



## Course Specifications

|                      |   |
|----------------------|---|
| <b>Course Title:</b> | Financial Derivative Securities Valuation |
| <b>Course Code:</b>  | FIN 465                                   |
| <b>Program:</b>      | BSc in Finance                            |
| <b>Department:</b>   | Finance                                   |
| <b>College:</b>      | College of Business Administration        |
| <b>Institution:</b>  | Prince Sultan University                  |

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## A. Course Identification

|   |   |
|---|---|
| <b>1. Credit hours:</b>                               | <b>3</b>  |
| <b>2. Course type</b>                                 |   |
| a.  | University <input type="checkbox"/> College <input type="checkbox"/> Department <input checked="" type="checkbox"/> Others <input type="checkbox"/> |
| b.  | Required <input type="checkbox"/> Elective <input checked="" type="checkbox"/>  |
| <b>3. Level/year at which this course is offered:</b> | <b>Year4, Semester 1</b>  |
| <b>4. Pre-requisites for this course (if any):</b>    | <b>FIN 320</b>  |
| <b>5. Co-requisites for this course (if any):</b>     | <b>None</b>   |

## 6. Mode of Instruction (mark all that apply)

| No | Mode of Instruction   | Contact Hours | Percentage |
|----|-----------------------|---------------|------------|
| 1  | Traditional classroom | 45            | 100%       |
| 2  | Blended               | -             | -          |
| 3  | E-learning            | -             | -          |
| 4  | Distance learning     | -             | -          |
| 5  | Other                 | -             | -          |

## 7. Contact Hours (based on academic semester)

| No | Activity               | Contact Hours   |
|----|------------------------|-----------------|
| 1  | Lecture                | 42              |
| 2  | Laboratory/Studio      | -               |
| 3  | Tutorial               | -               |
| 4  | Others ( office hours) | 3               |
|    | <b>Total</b>           | <b>45 hours</b> |

## B. Course Objectives and Learning Outcomes

### 1. Course Description

This course provides students with the techniques, concepts and applications relevant to financial derivative securities. Topics include analysis of various types of options and strategies of options, trading, principles of trading commodities on future markets, speculation and hedging using derivative securities.

### 2. Course Main Objective

- Understanding the main techniques and concepts related to derivative securities
- Understanding how options, futures and forward contracts are used for hedging and speculation
- Use the main financial models to evaluate options and other contracts.

### 3. Course Learning Outcomes

| CLOs |  | Aligned PLOs |
|------|--|--------------|
| 1    | <b>Knowledge and Understanding</b>   |              |
| 1.1  | CLO1 - To describe the nature of the derivatives securities, Futures, Forwards, Options and Swaps and how are they different that other financial instruments. | PLO1         |



| CLOs     |  | Aligned PLOs               |
|----------|--|----------------------------|
| 1.2      | CLO2 - To describe the use of financial derivatives securities in speculation, hedging and arbitrage.  | PLO1                       |
| 1.3      | CLO3 – To describe the characteristics of each of the derivatives securities in now days business environment and how can they help to improve the performance of the firm         | PLO1                       |
| <b>2</b> | <b>Skills :</b>  |                            |
| 2.1      | CLO4 - To evaluate the possible hedging strategies using different derivatives securities to reduce risk of firms.   | PLO2                       |
| 2.2      | CLO5 - To evaluate the possible speculation and arbitrage strategies using different derivatives securities to increase profitability at both the individual level and firm level. | PLO2-<br>PLO5a<br>PLO5b    |
| 2.3      | CLO6 - To analyze the payoff of each derivatives securities from the point of view of both the issuer and the holder.  | PLO2-<br>PLO5a             |
| <b>3</b> | <b>Values:</b>   |                            |
| 3.1      | Able to understand, analyze and communicate ideas and thoughts in an interactive setting.  | PLO4a –<br>PLO4b,<br>PLO5a |
| 3.2      | Able to utilize softwares and data analysis methods to analyze and present decision suggestions  | PLO3, 5b                   |

### C. Course Content

| No           | List of Topics                                       | Contact Hours |
|--------------|--|---------------|
| 1            | Topic 1: Introduction                                | 5             |
| 2            | Topic 2: Mechanics of Futures Markets                | 5             |
| 3            | Topic 3: Chapter 3: Hedging Strategies Using Futures | 6             |
| 4            | Topic4: Interest Rates                               | 4             |
| 5            | Topic 5: Determination of Forward and Futures Prices | 6             |
| 6            | Topic 6: Mechanics of Options Markets                | 5             |
| 7            | Topic 7 Properties of Stock Options                  | 4             |
| 8            | Topic 8: Introduction to Binomial Trees              | 5             |
| 9            | Topic 9: Swaps                                       | 5             |
| <b>Total</b> |  | <b>45</b>     |

### D. Teaching and Assessment

#### 1. Alignment of Course Learning Outcomes with Teaching Strategies and Assessment Methods

| Code       | Course Learning Outcomes   | Teaching Strategies   | Assessment Methods          |
|------------|--|---|-----------------------------|
| <b>1.0</b> | <b>Knowledge and Understanding</b>   |   |                             |
| 1.1        | To describe the nature of the derivatives securities, Futures, Forwards, Options and Swaps and how are they different that other financial instruments | Lectures Theoretical Discussions, Multimedia Real life Examples Web based cases | Quiz H.W In class questions |



| Code       | Course Learning Outcomes   | Teaching Strategies   | Assessment Methods                               |
|------------|--|---|--|
| 1.2        | To describe the use of financial derivatives securities in speculation, hedging and arbitrage.   | Lectures Theoretical Discussions, Multimedia Real life Examples Web based cases | Exam Quiz H.W In class questions                 |
| 1.3        | To describe the characteristics of each of the derivatives securities in now days business environment and how can they help to improve the performance of the firm. | Lectures Theoretical Discussions, Multimedia Real life Examples Web based cases | Quiz H.W In class questions                      |
| <b>2.0</b> | <b>Skills</b>  |   |  |
| 2.1        | To build hedging, speculations and arbitrage strategies using various types of derivatives.  | Lectures Real life Examples Web based cases                                     | Exam Quiz H.W In class problem solving questions |
| 2.2        | To analyze the payoff of each derivatives securities from the point of view of both the issuer and the holder.   | Lectures Real life Examples Web based cases                                     | Exam Quiz H.W In class problem solving questions |
| 2.3        | To measure the value of the derivatives securities using the most common approaches.   | Lectures Real life Examples Web based cases                                     | Exam Quiz H.W In class problem solving questions |
| 2.4.       | Able to understand, analyze and communicate ideas and thoughts in an interactive setting   | Real life Examples Web based cases  | Exam Quiz H.W In class problem solving questions |
| <b>3.0</b> | <b>Values</b>  |   |  |
| 3.1        | Able to utilize softwares and data analysis methods to analyze and present decision suggestions.   | Real life Examples Web based cases  | Exam Quiz H.W In class problem solving questions |

## 2. Assessment Tasks for Students

| # | Assessment task*                                  | Week Due           | Percentage of Total Assessment Score |
|---|---|--------------------|--------------------------------------|
| 1 | Quizzes 1 and 2                                   | Week 4 and Week 10 | 10%                                  |
| 2 | Assignments                                       | Ongoing            | 5%                                   |
| 3 | Class participation                               | Ongoing            | 5%                                   |
| 4 | Basic Research, Reading and analysis (Group work) | Week 15            | 10%                                  |
| 5 | Major Exams                                       | Week 5 and Week 11 | 30%                                  |
| 6 | Final Examination                                 | Week 16            | 40%                                  |

\*Assessment task (i.e., written test, oral test, oral presentation, group project, essay, etc.)

## E. Student Academic Counseling and Support

**Arrangements for availability of faculty and teaching staff for individual student consultations and academic advice:**

06 office hours. Students can communicate with their instructor through email and LMS.



## F. Learning Resources and Facilities

### 1. Learning Resources

|                                       |   |
|---------------------------------------|---|
| <b>Required Textbooks</b>             | <u>Main Textbook:</u> John C. Hull, <b>Fundamentals of Futures and Options Markets, Global Edition</b> , 8 <sup>th</sup> edition, 2017, Pearson Publications, ISBN-10: 1292155035, ISBN-13: 9781292155036 |
| <b>Essential References Materials</b> | <u>Recommended:</u> Sundaram and Das, <b>Derivatives Principles and Practice</b> , 2nd edition, McGraw-Hill Irwin, 2015,  |
| <b>Electronic Materials</b>           | Web Sites: www.google.com/finance; www.cnbc.com; finance.yahoo.com; www.investopedia.com  |
| <b>Other Learning Materials</b>       |   |

### 2. Facilities Required

| Item   | Resources                             |
|--|---------------------------------------|
| <b>Accommodation</b><br>(Classrooms, laboratories, demonstration rooms/labs, etc.)   | Traditional classroom                 |
| <b>Technology Resources</b><br>(AV, data show, Smart Board, software, etc.)  | data show, Smart Board, DerivaGEM4.0, |
| <b>Other Resources</b><br>(Specify, e.g. if specific laboratory equipment is required, list requirements or attach a list) | Traditional classroom                 |

## G. Course Quality Evaluation

| Evaluation Areas/Issues                  | Evaluators                                | Evaluation Methods         |
|--|---|----------------------------|
| Effectiveness of teaching and assessment | Students                                  | Students evaluation survey |
| Extent of Achievement of CLOs            | Students                                  | Course Exit Survey         |
| Quality of Learning/ Assessment          | Chairperson/Peers<br>Class<br>Observation | Class Observation          |

**Evaluation areas** (e.g., Effectiveness of teaching and assessment, Extent of achievement of course learning outcomes, Quality of learning resources, etc.)

**Evaluators** (Students, Faculty, Program Leaders, Peer Reviewer, Others (specify))

**Assessment Methods** (Direct, Indirect)

## H. Specification Approval Data

|                            |                           |
|----------------------------|---------------------------|
| <b>Council / Committee</b> | <b>Department Council</b> |
| <b>Reference No.</b>       | <b>AY2022-23/3/221/3</b>  |
| <b>Date</b>                | <b>22/11/2022</b>         |

