



**Carleton
University**

Department
of Economics

**PLEASE NOTE THAT SOME CHANGES MAY BE MADE TO THIS COURSE OUTLINE
PRIOR TO JANUARY 19, 2024**

**ECON 4051 A
FINANCIAL ASSET PRICING**

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Office Hours: Wednesday 10:30 – 11:30 AM and online TBA

2025 Winter

Lectures: Wednesday 2:35 PM – 5:25 PM
Place: Check Carleton Central for location

Course Objectives: This course is designed to provide students with the knowledge of factors that affect the valuation of cash flows and asset prices. It will focus on several approaches to price cash flows such as the arbitrage pricing model, the capital asset pricing model (CAPM), the factors model and arbitrage pricing and risk neutral valuation.

Prerequisites: ECON 3050 with a grade of C- or higher, and ECON 2220 (or equivalent) with a grade of C- or higher. Students who believe they have taken a similar background course or courses from another university must provide appropriate documentation to the Department of Economics Undergraduate Administrator.

Reference Textbooks:

Zvi Bodie, Alex Kane, Alan J. Marcus, Lorne N. Switzer, Dana Boyko, Christine Panasian and Maureen Stapelton, *Investments*. 10th Canadian edition, Toronto: McGraw-Hill, 2022. (Abbreviated as: BKMSBPS) ISBN-13: 978-1-26-088125-7. Carleton University Bookstore: Rent digital \$83. Buy digital: \$119. Buy used: \$128.25. Buy new: \$170.75.

John C. Hull (2017) *Fundamentals of Futures and Options Markets*, 9th Edition, Pearson Prentice-Hall. ISBN-10: 0134083245; ISBN-13: 9780134083247. Carleton University Bookstore: Buy digital: \$120. Buy used: \$188.25. Buy new: \$250.75.

Jonathan Berk, Peter Demarzo, Jarrad Harford, David Strangeland and Andras Marosi, *Fundamentals of Corporate Finance: Third Canadian Edition*, Don Mills, Ontario: Pearson Canada, 2023. (abbreviated as BDHSM) ISBN-13: 978-0-13-730988-7 Carleton University Bookstore: Buy: \$90.75.

Jonathan Berk, Peter DeMarzo and David Stangeland (2018) *Corporate Finance* (Fourth Canadian Edition), Pearson Addison-Wesley. ISBN 978-0-13-463228-5

Other reference textbooks:

Simon Benninga, *Financial Modeling* Fourth Edition, MIT Press, 2014 Or Third Edition, 2008

John C. Hull (2018), *Options, Futures and Other Derivatives*, 10th edition, Pearson Prentice-Hall. ISBN-13: 9780134472089.

Thomas E. Copeland, J. Fred Weston, and Kuldeep Shastri (2005), *Financial Theory and Corporate Policy*, Pearson Addison-Wesley. (Referred to as CWS).

Sheridan Titman and John D. Martin (2016). *Valuation the Art and Science of Corporate Investment Decisions*, 3rd edition, Pearson Addison-Wesley.

G.M. Constandinides, M. Harris and R. Stulz, eds, *Handbook of the Economics of Finance*, (2003). Referred to as HEF.

Readings and assignments:

Specific readings will be assigned in class. Additional readings and topics that are not on this course outline may also be assigned. The order of topics may be changed as the instructor sees it fit. Whenever practice problems will be given during the term, you will be strongly encouraged to do them.

Topics:**1. Introduction**

- i) Investing in financial instruments

BKMSBPS ch 1-4

- ii) Risk, risk aversion and return

Lecture Notes

BKMSBPS ch 5

CWS ch 3

BDS ch 10

- iii) Market Efficiency

Lecture Notes

BKMSBPS ch 11

BDS ch 13

CWS, ch 10 and 11

Aswath Damodaran, "Market Efficiency: Definition and Tests,"

<http://people.stern.nyu.edu/adamodar/pdfiles/invphiloh/mktefficiency.pdf>

G. William Schwert, (2003) "Anomalies and Market Efficiency," in HEF.

Alan Timmerman and Clive Granger (2004) "Efficient Market Hypothesis and Forecasting," *International Journal of Forecasting*, 15-27.

Pedro Barroso and Pedro Santa-Clara (2015) "Momentum has its Moments" *Journal of Financial Economics*, 116, 111-20.

2. Valuation of cash flows and valuation of stocks

Lecture notes

BKMSBPS ch 18

BDS ch 9, 18-19 (background ch 14-16)

BDHSM, ch 3 and 4 for review on valuation of cash flows, 7 for valuation of stocks

Titman and Martin ch 2-3, 8-10

3. Mean-variance portfolio choice, the efficient set and the capital market line

Lecture Notes

BKMSBPS ch 5, 6 and 7

BDS ch 11

CWS ch 5

BDHSM ch 11

4. The capital asset pricing model (CAPM)

Lecture Notes

BDS ch 11-12

CWS ch 6

BDHSM ch 11

BKMSBPS ch 9

5. The factors approach and arbitrage pricing theory

Lecture Notes

BKMSBPS ch 8 and 10

BDS Ch 13

Eugene Fama and Kenneth French (1993) "Common risk factors in the returns on stocks and bonds" *Journal of Financial Economics*, 33, 3-56.

Eugene Fama and Kenneth French (2012) "Size, Value and Momentum in international stock returns" *Journal of Financial Economics*, 33, 3-56.

Eugene Fama and Kenneth French (2015) "A Five Factor Asset Pricing Model" *Journal of Financial Economics*, 116, 1-22.

Eugene Fama and Kenneth French (2017) "International Tests of a Five Factor Asset Pricing Model" *Journal of Financial Economics*, 123, 441-63.

6. Risk neutral valuation, options, futures and derivatives

- a. Futures and forward markets
- b. Hedging strategies using futures
- c. Call and put options
- d. Trading strategies with options
- e. Binomial options pricing and dynamic models
- f. The pricing of options using the Black-Scholes model
- g. Options on stock indices, currencies and futures
- h. Portfolio insurance, hedging with options and the synthetic creation of options
- i. Valuing options numerically using binomial trees

Lecture Notes

Hull, ch 3, 5, 8, 9-13, 15-16, 17-18, 23(9th ed)

BDS Ch 20-21-22

CWS, ch 7 and 9

BDHSM, ch 13

Course evaluation:

The basis for determining your final grade in this course is as follows:

Assignment/Exam	Date		% of grade
Assignment 1	Given on January 29 (week 4) and due on February 12 (week 6)	Submit on paper in class or online in the drop box.	10
Midterm	February 26 (week 7)	In person	30
Assignment 2	Given on March 19 (week 10) and due on March 26 (week 11)	Submit on paper in class or online in the drop box.	10
Final exam	Final exam period (formally scheduled)	In person	50
Total			100

Information About Assignments

There will be 2 Assignments. They will be due at the beginning of class. You may submit in person on paper. Alternatively, you may submit electronically on Brightspace. Your answers must be clearly written and all steps to a solution must be given.

Assignments will consist of solving problems on material covered in class and in the textbook.

Assignments should be done individually as the purpose is to learn the material.

The answers to the assignment will be discussed in class or during the tutorial.

Generative Artificial Intelligence tools such as ChatGPT may not be used.

Late assignments will not be accepted because the solutions will be discussed in class on the due date.

Students who miss an assignment for a valid reason (illness, family emergency, etc..) will have the associated weight added to that of the final exam. Please get in touch with me by email to let me know that you will not be able to give an assignment.

Information About Exams

The midterm exam will focus on topics 1-5 and the final exam will focus mainly on topic 6.

Formula sheets will be provided for both.

The final exam will be in-person as scheduled by the University during the exam period. Students are not to make travel plans during the exam period as that is not a valid reason for missing a final exam.

Students who miss the midterm exam for a valid reason (illness, family emergency, etc..) will have the associated weight added to that of the final exam. Please get in touch with me by email to let me know that you will not be able to take the midterm exam.

Should the final exam be missed for any reason, a grade of F will be assigned, and the student must arrange for the possibility of a deferred examination through the Registrar's Office within 3 working days of the exam. If granted by the Registrar's Office, this exam will take place during the time designated in the Calendar. Special final exams (or mid-terms) will not be given.

Standing in a course is determined by the course instructor subject to the approval of the Faculty Dean. This means that grades submitted by the instructor may be subject to revision. No grades are final until they have been approved by the Dean. Application to write a deferred final examination must be made at the Registrar's Office.

Course Requirements:

Students must fulfill all course requirements in order to achieve a passing grade (D- or higher).

BrightSpace and e-mail:

This course will make intensive use of Brightspace. I will post PowerPoint slides, assignments, problem sets, answer keys, lecture notes, additional readings etc. on Brightspace. It is each student's responsibility to check this website for posted material. I will also send the class announcements by e-mail using Brightspace. So, please check your e-mail frequently. If you do not have a Brightspace account, please visit: <https://carleton.ca/brightspace/>

Intellectual Property Rights Regarding Course Material:

Please note: "Classroom teaching and learning activities, including lectures, discussions, presentations, etc., by both instructors and students, are copy protected and remain the intellectual property of their respective author(s). All course materials, including PowerPoint presentations, outlines, and other materials, are also protected by copyright and remain the intellectual property of their respective author(s). Students registered in the course may take notes and make copies of course materials for their own educational use only. Students are not permitted to reproduce or distribute lecture notes and course materials publicly for commercial or non-commercial purposes without express written consent from the copyright holder(s)." (See <https://carleton.ca/provost/2015/calendar-dates-and-course-materials-sharing-website/>)

PLAGIARISM, RESOURCES AND MENTAL HEALTH, ACADEMIC ACCOMODATIONS

Plagiarism

The University [Academic Integrity Policy](#) defines plagiarism as “*presenting, whether intentionally or not, the ideas, expression of ideas or work of others as one’s own.*” This includes reproducing or paraphrasing portions of someone else’s published or unpublished material, regardless of the source, and presenting these as one’s own without proper citation or reference to the original source. Examples of sources from which the ideas, expressions of ideas or works of others may be drawn from include but are not limited to: books, articles, papers, literary compositions and phrases, performance compositions, chemical compounds, artworks, laboratory reports, research results, calculations and the results of calculations, diagrams, constructions, computer reports, computer code/software, material on the internet and/or conversations.

Examples of plagiarism include, but are not limited to:

- any submission prepared in whole or in part, by someone else, including the unauthorized use of generative AI tools (e.g., ChatGPT);
- using ideas or direct, verbatim quotations, paraphrased material, algorithms, formulae, scientific or mathematical concepts, or ideas without appropriate acknowledgment in any academic assignment;
- using another’s data or research findings without appropriate acknowledgement;
- submitting a computer program developed in whole or in part by someone else, with or without modifications, as one’s own; and
- failing to acknowledge sources through the use of proper citations when using another’s work and/or failing to use quotations marks.

Plagiarism is a serious offence that cannot be resolved directly by the course’s instructor. The Associate Dean of the Faculty conducts a rigorous investigation, including an interview with the student, when an instructor suspects a piece of work has been plagiarized. Penalties are not trivial. They can include a final grade of “F” for the course.

For the full policy please refer to the [Academic Integrity Policy](#).

Resources and Mental Health

Statement on Student Mental Health: As a University student you may experience a range of mental health challenges that significantly impact your academic success and overall well-being. If you need help, please speak to someone. There are numerous resources available both on- and off-campus to support you. Here is a list that may be helpful:

Emergency Resources (on and off campus): <https://carleton.ca/health/emergencies-and-crisis/emergency-numbers/>

Carleton Resources:

- Mental Health and Wellbeing: <https://carleton.ca/wellness/>
- Health & Counselling Services: <https://carleton.ca/health/>
- Paul Menton Centre: <https://carleton.ca/pmc/>
- Academic Advising Centre (AAC): <https://carleton.ca/academicadvising/>
- Centre for Student Academic Support (CSAS): <https://carleton.ca/csas/>
- Equity & Inclusivity Communities: <https://carleton.ca/equity/>

Off Campus Resources:

- Distress Centre of Ottawa and Region: (613) 238-3311 or TEXT: 343-306-5550, <https://www.dcottawa.on.ca/>
- Mental Health Crisis Service: (613) 722-6914, 1-866-996-0991, <http://www.crisisline.ca/>
- Empower Me: 1-844-741-6389, <https://students.carleton.ca/services/empower-me-counselling-services/>
- Good2Talk: 1-866-925-5454, <https://good2talk.ca/>
- The Walk-In Counselling Clinic: <https://walkincounselling.com>

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: write to me 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 accommodation regarding a formally-scheduled final exam, you must complete the Pregnancy Accommodation Form ([click here](#)).

Religious obligation: write to me 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 [click here](#).

Academic Accommodations for Students with Disabilities: The Paul Menton Centre for Students with Disabilities (PMC) provides services to students with Learning Disabilities (LD), psychiatric/mental health disabilities, Attention Deficit Hyperactivity Disorder (ADHD), Autism Spectrum Disorders (ASD), chronic medical conditions, and impairments in mobility, hearing, and vision. If you have a disability requiring academic accommodations in this course, please contact PMC at 613-520-6608 or pmc@carleton.ca for a formal evaluation. If you are already registered with the PMC, contact your PMC coordinator to send me your Letter of Accommodation at the beginning of the term, and 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

me to ensure accommodation arrangements are made. Please consult the PMC website for the deadline to request accommodations for the formally-scheduled exam (if applicable).

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 where 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: <https://carleton.ca/equity/sexual-assault-support-services>

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 will be provided to students who compete or perform at the national or international level. Write to me 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>

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Short URL: <https://carleton.ca/economics/?p=44679>