



THE UNIVERSITY OF
TENNESSEE
KNOXVILLE

BIG ORANGE. BIG IDEAS.

AREC 352: Futures and Options Markets

Spring 2020, 2 credit hours

Tuesday and Thursday: 11:30AM-12:20PM,
Morgan Hall 212A

Faculty Contact Information:

Instructor: Dr. Karen DeLong

E-mail: kdelong39@utk.edu

Office Hours: My office is 302-G Morgan Hall. Stop by or schedule an appointment by email.

Course Description:

Examination of futures and options markets. Emphasis is placed on using futures and options in a risk management and pricing context pertaining to trading, marketing, hedging, and procurement of agricultural commodities and natural resources in relation to the agribusiness/agricultural sectors. Required Prerequisite: AREC 201 or ECON 201 or ECON 211

Student Learning Outcomes/Objectives:

Provide a thorough examination of futures and options markets. This includes the role of futures and options in the pricing and risk management of agricultural and resource commodities. At the completion of this course, students should:

- Understand the basic mechanics of futures and options contracts, the futures quoting and reporting system, and the scope of the global futures and options industry
- Understand the role of futures markets in price discovery
- Conduct fundamental analysis and interpret basic technical analysis of futures price charts
- Understand the concept of basis
- Be able to develop and analyze basic long and short hedging strategies for agricultural entities using futures and options contracts.

Course Communications:

CANVAS will be used to post power points and reading material

Texts/Resources/Materials:

Required:

Introduction to Derivatives and Risk Management 9th Edition. 2012. Don M. Chance and Roberts Brooks. ISBN: 9781133190196. You can buy this used on Amazon or Google Shopping for approximately \$14!

Agricultural Futures and Options: Principles and Strategies. Second Edition. 1999. Wayne D. Purcell and Stephen R. Koontz. Free Posted on CANVAS.

CME Self-Study Guide to Hedging with Grain and Oilseed Futures and Options. Free Online: <http://www.cmegroup.com/trading/agricultural/files/grain-oilseed-hedgers-guide.pdf>

Optional: *Futures and Options Markets: An Introduction*. 2015. Colin A. Carter ISBN 978-0615703152

Websites:

Chicago Mercantile Exchange (CME Group): <http://www.cmegroup.com/>

Intercontinental Exchange, Inc. (ICE): <https://www.theice.com/index>

New York Mercantile Exchange (NYMEX): <http://www.cmegroup.com/company/nymex.html>

Farmdoc Publication Archive on commodity futures markets:

http://www.farmdoc.illinois.edu/irwin/links_archive.asp

TD Ameritrade Think or Swim Software: <https://www.tdameritrade.com/tools-and-platforms/thinkorswim/features.page>

Course Requirements, Assessments, and Evaluations:

Attendance and Participation (10% of total)

Attendance will be taken when there are guest lecturers and periodically through the course. If you are absent on the day attendance is taken without an excused absence, your overall grade will be decreased by 2%. There will be a class sign-in sheet to take attendance. Participation in class is also critical to ensure understanding of material.

Assignments (30% total)

About 4-5 assignments will be given throughout the course.

Contact instructor prior to assignment due date if there is an adequate reason the assignment cannot be turned in on time.

Tests/Exams (45% total)

3 Exams (including cumulative final exam): 15% each

Contact instructor prior to the exam if there is an adequate reason the exam cannot be completed on the exam date.

Class Project- (15% of total)

Choose a cash commodity which underlies an exchange traded futures contract and develop a trading strategy that will make you and your company money. Both fundamental and technical analysis will be contained in the report. The project is designed so you can gain experience applying information from the Chicago Mercantile Exchange and/or the Intercontinental Exchange to practical real world problems. A PowerPoint presentation on your project will be completed at the end of the semester. Details regarding the term project will be provided later in the semester and your commodity must be approved by the instructor.

Grading Scale: I will use the following scale to assign final course grades:

Percentage (%)

A =94-100

A- =90-93

B+ =87-89

B =84-86

B- =80-83

C+ =77-79

C =74-76

C- =70-73

D+ =67-69

D =64-66

D- =60-63

F =<60

Final Exam Date but used for Class Presentations:

Friday, May 1 from 10:15AM-12:15PM (same room, Morgan Hall 212A)

Course Outline (subject to change)

Part 1 – Introduction to Commodity Futures and Options Markets

Text Chapters from Chance and Brooks:

Chapter 1: Introduction; Chapter 8: The Structure of Forward and Futures Markets; Chapter 2: Structure of Option markets; Chapter 3: Principles of Option Pricing

Topics:

- Exchanges
- Different types of derivatives
- Risk Preferences
- Market efficiency and theoretical fair value
- The role of derivative markets
- Forward and futures markets
- Futures contracts available for trading
- Accessing futures price quotations
- Mechanics of actual trading
- Placing an order, margins, daily settlement
- The role of the clearinghouse
- Arbitrage, storage, and delivery
- Transaction costs
- Call and put options
- Accessing option price quotations
- Regulation of options markets

Part 2 – Analysis of Futures Prices, Hedging, and Option Pricing Models

Text Chapters from Purcell and Koontz:

Chapter 1: The Basics of Commodity Futures; Chapter 3: Fundamental Analysis; Chapter 4: Technical Analysis

Text Chapters from Chance and Brooks:

Chapter 11: Forward and Futures Hedging, Spread, and Target Strategies; Chapter 4: Option Pricing Models: The Binomial Model; Chapter 5: Option Pricing Models: The Black Scholes-Merton Model

Topics

- Fundamental and Technical Analysis
- Hedging concepts
- Factors involved when constructing a hedge
- Hedge ratios
- Minimum value, maximum value, value at expiration and lower bound of an option price
- Effect of exercise price, time to expiration, risk-free rate and volatility on an option price
- Difference between prices of European and American options
- The concept of an option pricing model
- The one- and two-period binomial option pricing models
- The Black-Scholes-Merton option pricing model
- The concepts of historical and implied volatility
- Hedging an option position

University Policies:

- **January 15** is the last day you may drop full-term courses without a W on your transcript.
- **March 31** is the last day you may drop full-term courses and receive a “W” on your transcript that is not computed in your GPA.

The following additional regulations relate to dropping classes after the No W drop deadline:

- Students are allowed four drops during their academic career (until a bachelor’s degree is earned).
- Students holding a B.S. degree who return to pursue a second B.S. degree are allowed four additional drops.
- Students pursuing more than one major or degree simultaneously are not allowed additional drops.
- The W grade is not computed in the grade point average.
- After the 84th day, no drops are permitted.

Courses may be dropped on the web through MyUTK. Failure to attend a course is not an official withdrawal and will result in the assignment of an NC grade.

Total Withdrawal from the University

If you need to drop all of your courses for the term (e.g. due to unexpected illness, accident, etc.), you may do so by applying for a total withdrawal from the university for the term. The deadline for total withdrawal is April 24 (last day of classes), and may be done through MyUTK. If you apply for a total withdrawal, you must also apply for readmission through the Office of Undergraduate Admissions.

Disability Accommodations

“Any student who feels s/he may need an accommodation based on the impact of a disability should contact Student Disability Services in Dunford Hall, at 865-974-6087, or by video relay at, 865-622-6566, to coordinate reasonable academic accommodations.

University’s Honor Statement

“An essential feature of the University of Tennessee, Knoxville is a commitment to maintaining an atmosphere of intellectual integrity and academic honesty. As a student of the university, I pledge that I will neither knowingly give nor receive any inappropriate assistance in academic work, thus affirming my own personal commitment to honor and integrity.”

Plagiarism

“Students are also responsible for any acts of plagiarism. Plagiarism is using the intellectual property of someone else without giving proper credit. The undocumented use of someone else’s words or ideas in any medium of communication (unless such information is recognized as common knowledge) is a serious offense, subject to disciplinary action that may include failure in a course and/or dismissal from the university. Specific examples of plagiarism are:

- Copying without proper documentation (quotation marks and a citation) written or spoken words, phrases, or sentences from any source;
- Summarizing without proper documentation (usually a citation) ideas from another source (unless such information is recognized as common knowledge);
- Borrowing facts, statistics, graphs, pictorial representations, or phrases without acknowledging the source (unless such information is recognized as common knowledge);
- Collaborating on a graded assignment without the instructor’s approval;
- Submitting work, either in whole or in part created by a professional service and used without attribution (e.g., paper, speech, bibliography, or photograph).”

For more information on the expectations of academic integrity shared by all members of the academic community at the University of Tennessee, visit catalog.utk.edu and click on “Academic Policies and Procedures.”