



Standard Course Outline

FIN 680 Seminar in Derivatives

I. General Information:

Units: 3 credits
Prerequisites: Graduate business standing.
SCO prepared by: Dr. Lu Zhu
Date Prepared: Feb. 2020

II. Catalog Description:

Topics include: futures markets, options markets, options on futures, trading strategies, volatilities and risk management, credit risk, interest rate swaps, hedging and speculation. Letter grade only (A-F). Course fee may be required. Information on course fees.

III. Curriculum Justification:

The course addresses a number of [COB Graduate Program Learning Goals](#):

General

- ♦ **Critical Thinking:** Students will be able to demonstrate conceptual learning, critical thinking, and problem-solving skills.
 - Students will be able to demonstrate the competence of integrating and applying theoretical knowledge of derivative management, hedging and speculation strategies, and risk management to real market applications.
- ♦ **Ethics:** Students will be able to demonstrate awareness and knowledge of ethical, social responsibility, and citizenship issues in the local, regional, and world communities.
 1. Students will demonstrate understanding the importance of compliance with applicable of governmental laws, rules and regulations within the environment where companies and financial institutions are operating.
 2. Students will demonstrate to promote organizational culture that encourages ethical conduct and a commitment to compliance with the laws.
- ♦ **Interpersonal, Leadership & Team Skills:** Students will be able to demonstrate interpersonal and leadership skills for working in a dynamic and diverse world, both independently and in a team environment.
 1. Student will generate team/group decision-making through managing interpersonal conflict, negotiating and integrating and their skills with others to produce financial management decisions and deliver oral presentations
 2. Students will demonstrate that they understand the common errors in team/group decision-making and will be able to correct them as a team.

Management Specific

- ♦ **Business Functions:** Students will be able to demonstrate understanding of all relevant business functions, forward looking practices and related theories and be able to integrate this functional knowledge in order to address current business problems.
 - Students will demonstrate understanding of the role of derivative instruments in financial markets. They will also understand the regulatory environment of derivatives markets before and after the Dodd-Frank Act.



- ♦ **Quantitative & Technical Skills:** Students will develop the competence of quantitative and technological skills enabling them to analyze, interpret, and communicate business data effectively and to improve business performance.
 - Students will possess quantitative and technical skills enabling them to improve derivative trading decisions as hedgers, speculators, and arbitrageurs in the financial markets. Students will demonstrate that they can make decisions based on quantitative analysis using the principles, concepts, and techniques through their performance on exams, homework assignments, cases and research projects.
- ♦ **Domestic & Global Environment:** Students will be able to demonstrate knowledge of today's domestic and global-oriented business environment (e.g., legal, regulatory, political, cultural, and economic).
 - Students will demonstrate that they can make derivative trading decisions in today's global domestic and global marketing environment (e.g. legal, regulatory, political, cultural and economic environmental factors).

IV. Course Objectives, Student Learning Outcomes, Evaluation Instruments, and Instructional Strategies for Skill Development

OBJECTIVE - Critical Thinking:

A. MEASURABLE STUDENT LEARNING OUTCOME(S):

After taking this course, students will be able to integrate and apply their conceptual and theoretical knowledge of derivative securities to actively trade these contracts in financial markets especially for risk management purpose.

B. EVALUATION INSTRUMENTS (ASSIGNMENTS):

Specific assignments will vary by instructor, but typical assignments include professional trading simulations, trading reports and presentations. Each student has a paper money account with Stock-Trak where the student is required to carry out trading assignments that connect real life applications to theories relating to hedging and trading derivatives. This enables a deeper understanding of the risks involved in derivatives trades.

C. INSTRUCTIONAL STRATEGIES FOR SKILL DEVELOPMENT:

Instructors will explain rubrics for writing expectations both before and after the trading reports, reviewing components of examples of well-written trading reports, incorporating feedback on trading reports with opportunities for revision.

OBJECTIVE - Business Functions:

A. MEASURABLE STUDENT LEARNING OUTCOME(S):

After taking this course, students will learn the properties, risk and theoretical valuation of derivative securities. They will also how to trade those securities and what risk and return characterize the various types of trades.

B. EVALUATION INSTRUMENTS (ASSIGNMENTS):

Specific assignments will vary by instructor, but typical assignments include multiple choice and problem-oriented exams and quizzes, short answer and essay exams, and in-class problem-solving assignments. Students are expected to demonstrate the competence of EXCEL application and Bloomberg Terminal in research assignments.

C. INSTRUCTIONAL STRATEGIES FOR SKILL DEVELOPMENT:

Instructors will explain rubrics for writing and quantitative expectations both before and after



case study discussions, project reports, presentations, and exams.

OBJECTIVE - Quantitative and Technical Skills:

A. MEASURABLE STUDENT LEARNING OUTCOME(S):

After taking this course, will possess quantitative and technical skills enabling them to improve derivative trading decisions as hedgers, speculators, and arbitrageurs in the financial markets. Students will demonstrate that they can make decisions based on quantitative analysis using the principles, concepts, and techniques through their performance on exams, homework assignments, cases and research projects. As part of this course, students will be required to obtain a working knowledge of DerivaGem software packages, Bloomberg terminal and Excel.

B. EVALUATION INSTRUMENTS (ASSIGNMENTS):

Specific assignments will vary by instructor, but typical assignments include professional trading simulations, trading reports and presentations, and assignment and valuation project EXCEL, WRDS and Bloomberg terminal must be implemented whenever possible.

C. INSTRUCTIONAL STRATEGIES FOR SKILL DEVELOPMENT:

Instructors will explain rubrics for writing expectations both before and after the trading reports, reviewing components of examples of well-written trading reports, incorporating feedback on trading reports with opportunities for revision.

V. Outline of Subject Matter

SUGGESTED COURSE SCHEDULE / TOPICS TO BE COVERED

Week	Session	Topics	Chapters
I	1	Introduction to Derivatives An overview of financial market, The use of derivatives, Buying and short-selling financial assets	Chapter 1
I	2	Futures Mechanics of Futures Markets, Index Futures, Treasury-Bond Futures, Determination of Futures Prices, Hedging Strategies Using Futures	Chapter 5
II	3	Forwards Mechanics of Forward Markets, Forward contract on stock, Forward rate agreements, Interest rate forwards, Determination of Forward Price	Chapter 5 Chapter 7
II	4	Swaps Interest rate swaps, Currency swaps, Total return swaps, Swaptions	Chapter 8



II	4	Midterm I	Closed book exam (last 2 hours of the class)
III	5	Options Mechanics of Options Markets, Call and put options, Properties of stock options, Option costs and payoffs	Chapter 2
III	6	Trading Strategies Involving Options Various Types of Options Put-Call Parity	Chapter 3
IV	7	Binomial Trees A one-period Binomial tree, Constructing a Binomial tree, Two or more Binomial periods The Black-Scholes-Merton Model Introduction to the Black-Scholes Formula, Option Greeks, Applying the formula to other assets	Chapter 10 Chapter 12
IV	8	Use of Derivatives in Portfolio Management Delta-hedging, The mathematics of delta-hedging	Chapter 13
IV	8	Midterm II	Closed book exam (last 2 hours of the class)
V	9	Credit Risk and Credit Derivatives, The Merton Default model, Bond rating and default experience, Credit default swaps Interest Rate Derivatives: The Standard Market Models	Chapter 25 Chapter 27
V	10	Energy and Commodity Derivatives Introduction to commodity forwards, Pricing commodity forwards by arbitrage, Energy markets, Hedging strategies	Chapter 6
VI	11	Regulation in Derivatives Market Post-crisis derivative market development,	



		Dodd-Frank Act Final Review	
VI	12	Final examination/project due	

At least one class meeting should be devoted to content related to current topic and futuristic trends of finance including but not limited to Fintech, cryptocurrency, augmented reality, cyber security, public cloud, block chain etc.

VI. Methods of Instruction

INSTRUCTION MODE

Check one or more modes of instruction that this course is authorized to use. Syllabi must also contain an explicit statement describing the mode of instructional delivery.

May refer to university policies on [Academic Technology and the Mode of Instruction](#) and [Course Syllabi and Standard Course Outlines](#) for descriptions of modes of instruction and for guidelines for non-traditional modes of instruction.

This course can be offered as an online, hybrid, or flipped class, with the approval of the department chair.

✓ Traditional ✓ Hybrid ✓ Local Online ✓ Distance Education

CLASSROOM ACTIVITIES

When reading the book in preparation for class it is essential that the students take an *active* approach. This means that the students implement the examples discussed in the book using spreadsheet models and work through them as they read. *The best-prepared student is often the one who comes to class with questions about how the concepts and methods can be applied.* Finally, the students should expect to return to the book after class or while reviewing, in order to refine and consolidate their knowledge.

EXTENT AND NATURE OF TECHNOLOGY USE

Instructors will require students to use Bloomberg Terminal and Excel as part of instruction. Students are required to finish the course modules of Bloomberg Market Concepts (BMC) which is available on the terminal and eventually adding BMC to the Certificates section of their LinkedIn profile.

Students will work on case studies and use DerivaGem software packages to implement basic derivatives valuation models.

If the course is conducted entirely through Alternative Modes of Instruction, both synchronous and asynchronous learning will be incorporated. Students will access the course material and activities on BeachBoard and will be required to participate in synchronous class meetings via Zoom. All students must have access to a computer or other device with Internet functionality and a webcam to access BeachBoard and Zoom, participate in class activities, and complete assignments. Students must also have access to Internet with sufficient speed in order to be able to participate in synchronous meetings.

Students who experience unexpected technical issues for a class session or assignment will be provided with the opportunity to make up missed work. Students who experience technical issues during a synchronous meeting or with an assignment should notify the instructor via email as soon as possible.



To access this course on [BeachBoard](#) and [Zoom](#), students will need access to the Internet and a supported web browser (Safari, Google Chrome or Firefox). Log in to [BeachBoard](#) with your CSULB Campus ID and BeachID password. Once logged in, you will see the course listed in the My Courses widget; click on the title to access the course. To access Zoom, first [install the latest version](#) of the Zoom app on your device. Use the link provided and/or sign in using your CSULB Campus ID and BeachID password via Single Sign On to create or join a Zoom session. If students need technical assistance during the course or would like to report a technical issue with BeachBoard or Zoom, they should contact the [Technology Help Desk](#).

The university is expected to provide an in-person computer lab in the University Student Union during 2020-21 and the opportunity to borrow laptops and/or wi-fi hotspots, if needed. For laptops, call 562-985-5587, Mo-Fri, 8 am – 5 pm. Click here to access [A map of campus wi-fi coverage](#).

If you need technical assistance at any time during the course or need to report a problem with BeachBoard or Zoom, please contact the Technology Help Desk at helpdesk@csulb.edu or (562) 985-4959.

VII. Information about Textbooks/Readings

Options, Futures and Other Derivatives by John C. Hull, Prentice Hall

Derivatives, Principles and Practice by Sundaram Rangarajan and Sanjiv Das, McGraw-Hill/Irwin

Derivatives Markets by Robert McDonald, Addison Wesley

VIII. Instructional Policies Requirements

Instructor's syllabi must contain explicit statements regarding their own policies with regard to plagiarism, withdrawal, absences, etc., which should be consistent with the university policies published in the CSULB Catalog. It is expected that every course will follow university policies on [Attendance](#), [Course Syllabi & Standard Course Outlines](#), and [Final Course Grades, Grading Procedures, and Final Assessments](#). If some or all sections of the course are to be taught, in part or entirely, by distance learning, the course must follow the provisions of university policy on [Academic Technology and the Mode of Instruction](#). Instructors should refer to the current [CSULB Catalog](#) and to the [Academic Senate](#) website for campus guidelines and policy statements as they develop their individual course policies.

Lecturing on theories & concepts of finance and applications to investments. Quantitative techniques and problem solving. Managing an investment portfolio, presentation & discussion (group project). Individual hedging strategy using derivative securities.

Instructors in planning the exams, and other grading procedures, should adhere to the relevant [University Policy on Grades, Grading Procedures, and Final Assessments](#).

The textbooks for this course should be chosen in accordance with the university policy on [Selection of Instructional Materials](#). There are many appropriate textbooks for this course; it is generally agreed that none of them is perfect. The following suggestion is based on the special nature of this core MBA course:

- Students will arrive at this course with extraordinary range of backgrounds; and therefore prior knowledge will be highly variable, however,
- Students will have a level of maturity that will enable them to look at a broader picture via more advanced cases, simulations, group projects and
- Examinations must be essay-type and/or problem solving questions and avoid the use of multiple-choice questions.



IX. Course Assessment and Grading

Grading policies, procedures, and the percentage of the course grade associated with each assessment must be explicit on each instructor's syllabus and must be consistent with University policy on "Final Course Grades, Grading Procedures, and Final Assessments." Instructors must develop scoring guidelines for assessments, which must be made available to students. The final course grade will be based on a descriptive scale such as the following:

Percent	Grade	Grade Description
90-100%	A	Mastery of the relevant course standards.
80-89%	B	Above average proficiency of the relevant course standards.
70-79%	C	Satisfactory proficiency of the relevant course standards.
60-69%	D	Partial proficiency of the relevant course standards.
Below 60%	F	Little or no proficiency of the relevant course standards.

X. Disabilities

The SCO and syllabi should contain a statement regarding support services for students with disabilities. Under the Office of Civil Rights and the Americans with Disability Act, students may disclose **at any time** during the academic semester that they need a classroom accommodation based on a disability. Thus, it is strongly recommended that all SCOs and syllabi use the following language, as it meets both federal and state legal standards.

The Bob Murphy Access Center (BMAC)

The Bob Murphy Access Center (BMAC) provides certification for students with disabilities and helps arrange relevant accommodations: [Bob Murphy Access Center](#). Any student requesting academic accommodations based on a disability is strongly encouraged to register with Disabled Student Services (BMAC) each semester. A letter of verification for approved accommodations can be obtained from BMAC. Please be sure to provide your instructor with BMAC verification of accommodations as early in the semester as possible. The phone number for BMAC is (562) 985 5401. The email address is: amac@csulb.edu.

XI. Assistive Technology

In compliance with university policy on [Accessibility and Faculty Responsibility for the Selection of Instructional Materials](#), instructors are responsible for ensuring that their syllabi and instructional materials are accessible to all students.

XII. Sexual Assault, Rape, Dating/Domestic Violence, & Stalking

Title IX prohibits gender discrimination, including sexual harassment and sexual misconduct. If you have experienced sexual harassment, sexual assault, rape, dating/domestic violence, or stalking, the campus confidential Victim's Advocate is available to help. Jaqueline Urtez (e: advocate@csulb.edu, p: (562) 985-2668) can provide free and confidential support, accommodations, and referrals for victims without having to report the assault to campus authorities. While students are welcome to discuss assaults with faculty, both faculty and teaching assistants are mandatory reporters who are required to report all incidents of sexual harassment/misconduct to the Title IX office for follow-up and possible investigation. Students who do wish to report the assault for possible investigation may contact the confidential victim's advocate, who can help them through the reporting process, or they can report the assault directly



California State University, Long Beach
College of Business

to the [Title IX Office](#) by completing an online reporting form or contacting the Office of Equity & Diversity at OED@csulb.edu.

XIII. Consistency of SCO Standards across Sections

All future syllabi will conform to the SCO. The course coordinator should review the SCO and offer advice and/or materials to faculty member new to teaching the course. The course coordinator may offer or require regular review of instructors' course materials as well as anonymous samples of student work.

XIV. [Additional Resources for Development of Syllabi](#)