COURSE OUTLINE

FSMA420 – FINANCIAL DERIVATIVES

Prepared By: Dr. Chengru Hu
A. **TITLE:** Financial Derivatives

B. **COURSE NUMBER:** FSMA420

C. **CREDIT HOURS:** 3

D. **WRITING INTENSIVE COURSE:** No

E. **COURSE LENGTH:** 15 weeks

F. **SEMESTER(S) OFFERED:** Spring

G. **HOURS OF LECTURE, LABORATORY, RECITATION, TUTORIAL, ACTIVITY:**
   3 lecture hours per week

H. **CATALOG DESCRIPTION:** This course examines the dramatic growth of the derivatives markets in the last two decades. This growth, triggered by deregulation, globalization, increased uncertainty and volatility, has empowered enterprises to successfully manage their financial price risk. Topics to be covered include: the use of derivatives for risk protection, cash flow modification, arbitrage, and investment.

I. **PRE-REQUISITES/CO-REQUISITES:** (List courses or indicate “none”)
   a. Pre-requisite(s): Junior level status in Financial Services or permission of the instructor
   b. Co-requisite(s): none

J. **GOALS (STUDENT LEARNING OUTCOMES):**
   By the end of this course, the student will be able to:

   1. Evaluate various derivative instruments utilized by financial managers.
   2. Analyze how and where derivatives may be utilized to protect against risk.
   3. Demonstrate how derivatives may be used to modify cash flows emanating from or required for a specific instrument or project.
   4. Evaluate and apply the concept of arbitrage.
   5. Utilize derivatives for investment purposes.
   6. Evaluate, analyze and compare the solution to a specific problem with and without the use of derivatives.

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<th>Course Objective</th>
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<td>a. Evaluate various derivative instruments utilized by financial managers</td>
<td>2. Crit. Thinking</td>
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<td>3. Prof. Competence</td>
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<td>b. Analyze how and where derivatives may be utilized to protect against risk</td>
<td>2. Crit. Thinking</td>
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<td>c. Demonstrate how derivatives may be used to modify cash flows emanating from or</td>
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<td>d. Evaluate and apply the concept of arbitrage</td>
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<td>e. Utilize derivatives for investment purposes</td>
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<td>f. Evaluate, analyze and compare the solution to a</td>
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K. **TEXTS:**


M. **EQUIPMENT:** SUNY Canton e-mail address and access to internet is required for research portions of the course requirements.

N. **GRADING METHOD:** A-F

O. **MEASUREMENT CRITERIA/METHODS:**

- Exams
- Quizzes
- Homework
- Participation

P. **DETAILED COURSE OUTLINE:**

I. Structure of option pricing
   A. Regulated Exchanges
   B. Over the Counter Markets
   C. Stock, Interest Rate Options

II. Principles of Option Pricing
   A. Black-Scholes Model
   B. Binomial Pricing

III. Basic Option Principles and Strategies
   A. Calls
   B. Puts
   C. Spreads
   D. Combinations
   E. Hedging

IV. Advanced Option Strategies
   A. Synthetics
   B. Structured Products

V. Greeks
   A. Delta
   B. Gamma
   C. Theta

VI. Fundamentals of the Future Markets
   A. Regulated Futures Contracts
   B. Stock Index Futures
   C. Interest Rate Futures
   D. Commodity Futures
E. Foreign Exchange Futures

VII. Future Contracts and Portfolio Management
   A. Hedging techniques
   B. Alternative asset allocation

VIII. Interest Rate Swaps
   A. Interest Rate Options
   B. Interest Rate Swap Pricing

IX. Other Derivative Assets

X. Introduction to Financial Engineering
   A. Contemporary Issues
   B. Risk Management

Q. LABORATORY OUTLINE: None.