Syllabus

Course Description
This is a first course in corporate finance which is designed to introduce students to the concepts and techniques necessary to analyze and implement optimal investment decisions by firms. The course studies the effect of time and uncertainty on decision making. Topics include basic discounting techniques, stock and bond valuation, capital budgeting under certainty and uncertainty, asset pricing models and efficient markets.

Prerequisites
The prerequisite for this course is knowledge of probability and statistics through linear regression. This requirement may be satisfied with either (i) prior or concurrent registration in Decision Sciences 434, (ii) sufficient previous course work in statistics. Familiarity with basic financial accounting (Accounting 430) and microeconomics (Managerial Economics 430) is recommended.

Textbook
The recommended textbook for the course is: Richard A. Brealey, Stewart C. Myers, and Franklin Allen, Irwin/McGraw-Hill, Principles of Corporate Finance, 9th Edition. You will also use this text for Finance II (441). Copies of the textbook and of the Solutions Manual for Principles of Corporate Finance have been put on reserve in the library. The Solutions Manual has answers to the end-of-chapter questions. Answers to assigned review problems are included in the course packet so you will not need the Solutions Manual unless you would like to do extra problems. There is also a course packet.

Course Requirements and Evaluation
The course grade will be determined by a 24%/26%/50% weighting on your best six problem sets/your midterm/your final. The formula for your total score is:

\[
\text{Score} = \left( 0.24 \times \frac{\text{points on problem sets}}{24} + 0.26 \times \frac{\text{points on midterm}}{\text{points possible}} + 0.50 \times \frac{\text{points on final}}{\text{points possible}} \right) \times 100
\]

Participation in the class will not be explicitly graded, but I will keep track of who is making valuable contributions to the class over the course of the quarter. This information will be used in determining grades in borderline cases. The dean’s office requests that we aim for no more than 40% A grades in core classes and around 10% C grades.
There will be eight problem sets total. Three of these are cases. Each of your best six problem sets will count toward 4% of your course grade (in other words the two lowest problem set grades will be dropped). Problem set grades are between 0 and 4. Problem sets are due on at the start of class on Thursdays. Late problem sets will not be accepted. You may submit problem sets via fax (847-491-5719) or email if you are unable to attend class.

Your homework should explain how you got to your answer as well as the answers themselves. I don’t need to see the entire spreadsheet of cash flows, but I do need to see the formulas that you used to get to your answer and an explanation of why the formula is correct. You can copy cells from the spreadsheet as long as you provide an explanation and label any rows or columns referenced. If you feel it is necessary, you can print out the spreadsheet and attach it provided you supplement it with an explanation of how it was generated.

You should work on the problem sets in groups of 3-4 people. Groups will be formed during the first class (you may pick your own group). At the end of the quarter you will evaluate your peers based on their contribution to the group’s output. These evaluations will determine whether each group member gets the group’s score on problem sets, or a lower score. You will be asked to rate your group members using the scale 0, -1, -2, -3, -4. A rating of 0 means that you think the group member contributed in a fair manner to the group. A rating of -1 means you think the group member should get 1 point deducted from his/her problem set points, and so on. For each person the ratings he/she gets from group members will be averaged. Thus, a group member whose group received a total of 24 points on the problem sets, but who was rated -2 by his/her group members will end up with 22 points for the problem sets.

The midterm and final are done individually. The midterm will be a take-home exam, which should take about 3 hours to solve. It will be posted on the course website on Friday, February 5 (in PDF format). The midterm must be handed in before the start of class on Thursday, February 11. No late midterms will be accepted.

The final will be either an in-class exam or a timed take-home administered through blackboard. The exams are open book. You may use calculators and laptops for the exams, but no assistance (from group members or anyone else) is allowed.

**Office Hours and Review Sessions**

My office hours (week 2 to 10) are on Thursdays, 4:45pm-5:45pm in M272. You can also ask questions after class, by e-mail or phone. I can be reached at b-green@kellogg.northwestern.edu, or (847) 467-1980.

The two exam review sessions are in week 5 and 10, prior to the midterm and the final. These last 2 hours each. Regular review sessions will be held every other week on Saturdays. Dates and times are listed in the weekly schedule below. Review sessions are intended only for those of you who are having difficulties with the course. The majority of you should not feel obliged to go to these sessions.
Course Web Page
Various types of information will be available on the course web page (available on Blackboard) such as downloadable copies of the problem sets and lecture notes, and other course-related files.

Honor Code, Class Room Etiquette
The first sentence of the Kellogg Honor Code reads: “All students enrolled in a course offered by the Kellogg School of Management agree to abide by the Kellogg Honor Code.” If you are unsure of what this means, please read the honor code. If you are in doubt about whether something is acceptable under the honor code, you should not hesitate to ask.

You will be allowed to work in groups for problem sets. The solutions you hand in should be independent work of your group. Before the problem sets are handed in you should discuss the problems only with members of your group. You should not discuss the problems with other students in this or any other 430 class or with former Finance 430 students. You should not receive any assistance on the midterm or the final from anyone. Violators will fail the class and may be expelled.

You are also expected to follow the Kellogg code of classroom etiquette. Please be respectful of your fellow students and do not use your laptop for anything other than note taking/Excel calculations during class. If you plan to use your laptop, please sit in the back row. Also, please turn off your cell phone/PDA.

Miscellaneous
You should bring your name plate to class and have it displayed throughout the quarter. Familiarity with Excel (or an equivalent spreadsheet program) is recommended. There are handouts titled “Use of Financial Functions in Excel” and “Use of Statistical Functions in Excel” in the course packet/on the course website. The spreadsheets referred to in these notes are also linked on the course web page. You should work the problems in these handouts.

Course Outline
Below is an approximate schedule for the class. Lecture notes will be distributed at the beginning of each lecture and will also be made available on the class web page.

Indicated below are the readings for each class. “B,M&A” refers to the textbook by Brealey, Myers and Allen. All additional reading materials are in the course packet. “TN” denotes a teaching note which is on the course website. You will find it useful to read the corresponding material prior to the lecture. Some students prefer the textbook exposition, others prefer the exposition in the teaching notes (you are not intended to read both each week). The review questions for the textbook can be found at the end of each chapter of the B,M&A text in the section “Practice Questions” unless noted otherwise. To further your understanding of the material, you should work out the review questions listed below. They will not be collected or graded. Solutions to the
review problems are included in the course packet. The teaching notes have additional practice problems with solutions.

Week 1 Net Present Value (NPV).
Goals in managing the firm. The interaction between firm decisions and capital markets. Asset valuation with known cash flows.
Readings: B,M&A chapter 1, 2, 3. TN “Present and Future Value Concepts and Applications”, TN “Use of Financial Functions in Excel and/or Financial Calculators”, “Believed to be the World’s Oldest (on Blackboard)...”
Handouts: Syllabus, Notes Week 1, Problem Set 1.
Class Date: 4/1
Review sessions: None.

Week 2 More on NPV.
Compound interest rates. After tax discount rates. IRR. Inflation.
Handouts: Notes Week 2, Problem Set 1: Solutions, Problem Set 2.
Problem Set 1 due.
Class Date: 4/8
Review sessions: 4/10, TBA.

Week 3 Capital Budgeting.
Capital budgeting with known cash flows. Determining cash flows. Alternatives to NPV.
Handouts: Notes Week 3, Problem Set 2: Solutions, Problem Set 3 (Ocean Carriers Case).
Problem set 2 due.
Class Date: 4/15
Review sessions: None.

Week 4 Stock Valuation.
The Gordon growth model.
Readings: B,M&A chapter 5. TN “Stock Valuation ...”, “EBay Draws Skype Skeptics on Wall Street”, “Sorry, Wrong Number,’ eBay Says on Skype”, “All P/Es Are Not Created Equal”, “If Profits Grow, How Can the Market Sink” (this reading is on the course website).
Review Problems: —
Handouts: Notes Week 4, Problem Set 3: Solutions, Problem Set 4.
Problem Set 3 (Ocean Carriers Case) due.
Class Date: 4/22
Review session: 4/24, TBA.

**Week 5 Bond Valuation.**
Term structure of interest rates. Forward rates and forward loans. Duration.
Readings: B,M&A chapter 4. TN “Bond Valuation ...”.
Handouts: Notes Week 5, Problem Set 4: Solutions, Problem Set 5.
Problem Set 4 due.
Class Date: 4/29
Midterm review session: 4/30, TBA.
Midterm posted on course website on 4/30 after 8pm.

**Week 6 Introduction to Risk: Understanding Diversification.**
“Shortchanged”, “Diversification: A Bigger Free Lunch”.
Review Problems: —
Handouts: Notes Week 6.
Midterm due at the beginning of class.
Class Date: 5/6
Review session: 5/8, TBA.

**Week 7 Optimal Portfolio Choice.**
Readings: B,M&A chapter 8. TN “Risk and Return 1”. “Is it Back to the Fifties?”.
Handouts: Notes Week 7, Problem Set 5: Solutions, Midterm Solutions, Problem Set 6 (Beta Management Case).
Problem Set 5 due.
Class Date: 5/13
Review session: None.

**Week 8 The Capital Asset Pricing Model (CAPM).**
What is the price of risk? The Capital Asset Pricing Model. Some alternatives to the CAPM.
Handouts: Notes Week 8, Problem Set 6 Solutions, Problem Set 7.
Problem Set 6 (Beta Management Case) due.
Class Date: 5/20
Review session: 5/22, TBA.

**Week 9 Capital Budgeting Under Uncertainty.**
Estimating project betas. Leverage.
Readings: B,M&A chapter 10.1-10.3 and 18.1-18.2. TN “Capital Budgeting with the CAPM and APT”. “How High a Hurdle?”.
Handouts: Notes Week 9, Problem Set 7: Solutions, Problem Set 8 (Ameritrade Case).
Problem Set 7 due.
Class Date: 5/27
Review session: None.

**Week 10 Market Efficiency.**
Information and capital markets.
Handouts: Notes Week 10, Executive Summary of Finance 430, Problem Set 8: Solutions.
Problem Set 8 (Ameritrade Case) due.
Class Date: 6/3
Final review sessions: 6/4, TBA.

**Week 11 Final Exam.**
Final Exam Date: 6/10