



FINANCE 601, Introduction to Finance Course Outline, Fall 2023

Master of Finance DeGroot School of Business McMaster University

Course Objective

As an introduction to modern finance at the graduate level, this course considers various fundamental financial concepts, as well as the corresponding analytical underpinnings and practical applications, in order to prepare students for the specialized courses that the Master of Finance (MFIN) program offers.

Instructor, Teaching Assistant, and Contact Information

Instructor: Clarence C.Y. Kwan, Professor of Finance; email: kwanc@mcmaster.ca .

Teaching Assistant: Ruohan Jin, Finance Ph.D. Student; email: jinr18@mcmaster.ca .

Office Hours: TBA (to be announced in class when confirmed).

Important Notice: For email communications with the instructor or the teaching assistant, please always use McMaster’s regular email system, which is outside the Avenue-to-Learn (A2L) platform. Please note that the instructor and the teaching assistant do not monitor A2L regularly for incoming emails. For timely response, it is important to use McMaster email accounts (***@mcmaster.ca), with **FINANCE 601** (and nothing else) being the subject heading.

Course Elements

Credit Value: 3	Leadership: No	IT Skills: No	Global View: Yes
A2L: Yes	Ethics: Yes	Numeracy: Yes	Written Skills: Yes
Participation: Yes	Innovation: Yes	Group Work: Yes	Oral Skills: Yes
Evidence-Based: Yes	Experiential: No	Final Exam: Yes	Guest Speaker: No

Course Description

This course covers a broad range of topics in modern finance, with emphasis on conceptual issues, analytical underpinnings, and practical applications. After some preliminary materials, this course considers time value concepts and applies them directly to practical loan problems, including mortgages, and to valuation from investors’ perspectives, including bond and stock valuation. This course also considers fundamental concepts of portfolio investments, risk-return trade-off, capital market theory, and market efficiency issues. The topic of options, including essential properties of call and put options on stocks and option pricing models, is considered as well.

Turning to corporate finance, this course considers corporate investment decisions, including capital budgeting and decisions to purchase or to lease assets in the Canadian tax environment, and long-term sources of funds for financing investments. Pertaining to long-term financing, the major topics include the cost of capital, capital structure, dividend policy, and share repurchase decisions. The final topic of this course is merger and corporate structuring.

Achieving the Course Objective

As many financial topics are analytical, students are expected to be already familiar with essential mathematical tools, such as finite and infinite series, matrix algebra, differential and integral calculus, and basic methods of mathematical proofs. Further, students are expected to be familiar with fundamental statistical concepts such as random variables, discrete and continuous probability distributions, sampling, and estimation, as well as estimation error.

This course has a major assignment with multiple components, which will give students valuable hands-on experience with applying the course materials to practical settings. The work will require data collection, spreadsheet-based computations, analysis, and report writing at the professional level. The work will enable students to recognize the practical relevance of the course materials involved.

To achieve the course objective also requires a considerable amount of out-of-class work by each student. In addition to keeping up with the required reading as the Fall Term progresses, students are expected to do the provided exercises independently, instead of merely reading the posted solutions. Examination questions at the graduate level, including those in FINANCE 601, are seldom replications of the same exercises with different numerical values. Independent efforts for such tasks will enhance students' problem-solving skills as needed in practice afterwards.

Lecture Notes, Supplementary Pedagogic Notes, and Other Reference Materials

The primary reading materials of this course are in the following set of lecture notes by the instructor:

Clarence C.Y. Kwan, FINANCE 601, Introduction to Finance: *Lecture Notes*, Fall 2023 (hereafter, Lecture Notes).

As the Lecture Notes are not intended for public dissemination, at least for now, registered students in the Fall 2023 class of FINANCE 601 will have **password access** to the individual chapters of the 2023 version of the Lecture Notes. They will be distributed, in advance, via the FINANCE 601 site on A2L. The password will be announced in class.

Also distributed are the class-presentation slides, which cover the key, but abbreviated, materials in the corresponding chapters of the Lecture Notes. The distributions of such slides are typically within a day or two after each weekly class. Further, there will be various supplementary notes by the instructor for distribution to students, also via the FINANCE 601 site on A2L. Such notes are primarily intended to facilitate and strengthen students' understanding of some specific topics in the Lecture Notes or to explore additional issues within the scope of this course.

No specific textbooks are assigned for this course. Students can supplement the course materials when needed, by consulting standard textbooks in Canadian settings. A suitable textbook for such a purpose is the following: Jonathan Berk, Peter DeMarzo, and David Stangeland, *Corporate Finance, Fifth Canadian Edition*, 2022, Pearson Canada.

Students are also encouraged to use reliable online resources, such as Wikipedia and Investopedia, when encountering any unfamiliar terms in the course materials. For example, the use of relevant key words in a Google search can lead to appropriate websites. However, as not all online resources are reliable, judgement is needed for assessing the credibility of each posting.

Evaluation Scheme and Grading Scale

Performance in FINANCE 601 is based on three components, including a mid-term examination (30%), a major assignment (25%), and a cumulative final examination (45%). Any changes to the evaluation scheme will be announced in class.

The details of the assignment will be announced in class. So will be the date, time, duration, and coverage of each examination, once confirmed.

FINANCE 601 being a graduate course, B- is the lowest passing grade. The conversion from percentage grades to letter grades is as follows: 90-100%, A+; 85-89%, A; 80-84%, A-; 75-79%, B+; 70-74%, B; 60-69%, B-; 0-59%, F.

For percentage grades marginally below a breakpoint (which is 90%, 85%, 80%, 75%, 70%, or 60%), the conversion may be adjusted at the discretion of the instructor.

Important Notice:

1. Students are expected to adhere strictly to the standards of academic ethics of the University.
2. If a part of the mid-term examination paper contains multiple-choice questions, the part containing such questions will not be released to students after grading. Neither will the entire final examination paper.
3. Although all course materials are made available to students, regular attendance of the weekly classes remains highly important. Active participation in the learning process is valuable for students. In fact, several major improvements to the course materials in previous years originated from class discussions of the issues involved.
4. Relevant information is announced in class.
5. Students can earn bonus marks for independently identifying typographical errors or other errors in any of the course materials throughout the Fall Term. A simple way to do so is to record such errors on paper or in an electronic device, when going through the course materials, and to provide the instructor with a list, from time to time. If an error is truly consequential, then please alert the instructor immediately, so that the instructor can take appropriate actions to rectify the situation without delays.
6. Students can also earn bonus marks for actively participating in class discussions. Thus, it is useful to bring a name plate to class. This will allow the instructor to connect the names on the class list to the individual students.

7. It is the responsibility of each student to confine the use of electronic devices in class only for the course materials and course-related activities pertaining to FINANCE 601.

The Course Outline (with the Individual Chapters of the Lecture Notes Indicated)

1. Chapter 1: Introduction

Milestones of modern finance; the objective of the firm; financial management's functions; major types of firms; financial institutions, markets, and their functions; a brief description of the sources of funds for a firm.

2. Chapter 2: The Time Value of Money and Related Topics

Simple interest and compound interest; present value and future value; interest rate conversion; continuously compounded interest rates; annuities; mortgage loan repayments; periodic deposits; reverse mortgages; growing annuities; the term structure of interest rates; interest parity.

Y. Feng and C.C.Y. Kwan, "Interest Rate Conversion," *Spreadsheets in Education*, 8, no. 1, (2015), Article 3.

3. Chapter 3: Bond Valuation

General features of a bond; interest-rate risk and default risk; a basic model for bond valuation; premium and discount; a more realistic model for bond valuation; accrued interests; day-counting methods for computing accrued interests in practice; odd coupon periods; the demise of negative yield bonds; Macaulay's duration and modified duration as measures of bond-price sensitivities in response to interest-rate movements; impacts on duration by underlying parameters; a saw-toothed time pattern of duration and a corrective measure.

Y. Feng and C.C.Y. Kwan, "Time-Value Concepts, Bond Valuation, and Corresponding Spreadsheet Functions," *Spreadsheets in Education*, 5, no. 1, (2011), Article 4.

Y. Feng and C.C.Y. Kwan, "Bond Duration: A Pedagogic Illustration," *Spreadsheets in Education*, 5, no. 3, (2012), Article 1.

4. Chapter 4: Stock Valuation

General features of preferred stock and common stock; Gordon's constant growth stock valuation model; practical implications; impact of dividend growth on stock price; estimation of growth; quarterly dividends with annual growth; finite-growth stock valuation model and extensions.

5. Chapter 5: Mean-Variance Portfolio Theory

Normal distributions and indifference curves; a mean-variance paradox; measurement of security returns; ex-dividend and record dates; logarithmic transformation of returns and implications; portfolio's risk-returns trade-off; variance, covariance, and correlation of returns; 1/N investment strategy; implications of frictionless short sales; short selling of stocks in practice; a basic portfolio selection model; the presence of a risk-free security; idle cash; the tangency portfolio approach for portfolio selection; input parameters for portfolio selection models; revisions of input parameter; a non-technical description of the Markowitz critical line method for portfolio selection; various practical issues.

6. Chapter 6: Asset Pricing Models and Market Efficiency

The Sharpe-Lintner capital asset pricing model (CAPM); the capital market line; the security market line; the beta coefficient; diversifiable and non-diversifiable risk; the Ross arbitrage pricing theory (APT); an illustration of the construction of arbitrage portfolios; the Fama-French three factor model; discussions of weak form, semi-strong form, and strong form market efficiency; the random walk hypothesis; conceptual arguments for market efficiency; event-study methodologies; market anomalies.

C.C.Y. Kwan, "The Arbitrage Pricing Model: A Pedagogic Derivation and a Spreadsheet-Based Illustration," *Spreadsheets in Education*, 9, no. 1, (2016), Article 4.

7. Chapter 7: Options

Basic terminology; basic properties of call and put option prices; arbitrage profits from violations of such properties; put-call parity; the Black-Scholes option pricing model; the underlying intuition of the original model derivation; the Cox-Ross-Rubinstein binomial option pricing model; discussions of the convergence of the binomial version to the original Black-Scholes version; a practical application of options: volatility indices.

Y. Feng and C.C.Y. Kwan, "Connecting Binomial and Black-Scholes Option Pricing Models: A Spreadsheet-Based Illustration," *Spreadsheets in Education*, 5, no. 3, (2012), Article 2.

8. Chapter 8: Capital Budgeting

Basic cash flow calculations; methods of project evaluation: payback period, discounted cash flows; potential conflicts between results based on the internal rate of return and the net present value; mutually exclusive projects with unequal life cycles; tax considerations in capital budgeting; tax shields from declining-balance capital cost allowances; loss of tax shield from disposing an asset; incremental analysis; a temporary change in the Canadian tax policy that affects capital cost allowances; capital budgeting under risk; certainty equivalents of risky cash flows; the expected-utility concepts; some essentials of leasing; reasons for leasing; hidden costs of leasing; lease valuation.

9. Chapter 9: Long-Term Sources of Funds and the Cost of Capital

Terminology pertaining to long-term debt; risk and return to investors of long-term debt; maturity and repayment provisions; retractable bonds, extendible bonds, and call provisions; advantages and disadvantages of debt financing; bond refunding decisions; some essentials of preferred stock; early redemption of preferred stock; advantages and disadvantages of preferred stock financing; some essential features of common stock; rights of common shareholders; advantages and disadvantages of common stock financing; cumulative voting versus majority voting by common shareholders; the connection between the cost of debt and bondholders' required return; a convenient approximation of the cost of debt; the connection between the cost of preferred (common) stock and preferred (common) stockholders' required return; the weighted average cost of capital;

10. Chapter 10: Capital Structure

Business risk and financial risk; the degree of operating leverage; the degree of financial leverage; the degree of combined leverage; the impact of financial leverage on earnings per share; the Modigliani-Miller (MM) theory of capital structure; the MM assumptions; justifications of the MM results without any tax and with corporate tax; arbitrage proofs of the MM results; impacts of leverage on the cost of equity; investment decisions in the MM framework; risk-free and risky corporate debt; the MM theory and the CAPM; financial leverage and the beta coefficient; risk sharing between bondholders and shareholders; limited liabilities of shareholders;

the pecking order theory and the trade-off theory of capital structure; the principal-agent problem; bankruptcy costs; various practical issues.

11. Chapter 11: Dividend Policy and Share Repurchase Decisions

Historical controversies of dividend relevance and dividend irrelevance; the residual theory of dividend; consideration of sources and uses of funds; the case for dividend irrelevance with analytical underpinnings; the case for dividend relevance, also with analytical underpinnings; some practical issues; a reconciliation: costly external financing and the information content of dividend; share repurchase: its intended purpose and its signal to investors.

12. Chapter 12: Merger and Corporate Restructuring

Basic terminology; practical reasons for merger; defensive tactics against takeover attempts; economic gains and costs of merger; acquisition by cash; impacts of information about the merger offer on the costs of the acquiring firm; acquisition by share exchange; the dilution of ownership; ex-post evaluation of merger; different types of corporate structuring; discounted cash flow analysis of merger and corporate restructuring.

Other Useful General Information for Students (The materials below are duplicated *verbatim* from a template of the School's MFIN course outlines.)

COMMUNICATION AND FEEDBACK

Students who wish to correspond with instructors or TAs directly via email must send messages that originate from their official McMaster University email account. This protects the confidentiality and sensitivity of information as well as confirms the identity of the student. Emails regarding course issues should NOT be sent to the Area Administrative Assistants.

REQUESTING RELIEF FOR MISSED ACADEMIC WORK

In the event of an absence for medical or other reasons, students should review and follow the Missed Term Work regulations that are outlined on the Master of Finance website;

<https://mfin.degroot.mcmaster.ca/current-students/missed-term-work/>

ACADEMIC INTEGRITY

You are expected to exhibit honesty and use ethical behaviour in all aspects of the learning process. Academic credentials you earn are rooted in principles of honesty and academic integrity. **It is your responsibility to understand what constitutes academic dishonesty.**

Academic dishonesty is to knowingly act or fail to act in a way that results or could result in unearned academic credit or advantage. This behaviour can result in serious consequences, e.g. the grade of zero on an assignment, loss of credit with a notation on the transcript (notation reads: "Grade of F assigned for academic dishonesty"), and/or suspension or expulsion from the university.

For information on the various types of academic dishonesty please refer to the Academic Integrity Policy, located at:

www.mcmaster.ca/academicintegrity

The following illustrates only three forms of academic dishonesty:

- plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained.
- improper collaboration in group work.
- copying or using unauthorized aids in tests and examinations.

AUTHENTICITY/PLAGIARISM DETECTION

Some courses may use a web-based service (Turnitin.com) to reveal authenticity and ownership of student submitted work. For courses using such software, students will be expected to submit their work electronically either directly to Turnitin.com or via an online learning platform (e.g. A2L, etc.) using plagiarism detection (a service supported by Turnitin.com) so it can be checked for academic dishonesty.

Students who do not wish their work to be submitted through the plagiarism detection software must inform the Instructor before the assignment is due. No penalty will be assigned to a student who does not submit work to the plagiarism detection software.

All submitted work is subject to normal verification that standards of academic integrity have been upheld (e.g., on-line search, other software, etc.). For more details about McMaster's use of Turnitin.com please go to www.mcmaster.ca/academicintegrity.

COURSES WITH AN ON-LINE ELEMENT

Some courses may use on-line elements (e.g. e-mail, Avenue to Learn (A2L), LearnLink, web pages, capa, Moodle, ThinkingCap, etc.). Students should be aware that, when they access the electronic components of a course using these elements, private information such as first and last names, user names for the McMaster e-mail accounts, and program affiliation may become apparent to all other students in the same course.

The available information is dependent on the technology used. Continuation in a course that uses on-line elements will be deemed consent to this disclosure. If you have any questions or concerns about such disclosure please discuss this with the course instructor.

ON-LINE PROCTORING

Some courses may use online proctoring software for tests and exams. This software may require students to turn on their video camera, present identification, monitor and record their computer activities, and/or lock/restrict their browser or other applications/software during tests or exams. This software may be required to be installed before the test/exam begins.

CONDUCT EXPECTATIONS

As a McMaster student, you have the right to experience, and the responsibility to demonstrate, respectful and dignified interactions within all of our living, learning and working communities. These expectations are described in the [Code of Student Rights & Responsibilities](#) (the "Code"). All students share the responsibility of maintaining a positive environment for the academic and personal growth of all McMaster community members, **whether in person or online.**

It is essential that students be mindful of their interactions online, as the Code remains in effect in virtual learning environments. The Code applies to any interactions that adversely affect, disrupt, or interfere with reasonable participation in University activities. Student disruptions or behaviours that interfere with university functions on online platforms (e.g. use of Avenue 2 Learn, WebEx or Zoom for delivery), will be taken very seriously and will be investigated. Outcomes may include restriction or removal of the involved students' access to these platforms.

ACADEMIC ACCOMMODATION OF STUDENTS WITH DISABILITIES

Students with disabilities who require academic accommodation must contact [Student Accessibility Services](#) (SAS) at 905-525-9140 ext. 28652 or sas@mcmaster.ca to make arrangements with a Program Coordinator. For further information, consult McMaster University's [Academic Accommodation of Students with Disabilities](#) policy.

ACADEMIC ACCOMMODATION FOR RELIGIOUS, INDIGENOUS OR SPIRITUAL OBSERVANCES (RISO)

Students requiring academic accommodation based on religious, indigenous or spiritual observances should follow the procedures set out in the [RISO](#) policy. Students should submit their request to their Faculty Office **normally within 10 working days** of the beginning of term in which they anticipate a need for accommodation or to the Registrar's Office prior to their examinations. Students should also contact their instructors as soon as possible to make alternative arrangements for classes, assignments, and tests.

COPYRIGHT AND RECORDING

Students are advised that lectures, demonstrations, performances, and any other course material provided by an instructor include copyright protected works. The Copyright Act and copyright law protect every original literary, dramatic, musical and artistic work, **including lectures** by University instructors.

The recording of lectures, tutorials, or other methods of instruction may occur during a course. Recording may be done by either the instructor for the purpose of authorized distribution, or by a student for the purpose of personal study. Students should be aware that their voice and/or image may be recorded by others during the class. Please speak with the instructor if this is a concern for you.

EXTREME CIRCUMSTANCES

The University reserves the right to change the dates and deadlines for any or all courses in extreme circumstances (e.g., severe weather, labour disruptions, etc.). Changes will be communicated through regular McMaster communication channels, such as McMaster Daily News, A2L and/or McMaster email.

RESEARCH USING HUMAN SUBJECTS

All researchers conducting research that involves human participants, their records or their biological material are required to receive approval from one of McMaster's Research Ethics Boards before (a) they can recruit participants and (b) collect or access their data. Failure to comply with relevant policies is a research misconduct matter. Contact these boards for further information about your requirements and the application process.

McMaster Research Ethics Board (General board): <https://reo.mcmaster.ca/>

Hamilton Integrated Research Ethics Board (Medical board): <http://www.hireb.ca/>

ACKNOWLEDGEMENT OF COURSE POLICIES

Your enrolment in Finance **XXXX** will be considered to be an implicit acknowledgement of the course policies outlined above, or of any other that may be announced during lecture and/or on A2L. **It is your responsibility to read this course outline, to familiarize yourself with the course policies and to act accordingly.**

Lack of awareness of the course policies **cannot be invoked** at any point during this course for failure to meet them. It is your responsibility to ask for clarification on any policies that you do not understand.