

## FIN 3102B: INVESTMENT ANALYSIS AND PORTFOLIO MANAGEMENT

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Session: Semester 1, 2016/2017

### Course objectives

The objective of this course is to develop key concepts in investment theory from the perspective of a portfolio manager, and to apply such concepts using real financial data. Topics to be covered include portfolio optimization and asset pricing theories, as well as their applications to problems in modern financial practice. This course also explores the application of various financial instruments in investment management and introduces the basic techniques of portfolio performance evaluation.

### Prerequisites

- Finance (FIN2004)
- Statistics (BZ1008/ST1131A)
- Basic understanding of Excel Spreadsheet functions
- Financial calculator

### Course textbook

The reference noted below has been placed in the RBR section in HSSML:

**Bodie, Zvi, Alex Kane, Alan Marcus and Ravi Jain, 2014, *Investments: Asia Global Edition*, McGraw Hill, ISBN 978-007-126228-6.**

All other course materials, journal articles, data files, and information pertaining to FIN3102 will be posted on the IVLE. You are expected to check any updates and files on the IVLE system on the regular basis. You are encouraged to use IVLE discussion forum for your questions and comments. I encourage you to read regularly the financial news from Wall Street Journal or the Financial Times.

### Assessment Methods

Class Participation	10%
Cases	25%
Test 1 (28 September 2016, 9am – 11am)	30%
Test 2 (9 November 2016, 9am – 11am)	30%
<u>Ethics</u>	<u>5%</u>
<b>Total</b>	<b>100%</b>

### **(i) Class participation (10%)**

Credits will be given for active participation in class. (*Warning: Zero mark will be given for non-participation throughout the course.*) Students will also be prompted with questions on the additional assigned readings from the financial times, the economists, and the Bloomberg.

### **(ii) Group Projects on Cases (25%)**

There are THREE CASES in this course. Each class will form 9 groups. Group 1, 2, and 3 are to complete a 10-page case analysis report including appendix in **MICROSOFT WORD** document (with font size 12) and be prepared to present the case analysis in class for CASE 1. Group 4, 5 and 6 are to do the same for CASE 2. Group 7, 8 and 9 are to do the same for CASE 3. The case report shall be submitted through IVLE. When uploading the reports, please label the file in the following format: "B1\_Group1\_Case 1" with the relevant section number starting with letter "B" and Group Number and Case No.

#### CASE 1:

It will be distributed on **24 August 2016 (Wednesday)** after 2pm via IVLE. The case reports from Group 1, 2 and 3 are due on **6 September 2016 (Tuesday) by 2pm to IVLE.**

#### CASE 2:

It will be distributed on **28 September 2016 (Wednesday)** after 2pm via IVLE. The case reports from Group 4, 5 and 6 are due on **11 October 2016 (Tuesday) by 2pm to IVLE.**

#### CASE 3:

It will be distributed on **19 October 2016 (Wednesday)** after 2pm via IVLE. The case reports from Group 7, 8 and 9 are due on **1 November 2016 (Tuesday) by 2pm to IVLE.**

### **(iii) Test 1 (30%)**

A 2-hour closed-book test will be held on **28 September 2016 (Week 7)** from **9am to 11am**. You are allowed to bring a financial calculator and one-sided A4-sized Note for Test 1. The contents of Test 1 cover everything till Week 6. The format of Test 1 will be MCQs (100%).

### **(iv) Test 2 (30%)**

A 2-hour closed-book test will be held on **9 November 2016 (Week 13)** from **9am to 11am**. You are allowed to bring a financial calculator and two-sided A4-sized Note for Test 2. The contents of Test 2 cover everything taught in the entire course. The format of Test 2 will be MCQs (40%) and Open-ended Questions (60%).

### **(v) Investment Ethics (5%)**

There will be online materials for study of Ethics and a quiz on the materials in IVLE. This is in compliance to NUS being a CFA affiliated institution. More details will be posted on IVLE.

### **Consultation Hours**

Wednesday 2:00pm – 3:30pm

## **Main Topics:**

### **Topic 1: Introduction (BKMJ Chapter 1 to 5)**

1. Investment environment
2. Different asset classes
3. How securities are traded
4. Investment companies
5. Risk & Return

### **Topic 2: Portfolio Theory (BKMJ Chapter 6 to 7)**

1. Determine risk tolerance
2. Measure portfolio risk and return
3. Identify investment opportunity set
4. Optimal asset allocation

### **Topic 3: Equilibriums Asset Pricing Models (BKMJ Chapter 8, 9 & 10)**

1. CAPM
2. APT
3. Applications

### **Topic 4: Portfolio Management (BKMJ Chapter 24)**

1. Passive investment
2. Active investment
3. Performance measure

### **Topic 5: Efficient Market Hypothesis and its Applications (BKMJ Chapter 11 & 12)**

1. Forms of Market Efficiency
2. Tests of Market Efficiency
3. Implications of Efficient Capital Markets

### **Topic 6: Security Analysis (BKMJ Chapter 17 & 18)**

1. Macroeconomic Analysis
2. Industry Analysis
3. Fundamental Analysis
4. Technical Analysis

### **Topic 7: Bond Investment (BKMJ Chapter 14, 15 & 16)**

1. Bond features
2. Bond pricing and yields
3. Interest rate determinants
4. Bond pricing with yields
5. Term structure theories
6. Determine risk tolerance
7. Measure portfolio risk and return
8. Identify investment opportunity set
9. Optimal asset allocation

### **Topic 8: Investment in Singapore**

## **Schedule:**

Week 1: Topic 1

Week 2: Topic 2

Week 3: Topic 3

Week 4: Topic 4

Week 5: Case 1 Discussion

Week 6: Topic 5

Recess Break

Week 7: Test 1 on **28 September (Wednesday)** from 9am to 11am

Week 8: Topic 6

Week 9: Case 2 Discussion

Week 10: Topic 7 part 1

Week 11: Topic 7 part 2 and Topic 8

Week 12: Case 3 Discussion

Week 13: Test 2 on **9 November 2016 (Wednesday)** from 9am to 11am

## **Academic Honesty & Plagiarism**

Academic integrity and honesty is essential for the pursuit and acquisition of knowledge. The University and School expect every student to uphold academic integrity & honesty at all times. Academic dishonesty is any misrepresentation with the intent to deceive, or failure to acknowledge the source, or falsification of information, or inaccuracy of statements, or cheating at examinations/tests, or inappropriate use of resources.

Plagiarism is “the practice of taking someone else's work or ideas and passing them off as one's own” (The New Oxford Dictionary of English). The University and School will not condone plagiarism. Students should adopt this rule - You have the obligation to make clear to the assessor which is your own work, and which is the work of others. Otherwise, your assessor is entitled to assume that everything being presented for assessment is being presented as entirely your own work. This is a minimum standard. In case of any doubts, you should consult your instructor.

Additional guidance is available at:

<http://www.nus.edu.sg/registrar/adminpolicy/acceptance.html#NUSCodeofStudentConduct>

Online Module on Plagiarism:

<http://emodule.nus.edu.sg/ac/>

<b>COURSE ACTIVITY SCHEDULE</b>			
<b>Subject</b>	<b>Description</b>	<b>Take-Home Exercises</b>	<b>Submission Dates</b>
<b>WEEK 1 (10 August 2016)</b>			
<b>Introduction</b> BKMJ 1-4	1. Investment environment 2. Different asset classes 3. How securities are traded 4. Investment companies	BKMJ 5: Concept Check Questions (CCQ), 12; CFA 3-6.	Form 9 groups and submit names to Professor
<b>Risk &amp; Return</b> BKMJ 5.4, 5.5, 5.8	5. Risk & Return	Read BKMJ 6 & 7	
<b>WEEK 2 (17 August 2016)</b>			
<b>Portfolio Theory</b> BKMJ 6 & 7.1-7.4	1. Determine risk tolerance 2. Measure portfolio risk and return 3. Identify investment opportunity set 4. Optimal asset allocation	BKMJ 6: 5, 13, 14, 15, 17, 18, 19; CFA 4, 5, 7. BKMJ 7: 4 -10  Read BKMJ 8, 9, 10	
<b>WEEK 3 (24 August 2016)</b>			
<b>Equilibrium Model</b> BKMJ 8.1-8.2, 9.1 & 10.1-10.5	1. CAPM 2. Factor Model 3. Arbitrage Pricing Theory	BKMJ 8: 7; CFA 1,2 BKMJ 9: 17,18,19; CFA 2,5,6 BKMJ 10: 5; CFA 1,2  Read BKMJ 24	<b>Case 1</b> will be distributed on 24 August 2016 after 2pm.
<b>WEEK 4 (31 August 2016)</b>			
<b>Portfolio Management</b> BKMJ 24.1-24.3, 24.5-24.7	1. Passive investment 2. Active investment 3. Performance measure	BKMJ 24: 4, 8, 15; CFA 1, 2, & 4.  Read Case 1 and prepare for the answers for non-presenting groups.	
<b>WEEK 5 (7 September 2016)</b>			
<b>Case 1 Discussion</b>	Case 1 Presentation and Discussion	Read BKMJ 11 & 12	<b>Case 1 report</b> is due on 6 September 2016 by 2pm to IVLE.
<b>WEEK 6 (14 September 2016)</b>			
<b>Efficient Market Hypothesis</b> BKMJ 11 & 12	1. Forms of market efficiency 2. Tests of market efficiency 3. Applications of market efficiency 4. Mid-term Review	BKMJ 11: 8, 10, 14; CFA 2, 4. BKMJ 12: 2, 3; CFA 3.	
<b>RECESS WEEK (17 September 2016 – 25 September 2016)</b>			

**WEEK 7: Test 1 on 28 September 2016 from 9am to 11am**

(Case 2 will be distributed on 28 September after 2pm)

**WEEK 8 (5 October 2016)**

<b>Security Analysis</b> BKMJ 17, 18	1. Macroeconomic Analysis 2. Industry Analysis 3. Fundamental Analysis	BKMJ 17: 11, CFA 6 BKMJ 18: 10, 14, CFA 7  Read Case 2 and prepare for the answers for non-presenting groups.	
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**WEEK 9 (12 October 2016)**

Case 2 Discussion	Case 2 discussion	Read BKMJ 14 & 15	<b>Case 2 report</b> is due on 11 October 2016 by 2pm to IVLE.
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**WEEK 10 (19 October 2016)**

<b>Bond Pricing</b> BKMJ 14 & 15	1. Bond features 2. Bond pricing and yields 3. Interest rate determinants 4. Bond pricing with yields 5. Term structure theories	BKMJ 14: 5, 9, 10, 13 BKMJ 15: 2, 4, 7, 12  Read BKMJ 16	<b>Case 3</b> will be distributed on 19 October 2016 after 2pm.
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**WEEK 11 (26 October 2016)**

<b>Bond Investment</b> BKMJ 16  <b>Investment in Singapore</b>	1. Bond price volatility 2. Duration 3. Convexity 4. Investment applications 5. Investment in Singapore	BKMJ 16: 3, 7, 10, 11, 12, 13, 14, 15, 16, 23, CFA 3, 12  Read Case 3 and prepare for the answers for non-presenting groups.	
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**WEEK 12 (2 November 2016)**

<b>Case 3 Discussion</b>	1. Case 3 Presentation and Discussion 2. Final Review		<b>Case 3 report</b> is due on 1 November 2016 by 2pm to IVLE.
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**WEEK 13: Test 2 on 9 November 2016 from 9am to 11am**