

**FIN4240 A02 (3 CH)**  
**FINANCIAL MODELING**  
**WINTER 2021**

Virtual Classroom, T 2:30 – 5:15 pm

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**INSTRUCTOR**

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Office hours: Virtual meeting by appointment

**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**

As classes will be delivered synchronously via videoconferencing, a device enabled with a camera and microphone is required. Further, you are expected to be in a location with a reliable Internet connection that is strong enough for streaming video. You may also want to consider using earphones/headset with a mic, unless you have a computer/tablet with good speakers/mic.

For exams, which will be administered via the Respondus Lockdown browser and Respondus Monitor, you will need a computer or iPad (smartphones and Chromebooks will not work) with one of the following operating systems:

- Windows 10, 8, or 7 (note: will not work with Windows 10S)
- Mac OS 10.15 to 10.12, OS X 10.11, or OSX 10.10
- iOS: 11.0+ (iPad only)

You will need the Chrome browser. Other browsers such as Safari may not work.

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, *Financial Modeling: Fourth Edition*, The MIT Press, Cambridge, Massachusetts, 2014.

Please respect copyright laws. Photocopying textbooks or other reading material is a violation of copyright laws and is unethical, unless permission to copy has been obtained.

## **COURSE FORMAT AND ONLINE ACCESS**

The course will be taught in the form of lab sessions. The lab sessions are designed to implement financial models acquired in the prerequisite course using Excel. The advantage of spreadsheet modeling for financial management and model valuation is well established and widely accepted. Since the main focus of the course is "hands-on" learning of financial modeling, it is necessary that students will be comfortable with the theoretical models taught in the prerequisite courses.



## ASSESSMENT OF LEARNING

Your course grade will be based on

- Attendance .....5%
- BMC ..... 5%
- Midterm Exam .....30%
- Quiz.....5%
- Term Project .....35%
- Project Presentation .....20%
- Total.....100%

The midterm exam and quiz is open-book. 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.

## 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.

BMC consists of three sections- Core Concepts (includes four modules: Economic Indicators, Currencies, Fixed Income, and Equities), Getting Started on the Terminal and Portfolio Management. You are required to complete the **Core Concepts** and **Getting Started on the Terminal** sections for this class.

To register for BMC, please follow the steps below:

- 1) Please go to <https://portal.bloomberghforeducation.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: JBDLWPKTFV**

- 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 the Core Concepts and Getting Started on the Terminal.

## TERM PROJECT

The term project will be handed out at least two weeks prior to the due date. The project is due at **5pm** on **Tuesday, Apr 6<sup>th</sup>**. Late submission will not be accepted. All projects must be typed. Hand written projects will not be accepted under any circumstances. Project presentations will take place in class on **Tuesday, April 13<sup>th</sup>**.

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.

### **MISSED EXAM AND LATE SUBMISSION POLICY**

If you miss a mid-term examination or any other graded component of the course for personal, medical or Asper School approved reasons (see [list of events](#)), you must report as soon as possible to your instructor. A grade of zero will be given to a missed examination without a legitimate reason.

### **ATTENDANCE POLICY**

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. **Missing more three classes will result in failing the course.** 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. **I will take the attendance each class.**

### **ELECTRONIC DEVICE POLICY**

For this winter, using a computer or smartphone with a camera/mic during class is necessary. Although this course is taught in a remote teaching format, we will observe the protocols that would be expected during in-person classes. Avoid making or taking calls on your cellphone while class is in progress. No frivolous posting of messages in the Chat area during class. Please do not video/audio record class lectures or take pictures of the screen without the instructor's permission.

### **OUT-OF-CLASS COMMUNICATION**

UM Learn is the primary portal for accessing and distributing course materials. Announcements outside of class will be sent by e-mail from UM Learn. It is your responsibility to check your U of M e-mail account frequently so that you don't miss these emails.

### **ETHICS IN FINANCE**

Although this is not an ethics course, one session will be devoted to Ethics in Finance. We will watch



movie(s) that discuss important issues regarding practices and ethics surrounding the late-2000s financial crisis.

### TENTATIVE CLASS SCHEDULE

Dates	Topic
Jan 19	Hypothesis Testing <ul style="list-style-type: none"> <li>The Rejection Region Method</li> <li>P-value Method</li> </ul>
Jan 26 to Feb 2	Simple Linear Regression <ul style="list-style-type: none"> <li>Ordinary Least Squares Estimation of Beta and the Security Market Line</li> <li>The Market Model</li> </ul>
Feb 9 to Feb 23	Multiple Linear Regression <ul style="list-style-type: none"> <li>Estimating Fama-French Three Factor Model</li> <li>Portfolio Performance Evaluation</li> </ul>
Mar 2 to Mar 9	Value-at-Risk (VaR) <ul style="list-style-type: none"> <li>The Parametric Method</li> <li>The Historical Pattern Method</li> <li>The Monte Carlo Simulation Method</li> <li>Estimating Bond Portfolio VaR</li> </ul>
Mar 9	Midterm
Mar 16	Option Pricing Models, Ethics in Finance
Mar 23 to Apr 6	Building financial models
Apr 13	In-class presentation

### IMPORTANT DATES

- Mid-Term Break: February 16-19, 2021 (no class on February 16)
- Voluntary Withdrawal by: Mar 31<sup>st</sup>, 2021
- **BMC** is due March 19<sup>th</sup>, 2021
- **Project is due:** Apr. 6<sup>th</sup>, 2021 at 5pm
- **Class presentations:** April 13<sup>th</sup>, 2021
- **Midterm Exam:** Mar 9<sup>th</sup>, 2:30 pm-4:00 pm



## INTENDED LEARNING OUTCOMES

<b>AACSB Assurance of Learning Goals and Objectives</b> The Asper School of Business is proudly accredited by AACSB. Accreditation requires a process of continuous improvement of the School and our students. Part of “student improvement” is ensuring that students graduate with the knowledge and skills they need to succeed in their careers. To do so, the Asper School has set the <b>learning goals and objectives</b> listed below for the <b>Undergraduate Program</b> . The checked goal(s) and objective(s) will be addressed in this course and done so by means of the items listed next to the checkmark.			
Goals and Objectives in the Undergraduate Program		Goals and Objectives Addressed in this	Course Item(s) Relevant to these Goals and Objectives
1	<b>Quantitative Reasoning</b>		
	A. Determine which quantitative analysis technique is appropriate for solving a specific problem.	✓	Entire course
	B. Use the appropriate quantitative method in a technically correct way to solve a business problem.	✓	Entire course
	C. Analyze quantitative output and arrive at a conclusion.	✓	Entire course
2	<b>Written Communication</b>		
	A. Use correct English grammar and mechanics in their written work.	✓	Written project
	B. Communicate in a coherent and logical manner	✓	Written project
	C. Present ideas in a clear and organized fashion.	✓	Project presentation
3	<b>Ethical Thinking</b>		
	A. Identify ethical issues in a problem or case situation	✓	Ethics Learning
	B. Identify the stakeholders in the situation.	✓	Ethics Learning
	C. Analyze the consequences of alternatives from an ethical standpoint.		Ethics Learning
	D. Discuss the ethical implications of the decision.	✓	Ethics Learning
4	<b>Core Business Knowledge</b>	✓	Entire course



## **ACADEMIC INTEGRITY POLICY**

The online format of class delivery does not lower the Asper School's academic integrity standards. The same high levels of academic integrity are expected this term as they are in regular terms.

It is critical to the reputation of the Asper School of Business and of our degrees that everyone associated with our faculty behave 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 dishonesty in our academic transactions violates this trust. The University of Manitoba General Calendar addresses the issue of academic dishonesty under the heading "Plagiarism and Cheating." Specifically, acts of academic dishonesty 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 (includes Chat messages posted during class)
- 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 or obtaining answers or other unauthorized help from anyone else
- taking any unauthorized materials into an examination or term test (crib notes), regardless of whether those are used during the exam
- recording exam questions using any method, regardless of whether those are shared with others
- sharing exam questions with those who are yet to take the exam, including future students or attempting to sell exam questions
- impersonating another student or allowing another person to impersonate oneself for the purpose of attendance, earning class participation marks, submitting academic work, or writing any test or examination
- stealing or mutilating library materials
- accessing test 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

### **Group Projects and Group Work**

Many courses in the Asper School of Business require group projects. Students should be aware that group projects are subject to the same rules regarding academic integrity. All group members should exercise special care to ensure that the group project does not violate the policy on Academic Integrity. Should a violation occur, group members are jointly accountable unless the violation can be attributed to specific individuals.

Some courses, while not requiring group projects, encourage students to work together in groups before submitting individual assignments. If it's unclear whether it is allowed, students are encouraged to seek clarification from the instructor to avoid violating the academic integrity policy.



In the Asper School of Business, all suspected cases of academic dishonesty in undergraduate courses are reported to the Dean's office and follow the approved [disciplinary process](#). See following table for typical penalties for academic dishonesty in the Asper School.





### **Typical Penalties for Academic Dishonesty in the Asper School**

If the student is from another Faculty and the academic dishonesty is committed in an Asper course, the student's Faculty could match or add penalties beyond the Asper School's.

F-DISC on transcript indicates the F is for disciplinary reasons.

ACADEMIC DISHONESTY	PENALTY
Cheating on exam (copying from or providing answers to another student)	F-DISC in course Suspension from taking Asper courses for 1 year Notation of academic dishonesty in transcript
Sharing exam questions electronically during exam	F-DISC in course Suspension from taking Asper courses for 2 years Notation of academic dishonesty in transcript
Possession of unauthorized material during exam (e.g., cheat notes)	F-DISC in course Suspension from taking Asper courses for 1 year Notation of academic dishonesty in transcript
Altering answer on returned exam and asking for re-grading	F-DISC in course Suspension from taking Asper courses for 1 year Notation of academic dishonesty in transcript
Plagiarism on assignment	F-DISC in course Suspension from taking Asper courses for 1 year Notation of academic dishonesty in transcript
Submitting paper bought online	F-DISC in course Suspension from taking Asper courses for 1 year Notation of academic dishonesty in transcript
Inappropriate Collaboration (collaborating with individuals not explicitly authorized by instructor)	F-DISC in course Suspension from taking Asper courses for 1 year Notation of academic dishonesty in transcript
Group member had knowledge of inappropriate collaboration or plagiarism and played along	F-DISC in course Notation of academic dishonesty in transcript
Signing Attendance Sheet for classmate	F-DISC in course Notation of academic dishonesty in transcript
Attempting to sell exam	F-DISC in course Suspension from taking Asper courses for 18 months Notation of academic dishonesty in transcript



## 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 Undergraduate Program Office.

For Information on...	...follow this link
Tech-related issues with UM Learn or videoconferencing	<a href="#">Information Services &amp; Technology</a>
Admission, Registration, Tuition Fees, Important Dates, Final Exams, Graduation, and Transcripts	<a href="#">Registrar's Office</a>
Academic policies & procedures, regulations, Faculty-specific information, degree and major requirements	<a href="#">Academic Calendar</a>
Help with research needs such as books, journals, sources of data, how to cite, and writing	<a href="#">Library Resources</a>
Tutors, workshops, and resources to help you improve your learning, writing, time management, and test-taking skills	<a href="#">Writing and Learning Support</a>
Support and advocacy for students with disabilities to help them in their academic work and progress	<a href="#">Student Accessibility Services</a>
Copyright-related questions and resources to help you avoid plagiarism or intellectual property violations	<a href="#">Copyright Office</a>
Student discipline bylaws, policies and procedures on academic integrity and misconduct, appeal procedures	<a href="#">Academic Integrity</a>
Policies & procedures with respect to student discipline or misconduct, including academic integrity violations	<a href="#">Student Discipline</a>
Students' rights & responsibilities, policies & procedures, and support services for academic or discipline concerns	<a href="#">Student Advocacy</a>
Your rights and responsibilities as a student, in both academic and non-academic contexts	<a href="#">Your rights and responsibilities</a>
Full range of medical services for any physical or mental health issues	<a href="#">University Health Service</a>
Information on health topics, including physical/mental health, alcohol/substance use harms, and sexual assault	<a href="#">Health and Wellness</a>
Any aspect of mental health, including anxiety, stress, depression, help with relationships or other life concerns, crisis services, and counselling.	<a href="#">Student Counselling Centre</a>
Support services available for help regarding any aspect of student and campus life, especially safety issues	<a href="#">Student Support Case Management</a>
Resources available on campus, for environmental, mental, physical, socio-cultural, and spiritual well-being	<a href="#">Live Well @ UofM</a>
Help with any concerns of harassment, discrimination, or sexual assault	<a href="#">Respectful Work and Learning Environment</a>
Concerns involving violence or threats, protocols for reporting, and how the university addresses them	<a href="#">Violent or Threatening Behaviour</a>



## **ABOUT THE INSTRUCTOR**

Dr. Ying Zhang is an Assistant Professor of Finance and received her Ph.D. in Finance from Concordia University. She is also a CFA charterholder and currently served on the CFA Society Winnipeg board as the Education co-chair, University Relations.

Dr. Ying Zhang has taught a variety of finance courses including Corporate finance, Investment, 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 and Best paper award on Trading by the Toronto Stock Exchange.

