



## UNSW Course Outline

# FINS3640 Investment Management Modeling - 2024

Published on the 25 Aug 2024

## General Course Information

Course Code : FINS3640

Year : 2024

Term : Term 3

Teaching Period : T3

Is a multi-term course? : No

Faculty : UNSW Business School

Academic Unit : School of Banking and Finance

Delivery Mode : In Person

Delivery Format : Standard

Delivery Location : Kensington

Campus : Sydney

Study Level : Undergraduate

Units of Credit : 6

### Useful Links

[Handbook Class Timetable](#)

## Course Details & Outcomes

### Course Description

This course provides students with the required tools and knowledge to think critically and beyond traditional investment strategies. The approaches that will be discussed and presented are the ones that many investors and institutions use to design and implement investment

strategies. In the first part of the course, both stock and bond market pricing and investment strategies will be discussed and the required tools to analyze and design investment strategies will be covered. In the second part of the course, we will discuss alternative investment (hedge fund) and mutual fund industries. The course will also cover the design, implementation, and analysis of portfolio allocations. As most courses in finance, this course requires some basic knowledge of mathematics, statistics and accounting.

## Course Aims

One of the main aims of the course is to provide students with the required tools and knowledge to think critically and to be able to design and analyze stock and bond investment strategies. We will discuss the pricing of stocks and bonds and the required tools to analyze the performance and design investment strategies will be covered. In the second part of the course, the goal is to provide students with the required knowledge about alternative investment (hedge fund) and mutual fund industries. On these topics, the course aims to explain the environments and functioning of these industries, managers' incentives, and performance. The second part will also cover the design, implementation, and analysis of portfolio allocations.

## Relationship to Other Courses

Relative to other courses, this course offers a deeper dive into the theory and practice of investment modeling, supporting investment decisions. Topics covered include stock and corporate bond portfolio management, hedge funds, and alternative investments. Additionally, we will explore the implementation and construction of multi-asset portfolios and cover the necessary analytics to assess their performance.

## Course Learning Outcomes

Course Learning Outcomes	Program learning outcomes
CLO1 : Identify and clarify how to apply the main methods of security analysis and asset allocation	<ul style="list-style-type: none"><li>• PL01 : Business Knowledge</li><li>• PL02 : Problem Solving</li></ul>
CLO2 : Articulate alternative investment classes and respective instruments.	<ul style="list-style-type: none"><li>• PL01 : Business Knowledge</li><li>• PL02 : Problem Solving</li></ul>
CLO3 : Solve real investment problems as valuing a stock or measuring the performance of a portfolio.	<ul style="list-style-type: none"><li>• PL01 : Business Knowledge</li><li>• PL02 : Problem Solving</li><li>• PL04 : Teamwork</li></ul>
CLO4 : Perform portfolio optimizations using several methods.	<ul style="list-style-type: none"><li>• PL01 : Business Knowledge</li><li>• PL02 : Problem Solving</li></ul>

Course Learning Outcomes	Assessment Item
CLO1 : Identify and clarify how to apply the main methods of security analysis and asset allocation	• Quiz
CLO2 : Articulate alternative investment classes and respective instruments.	• Final assessment
CLO3 : Solve real investment problems as valuing a stock or measuring the performance of a portfolio.	• Homework Assignments
CLO4 : Perform portfolio optimizations using several methods.	• Homework Assignments • Final assessment

## Learning and Teaching Technologies

Moodle - Learning Management System

## Learning and Teaching in this course

The powerpoint presentations and practice questions will be posted on moodle and those should be the core elements of your study material

## Additional Course Information

The investment management modeling course is structured into several comprehensive modules. It begins with an introduction to factor models, where students learn to identify and analyze factors affecting stock returns through lectures, practical exercises, and empirical research findings. The next module covers fixed incomes from a pricing perspective, including a review of fixed income valuation and the key risk factors impacting their valuations. Following this, the course dives into the design of multi-asset investment strategies, aiming to enable students to develop and back-test these strategies. This module offers hands-on portfolio exercises and introduces students to portfolio optimization. The final module explores the structuration of mutual and hedge funds, including detailed lectures on fund structures and regulatory aspects, and discuss the performance of asset managers.

The rationale behind this course design is to provide a holistic understanding of investment management, equipping students with essential skills for informed decision-making. The practical relevance ensures that students are prepared for real-world challenges, while the learning environment fosters engagement and teamwork. Based on the instructor's notes and learning materials, the course offers authoritative and up-to-date content, ensuring that students gain valuable insights and acquire the necessary techniques and tools for careers in the investment and asset management industry. The overall course structure aims to produce well-

rounded, critically thinking, and skilled investment professionals ready to excel in their field.

# Assessments

## Assessment Structure

Assessment Item	Weight	Relevant Dates
Quiz Assessment Format: Individual	35%	Start Date: See Moodle Due Date: See Moodle
Homework Assignments Assessment Format: Group	30%	Start Date: See Moodle Due Date: See Moodle
Final assessment Assessment Format: Individual	35%	Start Date: See Moodle Due Date: See Moodle

## Assessment Details

### Quiz

#### Assessment Overview

This individual assessment aims to test student understanding of the main methods and theories underlying stock and bond investments which are covered in weeks 1-5.

PLO 1: Business knowledge

PLO 2: Problem solving

#### Course Learning Outcomes

- CL01 : Identify and clarify how to apply the main methods of security analysis and asset allocation

#### Detailed Assessment Description

Exam type: Moodle online quiz

Questions type: The exam consists of 25 multiple-choice questions, each worth 1 point, which can be either qualitative or quantitative. Additionally, there are 5 short answer questions, each worth 2 points. The short answer questions will require critical thinking and often involve multi-step calculations.

#### Assessment Length

90min

#### Assignment submission Turnitin type

Not Applicable

## Generative AI Permission Level

### **No Assistance**

This assessment is designed for you to complete without the use of any generative AI. You are not permitted to use any generative AI tools, software or service to search for or generate information or answers.

For more information on Generative AI and permitted use please see [here](#).

## **Homework Assignments**

### Assessment Overview

The two group assignments are Excel-based group projects related to a real investment problem, such as constructing a portfolio/strategy of stocks and bonds and measuring its performance.

PLO 1: Business knowledge

PLO 2: Problem-solving

PLO 4: Teamwork

### Course Learning Outcomes

- CL03 : Solve real investment problems as valuing a stock or measuring the performance of a portfolio.
- CL04 : Perform portfolio optimizations using several methods.

### Detailed Assessment Description

Assignment 1 (15%): Practical assignment based on the topics covered in lectures 1-3, to be completed in groups of 1 to 4 students.

Assignment 2 (15%): Practical assignment based on the topics covered in lectures 6-8, to be completed in groups of 1 to 4 students.

### Assignment submission Turnitin type

Not Applicable

## Generative AI Permission Level

### **No Assistance**

This assessment is designed for you to complete without the use of any generative AI. You are

not permitted to use any generative AI tools, software or service to search for or generate information or answers.

For more information on Generative AI and permitted use please see [here](#).

## **Final assessment**

### **Assessment Overview**

The final individual assessment aims to test students' understanding of alternative investment classes and the instruments, portfolio optimizations, and metrics used for performance analysis.

PL0 1: Business knowledge

PL0 2: Problem solving

### **Course Learning Outcomes**

- CLO2 : Articulate alternative investment classes and respective instruments.
- CLO4 : Perform portfolio optimizations using several methods.

### **Detailed Assessment Description**

Exam type: Moodle online quiz

Questions type: The exam consists of 25 multiple-choice questions, each worth 1 point, which can be either qualitative or quantitative. Additionally, there are 5 short answer questions, each worth 2 points. The short answer questions will require critical thinking and often involve multi-step calculations.

### **Assessment Length**

90min

### **Assignment submission Turnitin type**

Not Applicable

### **Generative AI Permission Level**

**No Assistance**

This assessment is designed for you to complete without the use of any generative AI. You are not permitted to use any generative AI tools, software or service to search for or generate information or answers.

For more information on Generative AI and permitted use please see [here](#).

# General Assessment Information

More information about each assessment will be provided on Moodle and by the instructor during the course.

## Grading Basis

Standard

## Requirements to pass course

Achieve a composite mark of at least 50% to pass the course.

# Course Schedule

Teaching Week/Module	Activity Type	Content
Week 1 : 9 September - 15 September	Lecture	Lecture 1 (Week 1) - Factor Models for Stocks and Stock Investment Strategies - Part 1 In this lecture, we will discuss factor models for stocks and stock investment strategies, focusing on Part 1 of the topic.
Week 2 : 16 September - 22 September	Lecture	Lecture 2 (Week 2) - Factor Models for Stocks and Stock Investment Strategies - Part 2 In this lecture, we will discuss factor models for stocks and stock investment strategies, focusing on Part 2 of the topic.
Week 3 : 23 September - 29 September	Lecture	Lecture 3 (Week 3) - The Use of Duration and Convexity for Bond Trading and Hedging In this lecture, we will discuss the use of duration and convexity in bond trading and hedging strategies.
	Group Work	Group Assignment 1 (15%) - Posted in Week 3, Due in Week 5
Week 4 : 30 September - 6 October	Lecture	Lecture 4 (Week 4) - Advanced Topics in Corporate Bond Pricing In this lecture, we will discuss the pricing of fixed income securities with embedded options, focusing specifically on callable and puttable bonds.
Week 5 : 7 October - 13 October	Lecture	Lecture 5 (Week 5) - Credit Spreads and Factor Models for Corporate Bond Returns In this lecture, we will discuss credit spreads and factor models used for analyzing corporate bond returns.
Week 6 : 14 October - 20 October	Other	Break
Week 7 : 21 October - 27 October	Lecture	Lectures 6 (Weeks 7) - Advanced Topics in Portfolio Construction (Part 1) In this lecture, we will discuss advanced topics in portfolio construction, covering portfolio optimization, modeling of volatility, and other related subjects.
	Assessment	Mid-Term Assessment (35%) Exam Type: Moodle online quiz Duration: 90 minutes
Week 8 : 28 October - 3 November	Lecture	Lectures 7 (Weeks 8) - Advanced Topics in Portfolio Construction (Part 2) In this lecture, we will discuss advanced topics in portfolio construction, covering portfolio optimization, modeling of volatility, performance assessment and other related subjects.
	Group Work	Group Assignment 2 (15%) - Posted in Week 8, Due in Week 10
Week 9 : 4 November - 10 November	Lecture	Lecture 8 (Week 9) - Hedge Funds and Alternative Investment Strategies In this lecture, we will discuss the main characteristics of hedge funds, including their strategies and historical performance.
Week 10 : 11 November - 17 November	Lecture	Lectures 9 (Weeks 10) - Active management of equity and debt portfolios, and ETFs In this lecture, we will discuss the active management of equity and debt portfolios and compare these approaches with ETF investments and other passive strategies.

## Attendance Requirements

Students are strongly encouraged to attend all classes and review lecture recordings.

## General Schedule Information

See Moodle for additional information about the schedule and materials



# Course Resources

## Prescribed Resources

There is no textbook requirement for this course.

## Recommended Resources

Some references will be provided for some lectures to help you study.

## Additional Costs

There is no additional cost to undertake this course.

## Course Evaluation and Development

Through both formal evaluations and informal discussions, we will collect constructive feedback from students to continuously refine the course and ensure optimal learning outcomes.

## Staff Details

Position	Name	Email	Location	Phone	Availability	Equitable Learning Services Contact	Primary Contact
Lecturer	Mathieu Fournier		Business School, Level 3, center wing: 333A	NA	See Moodle for details	No	Yes

## Other Useful Information

### Academic Information

#### COURSE POLICIES AND SUPPORT

The Business School expects that you are familiar with the contents of this course outline and the UNSW and Business School learning expectations, rules, policies and support services as listed below:

- Program Learning Outcomes
- Academic Integrity and Plagiarism
- Student Responsibilities and Conduct
- Special Consideration
- Protocol for Viewing Final Exam Scripts
- Student Learning Support Services

Further information is provided on the [Policies and Guidelines](#) page.

Students may not circulate or post online any course materials such as handouts, exams, syllabi or similar resources from their courses without the written permission of their instructor.

## STUDENT LEARNING OUTCOMES

The Course Learning Outcomes (CLOs) – under the Outcomes tab – are what you should be able to demonstrate by the end of this course, if you participate fully in learning activities and successfully complete the assessment items.

CLOs also contribute to your achievement of the Program Learning Outcomes (PLOs), which are developed across the duration of a program. PLOs are, in turn, directly linked to [UNSW graduate capabilities](#). More information on Coursework PLOs is available on the [Policies and Guidelines](#) page. For PG Research PLOs, including MPDBS, please refer to [UNSW HDR learning outcomes](#).

## Academic Honesty and Plagiarism

As a student at UNSW you are expected to display [academic integrity](#) in your work and interactions. Where a student breaches the [UNSW Code of Conduct](#) with respect to academic integrity, the University may take disciplinary action. To assure academic integrity, you may be required to demonstrate reasoning, research and the process of constructing work submitted for assessment.

To assist you in understanding what academic integrity means, and how to ensure that you do comply with the UNSW Code of Conduct, it is strongly recommended that you complete the [Working with Academic Integrity](#) module before submitting your first assessment task. It is a free, online self-paced Moodle module that should take about one hour to complete.

## Submission of Assessment Tasks

### SHORT EXTENSIONS

Short Extension is a new process that allows you to apply for an extended deadline on your assessment without the need to provide supporting documentation, offering immediate approval during brief, life-disrupting events. Requests are automatically approved once submitted.

Short extensions are ONLY available for some assessments. Check your course outline or

Moodle to see if this is offered for your assessments. Where a short extension exists, all students enrolled in that course in that term are eligible to apply. Further details are available the UNSW [Current Students](#) page.

## **SPECIAL CONSIDERATION**

You can apply for special consideration when illness or other circumstances beyond your control interfere with your performance in a specific assessment task or tasks, including online exams. Special consideration is primarily intended to provide you with an extra opportunity to demonstrate the level of performance of which you are capable.

Applications can only be made online and will NOT be accepted by teaching staff. Applications will be assessed centrally by the Case Review Team, who will update the online application with the outcome and add any relevant comments. The change to the status of the application immediately sends an email to the student and to the assessor with the outcome of the application. The majority of applications will be processed within 3-5 working days.

For further information, and to apply, see Special Consideration on the UNSW [Current Students](#) page.

## **LATE SUBMISSION PENALTIES**

### **LATE SUBMISSION PENALTIES**

For assessments other than examinations, late submission will incur a penalty of 5% per day or part thereof (including weekends) from the due date and time. An assessment will not be accepted after 5 days (120 hours) of the original deadline unless special consideration has been approved. In the case of an approved Equitable Learning Plan (ELP) provision, special consideration or short extension, the late penalty applies from the date of approved time extension. After five days from the extended deadline, the assessment cannot be submitted.

An assessment is considered late if the requested format, such as hard copy or electronic copy, has not been submitted on time or where the 'wrong' assessment has been submitted.

For assessments which account for 10% or less of the overall course grade, and where answers are immediately discussed or debriefed, the LIC may stipulate a different penalty. Details of such late penalties will be available on the course Moodle page.

## **FEEDBACK ON YOUR ASSESSMENT TASK PERFORMANCE**

Feedback on student performance from formative and summative assessment tasks will be provided to students in a timely manner. Assessment tasks completed within the teaching period of a course, other than a final assessment, will be assessed and students provided with feedback, with or without a provisional result, within 10 working days of submission, under normal circumstances. Feedback on continuous assessment tasks (e.g. laboratory and studio-based, workplace-based, weekly quizzes) will be provided prior to the midpoint of the course.

## Faculty-specific Information

### PROTOCOL FOR VIEWING FINAL EXAM SCRIPTS

UNSW students have the right to view their final exam scripts, subject to a small number of very specific exemptions. The UNSW Business School has set a [protocol](#) under which students may view their final exam script. Individual schools within the Faculty may also set up additional local processes for viewing final exam scripts, so it is important that you check with your School.

If you are completing courses from the following schools, please note the additional school-specific information:

- Students in the **School of Accounting, Auditing & Taxation** who wish to view their final examination script should also refer to [this page](#).
- Students in the **School of Banking & Finance** should also refer to [this page](#).
- Students in the **School of Information Systems & Technology Management** should also refer to [this page](#).

### COURSE EVALUATION AND DEVELOPMENT

Feedback is regularly sought from students and continual improvements are made based on this feedback. At the end of this course, you will be asked to complete the [myExperience survey](#), which provides a key source of student evaluative feedback. Your input into this quality enhancement process is extremely valuable in assisting us to meet the needs of our students and provide an effective and enriching learning experience. The results of all surveys are carefully considered and do lead to action towards enhancing educational quality.

### QUALITY ASSURANCE

The Business School is actively monitoring student learning and quality of the student experience in all its programs. A random selection of completed assessment tasks may be used for quality assurance, such as to determine the extent to which program learning goals are being

achieved. The information is required for accreditation purposes, and aggregated findings will be used to inform changes aimed at improving the quality of Business School programs. All material used for such processes will be treated as confidential.

## TEACHING TIMES AND LOCATIONS

Please note that teaching times and locations are subject to change. Students are strongly advised to refer to the [Class Timetable website](#) for the most up-to-date teaching times and locations.