

**Seattle University**  
**Albers School of Business and Economics**

<b>Course</b>	<b>Valuation of Derivatives</b>	FINC-5105-01
<b>Professor</b>	Dr. Cathy Xuying Cao, CFA	
<b>Term</b>	2019 Spring	
<b>Meetings</b>	<b>Monday 6:00 p.m. – 9:00 p.m.</b> in Pigott 309	
<b>Midterm</b>	<b>Oct. 28 6:00 p.m. –8:00p.m.</b>	
<b>Final</b>	<b><u>Monday Dec. 2 6:00 p.m. –8:00p.m.</u></b>	

**Professor's Contact Information**

<b>Office Phone</b>	(206) 296-5712
<b>Office Location</b>	Pigott 519
<b>Email Address</b>	<b>caoc@seattleu.edu</b>
<b>Office Hours</b>	M/W: 12:30pm- 1:30pm
	<b>Or by appointment</b>

**Other Information**     *I strongly urge you to use SU email to contact me outside of class.* I will check my email messages daily Monday through Friday and occasionally on weekends, and you can be sure I will receive your message this way. Feel free to stop by my office during office hours or email or call me to set up an appointment.

**Don't send me message to CANVAS if you want a quicker response.** I am happy to provide you with assistance and quick feedback by e-mail. Should your question either require a long answer (i.e., more than two sentences) or be beneficial to other members of the class to listen, I will bring the answer to class.

Students are required to take exams and hand in assignments at their scheduled time. There are no make-up assignments and quizzes. There will be no make-up exams except in very rare circumstances (see Seattle University Handbook). Barring this, if you do not show up for a quiz or an exam, you will earn a grade of zero.

**DO NOT** plan or book flights/vacations for the scheduled final exam period. If you cannot make the regularly scheduled exams, you should take the course in a different quarter. Finally, please pay close attention to the rules of etiquette and class behavior outlined below.

**General Course Information**

**Pre-requisites, Co-requisites, & other restrictions**     **You must have successfully completed FINC5100.** You are expected to know simple algebra and calculus. The text chosen has provided in depth coverage of the mathematical approach to the problems studied in chapter appendices. Those who are more comfortable with the technical approach can feel free to expand their knowledge through this avenue.

**Course Description** This course examines derivatives, which are securities whose values derive from (or are contingent on) the price of some underlying asset. The specific types of derivative securities that we examine include forward and futures contracts, and options. We will learn how to value these securities and how to use them for risk management purposes. A central theme in our discussions on valuation is that there should be no opportunities for riskless arbitrage in a well-functioning market. We will learn the mechanics of futures and options trading and will implement trading strategies to mitigate various types of risk.

The course will be a blend of lecture and class participation. Most class meetings will include a breakout session in which you work in groups or individually to solve a problem or case.

All materials and handouts required for this class will be available via the class Canvas site. You are responsible for accessing the appropriate class site and downloading any information that is pertinent to this class.

**Learning Outcomes** On successful completion of this course, you will be able to reach all three learning outcomes of Seattle University Master of Science in Finance (MSF).

- Quantify the relation between risk and return and apply it in value-maximizing financial activities of individuals and corporations (in global, ethical context).
- Choose and be proficient in applying financial tools and analytical methods to improve financial decision-making.
- Effectively communicate and justify, in both written and oral form, results and recommendations of financial analysis to audiences having varying degrees of financial sophistication.

**Required Texts & Materials**

Teaching materials are drawn from several books, newspapers, and periodicals. ***There are assigned readings for each class.*** I expect you come to class prepared for the materials that will be covered that day. You will find the lectures much easier to grasp if you have read the assigned materials in advance.

***Textbook:*** John C. Hull, *Fundamentals of Futures and Options Markets*, (Pearson Prentice Hall, **Nine Edition**).

Note: The **CD** coming with the Textbook is **NOT** required.

**Suggested Texts, Readings, & Materials**

**Calculator:** You will need a calculator with the following functions:  $y^x$ ,  $1/x$ ,  $e^x$ , and  $\ln$ . A good business calculator (or a cheap scientific calculator) will have these functions.

**Suggested Readings:** *Wall Street Journal* and *Barron's*.

**Assignments & Academic Calendar**

**This agenda is subject to change.** The exact timing of lectures and content of exams will depend on the flow of the course.

***The course contents and timelines are subject to change at the discretion of the Professor.***

### Tentative Class Schedule

<b>Date</b>	<b>In-class Activity</b>	<b>Textbook Chapters</b>
Sep 30	Course Introduction Forwards and Futures Markets	Chapter 1 (1.1-1.4, 1.7, 1.8-Hedging Using Forward Contracts, 1.9- Speculation Using Futures, 1.10, 1.11) Chapter 2
Oct. 7	Pricing Forwards and Futures  <b>Class Participation—Online Discussion Due</b>	Chapter 4 (4.3 – 4.4) Chapter 5
Oct. 14	Pricing Forwards and Futures (Continued) Futures Hedging Strategies  <b>Problem Set 1 Due</b>	Chapter 5 Chapter 3 (3.1, 3.2, 3.4- Calculating the minimum Variance Hedge Ratio, Optimal Number of Contracts), 3.5
Oct. 21	Exam Review <b>Problem Set 2 (Part 1: 70%) Due</b> <b>Online Exam Review Available</b>	
Oct. 28	<b>Midterm Exam</b>  <b>Please work on Online Assignment (Options Basics &amp; Bond Pricing)</b>	Everything covered so far Chapter 1 (1.5, 1.6) Chapter 9 (9.1-9.3) Chapter 4 (4.6)
Nov. 4	Swaps  Option Specifications and Properties  <b>Problem Set 2 (Part 2: 30%) Due</b> <b>Online Assignment (Options Basics &amp; Bond Pricing) Due</b>	Chapter 4 (4.6) Chapter 7 (7.1-7.5 Valuation of Interest Rate Swaps) Chapter 9 (9.1-9.8, 9.12) Chapter 10 Chapter 1 (1.5, 1.6) Chapter 9 (9.1-9.3) Chapter 4 (4.6)
<b>Nov 11</b>	<b>Veteran's Day: No Class</b>	

Nov. 18	Option Specifications and Properties (Continued) Basic Option Strategies	Chapter 10  Chapter 11 (11.2-11.4)
Nov. 25	Pricing Relationships—Binomial Model	Chapter 11 (11.2-11.4) Chapter 12 (12.1-12.8) Chapter 18 (18.6)
<b>Problem Set 3 Due</b>		
Dec. 2	Pricing Relationships—Black-Scholes-Merton Model Greeks Exam Review	Chapter 13 Chapter 17 (17.4-17.9)
Dec. 9	<b>Final Exam</b> <b>Problem Set 4 Due</b>	<b>Everything after</b> <b>midterm</b>

**Course Policies**

<b>Grading</b>	Grading will be based on a combination of the following:	
	<b>Class Participation</b>	2 points
	<b>Problem Sets</b>	23 points
	Problem Set 1	5 points
	Problem Set 2	5 points
	Online Assignment	3 points
	Problem Set 3	5 points
	Problem Set 4	5 points
	<b>Two Exams</b>	75 points
	Midterm Exam	36 points
Non-cumulative Final Exam	36 points	
Exam with highest grade	3 points	
<b>Total</b>	<b>100 Points</b>	
<p>Grades will be assigned based on the overall section performance, adjusted for overall section performance. It is expected that the median grade in this course will be a B.</p> <p>Your course grade depends on the distribution of the weighted average scores. Normally, a weighted average score of 95 or above is an A, 90 and above is A-, between 80-89 is (B+, B, B-), 65-79 is (C+, C, C-). The actual demarcation line for each letter grade depends on the actual distribution of all weighted average scores. If the distribution warrants, plus or minus grades may not be given.</p>		

	<p>Some students claim they did not show how much they knew on the test. Alternatively, they may indicate that they studied "real hard" but just could not grasp the material before exams. Having been a student for over 20 years myself, I am sure that such sentiments have a certain amount of validity. But, under the present system, I must say that the points are really irrelevant. I have no better measure of performance by effort rather by result. Therefore, to be fair to everybody, grades are based on performance – not “knowledge” or effort. Accordingly, one's efforts should be directed toward achieving the maximum performance relative to potential and input.</p>
<p><b>Problem Sets</b></p>	<p>There will be four problem sets this semester. The purpose of these problem sets is to provide you with applications of the material covered in this course. These problem sets will count for 24 percent of your total course grade. The problem sets are due at the beginning of class on the date that they are due. The due date will be announced in class and on Canvas course website. Any problem set handed in after that time will be considered late. You will lose 25% --100% of the grade for a problem set for each day that it is late. <b><i>You may work on problem sets <u>individually or in a group with no more than three (3) students.</u> Each group will turn in only one problem set. You do not have to work with the same group for each problem set and you are not required to work in a group.</i></b></p> <p>Each group member will be given a Peer Group Evaluation form, which is used to rate each member’s participation in the group project.</p>
<p><b>Exams</b></p>	<p><b>No cheat-sheet allowed during exams.</b></p> <p>Makeup exams will not be given except in a dire emergency and only if I am notified prior to the scheduled exam time.</p> <p>The final exam will be written during the scheduled final examination period and will cover the material from mid-term exam onwards (in other words, it is not comprehensive). The date for final exam is written in stone, keep this in mind when you make any travel plans. It goes without saying, if you do not show up to class to write an exam, you will earn a grade of zero.</p> <p>Grades are not negotiable and will only be changed in case of a math or grading error on the instructor’s part.</p> <p><b>Dispute the exam grading: Please write a formal re-grading request</b> if you want to dispute the exam grading. I will request the department to form a committee to re-grade your exam. The committee will reserve the right to re-grade the entire exam paper and remove all partial credits.</p>
<p><b>Classroom Etiquette</b></p>	<p>Following are rules that should guide your behavior in class:</p>

	<p>1. Regular class attendance is expected during the term. Regular class attendance is defined as attending at least 7 of the 9 scheduled classes (Mid-term exam is not included as scheduled lecture). Leaving early from any class and/or coming in 30 minutes late will count as absence for half a class. Should you foresee that you would miss class, I would appreciate if you would inform me in advance. Note that frequent absence from class may significantly affect your grade.</p> <p>2. You are expected to take all reasonable measures to <b>arrive to class on time.</b></p> <p>3. Once in class, I expect you to stay in the classroom. <b>Please take care of personal needs prior to class</b> so you won't feel an urgent need to walk out of the classroom in the middle of a lecture. Of course, if there is an emergency, please exit and re-enter the classroom as unobtrusively as possible. This applies for exam periods as well.</p> <p>4. There will be a 10 minute break in the middle of the class period. I will announce when the break begins and I will tell you what time the class resumes. I expect you to be seated and ready to continue at that time.</p> <p>5. Class does not end until I excuse you. Please do not begin to pack up your papers and books in anticipation of the end of class. Wait until class is adjourned.</p> <p>6. Cell phones must be turned off. If you are expecting an emergency call, let me know and that will be accommodated. If your cell phone rings during class, the points you are allocated for participation will be affected.</p> <p><b>Irregular class attendance will automatically reduce your final grade by 5 points.</b></p> <p><b>The first violation of the other rules of etiquette will not have any consequences. The second and third violations result in a deduction of 0.5 points from your total grade. Subsequent violations will result in a one increment lowering of your course grade. There's no make-up for the violation of classroom etiquette rules.</b></p> <p><b>Whether or not you attend, you are responsible for all the material that we cover and all announcements made, including any announcements made during the class.</b></p>
<p><b>Class Participation and Grading Criteria</b></p>	<p>The distinctive advantage of being taught in a classroom environment (vis-à-vis online distance learning) is the opportunity to interact with the professors who would hopefully enlighten you and your classmates who would share their experience with you. I also believe that learning requires active participation. Thus, as is typical with advanced graduate courses, class participation is expected and strongly encouraged since active discussion enriches the learning process. Class attendance and your input</p>

	<p>are therefore vital to the success of everyone’s learning.</p> <p>I strongly encourage you to share your ideas and appreciate your generation of meaningful discussions in class (Frivolous comments, however, will have a negative impact on your course participation grade).</p> <p>To facilitate active learning, I may assign some problems for you to prepare before class. You should get ready to explain your answers or demonstrate your work in class. Your satisfactory answers and relevant discussion will be counted towards your individual class participation (see below).</p> <p>I often pause to ask for questions and always call for questions at the beginning of class. Asking sensible questions in class will stimulate your thinking (as well as mine). Sometimes, you may be lucky to hit on some potential exam questions. Involving in class discussions with your opinion may enrich the discussion by giving a different perspective to the class to consider.</p> <p>90% or more  Extremely involved in almost all class discussions  Was an effective leader in the group process regarding the cases  Occasionally provided relevant outside reading material with interesting insights  Often talked with professor outside of class regarding course material</p> <p>80% or more  Typically involved in most class discussions  Was a significant contributor in the group process regarding the cases  Once provided relevant outside reading material with some comments  Occasionally talked with professor outside of class regarding course material</p> <p>70% or more  Occasionally or rarely involved in class discussions  Was involved in the group process regarding the assignments  Read some relevant outside reading material  Once talked with professor outside of class regarding course material</p>
<p><b>Laptops &amp; Cell phones</b></p>	<p>To stay focused and get the most from our time in class, all cell phones – including my own – must be turned off except by prior agreement.</p> <p>There will be a few opportunities during class to use your laptops and I will let you know when these occur. If you want to use a laptop or other mobile device in class at any other time, you need to ask for permission in advance. There are very few instances where I will agree (such as an accommodation through Disability Services), and there are good reasons for this:</p> <ul style="list-style-type: none"> <li>• Good note-taking skills are vital for you in your future careers: You can’t always rely on technology being available, can’t expect to be</li> </ul>

	<p>given prepared summaries or notes, nor can you afford the time to write everything long-hand.</p> <ul style="list-style-type: none"> <li>Using laptops can be a distraction, both for other students and for the instructor. The temptation to attempt to “multi-task” using technology in class can also be enormous, but to do so would be extremely discourteous to the entire class, and would be a waste of your own learning opportunity.</li> </ul> <p>A violation of this policy may result in appropriate grade sanctions as determined by the course instructor.</p>
<p><b>Canvas: Delivery of Course Materials</b></p>	<p>I will establish a course web page on the Internet. <b>Always check the Canvas page for class announcements and course information.</b> This site will include PowerPoint files of the course lecture notes, homework assignments and solutions, any external web links, and relevant updates about the class including any changes in assignments or exams. <b>You will be responsible for bringing the relevant course materials to each lecture.</b></p> <p>If a file or link is not operational, let me know via email ASAP so I can correct the link. If you have any other problems using Canvas, contact the Seattle University technology help desk.</p>
<p><b>Audio or Video Taping</b></p>	<p><b>AUDIO OR VIDEOTAPING IN CLASS IS PROHIBITED WITHOUT THE INSTRUCTOR’S PRIOR APPROVAL.</b> For protection of proprietary knowledge and for a variety of other reasons, audio and videotaping of any class session is strictly prohibited without prior approval of the instructor. Under extreme circumstances or for a pre-approved class absence, audio taping a class session will be allowed on a case by case basis and with the express permission of the instructor. You will be responsible for making all necessary arrangements. You will need to adhere to the appropriate agreed upon use of the content material of these audio tapes.</p>
<p><b>Academic Resources &amp; Academic Integrity</b></p>	<ul style="list-style-type: none"> <li>Library and Learning Commons (<a href="http://www.seattleu.edu/learningcommons/">http://www.seattleu.edu/learningcommons/</a>) (This includes: Learning Assistance Programs, Research [Library] Services, Writing Center, Math Lab)</li> <li>Academic Integrity Tutorial (found on Canvas and SU Online)</li> <li>Seattle University is committed to the principle that academic honesty and integrity are important values in the educational process. Academic dishonesty in any form is a serious offense against the academic community. Acts of academic dishonesty will be addressed according to the Seattle University Academic Honesty Policy.</li> </ul> <p>I expect from you a high level of responsibility and academic honesty. This course will use the resources of turnitin.com, which searches the web for possible plagiarism and is over 90% effective.</p>
<p><b>Academic Policies on Registrar</b></p>	<p>The policies can be found at the address:</p>

<p><b>website</b></p>	<p>Academic Policies on Registrar website (<a href="https://www.seattleu.edu/redhawk-axis/academic-policies/">https://www.seattleu.edu/redhawk-axis/academic-policies/</a> )</p> <ul style="list-style-type: none"> <li>• Academic Integrity Policy</li> <li>• Academic Grading Grievance Policy</li> <li>• Professional Conduct Policy (only for those professional programs to which it applies)</li> </ul>
<p><b>Notice for students concerning Disabilities</b></p>	<p>If you have, or think you may have, a disability (including an ‘invisible disability’ such as a learning disability, a chronic health problem, or a mental health condition) that interferes with your performance as a student in this class, you are encouraged to arrange support services and/or accommodations through Disabilities Services staff located in <b>Loyola 100, (206) 296-5740</b>. Disability-based adjustments to course expectations can be arranged only through this process.</p>
<p><b>Notice Regarding Religious Accommodations</b></p>	<p>It is the policy of Seattle University to reasonably accommodate students who, due to the observance of religious holidays, expect to be absent or endure a significant hardship during certain days of their academic course or program. Please see, <i>Policy on Religious Accommodations for Students</i> (<a href="https://www.seattleu.edu/media/policies/Policy-on-Religious-Accommodations-for-Students---FINAL.PDF">https://www.seattleu.edu/media/policies/Policy-on-Religious-Accommodations-for-Students---FINAL.PDF</a>).”</p>
<p><b>Office of Institutional Equity</b></p>	<p>Title IX of the Education Amendments of 1972 (Title IX) prohibits discrimination based on sex in educational programs or activities that receive Federal financial assistance. This prohibition includes sexual misconduct, which encompasses sexual harassment and sexual violence. Seattle U remains committed to providing a safe and equitable learning, living, and working environment. Seattle U offers emergency, medical, and other support resources, as well as assistance with safety and support measures, to community members who have experienced or been impacted by sexual misconduct.</p> <p>Seattle U requires all faculty and staff to notify the University’s Title IX Coordinator if they become aware of any incident of sexual misconduct experienced by a student.</p> <p>For more information, please visit <a href="https://www.seattleu.edu/equity/">https://www.seattleu.edu/equity/</a>. If you have any questions or concerns, you may also directly contact the Title IX Coordinator in the Office of Institutional Equity (<b>email: <a href="mailto:oiie@seattleu.edu">oiie@seattleu.edu</a>; phone: 206.296.2824</b>) University Resources and Policies.</p>
<p><b>Copyright Notice</b></p>	<p>The copyright law of the United States (Title 17, United States Code) governs the making of photocopies or other reproductions of copyrighted materials, including music and software. Copying, displaying, reproducing, or distributing copyrighted works may infringe the copyright owner’s rights and such infringement is subject to appropriate disciplinary action as well as criminal penalties provided by federal law. Usage of such material is only appropriate when that usage constitutes “fair use” under the Copyright Act. As a Seattle University student, you are required to follow the institution’s copyright policy. For more information for SU copyright policy, see <a href="https://www.seattleu.edu/policies/copyright-policy/">https://www.seattleu.edu/policies/copyright-policy/</a></p>

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