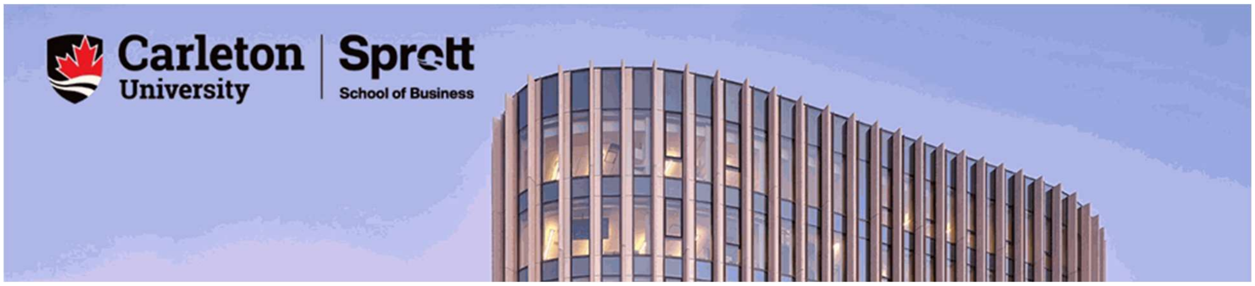

BUSI 4502: Portfolio Management

Fall 2026

Instructor	Dr. Nicole Yang
Email Address	nicoleyang@cunet.carleton.ca
Class Times	Tuesday, 6:05 pm – 8:55 pm
Modality	In-person
Office Hours	TBD
Office Location	NI 5032
TA Name/Email	TBD

Pre-Requisites & Preclusions:

Prerequisite(s): fourth-year standing, BUSI 3500, BUSI 3502, and BUSI 3512 (with a grade of C- or higher in each), and STAT 2602 or STAT 2607 (with a grade of C- or higher).

Course Description/Instructor's Statement

Carleton Calendar Description

Analysis of investment requirements for individuals and institutional investors: liquidity, risk and return; portfolio design, construction, management and control; performance measurement; capital market theory.

Instructor's Course Description:

This course develops a practical and analytical framework for portfolio management. Building on prior investment knowledge, students will learn how investment objectives, expected returns, risk, diversification, and market factors are translated into portfolio decisions. Emphasis is placed on portfolio construction, security analysis, implementation, monitoring, and performance evaluation.

Course Learning Objectives:

1. Apply portfolio theory and capital market concepts to evaluate risk, return, diversification, and portfolio choice.
2. Analyze individual securities and investment opportunities using quantitative and research-based evidence.
3. Construct and evaluate investment portfolios.
4. Evaluate and communicate portfolio management decisions through monitoring, rebalancing, and performance analysis.

AACSB ACCREDITED

Required/Optional Materials & Prices

Required Textbook:

Modern Portfolio Theory and Investment Analysis

- By Edwin J. Elton, Martin J. Gruber, Stephen J. Brown, and William N. Goetzmann; 9th Edition; Wiley; 2014.
- ISBN: ISBN-10: 1118469941; ISBN-13: 978-1118469941
- PRICE:
  - Print Textbook: $320.95
  - eBook: (150-day access) - $100.00 or (lifetime access) - $226.95

Textbook(s) available at the Campus Store in Nideyinàn or order online for pick up: https://carletonshop.ca/Course/term

Course Materials and Mathematical Expectations: Problem sets and relevant reading materials will be posted on Brightspace on a regular basis. Class time will focus on the most important concepts and applications from the textbook rather than covering every assigned section in detail. The textbook is mathematically rigorous, and some derivations may go beyond the level expected in this course; lectures, assigned materials, and problem sets will indicate the concepts, formulas, and applications students are responsible for on assessments. Students are therefore expected to complete the assigned textbook chapters/sections listed in the Course Schedule, together with the posted problem sets and readings, to be adequately prepared for quizzes, the final exam, and the Portfolio Management Challenge.

Grading Scheme

Written Case Analysis (team; due Oct. 16)	10%
Portfolio Management Challenge	35%
– Group portfolio proposal (due Oct. 20)	10%
– Group stock pitch presentation (Nov. 24)	10%
– Final presentation with the client report (Dec. 8)	15%
Term Quizzes (3@6.67% each, in-class, dates below)	20%
Final Exam	35%
TOTAL	100%

BONUS:

Top 3 teams in the Portfolio Management Challenge: up to 2%

Policies & Accommodations

https://students.carleton.ca/course-outline/
https://carleton.ca/pmc/current-students/academic-accommodations/

Stay updated with important notifications and announcements from Carleton University, by downloading the Carleton University App!

Breakdown of evaluation components:

Term Quizzes

To consistently review course materials, and identify your strengths and weaknesses, four term quizzes will be held **in-class, in-person, on-paper, at the end of the lecture**. The schedule of quizzes will be as follows:

Quiz 1	Quiz 2	Quiz 3	Quiz 4
Oct.06	Oct.20	Nov.17	Dec. 08

- Each quiz will cover course materials from the first lecture up to the lecture before the quiz, with an emphasis on materials from the most recent three weeks (The lecture held on the quiz day is excluded from the quiz.).
- The best 3 out of 4 quizzes will be used to compute the 20% quiz points. Make-up quizzes are not available, as the lowest of the four quiz grades will be dropped to provide flexibility for occasional illness, emergencies, and other unforeseen circumstances.

Written Case Analysis

Teams will complete a written analysis of a Harvard Business School case, a portfolio-optimization case in which an investment committee must decide how adding new asset classes changes the efficient frontier. The case is the course's guided practice in portfolio optimization: it is released on September 29, immediately after the efficient-frontier lectures, and the team analysis is due on Friday, October 16 at 5 p.m. Case materials, detailed instructions, and the grading scoresheet will be provided on Brightspace. Guidance on using Python will be provided.

Portfolio Management Challenge

The Portfolio Management Challenge is a semester-long team project in which teams act as investment management firms hired by a fictional institutional client, the Rideau Foundation, each managing $1,000,000 (simulated on StockTrak) against the S&P 500 benchmark, under one common client instruction package released in Lecture 1. Three team deliverables are graded: the group portfolio proposal (10%, due Oct. 20 at 5 p.m.), the group stock pitch presentation (10%, Nov. 24), and the final presentation with the Client Report (15%, Dec. 8. The client report: due Dec. 8 at 5 p.m.). In addition, the top three teams on the Client Scorecard receive bonus marks on the final course grade: 2 percentage points for 1st place, 1.5 percentage points for 2nd place, and 1 percentage point for 3rd place.

Full details (the client instruction package, portfolio rules, the week-by-week plan, rules on the use of AI tools, and all grading scoresheets) will be provided in two documents posted on Brightspace: the Portfolio Management Challenge Handbook and the Grading Rubrics & Scoresheets. Students are expected to read both in the first week.

Final Exam

The final exam will cover all lectures. More information will be provided in class as we progress.

Late Assignments and Grading:

Students who encounter extenuating circumstances that temporarily hinder their capacity to fulfill course requirements must contact the instructor within 24 hours after the submission deadline and provide appropriate supporting documentation.

For students who do not contact the instructor within this timeframe or do not provide appropriate documentation, late work will normally be subject to a penalty of 5% of the assignment grade per calendar day, including weekends; Assignments submitted more than five calendar days late will not be accepted.

Every effort will be made to ensure that grading is fair and accurate. If you have concerns about a grade received on an assessment, please submit a brief written explanation of your concern, together with the graded work, to the instructor within seven calendar days of the work being returned. Please include your name and student number in your request. The work will then be reviewed in its entirety. Please note that a re-evaluation may result in the grade being increased, decreased, or left unchanged.

Deferred final exams:

If you wish to defer a **Formal Final Exam**, you – the student – must reach out to the registrar's office with the proper documentation prior to the deadline (please refer to https://carleton.ca/registrar/deferral/ for dates). Once the request has been put through, your instructor will be notified for their approval.

Use of Generative Artificial Intelligence

This course treats AI tools (for example ChatGPT, Claude, and Copilot) the way the investment industry does: as professional tools you are expected to learn to use well and to stand behind. What is allowed depends on the component. Quizzes and the final exam certify your individual understanding: they are in-person, on-paper, closed-book, and no AI is permitted. For the Portfolio Management Challenge and the written case analysis, AI tools are permitted and openly expected for writing and debugging Python code, exploring ideas, and improving drafts, but under three standing rules.

First, anchored: every submission must be built from your team's own StockTrak records and produced by a Python code submitted with it whenever quantitative analysis is required; a number that cannot be reproduced from your code and records earns no credit. Second, owned: any team member may be asked, in any meeting or presentation, to explain and defend any number, chart, or claim your team submitted; inability to explain your own work forfeits the marks for that item, and "the AI produced it" is never an answer. Third, disclosed: each deliverable carries a one-line note stating which AI tools were used and for what; honest disclosure is never penalized, while missing or false disclosure is treated as an academic-integrity matter. This is also why the Challenge's marks sit on live defence, in-class events, completion checks, and a formula-based scorecard: AI can help you prepare, but it cannot understand for you. Carleton's AI resources for students: https://carleton.ca/ai/students/

Course Schedule

Date	Topics	Chapters / Pages
Sep. 15	Portfolio Risk, Return & Diversification: expected return, variance, covariance, correlation, diversification **Portfolio Management Challenge: client instruction package released; team registration**	Ch. 4, pp. 42–62
Sep. 22	Efficient Portfolios & Computing the Efficient Frontier: two risky assets, portfolio possibilities curve, riskless lending and borrowing	Ch. 5, pp. 65–92; Ch. 6, pp. 95–106 (excl. Appendices A–E)
Sep. 29	Estimating Portfolio Risk: The Single-Index Model: structure, estimating beta, market model **Written Case released**	Ch. 7, pp. 126–150
Oct. 06	Practical Portfolio Construction: Multi-Index & Factor Models: multi-index models, practical frontier techniques, common factor exposures **Quiz 1**	Ch. 8, pp. 155–169; Ch. 9, pp. 176–193; Ch. 16, selected pp. 392–397
Oct. 13	Estimating Expected Returns & Selecting the Optimal Portfolio: expected returns, preferences, risk tolerance, safety first, Value at Risk, simulation **Written Case Analysis due Friday, Oct. 16, 5 p.m.**	Ch. 10, pp. 206–214; Ch. 11, selected pp. 220–235 and 241–247
Oct. 20	International Diversification & Widening the Investment Universe: foreign investment returns and risk, exchange risk, emerging markets	Ch. 12, selected pp. 256–279

	Quiz 2 **Initial Portfolio Proposal due to the client, 5 p.m.**	
Oct. 26–30	Fall break, no classes	
Nov. 03	Security Analysis I: Valuation: valuation process, discounted cash flow models, translating fundamentals into investment decisions	Ch. 18, selected pp. 454–466
Nov. 10	Security Analysis II: Earnings & Forecasts: earnings, forecasting, analyst expectations, implications for stock selection	Ch. 19, pp. 481–495
Nov. 17	Efficient Markets & Active vs. Passive Portfolio Management **Quiz 3**	Ch. 17, selected pp. 410–419 and 437–442; Ch. 28, selected pp. 715–720
Nov. 24	Portfolio Performance Measurement & Evaluation **Group Stock Pitches**	Ch. 26, selected pp. 661–678
Dec. 01	The Evidence on Fund Performance & Evaluating Security Analysis	Ch. 26, selected pp. 682–689; Ch. 27, selected pp. 699–711
Dec. 08	Portfolio Monitoring, Revision & Final Investment Committee Presentations **Quiz 4** **Client Report due, 5 p.m.; final manager-review presentations**	No new reading; review

Please note that the course schedule may be amended during the term depending on whether topics take more or less time to cover than planned.

Contribution to Learning Goals of the Program (BCom, BIB):

Program Learning Goal	Competencies Not Covered	Competencies Introduced (only)	Competencies Taught But Not Assessed	Competencies Taught and Assessed
	CHECK (X) ONE PER ROW			
BC1 Knowledge *Graduates will be skilled in applying foundational business knowledge to appropriate business contexts.*				X
BC2 Collaboration *Graduates will be collaborative and effective contributors in team environments that respect the experience, expertise and interest of all members.*				X
BC3 Critical Thinking *Graduates will be discerning critical thinkers, able to discuss different viewpoints, challenge biases and assumptions, and draw conclusions based on analysis and evaluation.*				X
BC4 Communication *Graduates will be effective and*				X

persuasive in their communications.				
BI5 Global Awareness (BIB ONLY) *Graduates will be globally-minded.*			X	

ADDITIONAL INFORMATION

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).

Recommended Calculator for Examinations

If you are purchasing a calculator, we recommend anyone 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 Sprott School of Business encourages group assignments in the school for several reasons. They provide you with opportunities to develop and enhance interpersonal, communication, leadership, followership, 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.

Grading

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

Carleton is committed to providing academic accessibility for all individuals. You may need special arrangements to meet your academic obligations during the term. The accommodation request processes, including information about the *Academic Consideration Policy for Students in Medical and Other Extenuating Circumstances*, are outlined on the Academic Accommodations website (students.carleton.ca/course-outline).

Pregnancy Accommodation

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, please review the pregnancy academic accommodation process.

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, please review the religious academic accommodation process.

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 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. For more details, visit the Paul Menton Centre website.

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 the Equity and Inclusive Communities website.

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. For more details, see the Senate Policy on Accommodation for Student Activities (PDF, 25 KB).

Academic Consideration for Medical and Other Extenuating Circumstances

Due to medical and other extenuating circumstances, students may occasionally be unable to fulfil the academic requirements of their course(s) in a timely manner. The university supports the academic development of students and aims to provide a fair environment for students to succeed academically. Medical and/or other extenuating circumstances are circumstances that are beyond a student's control, have a significant impact on the student's capacity to meet their academic obligations, and could not have reasonably been prevented. Students may request Academic Consideration for Coursework or Other Academic Deliverable. For further information please review the Procedure for Academic Consideration and the FAQ page.

Scheduling and Examination Support

Scheduling and Examination Services provides various supports for both in-term and end-of-term tests and exams. Details can be found on the Exam Support website.

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.

Process: If an alleged violation occurs, all relevant documentation will be forwarded to the Dean. If the allegation proves true, the 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. **For a first offence, at a minimum, the penalty assigned will normally be a zero on the submitted work and at least a minimum full grade reduction of the final course grade. For a second offence, at a minimum, the penalty assigned will normally lead to a suspension from studies.**

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 Undergraduate Student Services Office offers program advising and overall student success support. Our team is available to discuss your academic goals and your program progression plans. We can also work with you to develop strategies for success, including study skills for Business. If you experience any difficulty this term or if you would like to access support, please contact our team at academicadvising@sprott.carleton.ca .

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: carleton.ca/csas.

Important Information:

- Students must always retain a 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/