**UNIVERSITI TEKNOLOGI MARA**

**ASC520: FINANCIAL ECONOMICS I**

| Course Name (English) | FINANCIAL ECONOMICS I  APPROVED |
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| Course Code | ASC520 |

| MQF Credit | 4 |
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| Course Description | This course introduces the derivative market products. It emphasizes the importance of the theory, pricing, strategies involve and derivation of formula in business applications. |
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| Transferable Skills | Demonstrate ability to apply creative, imaginative and innovative thinking and ideas to problem solving.<br>Demonstrate ability to investigate problems and provide effective solutions.<br>Demonstrate ability to analyse issues/problems from multiple angles and make suggestions. |
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| Teaching Methodologies | Lectures, Tutorial |
|---|---|

| CLO | | |
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| | CLO1 | Explain the basics term of financial markets structure. |
| | CLO2 | Create and describe the different types of derivative instruments and its strategies. |
| | CLO3 | Apply the concept of derivative pricing models, types, strategies, rational valuation and computation of derivative securities. |
| | CLO4 | Formulate and use the binomial option pricing model to compute the option prices for a variety of underlying assets. |
| | CLO5 | Analyse and calculate the price of European options using the Black Scholes formula for different underlying assets and measure the behaviour of the option price with a varying Option Greeks. |

| Pre-Requisite Courses | No course recommendations |
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| Topics |
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| **1. Derivatives Markets**<br>1.1) Introduction to Derivatives<br>1.2) An Introduction to Forwards and Options<br>1.3) Insurance, Collar and Other Strategies<br>1.4) Introduction to Risk Management (just for SOA)<br>1.5) Financial Forwards and Futures<br>1.6) Swaps (Just for SOA) |
| **2. Parity and other Option Relationship**<br>2.1) Put Call Parity<br>2.2) Generalized Parity and Exchange Options<br>2.3) Comparing Option with Respect to Style, Maturity, and Strike. |
| **3. Binomial Option Pricing I**<br>3.1) A One-Period Binomial Tree<br>3.2) Two or More Binomial Periods<br>3.3) Put Options<br>3.4) American Options<br>3.5) Options on Other Assets |
| **4. Binomial Option Pricing II**<br>4.1) Understanding Early Exercise<br>4.2) Understanding Risk Neutral Pricing<br>4.3) The Binomial Tree and Lognormality<br>4.4) Estimating Volatility |

**5. The Black-Scholes Formula**
5.1) Introduction to Black Scholes
5.2) Applying the Formula to Other Assets
5.3) Option Greeks
5.4) Profit Diagrams Before Maturity
5.5) Implied Volatility

| Assessment Breakdown | % |
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| Continuous Assessment | 40.00% |
| Final Assessment | 60.00% |

| Details of Continuous Assessment | Assessment Type | Assessment Description | % of Total Mark | CLO |
|---|---|---|---|---|
| | Assignment | Individual assignment CLO5 10% | 10% | CLO5 |
| | Quiz | Quiz 1 CLO1 2% | 2% | CLO1 |
| | Quiz | Quiz 1 CLO2 3% | 3% | CLO2 |
| | Test | Test 1 CLO2 6% | 6% | CLO2 |
| | Test | Test 2 CLO4 6% | 6% | CLO4 |
| | Test | Test 1 CLO3 6% | 6% | CLO3 |
| | Test | Test 2 CLO5 7% | 7% | CLO5 |

| Reading List | Recommended Text | • **McDonald, R.L. 2015, *Derivatives Markets*, 4 Ed., Boston: Pearson Education Inc** |
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| | Reference Book Resources | • **Hull, J. C. 2015, *Option, futures and other derivatives*, 9 Ed., New Jersey: Pearson Prentice Hall** |
| | | • **Elton, E. J.; Gruber, M. J.; Brown, S. J. et 2014, *Modern portfolio theory and investment analys*, 9 Ed., USA: John Wiley** |
| | | • **Hull, J. C. 2017, *Fundamentals of Futures and Options Markets*, 9 Ed., Pearson** |
| | | • **Gottesman, A. 2016, *Derivatives Essentials: An Introduction to Forwards, Futures, Options and Swaps*, 1 Ed., Wiley Finance** |
| | | • **Cuthbertson, K., O'Sullivan, N. et. al. 2019, *Derivatives Theory and Practice*, 1 Ed., Wiley** |
| **Article/Paper List** | This Course does not have any article/paper resources | |
| **Other References** | This Course does not have any other resources | |