

FIN 7140 (Go1/A01) (3.0 CH)
FINANCIAL MODELING
SUMMER 2024

TERRITORY ACKNOWLEDGEMENT

The University of Manitoba campuses are located on original lands of Anishinaabeg, Ininewuk, Anisininewuk, Dakota Oyate and Denesuline, and on the National Homeland of the Red River Métis. We respect the Treaties that were made on these territories, we acknowledge the harms and mistakes of the past, and we dedicate ourselves to move forward in partnership with Indigenous communities in a spirit of Reconciliation and collaboration.

INSTRUCTOR

Name:	Ying Zhang	Office Location:	Drake 466
Phone:	204-474-9480	Office Hours:	by appointment
Fax:	204-474-7545	Office Location:	Drake 122
Email:	ying.zhang@umanitoba.ca	Class Time:	Tuesdays and Thursdays 6:15pm - 9:30 pm

COURSE DESCRIPTION

The objective of this course is to provide you with a practical perspective of the application of major finance models using Microsoft Excel. At the end of the course, students should have a good appreciation for the development and use of spreadsheet-based financial models, implementation of a concise and sound methodology, and utilization of financial theory over a wide range of applications used by practitioners in the financial industry.

This course aims to prepare students for success by building a toolkit for financial modeling. The course will benefit students aspiring to a career in financial-services including investment banking, private equity, portfolio management, research, and consulting. It will also benefit students interested in a corporate-finance career.

COURSE OBJECTIVES

On course completion, you should be able to:

- Be familiar with financial models.
- Use Microsoft Excel to solve financial problems.
- Work with Bloomberg terminals.

COURSE MATERIALS

1. **Lecture notes** - Lecture notes will be available on the course’s UM learn site. Students are responsible for checking UM learn and downloading the relevant material before each class.
2. **Computer** - Students are required to use their computer for every class and be ready to work with Microsoft Excel.
3. **Other course material** - I will post announcements, notes, Excel spreadsheets, and other course materials on the course UM learn site. You are responsible for downloading, printing, and reading the relevant materials

RECOMMENDED TEXT:

Simon Benninga and Tal Mofkadi, *Financial Modeling: Fifth Edition*, The MIT Press, Cambridge, Massachusetts, 2022.

The option to purchase the e-book version is available through UM BookStore’s partnership with VitalSource Technologies:

<https://umanitobastore.vitalsource.com/textbooks?sort=&term=financial+modeling+benninga>

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COURSE ASSESSMENT

Student progress will be assessed through:

- BMC Modules 5% (each worth 2.5%)
- Midterm Exam.....30%
- Quiz 5%
- Term Project35%
- Project Presentation 25%
- Total100%

Please note that the term project grade is a combination of the grade assigned by me and group-member evaluation. For the group-member evaluation, students will evaluate each of the group members with which they prepared the term project. The group-member evaluation is based on the member’s contribution to the analysis and write-up of the term project. Please note that all group members are expected to significantly contribute to the project. Failing to meaningfully participate in solving the project will result in failing the course. Also, please remember that the only way you can do the term project and contribute to your group is if you are actually in class (see attendance requirements above).

The presentation grade is based on my own evaluation of every group member’s presentation. Every group member will be evaluated individually based on (but not limited to) criteria such as: analysis, understanding of the concepts, delivery, and communication style, and visuals.

A grade of zero will be given to a missed examination without a legitimate reason. Students who miss the examination for a legitimate reason (medical, compassionate, academic conflict or university sports team travel) must apply to the Graduate Program Office for possible deferred examination privileges.

Both the midterm exam and quiz are closed-book exam. You are allowed to bring one double-sided 8.5" x 11" sheet with anything **hand written** on it for both the midterm and quiz. You can (and should) also bring a financial calculator. In the event that your calculator is programmable you may NOT enter any text, formulas, or data.

Final grades will be assigned as follows;

Cumulative Marks	Grade	GPA	Performance
90-100	A+	4.5	Excellent
80-89.99	A	4.0	Very Good
75-79.99	B+	3.5	Good
70-74.99	B	3.0	Satisfactory
65-69.99	C+	2.5	Marginal
60-64.99	C	2.0	Unsatisfactory
50-59.99	D	1.0	Unsatisfactory
49.99 and below	F	0.0	Unsatisfactory

NOTE: Class attendance is required. Missing more than 20% of this course due to absence from lectures may result in a failing grade. It is your responsibility to inform your professor, in advance if possible, of your absence and the reason for it:

- 1) if **medical**, self-declaration form must be submitted for an illness lasting 5 consecutive days or less <https://umanitoba.ca/governance/governing-documents-students#self-declaration-for-brief-or-temporary-student-absences>, no later than 48 hours after the end of the brief absence; a medical note from your physician must be submitted for an illness lasting more than 5 days;
- 2) if a **work commitment**, a signed letter on letterhead from your supervisor is required in advance, noting clearly the date(s) you must be away for your work commitment(s);
- 3) if for **student competitions**, an email from your Asper team coach must be received in advance indicating the dates you are away at competition.

The professor will then decide how to deal with the impact of the missed classes on your final grade.

BLOOMBERG MARKET CONCEPTS (BMC)

You are expected to complete two sections of the self-paced course Bloomberg Market Concepts (BMC). BMC will expose you to some of the most frequently used Bloomberg Terminal commands.

You are required to complete the **Economic Indicators, Currencies, Fixed Income, and Equities, and Equity Options** sections for this class.

To register for BMC, please follow the steps below:

- 1) Please go to <https://portal.bloombergforeducation.com/>
- 2) SIGN UP, enter your name and university email address, generate a password and please tick to confirm you are taking BMC as part of a group.

GROUP CODE: MYLWB4CHRQ

- 3) Accept the Terms of Service and commence the course.

There are multiple quiz questions and case studies throughout the course to assess your understanding. Please note that I will receive a report with details of your performance on those sections.

TERM PROJECT

The term project will be handed out at least two weeks prior to the due date. The project is due at **5 pm** on **Thursday, Jun 6th**. Late submission will not be accepted. All projects must be typed. Hand written projects will not be accepted under any circumstances.

ATTENDANCE

Class attendance is important if students are to derive maximum benefit from the course. Moreover, the term project is based on methodology covered in class. The only way you can do the term project and contribute to your group is if you attend classes regularly. You are responsible for knowing what occurs in class which may include material not covered in the readings, modifications to the syllabus and announcements concerning the term project, presentations, or examination.

COURSE SCHEDULE

Dates	Topic
May 7	Hypothesis Testing <ul style="list-style-type: none"> • The Rejection Region Method • P-value Method
May 9 to May 14	Simple Linear Regression <ul style="list-style-type: none"> • Ordinary Least Squares Estimation of Beta and the Security Market Line • The Market Model
May 16	Multiple Linear Regression <ul style="list-style-type: none"> • Estimating Fama-French Three Factor Model • Portfolio Performance Evaluation
May 21-23	Value-at-Risk (VaR) <ul style="list-style-type: none"> • The Parametric Method • The Historical Pattern Method • The Monte Carlo Simulation Method • Estimating Bond Portfolio VaR
May 28	Midterm Option Pricing Models
May 30 to Jun 6	Building financial models

IMPORTANT DATES

- Voluntary Withdrawal by: Jun. 4th, 2024

- BMC is due Jun 11, 2024
- **Project is due:** Jun. 6th, 2024 at 5 pm
- **Midterm Exam: May 28st, 2024 6:15 pm-7:45 pm**
- **Quiz: Jun 4th, 2024 6:15 pm -6:45 pm**

ACADEMIC REGULATIONS AND STUDENT SERVICES

HUMAN ETHICS APPROVAL FOR DATA COLLECTION

As part of coursework, if you will be collecting data from people who are not students in this class, you must obtain Human Ethics approval from the UofM's Research Ethics Board (REB) prior to data collection. This applies to data collection such as surveys, interviews, focus groups, experiments, video recording, etc., where a respondent is solicited for participation.

If the entire class will be working on the same project, your instructor will apply for human ethics approval from the REB. If individuals or small groups of students will be working on different projects, it is the responsibility of the students to obtain approval (only one group member needs to apply). Your instructor will tell you whether s/he will be or you need to. **When in doubt, please talk to your instructor.**

Instructions and forms to apply for human ethics approval can be found at:
<http://umanitoba.ca/research/orec/ethics/guidelines.html>

In most cases, you will be using the "Protocol Submission Form" which is under the "REB Forms - Fort Garry Campus" heading.

It can take up to six weeks to process human ethics applications and obtain approval. Therefore, plan early. Note that approval must be obtained prior to data collection and cannot be obtained during the data collection phase or retroactively. Violation can get you, your instructor, and the Asper School in serious trouble with the REB.

The following do not require REB approval:

- a) Projects where students are conducting the research on themselves during class time;
- b) Projects involving the use of records or information that is in the public domain, including the use of anonymous secondary data and surveys or questionnaires that have already been published;
- c) Projects involving the use of naturalistic observation where there is no reasonable expectation of privacy (i.e. public park).
- d) Practicum or job training projects where students are fully integrated into the organization's operational practices and are not conducting research;
- e) Projects where the intent is to use the information to provide advice, diagnosis, identification of appropriate interventions or general advice for a client;
- f) Projects where the intent is to develop skills which are standard practice within a profession (e.g. observation, assessment, intervention, evaluation, auditing); or
- g) Projects where the information gathering processes are part of the normal professional relationship between the student and the participants.

If you have any questions, please contact humanethics@umanitoba.ca or your instructor.

UNCLAIMED ASSIGNMENT POLICY

Pursuant to the FIPPA Review Committee's approved recommendations of August 15, 2007, all unclaimed student assignments will become the property of the faculty and will be subject to destruction six months after the completion of any given academic term.

STUDENT SERVICES AND SUPPORTS

The University of Manitoba provides many different services that can enhance learning and provide support for a variety of academic and personal concerns. You are encouraged to visit the below websites to learn more about these services and supports. If you have any questions or concerns, please do not hesitate to contact your instructor or the Graduate Program Office.

For Information on...	...follow this link
Course Outlines, Year-at-a-Glance, Concentrations, Textbooks, VW Dates and Final Exams	Asper Graduate Student Resources
Exam Rescheduling Policy - <i>Please refer to Missing a Test/Exam on page 18 of the MBA Student Handbook</i>	MBA Student Handbook
Help with research needs such as books, journals, sources of data, how to cite, and writing	Library Resources
Tutors, workshops, and resources to help you improve your learning, writing, time management, and test-taking skills	Writing and Learning Support
Support and advocacy for students with disabilities to help them in their academic work and progress	Student Accessibility Services
Copyright-related questions and resources to help you avoid plagiarism or intellectual property violations	Copyright Office
Student discipline bylaws, policies and procedures on academic integrity and misconduct, appeal procedures	Academic Integrity
Policies & procedures with respect to student discipline or misconduct, including academic integrity violations	Student Discipline
Students' rights & responsibilities, policies & procedures, and support services for academic or discipline concerns	Student Advocacy
Your rights and responsibilities as a student, in both academic and non-academic contexts	Your rights and responsibilities
Full range of medical services for any physical or mental health issues	University Health Service
Information on health topics, including physical/mental health, alcohol/substance use harms, and sexual assault	Health and Wellness
Any aspect of mental health, including anxiety, stress, depression, help with relationships or other life concerns, crisis services, and counselling.	Student Counselling Centre
Support services available for help regarding any aspect of student and campus life, especially safety issues	Student Support Case Management
Resources available on campus, for environmental, mental, physical, socio-cultural, and spiritual well-being	Live Well @ UofM
Help with any concerns of harassment, discrimination, or sexual assault	Respectful Work and Learning Environment
Concerns involving violence or threats, protocols for reporting, and how the university addresses them	Violent or Threatening Behavior

ACADEMIC INTEGRITY

I.H. Asper School of Business, The University of Manitoba

It is critical to the reputation of the I. H. Asper School of Business and of our degrees that everyone associated with our faculty behaves with the highest academic integrity. As the faculty that helps create business and government leaders, we have a special obligation to ensure that our ethical standards are beyond reproach. Any misconduct in our academic transactions violates this trust. The University of Manitoba Graduate Calendar addresses the issue of academic misconduct under the heading "Plagiarism and Cheating." Specifically, acts of academic misconduct include, but are not limited to:

- using the exact words of a published or unpublished author without quotation marks and without referencing the source of these words
- duplicating a table, graph or diagram, in whole or in part, without referencing the source
- paraphrasing the conceptual framework, research design, interpretation, or any other ideas of another person, whether written or verbal (e.g., personal communications, ideas from a verbal presentation) without referencing the source
- copying the answers of another student in any test, examination, or take-home assignment
- providing answers to another student in any test, examination, or take-home assignment
- taking any unauthorized materials into an examination or term test (crib notes)
- impersonating another student or allowing another person to impersonate oneself for the purpose of submitting academic work or writing any test or examination
- stealing or mutilating library materials
- accessing tests prior to the time and date of the sitting
- changing name or answer(s) on a test after that test has been graded and returned
- submitting the same paper or portions thereof for more than one assignment, without discussions with the instructors involved.

Many courses in the I. H. Asper School of Business require group projects. Students should be aware that group projects are subject to the same rules regarding academic misconduct. Because of the unique nature of group projects, all group members must exercise extraordinary care to insure that the group project does not violate the policy on Academic Integrity. Should a violation occur on a group project, all group members will be held jointly accountable, no matter what their individual level of involvement in the specific violation.

Some courses, while not requiring group projects, encourage students to work together in groups (or at least do not prohibit it) before submitting individual assignments. Students are encouraged to discuss this issue as it relates to academic integrity with their instructor to avoid violating this policy.

In the I. H. Asper School of Business, all suspected cases of academic misconduct involving a graduate student (i.e. MBA, MFin, MSCM, MSc or PhD student) will be reported directly by the instructor to the Dean of the Faculty of Graduate Studies.

AI TOOLS

AI tools can be used to enhance learning and problem-solving skills, but they should not replace independent thinking and learning. Students must exercise critical thinking when using AI tools and acknowledge their use in academic work. Prohibited uses include generating or completing academic work with AI tools without appropriate

acknowledgement. Academic honesty is paramount, and students should accurately represent their individual effort and knowledge. Faculty will provide guidance on AI tool usage and incorporate discussions on AI ethics and academic integrity. Violations may lead to disciplinary actions, including academic penalties or suspension.

FACULTY BIOGRAPHY

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Dr. Ying Zhang is an Associate Professor of Finance and received her Ph.D. in Finance from Concordia University. She is also a CFA charterholder and currently serves on the CFA Society Winnipeg board as the Ethics Challenge Chair.

Dr. Ying Zhang has taught a variety of finance courses including Corporate finance, Investment, Fixed Income Securities and Financial modeling. Her research interests include corporate governance, financial restatement, executive compensation, and market microstructure. Her work has been published in refereed journals such as Journal of Corporate Finance, Journal of Business Finance and Accounting, Journal of International Financial Markets, Institutions, & Money, and the Journal of Multinational Financial Management. She has presented her works at primary academic conferences, and served as ad hoc reviewer for several academic journals and conferences. She is the recipient of Associates Achievement Award for Research, Associates Achievement Award for Engagement, and Best paper award on Trading by the Toronto Stock Exchange.