less than 80%
F	Less than 70%

## Assignment Guidelines

### How should assignments be submitted?

When creating files, include your name and the name of the assignment in the file title. Also, please be sure to only include one period in file names. The period should be between the file name and the extension. For example: kdanger\_assignment1.doc

**Important: Please submit one (and only one) PDF file. Please write your name at the top of the document.** Please use white background paper as it saves on ink.

Note: You do not need to type your answers.

### When will completed assignments be returned?

The instructor will aim to return assignments to you within 5-7 days following the due date, depending on the length of the assignment. You will receive feedback under the My Grades link on the left hand menu of your course.

Students are expected to participate in online discussion boards. Generally the instructor moderates commentary on a daily basis.

### What is the policy for late assignments?

There is no credit for late work.

## Time Management Expectations

### What is the time demand and schedule of the course?

Because this is a graduate-level course that is offered in a condensed format, the rigor and time commitment is higher than a traditional 15-week semester course. It is expected that you look ahead to schedule your time. Plan to complete coursework across several days of the week rather than all in one day. Be sure to consider how group activities impact your schedule as well. Please seek help before becoming frustrated and spending a significant amount of time to resolve an issue.

## Section 5

# Course Participation & Communication Policy

### Participation

#### What are the participation requirements?

You are expected to log into the Blackboard at least three times a week, though a daily check-in is recommended. It is your responsibility to read all announcements and discussion postings within your assigned forums. You should revisit the discussion multiple times over the week to contribute to the dialogue.

### Network Etiquette (i.e. "Netiquette")

In this course, online discussion will be primarily take place in our online discussion board. In all textual online communication it's important to follow proper rules of netiquette.

What is netiquette? Simply stated, it's network etiquette -- that is, the etiquette of cyberspace. And "etiquette" means the social and cultural norms of communicating with others in a proper and respectful way. In other words, netiquette is a set of rules for behaving and interacting properly online.

The Netiquette "Core Rules" linked below are a set of general guidelines for cyberspace behavior. They probably won't cover all situations, but they should give you some basic principles to use in communicating online.

For Netiquette Core Rules visit [The Core Rules of Netiquette](#) web page.

### Contacting the Instructor

The instructor for this course is Ken Danger (*kdanger1@jhu.edu*).

Feel free to contact your instructor with comments, questions, and concerns. You will receive a response within 24-48 hours.

All email messages will be sent to you via your JHU email account, so you should be in the habit of checking that account every day or you should ensure that your JHU email account forwards messages to another account of your choice.

## Section 6

# Course Protocols & Getting Help

### Course Protocols

#### **How will I know about changes to the course?**

Frequently, you will find new announcements posted in the Announcements, which contain information about current course activities that you are working on and any changes to the course. Please check announcements every time that you log into the Bb.

#### **How should I communicate with others in this course?**

You should communicate often with your classmates and with your instructor. The majority of communication will take place within the Discussion forums. When you have a question about an assignment or a question about the course, please contact your instructor, or post your question in the course's "Syllabus & Assignment Question" forum.

#### **Are there any requirements for sending e-mail messages?**

When you send an e-mail message to the instructor or to another participant in the course, please observe the following guidelines:

- Include the title of the course in the subject field (e.g., JHU 440.646).
- Keep messages concise, and check spelling and grammar.
- Send longer messages as attachments.
- Sign your full name (the sender's email is not always obvious).

## Section 7

**Course Topics, Activities & Schedule****Tentative Course Schedule**

**Important Note:** Activity and assignment details will be explained in detail within each Unit. If you have any questions, please contact your instructor.

Unit	Topics	Activities	Due Dates
1	Futures Markets	Discussion Board	
2	Interest Rates	Discussion Board	Problem Set 1 May 29
3	Forward and Future Prices	Discussion Board	
4	Hedging Strategies	Discussion Board	Problem Set 2 June 12
5	Forward Rate Agreements and Interest Rate Futures	Discussion Board	
6	Interest Rate Swaps	Discussion Board	
7	Currency Swaps	Discussion Board	Problem set 3 July 3
8	<b>Midterm</b>		<b>July 7-10</b>
9	Option Markets and Properties of Options	Discussion Board	Problem set 4 July 10
10	Put-Call Parity, Early Exercise and Option Strategies	Discussion Board	
11	Binomial Trees	Discussion Board	Problem set 5 July 24
12	Wiener Processes and Ito's Lemma	Discussion Board	
13	Black-Scholes-Merton Model for Option Prices	Discussion Board	Problem set 6 August 7
14	<b>Final</b>		<b>August 8 - 11</b>

## Section 8

# University Policies

### General

This course adheres to all University policies described in the academic catalog. Please pay close attention to the following policies:

### Students with Disabilities

Johns Hopkins University is committed to providing reasonable and appropriate accommodations to students with disabilities. Students with documented disabilities should contact the coordinator listed on the [Disability Accommodations](#) page. Further information and a link to the Student Request for Accommodation form can also be found on the [Disability Accommodations](#) page.

### Ethics & Plagiarism

JHU Ethics Statement: The strength of the university depends on academic and personal integrity. In this course, you must be honest and truthful. Ethical violations include cheating on exams, plagiarism, reuse of assignments, improper use of the Internet and electronic devices, unauthorized collaboration, alteration of graded assignments, forgery and falsification, lying, facilitating academic dishonesty, and unfair competition. Report any violations you witness to the instructor.

Read and adhere to JHU's [Notice on Plagiarism](#).

### Dropping the Course

You are responsible for understanding the university's policies and procedures regarding withdrawing from courses found in the current catalog. You should be aware of the current deadlines according to the [Academic Calendar](#).

### Getting Help

You have a variety of methods to get help on Blackboard. Please consult the resource listed in the "Blackboard Help" link for important information. **If you encounter technical difficulty in completing or submitting any online assessment, please immediately contact the designated help desk listed on the [AAP online support page](#).** Also, contact your instructor at the email address listed in the syllabus.