BusAdmin F735
Financial Modeling
Winter 2024 Course Outline

Finance and Business Economics Area
DeGroote School of Business
McMaster University

INSTRUCTOR AND CONTACT INFORMATION

C01:
Thursday
19:00–22:00
Location: RJC 249

Instructor**: Martin Butcher**
Email: butchm1@mcmaster.ca
Office Hours: After class, or by appointment

COURSE ELEMENTS

Credit Value:	3	Leadership:	No	IT skills:	Yes	Global view:	No
A2L:	Yes	Ethics:	No	Numeracy:	Yes	Written skills:	Yes
Participation:	No	Innovation:	Yes	Group work:	Yes	Oral skills:	No
Evidence-based:	Yes	Experiential:	Yes	Final Exam:	No	Guest speaker(s):	No

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COURSE DESCRIPTION

Financial modeling involves the creation of tools that someone, other than the writer, can use to answer “what if” questions in finance. By the end of this course, students will be able to use quantitative tools (such as spreadsheets and financial libraries/functions) to model problems on topics such as capital budgeting, firm valuation, bond valuation, portfolio management, and risk management.

The three hours of the class time will typically consist of a lecture, a 10-15 minute break, and in-class problem-solving (hands-on assignments both with MS-Excel, and Python). Please use the break to take care of personal needs of various kinds.

Learning Outcomes

Upon successful completion of this course, students will be able to complete the following key tasks:

- Learn the basics of programming with the Python programming language.
- Learn to use various functions and libraries of the Python programming language and MS-Excel for financial applications.
- Identify the key finance and accounting terms and concepts used in financial models.
- Apply best practices and efficiency tools for general-purpose spreadsheet modeling.
- Determine the key input variables to a range of financial models.
- Integrate and link key financial statements and ratios into a financial model.
- Perform key sensitivity and scenario analyses under a range of assumptions.
- Learn to work with and use a range of external data with a spreadsheet model.
- Use of advanced similation techniques for risk management purposes.

Course Materials and Texts

Required:

Course Materials are available on Avenue To Learn http://avenue.mcmaster.ca

Benninga; Financial Modeling; Fifth (5th) Edition; The MIT Press, 2021. ISBN: 978-0262046428. The textbook is a Finance-focused modelling text, also useful in other finance courses, that cover practical examples in finance in Excel.

Course Overview and Assessment

Individual learning in this course results from in-class discussions, problem solving, and lab work. The balance of the individual learning results from lectures on specific topics, student research, and a group project centred on a financial model.

Your final grade will be calculated as follows:

Test One: Week 5	35%
Test Two: Week 9	35%
Group Project: Week 12	30%
TOTAL	**100%**

GRADE CONVERSION

At the end of the course your overall percentage grade will be converted to your letter grade in accordance with the following conversion scheme:

LETTER GRADE	PERCENT	POINTS
A+	90-100	12
A	85-89	11
A-	80-84	10
B+	75-79	9
B	70-74	8
B-	60-69	7
F	00-59	0

COURSE DELIVERABLES

Test One – Take-home Exam (35%)
Test One is a computer-based, take-home exam on Python. The details of the exam will be described in class with at least a two-week notice. Students are required to submit their exams via the course portal on the Avenue to Learn website. Students will be graded based on the originality of their work, clarity of presentation, assumptions made (if applicable), and accuracy of the results. Late exams are NOT acceptable.

Test Two – Take-home Exam (35%)
Test Two is a take-home exam on Corporate Finance and Bonds.The details of the exam will be described in class with at least a two-week notice. Students are required to submit their exams by the end of class via the course portal on the Avenue to Learn website. Students will be graded based on the originality of their work, clarity of presentation, assumptions made (if applicable), and accuracy of the results. Late exams are NOT acceptable.

Group Project (30%)
The group project is due at 12pm EST on the last day of the course. The details of the group project will be described in class with at least a four-week notice The project will be done in teams of 2, that will apply portfolio theory and Monte Carlo simulation in a typical industry application. Groups will submit their projects via the course portal on the Avenue to Learn website.

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 Academic Regulation in the Undergraduate Calendar "Requests for Relief for Missed Academic Term Work" and the link below;

http://ug.degroote.mcmaster.ca/forms-and-resources/missed-course-work-policy/

COURSE MODIFICATION

From time to time, there may be a need to remove/add topics or to change the schedule or the delivery format. If these are necessary, you will be given as much advance notice as possible.

GENERATIVE AI

Students may use generative AI throughout this course (up to the final exam) in whatever way enhances their learning; no special documentation or citation is required. Use of this technology, however, during the final exam is PROHIBITED.

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.

The following illustrates 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. Avenue to Learn, 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.

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, Avenue to Learn and/or McMaster email.

Acknowledgement of Course Policies

Your enrolment in BusAdmin F735 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.

COURSE SCHEDULE

BusAdmin F735: Section C01

Week	Date	Topics	Readings	Due Dates
1	11-Jan	Introduction to Financial Modelling	Chapters 28-32	
2	18-Jan	Introduction to Python Python Libraries	Teaching Notes	
3	25-Jan	Python Libraries	Teaching Notes	
4	01-Feb	Python Libraries	Teaching Notes	
5	08-Feb	Introduction to Corporate Finance Corporate Finance, I	Teaching Notes Chapters 2	Test One
6	15-Feb	Corporate Finance, II	Chapters 3, 4	
	19/22-Feb	**Mid-term recess**		
7	29-Feb	Corporate Finance III	Chapters 5, 6	
8	07-Mar	Bonds	Chapters 7, 9	
9	14-Mar	Portfolio Theory, I	Chapters 10, 11	Test Two
10	21-Mar	Portfolio Theory, II	Chapters 12, 15	
11	28-Mar	Monte Carlo, I	Chapters 22, 23	
12	04-Apr	Monte Carlo, II	Chapters 24,25	Group Project

*The topics covered in each session might be adjusted with the speed of class progress.