15.415F COURSE OUTLINE

The lecture dates are approximate. The readings from Brealey-Myers (BM) are required, and the readings from Bodie, Kane, and Marcus (BKM) are recommended but not required.

FEBRUARY 3

Topic 1  Introduction
Corporate financial decisions, overview of the course
Read: BM Chapter 1; BKM Chapters 1-4

FEBRUARY 3, 5, 8, 10

Topic 2  Present Values
Time value of money, net present value, future value, perpetuities, annuities, compounding
Read: BM Chapters 2, 3 (3.1-3.4)

Topic 3  Capital Budgeting under Certainty
Net present value, payback, internal rate of return
Read: BM Chapter 5

FEBRUARY 12, 16, 17, 19  (follow Monday schedule on February 16)

Topic 4  Valuation of Fixed-Income Securities I
Discount bonds, term structure of interest rates, forward interest rates, coupon bonds, bootstrapping spot rates
Read: BM Chapters 3 (3.5), 23 (23.1, 23.2); BKM Chapters 13, 14

Topic 5  Valuation of Fixed-Income Securities II
Duration and interest-rate risk
Read: BM Chapter 23 (23.3); BKM Chapter 15

Topic 6  Valuation of Fixed-Income Securities III
Theories of the term structure, corporate and municipal bonds
Read: BM Chapters 23 (23.4, 23.5), 24; BKM Chapters 13, 14
February 22, 24

**Topic 7**  
Valuation of Common Stocks  
Discounted cash flow model, price-earnings ratios  
**Read:** BM Chapter 4; BKM Chapters 17, 18

February 26, March 1, 3

**Topic 8**  
Measuring Risk  
Variance, covariance, beta, historical returns  
**Read:** BM Chapter 7

**Topic 9**  
Portfolio Theory  
Diversification, portfolio theory, aggregate vs. idiosyncratic risk  
**Read:** BM Chapters 7, 8 (8.1); BKM Chapters 5, 6, 7

March 5, 8

**Topic 10**  
The Capital Asset Pricing Model (CAPM)  
Derivation of the CAPM  
**Read:** BM Chapter 8 (8.2, 8.3, 8.5); BKM Chapters 8, 9

March 10: Review for Midterm Exam

March 12: Midterm Exam

March 15: No class

March 17, 19, 22, 24, 26: Spring Break (Sloan schedule)
March 29, 31, April 2, 5, 7

**Topic 11**  
**Derivatives I**  
Examples of derivatives, trading strategies involving derivatives, uses of derivatives  
**Read:** BM Chapters 20 (20.1), 25 (25.1-25.3); BKM Chapters 19, 21, 22

**Topic 12**  
**Derivatives II**  
Forward and futures prices, arbitrage relations for call and put prices  
**Read:** BM Chapters 20 (20.2), 25 (25.2, 25.3); BKM Chapters 19, 21, 22

**Topic 13**  
**Derivatives III**  
The binomial option pricing model, dynamic replicating strategies  
**Read:** BM Chapter 20 (20.3, 20.4); BKM Chapter 20

**Topic 14**  
**Derivatives IV**  
The Black-Scholes model, pricing exotic options  
**Read:** BM Chapter 20 (20.5, 20.6); BKM Chapter 20

April 9: Diversity Day

April 12, 14

**Topic 15**  
**Capital Budgeting under Uncertainty**  
Risk-adjusted discount rates, measuring betas  
**Read:** BM Chapter 9

**Topic 16**  
**Other Applications of the CAPM**  
Required rate of return, performance evaluation, is $\beta$ dead?  
**Read:** BM Chapters 8 (8.4), 9; BKM Chapters 10, 11, 24

April 16: No class

April 19: Patriots Day
April 21

**Topic 17**  
**Market Efficiency**  
Notions of market efficiency, tests of market efficiency, implications of market efficiency  
**Read:** BM Chapter 13; BKM Chapter 12

April 23, 26, 28

**Topic 18**  
**Capital Structure I**  
Debt vs. equity, MM theorem  
**Read:** BM Chapter 17, UST

**Topic 19**  
**Capital Structure II**  
Taxes and bankruptcy costs, agency and information costs  
**Read:** BM Chapter 18

April 30, May 3, 5, 7

**Topic 20**  
**Valuation I**  
WACC and APV methods  
**Read:** BM Chapter 19

**Topic 21**  
**Valuation II**  
Valuation in practice  
**Read:** American Chemical

**Topic 22**  
**Valuation III**  
Valuation in practice  
**Read:** American Chemical

May 10: **Open topic, most likely International Finance**

May 12: **Review for Final Exam**