

FIN 4850: Financial Derivatives
Spring 2005
Tuesday-Thursday, 1:40 – 3:00, 1116 CEBA
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Course home page: LSU's Blackboard web site: blackboard.lsu.edu

Office hours: Monday, 1:30 – 3:00 & Thursday 12:30 - 1:30; I am available most every afternoon and can meet in the mornings if you make an appointment.

Catalog Description: *Options, forwards, futures, swaps, and other derivative instruments. Principles of pricing, valuation models, trading strategies, and managing risk in domestic and global financial markets.*

Prerequisite: FIN 3636, 3717, or 3826

Overview

This course deals with the world of financial instruments known as derivatives and their use in managing risk. The worldwide derivatives market consists of financial contracts in the form of options, forwards, futures, swaps, and several other types of related instruments. These contracts are used by corporations, investment funds, individuals, and governments to control risk arising from interest rates, exchange rates, stock prices, and commodity prices. As of year-end 2003, there was about \$200 trillion of face value of derivative contracts outstanding in the world.

This course is challenging and will require that you work hard and keep up. There is no reason why you cannot make a good grade if you do that. If you do not do that, there is almost no possibility of making a good grade.

The style of the course is interactive lecture. That means I talk a lot, you listen, take notes, and ask questions. I will sometimes ask questions, and you should try to answer them. I shall be using PowerPoint overheads and following the book closely. You should not have to take many notes. *A word of advice from former students: Read the material before coming to class.* And above all: *Come to class.* Besides, you get free points if you do.

Please take advantage of the opportunity to ask questions, either in class, in office hours, or by e-mail. You should not feel intimidated. There are only a couple of dumb questions, such as “I missed class. Did I miss anything important?” and “I’m going to miss class. Will I miss anything important?”

The most important thing you can do is *come to class.*

Objectives for the Course

While some of you may end up in the derivatives industry, it is more likely that most of you will work for a more traditional corporation, perhaps a small business, a governmental agency, or a non-profit organization. These entities are all exposed to risk, so this subject is important. Our specific objectives are

- A solid introductory treatment of derivatives and risk management
- Knowledge of when and how to use derivatives properly and not destroy an organization
- Development of your ability to think and reason
- Stimulation of an interest in lifelong learning of this subject and finance in general

In order to achieve these objectives, you must *come to class*.

Course Materials

Text: *An Introduction to Derivatives and Risk Management*, 6th ed. written by me.

PowerPoint overheads you should download from the Blackboard site.

Answers to end-of-chapter problems, downloadable from the course Blackboard site.

Exams

There will be two mid-term exams and one comprehensive final exam. Some specific exam rules are:

- Closed book but you can bring one 8 ½ by 11 sheet of paper with anything you want written on it (both sides)
- Use of text storage feature in a calculator is an honor code violation
- If your calculator dies, you cannot borrow one. Set up the problem as well as possible. Partial credit is generous.
- I will consider a written appeal about points deducted, provided you make the appeal not more than two weeks after the exam is returned. My decision is final. Whining, begging, and pleading will not help and will probably make things worse in the long run.

Very Important: When time is over, you must turn in your exam. Failure to do so can result in a severe penalty that can cost you the entire exam. I will give you ample warning of the amount of time left. When I tell you that there is one minute left, it is up to you to turn in your exam. When that minute is over, I go out the door and do not accept any more exams, even if you are in the process of handing it to me. This policy is designed so that students who conform to the rules by turning in their exams when requested are not placed at a disadvantage relative to those who squeeze in extra time.

Your best preparation for exams: *come to class*.

Homework

- Five homework assignments in the form of take-home quizzes.
- Open book. You can work together but do not abuse this opportunity by literally copying verbatim someone else's work. Also, if you are copying someone else's work and do not understand the answer, it will come back to haunt you on the exam.
- Must be turned in during the first 10 minutes of class on due date
- No extensions. Any homework can be turned in early.

End-of-chapter questions and problems are not assigned but are extremely helpful and representative of the questions and problems on the exam. Answers are available on Blackboard.

How do you go about figuring how to do these homework problems? *Come to class*.

SMART Lab Trading Exercise

On a scheduled day during the term, we will go into the SMART Lab and participate in a trading exercise designed to teach how arbitrage works to determine option prices. You will be divided into trading teams of 4-6 people. More information is provided later.

Grades

First mid-term exam	50
Second mid-term exam	50
Final exam	100
Homework (five at 20 each)	100
SMART Lab Trading Exercise	50
Class participation (see below)	<u>100</u>
	450

(There is a document on the Blackboard site explaining how my grading system works. Read it.)

This total is higher for graduate students. See **Graduate Students** below.

Some features of my grading system:

- I drop one mid-term exam score and substitute your final exam score (assuming the final exam score is higher and adjusted for the fact that the mid-terms are 50 points and the final is 100 points).
- I drop the homework assignment with the lowest score and substitute the average of the remaining four.
- An example of how grades are determined is on the course web site. If you are unable to follow this example and cannot determine what you need to make on the remaining material to achieve a certain grade, you should not be in college.

It is far better to take each exam or turn in each homework and drop the score than to not do so. The experience is valuable. A bad score will not affect my opinion of you. Also, the final exam score tends to be lower than either of the mid-term exam scores. In fact, not taking the exam for no reason or failing to turn in a homework has a more damaging impact on my opinion of you.

There are no possibilities for "Extra Credit." You have so many opportunities for easy points. Past experience shows that if you *come to class*, it is very unlikely you will feel so desperate that you need to ask for extra credit.

Factors affecting your performance. If you have prolonged illness or personal/family matters that prevent you from performing up to the level at which you believe you should be performing, you need to discuss it with me as soon as it begins to affect your performance. Coming in a few days before the final exam telling me about problems that occurred earlier in the term will not do any good.

Class Participation:

100 points broken down as follows:

- 80 points: We will stop class five minutes before the scheduled ending time at which time you will take out a piece of paper and write down three things you learned in that class period. Guidelines are provided on an attached page. You are allowed to miss a few classes and still get a perfect score on this.

- 20 points: Doing everything else by the rules, e.g., getting things in on time. See below about “Cell Phones.” Please note that due to not following the rules, not everyone has received these 20 points in the past.

Unquestionably the most valuable thing you can do to earn easy points is *come to class*. Excessive absences and poor effort will also result in lost opportunities when I get calls from organizations looking to hire our students, which does happen.

Graduate Students

Graduate students take a slightly different exam (a few questions will be more challenging) and are required to write a short (8-12 pages) paper. This paper is worth 100 additional points, so the graduate students have 500 possible points.

Class Schedule

Specific reading assignments consist of the entire chapter as indicated, except that you can skip appendices and other material noted.

Date	Material
Tu, 1/18	Ch. 1: Introduction
Th, 1/20	Ch. 2: The Structure of Options Markets
Tu, 1/25	Ch. 2 (continued); Ch. 3: Principles of Option Pricing
Th, 1/27	Ch. 3 (continued)
Tu, 2/1	Ch. 3 (continued)
Th, 2/3	Mardi Gras: No class
Tu, 2/8	Ch. 4: Option Pricing Models: The Binomial Model (skip pp. 113-118 & Problem 12)
Th, 2/10	Ch. 4 (continued); Homework #1 (Ch. 3) due
Tu, 2/15	Ch. 4 (continued); Ch. 5: Option Pricing Models: The Black-Scholes Model (skip pp. 176-181 & problem 20)
Th, 2/17	SMART Lab Trading Exercise
Tu, 2/22	Ch. 5 (continued)
Th, 2/24	Ch. 5 (continued)
Tu, 3/1	Chapter 6: Basic Option Strategies. Homework # 2 (Chs. 4, 5) due
Th, 3/3	Exam I (Chs. 1-5)
Tu, 3/8	Ch. 6 (continued); Ch. 7: Advanced Option Strategies (skip pp. 253-256 & problems 12-14 & 22).
Th, 3/10	Ch. 7 (continued)
Tu, 3/15	Ch. 8: The Structure of Forward and Futures Markets; Homework # 3 (Chs. 6-7) due
Th, 3/17	Ch. 8 (continue); Ch. 9: Principles of Pricing Forwards, Futures, and Options on Futures (skip pp. 317-322, 331-340, & problems 5-9, 12, 15, 17, 18, 20 & 21)
Tu, 3/22	Spring Break: No class
Th, 3/24	Spring Break: No class
Tu, 3/29	Ch. 9 (continued)
Th, 3/31	Ch. 9 (continued); Ch. 10: Forward and Futures Hedging Strategies
Tu, 4/5	Ch. 10 (continued)
Th, 4/7	Ch. 10 (continued)
Tu, 4/12	Ch. 12: Swaps (skip pp. 449-457 & problems 6, 14, 17 & 18); Homework # 4 (Chs. 9,10) due
Th, 4/14	Exam II (Chs. 6-10)
Tu, 4/19	Ch. 12 (continued)
Th, 4/21	Ch. 13: Interest Rate Forwards and Options (skip pp. 476-477, 489-495 & problems 6-10 & 18-22)

Tu, 4/26	Ch. 13 (continued)
Th, 4/28	Ch. 15: Financial Risk Management Techniques and Applications (skip pp. 546-552, 563-565 & problems 18 & 20). Homework # 5 (Chs. 12-13) due
Tu, 5/3	Ch. 15 (continued); Ch. 16: Managing Risk in an Organization.
Th, 5/5	Ch. 16 (continued)
Th, 5/12	Final Exam (12:30 – 2:30 pm)

Miscellaneous

The following links from my web site are not required but could be useful or interesting

My *List of the 10 Most Common Writing Mistakes* (This short item will help you become a better writer, which is very important for business success.)

www.bus.lsu.edu/academics/finance/faculty/dchance/Instructional/TenMistakes

My *10 Pieces of Advice for Graduating Seniors* (Take it or leave it, but don't you want to know what they are?)

www.bus.lsu.edu/academics/finance/faculty/dchance/Instructional/AdviceforSeniors

My Philosophy on Teaching (This item tells you how I view teaching and what my expectations are for my students. That's something I'd want to know if I were taking a course from someone I knew nothing about.)

www.bus.lsu.edu/academics/finance/faculty/dchance/Instructional/TeachingPhilosophy

Some other materials you might be interested in (but are not necessary for the course) are on various web sites I maintain:

<http://www.bus.lsu.edu/academics/finance/faculty/dchance/Instructional/Instr.htm>

<http://www.bus.lsu.edu/academics/finance/faculty/dchance/Research/Rsch.htm>

<http://www.bus.lsu.edu/academics/finance/faculty/dchance/MiscProf/MP.htm>

Cell Phones

TURN OFF YOUR CELL PHONE. A classroom setting requires uninterrupted concentration.

If your cell phone rings in class, you get a warning. The next time you lose the 20 free points discussed above.

If it happens again, you lose 20 more points, which eats into other points you worked hard to earn.

It is all right to have your phone on vibrate and leave to take a call, although the next day I will probably ask you "Who died or got hurt?" or "What did you name the baby?" There are almost no other situations in which you should leave the class for the purpose of taking a phone call.

The Code of Student Conduct and this Course

Unfortunately names like Enron, Arthur Andersen, WorldCom, Tyco, HealthSouth, and Martha Stewart have become synonymous with scandals in the business world in the last few years. We cannot expect the business world to function properly without honesty. If you cheat as business students, you will cheat as business leaders. Others will cheat when dealing with you.

Here are a few things to remember about people who cheat:

People who cheat are implicitly saying that it is acceptable for

- *their children to cheat*
- *their bosses and supervisors to cheat*
- *the employees who work under them to cheat*
- *the customers and clients they deal with to cheat*
- *the lawyers who represent them to cheat*
- *the doctors who treat them to cheat*

If you have any questions about the LSU Code of Student Conduct, consult the division of Judicial Affairs at <http://appl003.lsu.edu/slas/judicialaffairs.nsf/index>

If two people tell me that they have reason to believe that a person is cheating, I will turn it in to Judicial Affairs for certain. If one person tells me, I will consider the evidence and make a decision.

Graduate students have an additional opportunity to cheat by plagiarizing their term papers. Don't even think about it.

Remember, if you lose your honor, you have nothing left and it is virtually impossible to get it back.

About Me

Since I am going to ask you some things about yourself, here is some information about me.

I grew up in Alabama and after obtaining my B.S. from the University of Montevallo in Alabama and M.B.A., from Ole Miss, I worked for a bank now known as AmSouth. I received my Ph.D. from LSU and joined the Virginia Tech faculty in 1980. I spent 23 years at Virginia Tech in Blacksburg, interrupted only by a semester sabbatical at the University of North Carolina at Chapel Hill and a semester at the Virginia Tech Northern Virginia Graduate Center near Washington, DC. I joined the LSU faculty in 2003. My title here is William H. Wright, Jr. Endowed Chair for Financial Services. I completed the CFA program in 1986 and do a lot of work for that program, including authoring the derivatives book used in the program. In addition to teaching, I do research, consulting, training programs, and speaking on derivatives and risk management.

Some Words of Wisdom for Everyone but Especially Graduating Seniors

In the event that you put in the effort and are not doing well, please come see me and let's talk about it as soon as possible. A week before the exam is not a good time to realize that in spite of your efforts, you're struggling. If you recognize the problem early, I can help you get on the right track.

I also realize that personal and family problems can interfere with your ability to do well in a class. If you have these problems, please be as candid as you can with me about them, and I will work with you to try to make things work out as well as possible. Do not, however, make things up or exaggerate your problems. I can tell you stories of students who did and got little sympathy. Yet, there are others who had crises of unbelievable magnitude that never used them as excuses.

By all means, do not make things harder than they have to be. Every semester it seems that at least one person decides to enroll in this class but skip nearly half the class

meetings and/or fail to turn in homework. If you miss class, you lose out on (1) the knowledge you learn in class, (2) the tips I give on what's most important and what's less important, and (3) credit for the daily summaries, which are worth as much as your final exam. And for whatever it's worth, you make a lousy impression on me. This may not matter to you, but if you get in the habit of making lousy impressions, you will have a lousy career.

If you choose to not turn in homeworks, you lose an opportunity to earn easy points (remember, homeworks are open book and you can work together) that are worth as much as your final exam.

People who do not come to class and/or do not turn in homeworks throw away valuable points. This advice is especially important for those in the last semester. It is difficult to fail this course unless you do not come to class and/or turn in homeworks. But it seems that every semester a graduating senior tries to live dangerously by ignoring this advice. If you are going to do this in your last semester, get out right now. This is a course about risk and that is one risk not worth taking. If you do attend class and turn in homeworks, it will boost your grade by an incredible amount.

Another high risk activity is skipping a mid-term exam just because you are not ready. If you fail to take an exam, you miss out on the opportunity to test your knowledge and practice your exam-taking skills. You also put more pressure on yourself to do well on the final exam, which is usually a harder exam.

So, do not forget, there are three critical things you should do:

come to class
turn in homeworks
take both mid-term exams

If you do not do these three things, do not come whining in my office a week before the exam about how you have to graduate, that all your relatives are coming, and that you have a job lined up in another state. If you do these three things, I cannot imagine why you would possibly have to worry about these things.

GUIDELINES FOR DAILY SUMMARIES

Your daily summaries have several objectives:

- to encourage you to come to class by rewarding you with free and easy points
- to encourage you to pay attention
- to help you learn some specific points and remember them because you wrote them down
- to enable me to identify what you thought was something important or worth remembering
- to help me identify any misconceptions I may have given you

1. You must write a minimum of three complete sentences summarizing what we covered in class. You will not receive credit at all if you write less than three sentences nor will you receive extra credit for more than three sentences. The required format is three distinct paragraphs of one sentence each. Skip a line between each paragraph.
2. Your sentences should state specific facts that we have covered in class, but you should not state them using “I” or “We” as your subject and “learned” or “covered” as your verb. Example:

Wrong: Today we learned about straddles.

Right: A straddle is a strategy in which an investor buys one call and one put.

You are not allowed to quote directly from the book. In general, quoting directly without attribution is plagiarism. Since I would be the victim of your plagiarism, be especially careful. Also, I will not give credit for a direct quote, even with the citation. I expect you to make a statement in your own words.

Each day in class I will read out statements that are incorrect (I do not identify who wrote them) and provide the correct statement.

3. You can write questions, comments or other statements about the material or anything else related to the subject matter or finance in general, though these items will not count toward your three sentences. Separate these items from your summary by starting a new paragraph. I will reply by e-mail as soon as possible. This is a great way to ask questions and get answers in private. You may also write comments like “Cool tie” or “Do you think Virginia Tech is afraid to play LSU?” but these will not count toward your three sentences.
4. Credit will be given only if you confirm to these rules.
5. To help you improve your writing, look at “The Ten Most Common Writing Mistakes” at

www.bus.lsu.edu/academics/finance/faculty/dchance/Instructional/TenMistakes.

If you make one of these mistakes, you might get an email containing the mistake number. You will be a better writer because of this.

6. Having someone else write or turn in your summary is a violation of the Honor Code.

Come to class! (Did I forget to say that?) Your grade for doing these summaries is worth as much as the two mid-term exams. Don’t blow these points.

FIRST ASSIGNMENT

I like getting to know students and learning what makes each person unique. To help me do this, please provide the following information. **Turn this in to me by e-mail (dchance@lsu.edu) by the second class period.** I am simply requesting a little information about you. To make this perfectly fair, I will provide the same information about myself (in italics below), except obvious and irrelevant items. Answer these questions within your email. Do not send your answers as a separate attachment.

If you do not do this by the third class period, it will have an effect on your grade. The points are small but not worth losing.

1. Your name (what you want to be called by) and hometown (or wherever you say you're from)
2. Your major and expected graduation date
3. Why you chose to come to LSU: Have you been pleased with your decision? *I came back to LSU because they made me a good offer. As much as I loved Virginia Tech, and still do, it was time to move on to a new phase of my life. While at Virginia Tech I expected to be part of a school with a national championship football team and we came close in 1999-2000, but it didn't happen. I am pleased that this happened here in January 2004. I must admit, however, that I am still primarily a Virginia Tech fan and will probably be pulling for them when they come down here in 2007.*
4. Why you chose your major? Your career plans? *I can answer part of this. Despite having made 72 on my first finance exam, I eventually decided that finance was sufficiently but not overly quantitative to make it interesting. I had previously planned to go into human relations management, which would have been a big mistake for me. I'm not sure what my career plans are right now.*
5. Your current job, if you have one, including where you work and what you do.
6. The name of the last book you read other than a textbook or a book required for a course. *Open Wide: How Hollywood Box Office Became a National Obsession* by Dade Hayes and Jonathan Bing. I thought this would be an interesting look at the business of movies, but it really isn't very good.
7. Something interesting or unusual about yourself. This could be an unusual experience in life, a hobby, an unusual goal, or just anything out of the ordinary you're willing to tell me about yourself. *Probably that would be my obsession with music, which I listen to almost all of the time. I prefer soft pop-type music but am growing increasingly interested in bluegrass. I play guitar (any guitarists should check out my guitar page on my web site) for usually at least an hour every day and would like to learn mandolin and banjo. I also play some piano but not as much as I would like to have time for. Another unusual item would probably be that I have a large collection of pictures and items related to Madonna, although I am not a big fan of hers. Another (somewhat) unusual thing is that I am a cancer survivor (nine years this year).*
8. A statement that you have read the syllabus, agree to its terms, and pledge to abide by the LSU Code of Student Conduct.

Remember: Do this right away. Don't risk losing points over it!

And don't forget: *Come to class.*