

<b>Course Title</b>	<b>Financial Economics</b>
Course Code	ECO 431
Pre-Requisite	NA
Degree Program (BS / MS / PhD)	BS

### **Course Objectives**

This course covers the economics of financial decisions and markets of individuals and firms including their investment decisions. It includes a critical discussion of the efficient markets theory, an overview of quantitative methods in finance, considers risk aversion in the context of utility theory, examines portfolio theory, the Capital Asset Pricing Model and multi-factor asset pricing models, covers bond pricing, duration and convexity, behavioural finance theory, an introduction to the economics of financial crises, and introduces the top down approach to investment decisions. The emphasis is on a thorough coverage of modern finance theory as applied to investment analysis, balanced with a consideration of new developments in the discipline, and of the application of both old and new theoretical perspectives to understand the current environment for financial investment decisions.

### **Learning Outcomes**

Students will be able to have:

1. an understanding of and ability to discuss critically the efficient markets
2. an understanding at an introductory level of quantitative methods in finance
3. an understanding and ability to discuss critically portfolio theory, A Capital Asset Pricing Model and multi-factor asset pricing models
4. the ability to apply the theory of bond pricing, duration and convexity
5. the ability to apply theories of the term structure of interest rates

### **Contents**

<b>Week</b>	<b>Topics</b>
<b>1</b>	<b>Finance</b>  Capital Markets and Capital Market Theory

	<p>Financial Management</p> <p>Investment Management</p>
2 & 3	<p><b>Mathematics of Finance</b></p> <p>Importance of Time Value of Money</p> <p>Determining the Future and Present Values</p> <p>Time Value of a Series of Cash Flows</p> <p>Valuing Cash Flows with different Time Patterns</p> <p>Loan Amortization</p> <p>Calculation of Interest rates and yields.</p>
4	<p><b>Basis of Financial Analysis</b></p> <p>Financial Ratio Analysis</p> <p>Cash Flow Analysis</p> <p>Usefulness of Cash Flows in Financial Analysis</p>
5 & 6	<p><b>The Financial System</b></p> <p>Financial Assets / Financial Instruments</p> <p>Financial Markets</p> <p>Financial Intermediaries</p> <p>Regulators of Financial Activities</p> <p>Classification of Financial Markets</p> <p>Market Participants</p>
7 & *	<p><b>Interest Rate Determination and the Structure of Interest Rates</b></p> <p>Theories about Interest Rate Determination</p>

	<p>The Federal Reserve System and the Determination of Interest Rates</p> <p>The Structure of Interest rates</p> <p>Term structure of interest rates</p>
9	<b>Midterm</b>
10	<p><b>Asset Valuation: Basic Bond and Stock Valuation Models</b></p> <p>Valuing Bonds</p> <p>Duration and convexity of bonds</p> <p>Valuing New Issues: IPOs</p> <p>Valuation of Common Stock using Dividend Discount Models</p>
11 & 12	<p><b>Asset Valuation: The Theory of Asset Pricing</b></p> <p>Efficient Markets Theory</p> <p>Anomalies of Efficient Market Hypothesis</p> <p>Characteristics of Asset Pricing Model</p> <p>Capital Asset Pricing Models</p> <p>Arbitrage Pricing Model Theory</p>
13-14	<p><b>Derivative Markets</b></p> <p>Future and Forward Contracts</p> <p>Options</p> <p>Swaps</p> <p>Cap and Floor Agreements</p> <p>Binomial Model</p> <p>Black-Scholes Model</p>

15	Cryptocurrencies and Artificial Intelligence in Finance
16	Green finance
17	<b>Buffer Week</b>
18	<b>Final Examination</b>

**Readings List (including Books, Journals, Papers Articles, & Websites whatever is applicable)**

- a. Fundamentals of Financial Management (2008) by James C. Van Horne and John Martin Wachowicz, Prentice Hall, 13/e.
- b. Capital Markets, Financial Management and Investment Management (2009) by Frank J. Fabozzi and Pamela A. Peterson Drake, John Wiley & Sons Inc.
- c. Empirical Finance – Modeling and Analysis of Emerging Financial and Stock Markets (2005) by Islam and Watanapalchaikul, Springer Inc.
- d. Investments 5<sup>th</sup> Edition (2004) by Bodie, Kane and Marcus, New York: The McGraw Hill Companies, Inc.
- e. Financial Economics (2010) by Thorsten Hens and Marc. Oliver Rieger, Springer Inc.