

## General Course Information

**Instructor:** Nikola Gradojevic  
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*Office Location* MacKinnon 734  
*Office Hours* Thu 1:30PM-2:30PM or by appointment  
*Department/School* Department of Economics and Finance

**TA's** **TBA**  
*Email* -  
*Office Location* -  
*Office Hours* -

**Class Schedule:** Tue, Thu: 2:30PM-3:50PM in MACN 118.

## Course Description

This is a graduate course in asset pricing designed for Masters and PhD students. The objective of this course is threefold: (i) build a common background for all students in order to facilitate discussion of finance research; (ii) provide an in-depth look at a few selected core topics in finance, and (iii) expose students to the analysis of seminal and top recent research papers. This course is designed to provide in-depth analysis of few topics rather than superficial analysis of a wide variety of topics.

The delivery of this course will involve formal lecturing as well as class discussions and student presentations. About half of the course will be dedicated to formal lecturing and the other half to structured discussions focusing on a set of finance research papers. Students are strongly encouraged to participate and indeed lead the discussions to the extent that they can. In this course, the more interaction, the better the learning experience.

There is no required textbook for this course. The readings will consist of the lecture notes and a set of assigned papers for each topic. All materials, including lecture notes and assigned papers, will be posted on courselink or distributed in class

## Course Learning Outcomes

The Department of Economics and Finance *Learning Outcomes* for this course are:

### Skills:

**1. Written Communication:** The empirical project will provide an opportunity for students to conduct an empirical application that evaluates either an asset pricing model or a dynamic asset allocation strategy. This

is perhaps the most important component of this course. Another type of written communication used in this course is the one-page summaries of research papers.

**2. Oral Communication/Presentation:** The presentation of a research paper will provide students with an opportunity to present to the class their summary and evaluation of a major research paper.

**3. Numerical Problem Solving:** Students will learn how to value stocks and bonds, how to measure risk and return, how to design optimal portfolios, how to prove certain asset pricing models, and how to solve other numerical problems in asset pricing and corporate finance.

**4. Analytical Problem Solving:** Much of the course is about interpreting the theory of asset pricing and corporate finance and making recommendations for individual investors and companies.

**5. Problem solving in a Real World Context:** All finance topics taught in this course relate to how investors and companies act in the real world.

**6. Computer Skills:** The empirical project involves developing substantial skills in downloading and processing data, as well as in performing graduate-level statistical analysis using statistical packages.

### Knowledge:

**1. Mathematical methodology:** We will be using mathematical techniques to value stocks and bonds, measure risk and return and build portfolios.

**2. Statistical and Econometric Methodology:** We will be using probability distributions and will be computing descriptive statistics to help us understand the probability of certain future outcomes occurring. Distributions are central to assessing the risk-return tradeoff.

**3. Understanding of Specific Markets:** This course is devoted to understanding financial markets and in particular the markets for stocks and bonds, although other markets may be considered as well.

**4. Historical and Global context:** We will investigate the historical performance of global financial markets.

**5. Financial Asset Pricing, Corporate Finance, and Risk Analysis:** This is just a summary of what this course is about.

## Indicative Content

### LIST OF TOPICS

#### REVIEW

- Measuring risk and return: mean, variance, standard deviation, covariance, correlation, skewness, kurtosis
- The normal distribution and the lognormal distribution for modeling asset returns
- The empirical properties of asset returns: stocks, bonds and exchange rates
- Investor preferences: a comprehensive review of risk aversion

#### VALUING STOCKS AND BONDS

- Financial Calculus

- Compounding and future value
- Discounting and present value
- Annuities and perpetuities
- Valuing Bonds
  - Computing bond prices
  - The effect of the yield, coupon rate and time to maturity
  - Credit risk
- Valuing Stocks
  - Computing stock prices
  - The dividend discount model
  - The cost of equity
  - The present value of growth opportunities

### **DYNAMIC ASSET ALLOCATION**

- Portfolio Choice and Diversification
  - Measuring risk vs. return
  - Expected return, variance, standard deviation, covariance, correlation
  - Systematic and idiosyncratic risk
- The Capital Asset Pricing Model (CAPM)
- Market Efficiency
  - The efficient market hypothesis and the random walk model
  - Types of market efficiency: weak, strong and semi-strong
  - Empirical evidence and examples on market efficiency
  - Technical analysis

### **FINANCIAL RISK MANAGEMENT**

- Forward and futures contracts
- Option pricing, dynamic hedging, and the binomial model
- Exotic options
- Measurement of financial risk: VaR, CaR, ES, etc.
- Swaps

### **RISK MANAGEMENT IN BANKING**

- Interest rate derivatives, hedging and speculation
- Interest rate risk management techniques and measures
- Asset-liability management
- Deposit insurance and its pricing

## Course Assessment

			<b>Associated Learning Outcomes</b>	<b>Due Date/ location</b>
<b>Assessment 1:</b>	30%	In-class presentation	Oral communication and presentation, understanding principles and concepts, analytical/empirical problem solving. <i>(Based on a research paper)</i>	<b><i>During the two weeks before the last week of classes</i></b>
<b>Assessment 2:</b>	30%	Empirical Assignment	Group work, computer skills, problem solving in a real-world context.  <i>(Note: To be distributed later; from Holden)</i>	<b>October 15, 2024</b>
<b>Assessment 3:</b>	40%	Final Exam	Numerical and analytical problem solving, understanding principles and concepts.  <i>(Take-home for 48 hours)</i>	<b>November 26, 2024</b>
<b>Total</b>	100%			

### **In-class presentation – Notes:**

Each student will select, analyze and present (for 30-45 minutes) to the class a journal article or a case from a list offered by the instructor. These presentations will be scheduled for the two weeks before the last week of classes. A sign-up sheet will be available with the instructor. You are also required to write a brief summary of your article (or a case) and to provide the instructor with a hard copy prior to the presentation.

Each student will be assigned one paper for their presentation. However, all students must read all the assigned presentation papers (including the papers assigned to your classmates) so that we can have a discussion after each presentation.

The in-class presentation involves writing about 10-15 PowerPoint slides. The slides will be submitted to the instructor in class right before the presentation and students will receive a grade based on the quality of their presentation and the quality of the slides. For the slides, what counts is the content not how fancy their design is. A simple PowerPoint design will be just fine. You should aim to talk for a maximum of 45 minutes (but no less than 30 minutes). A class discussion will follow each presentation.

Your presentation should focus on the following:

- Discuss the objectives of the paper
- Set the paper in context, by discussing whether this is an important subject

- Describe the data and methods
- Present the results and implications.

You can also spend a few minutes doing your best to analyze the paper:

- Indicate the strengths and weaknesses of the paper
- Say what you may have done differently and why
- Speculate on what research needs to be done next.

However, if you do not have strong opinions about the above three bullet points, you can ignore them. The best presentations are the ones that use simple language to describe the main ideas of the paper in a clear and precise manner that makes sense to everyone, even those who have not read the paper. Think of your presentation as teaching the paper to your classmates. So what you need to emphasize is whether the paper makes sense, whether the question is important, whether the results support the question and, in the end, whether we should care.

When reading a paper, start with the abstract, introduction and conclusion. Try to obtain a general understanding before diving into the technicalities. There are many points in papers which are difficult to understand either because of the techniques (math or econometrics) or because of the sophistication in the economic ideas. Do not get hung-up on small details, but try to see the “big picture”. Do not worry if you do not understand all the details of the methodology. If you are presenting a paper, you should try to understand as much as you can. If you cannot understand something, say so in your presentation. It could very well be that the paper is not clearly written or simply that the quantitative sophistication of the paper is beyond the level of this course.

### **Empirical Assignment -- Notes:**

This assignment will be done individually. There will be one take-home Excel assignment (Midterm Exam) over the semester, assigned on **October 15<sup>th</sup>, 2024**. You will have a week to submit it (i.e., by **October 22<sup>nd</sup>, 2024**). The assignment will be adapted from “Spreadsheet Modeling in Investments” by Craig W. Holden.

Spreadsheet modeling is an important skill that will serve you well in both your academic and professional careers. These exercises have been selected with the following goals in mind:

- Develop in you an appreciation for the power and many built-in features of spreadsheet programs,
- Enhance your understanding of key subject areas such as portfolio management, bond price behaviour, stock valuation modeling and option pricing,
- Develop in you the ability to conceptualize and build spreadsheet models to solve financial problems.

Your report must:

- Be type-written using MS-Word,
- Include embedded or attached Excel models,
- Include a title page addressed to me for the purposes of this course,
- Include a table of contents using electronically determined page numbers and built using the table of contents feature using styles built into the Word program,
- Include appropriate page headers and footers,
- Each page must be numbered electronically and the page number located in the footer in the same manner as found in this document.

In each report you must of course provide your completed spreadsheet model. The structure of your report should include the following general topic areas:

1. Introduction to the purpose of the spreadsheet model

2. Challenges encountered in the modeling process
3. Practical use (application) and the limitations of the spreadsheet model
4. Modeling techniques learned in this assignment
5. Financial concepts explored and reinforced in this assignment
6. Summary and conclusions
7. Embedded or appended Excel spreadsheets and charts/graphs.

### **Final Exam -- Notes:**

The final exam will cover all the material taught in this course. Details on the format of the exam will be provided later.

It will be a take home exam which will normally be given during the last class on **Thursday, November 26, 2024**. More details on the format of the exam will be provided later.

## **Course Resources**

### **Recommended Texts:**

There is no set textbook for this course. Students are expected to study the lecture handouts and the assigned papers. For further information on a number of topics, students can refer to numerous textbooks such as the following:

*“Financial Economics”* by Fabozzi, Neave and Zhou, 2012. (intermediate level)

*“Asset Pricing”* Revised Edition, by John H. Cochrane, Princeton University Press, 2005. (advanced graduate level)

Empirical assignment(s) will be adapted from the following text:

*“Excel Modeling in Investments, 5th Edition”* by Holden, C., Prentice Hall 2015.

### **Other Resources:**

All other materials, including lecture notes and cases, will be posted on CourseLink and/or distributed in class.

## **Course Policies**

### **Grading Policies**

Unless you have discussed an extension well ahead of the due date with the instructor, late penalties of 5% of the total grade earned per day (including weekends) will be assigned to any assessment (i.e. deducted from the total mark). Extensions will only be granted on the basis of valid medical or personal reasons, and need to be requested via email to the instructor as soon as possible. Late assignments will not be accepted once graded assignments have been returned officially to the class at large, unless circumstances permit and alternative arrangements have been made.

Students who find themselves unable to meet course requirements by the deadlines or the criteria expected because of medical or personal reasons, should review the regulations on academic consideration in the Academic Calendar and discuss their situation with the instructor, program counselor or other academic counselor as appropriate.

## Missed Assignments:

A grade of zero will be assigned if you fail to submit an assignment, unless you are ill or have other compassionate reasons. Please read your Graduate Calendar for the regulations regarding illness and compassionate grounds. Please note, vacation travel, moving house, or outside work commitments will not be accepted as valid reasons for missing deadlines.

If you have religious observances which conflict with the course schedule or if you are registered with Student Accessibility Services, please contact the course instructor in order to make arrangements for your assessment if appropriate.

## University Policies

### Academic Consideration

When you find yourself unable to meet an in-course requirement because of illness or compassionate reasons, please advise the course instructor in writing, with your name, id#, and e-mail contact. See the academic calendar for information on regulations and procedures for Academic Consideration:

<https://www.uoguelph.ca/registrar/calendars/graduate/current/>

### Academic Misconduct

The University of Guelph is committed to upholding the highest standards of academic integrity and it is the responsibility of all members of the University community, faculty, staff, and students to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring.

University of Guelph students have the responsibility of abiding by the University's policy on academic misconduct regardless of their location of study; faculty, staff and students have the responsibility of supporting an environment that discourages misconduct. Students need to remain aware that instructors have access to and the right to use electronic and other means of detection. Please note: Whether or not a student intended to commit academic misconduct is not relevant for a finding of guilt. Hurried or careless submission of assignments does not excuse students from responsibility for verifying the academic integrity of their work before submitting it. Students who are in any doubt as to whether an action on their part could be construed as an academic offence should consult with a faculty member or faculty advisor.

The Academic Misconduct Policy is detailed in the Graduate Calendar:

<https://calendar.uoguelph.ca/graduate-calendar/general-regulations/academic-misconduct/>

### Accessibility

The University of Guelph is committed to creating a barrier-free environment. Providing services for students is a shared responsibility among students, faculty and administrators. This relationship is based on respect of individual rights, the dignity of the individual and the University community's shared commitment to an open and supportive learning environment. Students requiring service or accommodation, whether due to an identified, ongoing disability or a short-term disability should contact Student Accessibility Services as soon as possible.

For more information, contact SAS at 519-824-4120 ext. 56208 or email [sas@uoguelph.ca](mailto:sas@uoguelph.ca) or see the website: <https://wellness.uoguelph.ca/accessibility/>

### Course Evaluation Information

Please refer to the [Blue by Explorance system](#).

### **Recording of Materials**

Presentations which are made in relation to course work—including lectures—cannot be recorded or copied without the permission of the presenter, whether the instructor, a classmate or guest lecturer. Material recorded with permission is restricted to use for that course unless further permission is granted.

### **Drop date**

The last date to drop one-semester courses, without academic penalty, is **Friday November 29, 2024**. For regulations and procedures for Dropping Courses, see the Academic Calendar:

<https://calendar.uoguelph.ca/graduate-calendar/general-regulations/>