



**Carleton**  
University

**Sprett**  
School of Business

**Fall 2021**  
**FINA 5511A**  
**Investments**

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**Instructor:** Mr. Graham Edwards  
**Office:** N/A  
**Section:** A  
**Classroom:** Nicol Building - Room 1020  
**Office Hours:** Zoom meetings upon request  
**Email:** [grahamedwards@cunet.carleton.ca](mailto:grahamedwards@cunet.carleton.ca)  
**Modality:** 50% synchronous and 50% asynchronous  
**Course Meets:** Tuesday 10:00am – 11:25am

**Course Calendar Description**

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The analytical foundations and tools necessary for successful decision making by investment managers and analysts and by individual investors. Includes a significant hands-on component.

**Class Modality**

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The class will be delivered in two parts: **(i) a 1.5 hour asynchronous ( pre-recorded ) lecture and (ii) a 1.5 hour synchronous live class.**

**Prerequisites**

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FINA 5502

**Course Description**

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The objective of this course is to provide students with the tools necessary to become successful investors or portfolio/money managers. A rigorous quantitative and qualitative analysis of the

money and capital markets is offered, with the primary focus on the North American markets. There is a detailed examination of how and where securities are traded and how they are valued, providing insight into how investors appropriately allocate funds across different investment vehicles. A detailed examination of the trading process and the function of securities markets are presented. This is followed by exposure to the concepts of risk and return, specifically analysing the role played in security valuation and portfolio diversification.

**Learning Outcomes:**

1. Critical Thinking and Reasoning
2. Functional Knowledge
3. Communication

**Required Text**

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Brodie Z., Kane A., Marcus A., Perrakis S., Ryan P. **Investments.9<sup>th</sup> Edition Canadian**, Mcgraw-Hill Ryerson 2019

**Recommended Text(s):**

Malkiel B., **A Random Walk Down Wall Street**. Norton  
Graham B., **The Intelligent Investor**, Harper Collins  
Graham B., Dodd D., **Security Analysis**, McGraw-Hill

**Drop Course Policy:** The deadline for academic withdrawal is the last day of classes (each term).

**Course Evaluation**

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<b>Class Component</b>	<b>Grade Weight</b>	<b>Due date</b>
Class project	30%	October 22nd
Quizzes (3) -10% each	30%	See schedule
Class Participation	10%	
Final Examination	30%	<u>October 19th</u>
	100%	

**Course component:** Current Investment/ Finance Issue Topic of the Week

Each student will come to class ready to discuss at least one investment or finance topic of the week, gleaned from any of the various news sources (see below). In preparing for the discussion of the topical issue, students must be ready to orally (i) Briefly describe the key components of topical issue (ii) itemize the key implication(s) of the issue (iii) state your personal opinions and conclusions you can draw from the topical issue.

## **Recommended Financial News Sources:**

The Institute of International Finance (IIF)  
International Finance Magazine  
Global Market News - Reuters  
CNBC – Market Insider  
McKinsey – Global Capital Markets  
Commentary from the Federal Reserve System  
Commentary from the Bank of Canada  
LCD Global Research Market Commentary  
The Securities Industry and Financial Markets Association (SIFMA)  
Global Financial Markets Association (GFMA)  
National Post  
Globe and Mail  
The Economist  
The Wall Street Journal  
The Financial Times  
Bloomberg News  
The Economist

**Quizzes (3 quizzes):** To encourage you to keep up with the course material and to measure your understanding of the material, I will administer 3 in-class quizzes. Each quiz will be approx., 25 minutes in duration and it will consist of multiple-choice and/or short answer questions. At the end of the lecture preceding the week of a quiz, you will be informed of the topics that will be tested.

**Class project:**

Submit the complete project in the Brightspace drop box by

**23:59PM on October 22nd. Late submissions will NOT be accepted.**

**Part 1 (Risk and Return):** Choose two stocks that are part of the S&P500 or S&P/TSX Composite stock indexes. The stocks' names have to start with the same letters as you first and last name.

You can find the list of S&P500 stocks here

[https://en.wikipedia.org/wiki/List\\_of\\_S%26P\\_500\\_companies](https://en.wikipedia.org/wiki/List_of_S%26P_500_companies)

The list of S&P/TSX stock is available here:

[https://en.wikipedia.org/wiki/S%26P/TSX\\_Composite\\_Index](https://en.wikipedia.org/wiki/S%26P/TSX_Composite_Index)

- a. Download daily closing stock prices from Yahoo Finance over the most recent year (September 1 2020-August 31 2021).
- b. Calculate average annualized return and annualized standard deviation of returns for each stock.
- c. Calculate covariance and correlation of returns for the two stocks. Looking at the correlation, what can you tell about the relationship between the stock returns.

**Part 2 (Portfolio Analysis):** Assume that you have \$1,000,000 available for investment. You would like to use the portfolio theory skills that you have learnt in class to allocate your funds between three assets (the stocks you have chosen in Part 1 and a risk-free asset).

- a. Go to Bloomberg.com and find the risk-free rate. If you chose US stocks, you need to find the US risk-free rate; if you chose Canadian stocks; you will have to find the Canadian risk-free rate.
- b. Assuming that you would invest 30% of your portfolio in the risk-free asset and the rest into the risky assets (the stocks from Part 1), calculate the amounts in dollars that you will invest in each of the three assets. *Hint:* you may find useful an example in the "Portfolio mathematics" tab of the "Risk and return" spreadsheet posted on Brightspace

**Part 3 (Asset Pricing):** In this part, you are required to forecast stock returns using Capital Asset Pricing Model (CAPM).

- a. Calculate CAPM betas for the two stocks you have chosen in Part 1 using their stock prices from September 2014-September 2019.
- b. Using the calculated betas, calculate the CAPM-implied return for the stocks for September 1 2020 – August 31 2021 period.
- c. Compare the CAPM-implied returns from (b) to actual stocks' returns over the September 1 2020-August 31 2021 period. What are your conclusions?

**Part 4 (Bonds):** Go to “Rates & Bonds” section of Bloomberg.com website and find information on the 10-year and the 30-year US Treasury bonds.

- a. Calculate Macaulay and Modified Durations of the 10-year and the 30-year Treasury bonds.
- b. Calculate effective duration and effective convexity of the 10-year and the 30-year Treasury bonds using an interest rate change of 1 basis point (0.01%).
- c. Based on the duration and convexity figures from (b), what will be the prices of the 10-year and the 30-year Treasury bonds if interest rates increase by 50 basis points?

**Part 5 (Options):** Go to Yahoo Finance and pick a stock that has options traded on it.

- a. From the “Options” tab, select a call option that has the closest maturity and has an exercise price that is close to the current stock price. Quote this price.
- b. Using the Black-Scholes option pricing model, calculate the model-implied price of the option selected in part (a).
- c. Compare the prices from parts (a) and (b). Are they the same? Are they different? Explain why.

**Final Exam:** The final exam will be comprehensive and test your understanding of all of the concepts covered in the recordings and lectures. It will be held during the final examination period. The exam format will be multiple choice/short answer. **Allowance will not be made for conflicting travel plans.**

In regard to calculators, only the following will be allowed for the Final examination. Texas Instruments BA II Plus (including Pro Model), Hewlett Packard HP 12C (including Platinum model), Staples Financial Calculator, Sharp EL-738C & Hewlett Packard HP 10bII.

Translation dictionaries are allowed if they are in print format and do not contain any handwritten notes. Electronic translation dictionaries are not allowed.

## **Preparation and Participation:**

### **What is expected of you:**

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1. Attend all lectures. The topics that will be covered in this course are cumulative. Missing a lecture could adversely affect your understanding of subsequent materials. Listen to pre-recordings before attending class.
2. Active class participation. Discuss current financial news, “words on the street” articles, questions on chapters.
3. Read the relevant chapters of the textbook before attending lectures. Watch pre-recorded session videos.
4. Attempt the assigned practice questions.
5. Read the business section of at least one major newspaper (e.g. The Globe & Mail, Report on Business or The National Post (Daily), and The Wall Street Journal) to keep up with the latest developments in the Finance community.
6. Write all quizzes and the exam.

### **Late Assignments:**

There is only 1 assignment for this class.

Submit the complete project in the Brightspace drop box by

**23:59PM on October 22nd. Late submissions will NOT be accepted.**

## Course Schedule

<b>Week</b>		<b>Lectures</b>	<b>Readings: Brodie, Kane, Marcus</b>
1	Sept. 7	<b>Course Outline</b>  <b>Chapter 1:</b> Investment Environment <b>Chapter 2:</b> Markets and Instruments <b>Chapter 3:</b> Trading	B1, B2, B3
2	Sept.14	<b>Quiz #1</b> <b>Chapter 5:</b> Risk, Return, Historical Record <b>Chapter 6:</b> Capital Allocation in Risky Assets <b>Chapter 7:</b> Optimal Risky Portfolios	B5, B6, B7
3	Sept 21	<b>Chapter 8:</b> Index Models <b>Chapter 9:</b> Capital Asset Pricing Model	B8, B9
4	Sept.28	<b>Quiz #2</b> <b>Chapter 10:</b> Arbitrage Pricing Theory and Multi Factor Models <b>Chapter 11:</b> The Efficient Market Hypothesis <b>Chapter 12:</b> Behavioural Finance and Technical Analysis	B10, B11, B12
5	Oct 5th	<b>Chapter 14:</b> Bond Prices and Yields <b>Chapter 15:</b> Term Structure of Interest Rates <b>Chapter 16:</b> Managing Bond Portfolios	B14, B15, B16
6	Oct 12th	<b>Quiz #3</b> <b>Chapter 20:</b> Option Markets <b>Chapter 21:</b> Option Valuation	B20, B21
7	Oct.19th	<b>FINAL EXAM</b>	

\*While every attempt will be made to keep to the schedule above, circumstances may necessitate modifications during the semester.

### ADDITIONAL INFORMATION

<b>MBA Learning Goal</b>	<b>Not Covered</b>	<b>Introduced</b>	<b>Taught but Not Assessed</b>	<b>Taught <u>and</u> Assessed</b>
<b>MB1 Leadership and Collaboration</b> <i>Graduates will be equipped for leadership and collaboration.</i>	✓			
<b>MB2 Communication</b> <i>Graduates will be effective communicators</i>				✓
<b>MB3 Critical Thinking and Problem Solving</b> <i>Graduates will be skilled in critical thinking and problem solving.</i>				✓
<b>MB4 Functional Knowledge</b> <i>Graduates will have functional knowledge of all areas of business.</i>				✓
<b>MB5 Global Business</b> <i>Graduates will have an appreciation of the global environment of business.</i>		✓		
<b>MB6 Ethical Reasoning</b> <i>Graduates will be skilled in ethical reasoning and decision-making.</i>	✓			



## **Course Sharing Websites**

Materials created for this course (including presentations and posted notes, labs, case studies, assignments and exams) remain the intellectual property of the author(s). They are intended for personal use and may not be reproduced or redistributed without prior written consent of the author(s).

## **Required calculator in BUSI course examinations**

If you are purchasing a calculator, we recommend any one of the following options: Texas Instruments BA II Plus (including Pro Model), Hewlett Packard HP 12C (including Platinum model), Staples Financial Calculator, Sharp EL-738C & Hewlett Packard HP 10bII

## **Group work**

The Spratt School of Business encourages group assignments in the school for several reasons. They provide you with opportunities to develop and enhance interpersonal, communication, leadership, follower-ship and other group skills. Group assignments are also good for learning integrative skills for putting together a complex task. Your professor may assign one or more group tasks/assignments/projects in this course. Before embarking on a specific problem as a group, it is your responsibility to ensure that the problem is meant to be a group assignment and not an individual one.

In accordance with the Carleton University Undergraduate Calendar (p 34), the letter grades assigned in this course will have the following percentage equivalents:

A+ = 90-100	B+ = 77-79	C+ = 67-69	D+ = 57-59
A = 85-89	B = 73-76	C = 63-66	D = 53-56
A - = 80-84	B - = 70-72	C - = 60-62	D - = 50-52
F = Below 50			

Grades entered by Registrar:

WDN = Withdrawn from the course

DEF = Deferred

## **Academic Regulations**

University rules regarding registration, withdrawal, appealing marks, and most anything else you might need to know can be found on the university's website, here:

<http://calendar.carleton.ca/undergrad/regulations/academicregulationsoftheuniversity/>

## **Requests for Academic Accommodation**

You may need special arrangements to meet your academic obligations during the term. For an accommodation request, the processes are as follows:

### **Pregnancy obligation**

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist.

For more details, visit the Equity Services website: [carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf](http://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf)

### **Religious obligation**

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist.

For more details, visit the Equity Services website: [carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf](https://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf)

### **Academic Accommodations for Students with Disabilities**

If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or [pmc@carleton.ca](mailto:pmc@carleton.ca) for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with your instructor as soon as possible to ensure accommodation arrangements are made. [carleton.ca/pmc](https://carleton.ca/pmc)

### **Survivors of Sexual Violence**

As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and its survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: [carleton.ca/sexual-violence-support](https://carleton.ca/sexual-violence-support)

### **Accommodation for Student Activities**

Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform at the national or international level. Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. <https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf>

For more information on academic accommodation, please contact the departmental administrator or visit: [students.carleton.ca/course-outline](https://students.carleton.ca/course-outline)

### **Academic Integrity**

Violations of academic integrity are a serious academic offence. Violations of academic integrity – presenting another's ideas, arguments, words or images as your own, using unauthorized material, misrepresentation, fabricating or misrepresenting research data, unauthorized co-operation or collaboration or completing work for another student – weaken the quality of the degree and will not be tolerated. Penalties may include; a grade of Failure on the submitted work and/or course; academic probation; a refusal of permission to continue or to register in a specific degree program; suspension from full-time studies; suspension from all studies at Carleton; expulsion from Carleton, amongst others. Students are expected to familiarize themselves with and follow the Carleton University Student Academic Integrity Policy which is available, along with resources for compliance at: <https://carleton.ca/registrar/academic-integrity/>.

### **Sprott Student Services**

The Sprott student services office, located in 710 Dunton Tower, offers academic advising, study skills advising, and overall academic success support. If you are having a difficult time with this

course or others, or just need some guidance on how to successfully complete your Sprott degree, please drop in\* any weekday between 8:30am and 4:30pm. Our advisors are happy to discuss grades, course selection, tutoring, concentrations, and will ensure that you get connected with the resources you need to succeed! <http://sprott.carleton.ca/students/undergraduate/learning-support/>

### **Centre for Student Academic Support**

The Centre for Student Academic Support (CSAS) is a centralized collection of learning support services designed to help students achieve their goals and improve their learning both inside and outside the classroom. CSAS offers academic assistance with course content, academic writing and skills development. Visit CSAS on the 4th floor of MacOdrum Library or online at: <https://carleton.ca/csas/>

### **Important Information:**

- Students must always retain a hard copy of all work that is submitted.
  - All final grades are subject to the Dean's approval.
  - For us to respond to your emails, we need to see your full name, CU ID, and the email must be written from your valid CARLETON address. Therefore, in order to respond to your inquiries, please send all email from your Carleton CMail account. If you do not have or have yet to activate this account, you may wish to do so by visiting <https://carleton.ca/its/get-started/new-students-2/>
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