DRAFT

Spring 2020
Corporate Finance FNCE 100
Wharton School of Business

Syllabus

Course Description:

This course provides an introduction to the theory, the methods, and the concerns of corporate finance. It forms the foundation for all subsequent courses in finance. The purpose of this course is to develop a framework for analyzing a firm's investment and financing decisions. Since the emphasis is on the fundamental concepts underlying modern corporate finance, the approach will be analytical and rigorous, and some familiarity with accounting, mathematical, and statistical tools is necessary. The topics covered in the course include (1) discounted cash flow (time value of money), (2) capital budgeting, (3) valuation of stocks, (4) valuation of bonds, (5) security market efficiency, (6) corporate financing and optimal capital structure, (7) portfolio analysis and the Capital Asset Pricing Model (CAPM), and (8) options.

Pre-requisites:

Either Econ 10, Econ 001, or Econ 002 must be taken prior to enrolling in FNCE 100.
Either Math 104 or Math 110 must be taken prior to enrolling in FNCE 100.
Both Acct 101 and Stat 101 are required but may be taken concurrently with FNCE 100.

Grading:

There are two midterms and a final exam. The times/dates for the midterms are:

Midterm 1 Thursday, February 27 (in class)

Midterm 2 Tuesday, April 7 (in class)

Final Exam Monday, May 11 6 – 8PM
(Date/time of final exam set by Registrar, which states "The Final Exam Schedule is subject to change.")

In addition, there are six graded homework Assignments. The dates for these Assignments are provided at the end of this syllabus. The weights of the exams and the Assignments for determination of the final course grade are:

Midterm 1	27%
Midterm 2	27%
Final Exam	36%
Graded Assignments	10%
Total	100%

(This set of weights is equivalent to the graded Assignments counting for 10% of the course grade and the exams counting for the remaining 90% of the course grade, where the break-down of the weights for just the three exams are 30% for Midterm 1, 30% for Midterm 2, and 40% for the Final Exam.)

Class Attendance:

Students are responsible for all material presented in class. You must attend the section in which you are enrolled.

Office Hours:

Regular weekly office hours, both for Dr. Jaffe and for the TAs for his sections of FNCE 100, are presented in the file entitled REGULAR WEEKLY OFFICE HOURS AND EMAIL ADDRESSES OF DR. JAFFE and TAs. This file is posted in the Files section of Canvas.

Course Materials (Spring 2020)

The required textbook for this course is **Corporate Finance 12/e** by Ross, Westerfield, Jaffe, and Jordan w/Connect access. The UPENN bookstore sells the loose-leaf version of the book with a Connect access code (ISBN # 978-126416182-9) for $113. Connect is McGraw-Hill's online assignment and assessment software you will use to complete the graded homework assignments and work through ungraded practice problems.

Alternatively, if you are comfortable with learning from an eBook, you can purchase it online for $90 (no print book but includes the complete eBook and access to all course content) via your Canvas account, directions below. Once registered for this option you will see an option to purchase the standard, loose-leaf version of the textbook **Corporate**

Finance 12/e, by Ross, for an additional $60 anytime during the semester, directly from McGraw-Hill. To register for this option, click the **Buy it** option (see the directions below).

How to register for Connect:

Enter your Canvas account and click the **McGraw-Hill Connect** link, then **Begin.**

Enter your e-mail address in the **Join this class** box. If you have either used Connect in a previous course or are using Connect concurrently in another course, use that same e-mail address and password. Otherwise you will be required to create a McGraw-Hill education account.

If you purchased the textbook package from the bookstore, enter the 20-digit code from the Online Access Code for Connect in the **Use Connect code** box and click **Redeem**. You will have Connect access, which includes the eBook and your homework assignments for 180 days. See image below.

Or if you are comfortable with just an eBook, select **Buy It** (valid credit card or Pay Pal required).

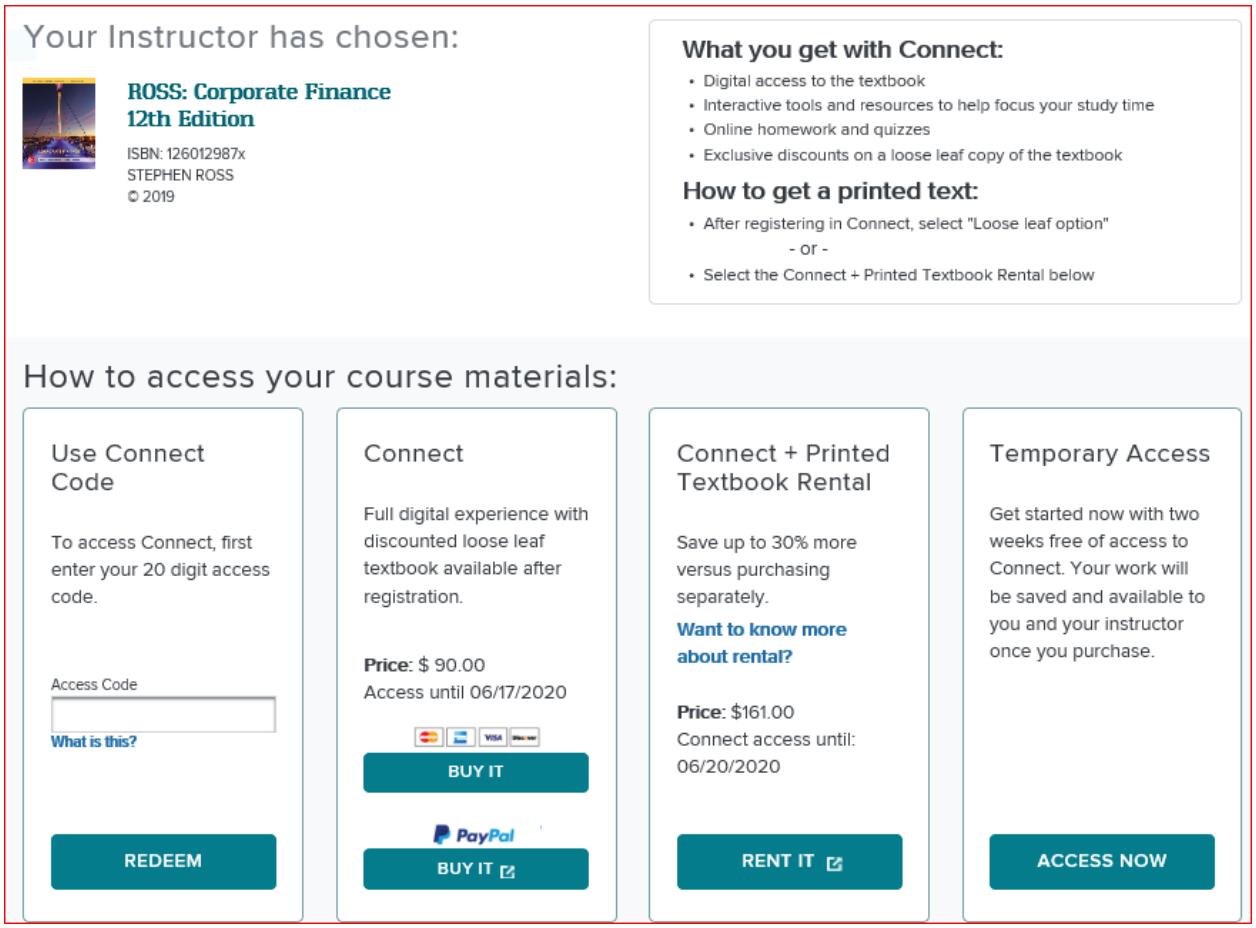
If you are not sure that you will remain in the course or are waiting for the textbook package to arrive at the bookstore, you can select the **Temporary Access** which provides 14 days of complimentary access to Connect and the eBook. At the end of the complimentary access period, you will need to enter either a 20-digit code from the bookstore package or select **Buy It.** You must purchase full Connect access in order to maintain access to course assignments and materials. Any work you complete during the Courtesy Access will be saved.

Technical Support:

If you need Technical Support (forgotten password, wrong code, etc.), please contact the McGraw-Hill Education **Customer Experience Group (CXG)** at:

(800) 331-5094
www.mhhe.com/support

(Please be sure to get your case number for future reference if you call the CXG line.)



Practice Problems:

In addition to the six Homework Assignments, practice problems have been placed on Connect for each chapter we cover. While these problems are ungraded, students are strongly recommended to work through these practice problems.

Readings:

a) Value and Capital Budgeting

Firms and individuals invest in a large variety of assets. The objective of these investments is to maximize the value of the investment. In this part, we will develop tools that can be used to determine the best investment from several alternatives.

Ch. 4 Discounted Cash Flow Valuation
Ch. 5 Net Present Value and Other Investment Rules
Ch. 6 Making Capital Investment Decisions
Ch. 8 Interest Rates and Bond Valuation
Ch. 9 Stock Valuation

b) Capital Structure

As with capital-budgeting decisions, firms seek to create value with their financing decisions. Therefore, firms must find positive NPV financing arrangements. However, to maximize NPV in financial markets, firms must consider taxes, bankruptcy costs, and agency costs. In this part, we will develop the methodology to maximize the value of the financing decision.

Ch. 14 Efficient Capital Markets and Behavioral Challenges
Ch. 16 Capital Structure: Basic Concepts
Ch. 17 Capital Structure: Limited Use of Debt
Ch. 18 Valuation and Capital Budgeting for the Levered Firm

c) Risk and Portfolio Analysis

In this part, we will investigate the relationship between expected return and risk for portfolios and individual assets. This relationship determines the shareholders' required (expected) return and the firm's cost of equity capital. The capital-asset-pricing model is used to measure risk and expected return.

Ch. 10 Risk and Return: Lessons from Market History
Ch. 11 Return and Risk: The Capital-Asset-Pricing Model (CAPM)
Ch. 13 Risk, Cost of Capital, and Valuation

d) Options

In this part, we study both the principles and uses of options.

Ch. 22 Options and Corporate Finance

DETAILED DESCRIPTION OF TOPICS

The first four topics deal with the time value of money and its application to capital budgeting:

TOPIC I – FUTURE AND PRESENT VALUE

This topic examines one of the most important concepts in all of corporate finance, the relationship between $1 today and $1 in the future.

Chapter 4	Compounding – the one period case Discounting – the one period case Compounding beyond one year Discounting beyond one year Compounding more rapidly than once a year
Additional Problem Set #1	Annual percentage rate vs. effective annual yield Continuous compounding Multiperiod valuation Short cuts for multiperiod valuation: Perpetuity Growing perpetuity Annuity Growing annuity Examples Pension fund and Mortgage

TOPIC II – THE RULES OF CAPITAL BUDGETING

This topic examines alternative approaches to capital budgeting.

Chapter 5	Definition of capital budgeting The justification for net present value Independent vs. mutual exclusive projects Simple net present value example Payback example Problems with payback Internal rate of return (IRR) Problems of IRR with independent projects Borrowing vs. lending Multiple rates of return No internal rates of return Problems of IRR with mutually exclusive returns Timing Scale

	Replacement chains

TOPIC III – THE PRACTICE OF CAPITAL BUDGETING

This topic considers the practical application of capital budgeting techniques. Most of the emphasis here is on the determination of cash flows.

Chapter 6	Brief review of capital budgeting Relation between cash flow and accounting income Important considerations in determining cash flows Incremental cash flows Opportunity costs Taxes Stockholders vs. tax books Working capital and capital budgeting Inflation and capital budgeting Interest rates and inflation Cash flow and inflation Discounting: nominal vs. real Direct cash flow effects of purchase and sale of capital assets Initial outlay Depreciation Resale of used asset

TOPIC IV – VALUATION OF STOCKS AND BONDS

This topic uses earlier techniques (present value and future value) to value stocks and bonds.

Chapter 9 (Excl. Sect. 9.5) Additional Prob. Set #2	Stocks Brief discussion of discount rate Relationship between short-term investor and long-term investor Dividends vs. capital gains Estimating growth Difference between income and growth stocks Growth opportunities Price-Earnings ratio Pitfalls in applying dividend discount model and related approaches
Chapter 8, including appendix Additional Prob. Set #3	Bonds Pure discount bonds Coupon bonds Interest rates and bond prices Coupon vs. yield to maturity Term structure of interest rates

	Spot rates and yield to maturity Forward rates Explanation of term structure
	Corporate Debt

The next five topics deal with capital structure decisions.

TOPIC V – EFFICIENT CAPITAL MARKETS AND CAPITAL STRUCTURE

This topic defines efficient capital markets, presents empirical evidence, and shows why timing decisions on capital structure are suspect.

Chapter 14	Definition of efficient capital markets Types of market efficiency Empirical evidence Implications for corporate managers

TOPICS VI AND VII – CAPITAL STRUCTURE WITHOUT TAXES AND WITH TAXES

Topic VI examines the basic issues of capital structure, finishing with the Modigliani-Miller relationship without taxes. Topic VII extends the Modigliani-Miller relationship to the world of corporate taxes.

Chapter 16 (pp. 487 - 503)	The goal of the manager: Maximizing the value of the firm The relationship between firm value and stock price How to maximize value: The traditionalist's approach A counter-example to traditionalist approach
Additional Prob. Set #4	The effect of leverage on value: Modigliani-Miller (MM) Proposition I The effect of leverage on required equity return: Modigliani-Miller (MM) Proposition II Justification for equality between personal and corporate borrowing rate Example when inequality between rates occurs The concept of market value balance sheets
(pp. 503 – 512)	The basic paradigm: The pie chart Why the IRS treats interest more favorable than dividends
Additional Prob. Set #5	The value of the tax shield The value of the levered firm: MM Proposition I The effect of leverage on required equity return: MM Proposition II Market value balance sheets Effect of leverage on stock prices

TOPIC VIII – ADJUSTED PRESENT VALUE, WEIGHTED AVERAGE COST OF CAPITAL AND FLOWS TO EQUITY

This topic shows how the earlier material on capital structure can be used to perform capital budgeting on levered firms.

Chapter 18 (Excluding 18.7)	Adjusted Present Value (APV) The base case: Review of capital budgeting Tax shield Market Value Balance Sheets Weighted average cost of capital (WACC) The cost of equity The cost of debt Calculating WACC Flows to Equity Determining cash flows Determining discount rate EPS and shareholder risk Comparison of WACC and APV The scale enhancing project The known debt level case A suggested guideline Recapitalization LBO Example

TOPIC IX – COSTS OF DEBT AND OPTIMAL CAPITAL STRUCTURE

Topic IX shows why firms must balance the tax benefits of debt with agency costs of debt when considering capital structure.

Chapter 17 (Excluding 17.7 and 17.8)	Relationship between MM theory with taxes and real world behavior The search for costs of debt: Bankruptcy Direct costs of financial distress Indirect costs of financial distress Who bears costs of financial distress Taxes vs. bankruptcy costs: The tradeoff The three determinants of debt level Decision-Making in the real world Agency costs of equity Application to LBOs Bonding the managers How LBOs reduce agency costs The future of LBOs

The next three topics deal with the relationship between risk and returns in its application to the determination of the discount rate in capital budgeting.

TOPIC X – STATISTICAL CONCEPTS AND AN OVERVIEW OF CAPITAL MARKETS

Chapter 10	Preview of the next three topics Review of definition of return Risk statistics for an isolated stock Variance Standard deviation Risk statistics for a diversified investor Covariance Correlation An historical perspective to risk and return

TOPIC XI – RETURN AND RISK

The topic develops the relationship between the expected return on a stock and its risk.

Chapter 11	Statistical parameters for a portfolio Expected return on a portfolio Variance and standard deviation of a portfolio The efficient frontier Efficient set for 2 assets Efficient set for many assets Efficient set and diversification Efficient frontier and riskless borrowing and lending The relationship between risk and return Beta: The measure of risk for individual security in context of a large portfolio Expected return as compensation for beta The capital asset pricing model (CAPM) Empirical evidence on CAPM Determining beta in the real world Formula for calculating beta

TOPIC XII – THE CAPM AND CAPITAL BUDGETING

This topic shows how discount rates for projects can be determined from the relationship between risk and return.

Chapter 13	Review of rationale for choosing a discount rate
(Excl. Sect. 13.11)	Relationship between beta of a stock and beta of a project
	Determinants of beta of a project
	Practical application of CAPM to capital budgeting

TOPIC XIII – OPTIONS

This topic discusses both the principles and uses of options.

Chapter 22	Definition of calls and puts
(Excl. 22.8 – 22.11)	Combinations of options
	Covered calls
	Put-call parity
	Other option strategies

Due Dates for Assignments:

Assignment Number	Due Date
1	Wednesday, February 12, 11:59PM
2	Monday, February 24. 11:59PM
3	Tuesday, March 24, 11:59PM
4	Friday, April 3, 11:59PM
5	Friday, April 17, 11:59PM
6	Tuesday, April 28, 11:59PM

Before doing an Assignment, students should look at "Clarifications on Assignments," which is on CANVAS. The purpose of this document is to clarify wording in a few of the assignment problems.