SIMON FRASER UNIVERSITY
Faculty of Business Administration

BUS 316
INTRODUCTION TO DERIVATIVE SECURITIES

DETAILED COURSE SYLLABUS

Prof. Geoffrey Poitras (email: poitras@sfu.ca, website: www.sfu.ca/~poitras)
Phone: 291-4071 Office: WMX 3333

Required Text:
G. Poitras, *Risk Management, Speculation and Derivative Securities* (Academic Press, 2002)

Supplementary Text:
D. Chance, ***An Introduction to Derivatives and Risk Management*** (Harcourt, 2001)

Other Supplementary Materials:
Lecture notes and some supplementary readings will be posted on the class webpage (www.sfu.ca/~poitras/BUS316.htm). Some materials are also on reserve in the Library.

Course Objectives:
This course provides both a theoretical and practical introduction to "free standing" derivative securities: forward, futures, option and swap contracts. Theoretical topics include pricing of derivatives by arbitrage and the Black-Scholes option pricing formula. Practical topics include the implementation of speculative trading strategies, the accounting treatment of derivatives securities transactions and an introduction to corporate risk management using derivative securities.

NOTE: Readings and assignments with a (*) are required.

INTRODUCTION TO
DERIVATIVE SECURITIES

Week 1 Introduction

1.1 Review of Class Materials
1.2 Math/Statistics Pretest
1.3 What are Derivative Securities?
1.4 Basic Definitions and Notation

Readings: *DSA, Sec. 1.1.

Week 2 History of Derivative Securities TRADE #1

2.1 Early History
2.2 19th and Early 20th Century Developments
2.3 The Modern Rennaisance
2.4 Derivative Debacles

Readings: *DSA 1.2, 1.3; *Poitras (2000) Ch. 9 (download from class webpage).

Week 3: **Institutional and Theoretical Background**

3.1 Exchanges and Available Contracts
3.2 Regulations and Accounting
3.3 Profit Functions
3.4 Margin Requirements

Readings: *DSA Sec. 1.4, 1.5, 2.1

Week 4 Hedgers, Speculators and Arbitrageurs TRADE #2

4.1 Hedgers and Speculators
4.2 Basis Relationships
4.3 Absence of Arbitrage
4.4 Basic Speculative Trading Strategies

Readings: *DSA, Sec. 3.1, 3.2 and 3.3

Week 5 Arbitrage and Forward Prices

5.1 Cash and Carry Arbitrage
5.2 Covered Interest Arbitrage
5.3 Stock Index Arbitrage

Readings: *DSA, Sec. 4.12, 4.4

Week 6 Hedging and Risk Management TRADE #3

6.1 Risk Management or Speculation?
6.2 Transactions Hedging
6.3 Optimal Hedging

6.4 Hedging Corporate Foreign Exchange Exposure

Readings: *DSA, Sec. 2.3, 6.1, 6.2

Week 7

IN-CLASS MIDTERM; NO ASSIGNMENTS

Week 8 Introduction to Options TRADE #4

8.1 Basic Distribution Free Properties
8.2 Expiration Date Profit Diagram
8.2 Spread Trades and Strategies

Week 9 Option Properties

9.1 Replication Trades
9.2 Put-Call Parity
9.3 The Early Exercise Decision

Readings: *DSA, Sec. 7.1, 7.2, 7.3; Jarrow and Turnbull Ch. 3; Hull-I, Ch. 8 and 9.

Week 10 Option Valuation: I TRADE #5

10.1 Hedging with Options
10.2 Binomial Option Pricing Model
10.3 Extending the BOP Model

Readings: *DSA Sec. 8.2; *Class Notes on the Binomial Model (download from class webpage)

Week 11 Option Valuation II

11.1 The Black-Scholes Model
10.1 Extending the Black-Scholes Model
10.2 Currency Options

Readings: *DSA Sec. 8.4

Week 12 Applications of Options Valuation Techniques TRADE #6 (CLOSEOUT)

12.1 Portfolio Management: Delta, Theta, Gamma
12.2 Spread Trades and Strategies
12.3 Portfolio Insurance
12.4 Exotic Options

Readings: *DSA Sec. 9.1, 9.2, 9.3; *Class Notes on Exotic Options (download from class webpage).

Week 13 ROUNDUP AND REVIEW FOR FINAL EXAM

NO ASSIGNMENTS OR TUTORIALS