15.415E 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 2

Topic 1 **Introduction**

Corporate financial decisions, overview of the course

Read: BM Chapter 1; BKM Chapters 1-4

February 2, 4, 5, 9

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 11, 12, 18, 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 23, 25

Topic 7 **Valuation of Common Stocks**

Discounted cash flow model, price-earnings ratios

Read: BM Chapter 4; BKM Chapters 17, 18

February 26, March 2, 4

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, 9

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 11: Review for Midterm Exam

March 12: Midterm Exam

March 16: No class

March 18, 19, 23, 25, 26: Spring Break (Sloan schedule)

March 30, April 1, 2, 6, 8

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 13, 15

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 β dead?

Read: BM Chapters 8 (8.4), 9; BKM Chapters 10, 11, 24

April 16: No class

April 20: Patriots Day

April 23

Topic 17 **Market Efficiency**

Notions of market efficiency, tests of market efficiency, implications of market efficiency

Read: BM Chapter 13; BKM Chapter 12

April 24, 27, 29

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 4, 6, 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 11: Open topic, most likely International Finance

May 13: Review for Final Exam