



**MBA F733
Financial Risk Management
Fall 2020 Course Outline**

**Finance & Business Economics
DeGroote School of Business
McMaster University**

COURSE OBJECTIVE

The objective of the course is to provide an introduction as well as an in-depth understanding of issues in financial risk management from the perspective of non-financial corporations. The focus is on the measurement of risk and the usage of related instruments to hedge the risk.

INSTRUCTOR AND CONTACT INFORMATION



Section 1: Tue 14:30 - 17:20
Alicia Damley, CFA, CPA, CA

Instructor

damley@mcmaster.ca

Office Hours: By appointment only

Class Location: Virtual

Student TA

Mike Nikolakopoulos

nikolake@mcmaster.ca

Office: Virtual

Office Hours: Fri 1300 - 1500

Course website: Avenue 2 Learn (A2L)

Course resources and announcements will be communicated via A2L. This should be your first stop for course related information.

We are here to help you succeed!

Both our course TA, Mike Nikolakopoulos, a Mac PhD candidate, and I are here to help you navigate this course successfully!

Outside of class, it is easiest to connect via email. We can address a question quickly via email or setup a time to speak directly. I endeavor to respond to emails within 48 hours. For our mutual benefit and protection, please send all emails from your Mac id. If I have not responded to your inquiry within 48 hours, please re-send it in case it has been lost between our in-boxes.

Please always remember to:

- be courteous and respectful in all communication
- not send emails within 48 hours of a mid-term, exam or assignment due date. We are all busy. And it is important to plan accordingly!

COURSE ELEMENTS

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

COURSE DESCRIPTION

The course begins with a few preliminary risk management and financial engineering concepts that underpin much of the material of the course. The coverage includes a brief historical review of the risks that banks face and of the risk regulations in the banking sector.

The course then covers an overview of various market risk analytical techniques, including sensitivity analysis and stress testing. A fair amount of focus is placed on “internal models approaches” for capital adequacy and the use of “Value at risk” (VaR) as a metric for regulatory reporting. The pros and cons of various VaR approaches are described.

The focus of the course then shifts for a couple of lectures to counterparty credit risk (CCR) analytics and the emergence of a range of valuation adjustments (xVA's) when pricing over the counter derivatives.

The credit risk crisis of 2007 serves as a turning point for risk management, representing a shift in regulatory philosophy from an objective of converging regulatory capital with economic capital to one of a divergence. The background behind this shift in focus and the implications for risk management will be discussed in detail for the remaining sections of the course.

As such, the course then turns to some of the risk categories that were underappreciated prior to the crisis, primarily focusing on liquidity risk and model risk. The course concludes with a discussion of economic capital.

LEARNING OUTCOMES

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

- Learn and compare the advantages and disadvantages of several methodologies for the measurement of various types of risk, including market, interest rate, credit, operational, liquidity and model risk
- Integrate the methodologies into an overall framework for enterprise risk management

REQUIRED COURSE MATERIALS AND READINGS

Avenue registration for course content, readings and case materials

- <http://avenue.mcmaster.ca>
- **Risk Management and Financial Institutions 5th Edition**, John Hull, 2018

The textbook is available for purchase at McMaster's bookstore. Other assigned and articles can be accessed electronically, for registered students, from McMaster's library website.

OPTIONAL COURSE MATERIALS AND READINGS

Two case assignments to be discussed in the second lecture.
Relevant current readings will be made available over the course via A2L.

EVALUATION

Learning in this course results primarily from in-class discussion and participation, assignments and group projects members will share the same grade adjusted by peer evaluation.

Missed tests / exams will receive a grade of zero unless the student has submitted and been approved for a Notification of Absence or MSAF. Late assignments will be penalized 5% for each day they are late. Your final grade will be calculated as follows:

<u>Grade Component</u>	<u>Weight</u>	<u>Description</u>
Participation / Engagement	15%	Attendance and contribution on Zoom Allocation based on <i>quality</i> , not quantity, of participation
Case Analysis (2)	40%	Group size: up to 5 students (assigned by instructor) Report format: max 12 pages, excluding appendices

		Students are strongly encouraged to explore the data and trading related resources available in-person and/or virtually in the DSB RJC Horizon Exchange Traded Funds Investment Decision Centre, RJC 126 905-525-9140 ext. 20536 rjcbook@mcmaster.ca
Mid-Term Exam (cumulative)	45%	Venue: Online Format: MCQs and written answer Duration: 90 minutes

Our weekly interaction will occur as follows:

<i>Activity</i>	<i>Delivery</i>	<i>Description</i>	<i>Tools(s)</i>
Lecture Core Content	Asynchronous	Recorded lecture	Voice-over PPT uploaded to Avenue
Live Lectures	Synchronous	1 hour live session; opportunity to elaborate on content, present challenges, engage discussion	MS Teams or Zoom
Additional course resources	Asynchronous	End of chapter practice questions Additional readings	Via Avenue
TA Access	Asynchronous	1 hour live session with TA: discuss lecture materials and/or questions. Please contact the TA via email to advise of your attendance so that the students per session can be better managed.	MS Teams or Zoom
Group discussions	Both	Synchronous: breakout rooms during lecture Asynchronous: MS Teams private groups	Synchronous: MS Teams or Zoom Asynchronous: MS Teams

NOTE: The use of a McMaster standard calculator is allowed during examinations in this course. See McMaster calculator policy at the following URL:

www.mcmaster.ca/policy/Students-AcademicStudies/UndergraduateExaminationsPolicy.pdf

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

Case Studies (2)

Each case study will be completed in groups of up to 5 students. More details will be provided during lecture two.

Mid-Term Exam

The mid-term exam will be held virtually and consist of multiple choice and written answers.

Our weekly interaction will occur as follows:

<i>Activity</i>	<i>Delivery</i>	<i>Description</i>	<i>Tools(s)</i>
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Additional course resources	Asynchronous	End of chapter practice questions Additional readings	Via Avenue
TA Access	Asynchronous	1-hour live session with TA: discuss lecture materials and/or questions. Please contact the TA via email to advise of your	MS Teams or Zoom

<i>Activity</i>	<i>Delivery</i>	<i>Description</i>	<i>Tools(s)</i>
		attendance so that the students per session can be better managed.	
Group discussions	Both	Synchronous: breakout rooms during lecture Asynchronous: MS Teams private groups	Synchronous: MS Teams or Zoom Asynchronous: MS Teams

COMMUNICATION AND FEEDBACK

Students that are uncomfortable in directly approaching an instructor regarding a course concern may send a confidential and anonymous email to the respective Area Chair or Associate Dean:

<http://mbastudent.degroote.mcmaster.ca/contact/anonymous/>

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 Administrative Assistant.

Instructors are encouraged to conduct an informal course review with students by Week #4 to allow time for modifications in curriculum delivery. Instructors should provide evaluation feedback for at least 10% of the final grade to students prior to Week #8 in the term.

ACADEMIC DISHONESTY

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.

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.

It is your responsibility to understand what constitutes academic dishonesty. 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:

1. Plagiarism, e.g. the submission of work that is not one's own or for which other credit has been obtained.
2. Improper collaboration in group work.
3. 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.

MISSED ACADEMIC WORK

Missed Mid-Term Examinations / Tests / Class Participation

Where students miss a regularly scheduled mid-term or class participation for legitimate reasons as determined by the Student Experience – Academic (MBA) office, the weight for that test/participation will be distributed across other evaluative components of the course at the discretion of the instructor. Documentation explaining such an absence must be provided to the Student Experience – Academic (MBA) office within five (5) working days upon returning to school.

To document absences for health related reasons, please provide to Student Experience – Academic (MBA) office the Petition for Relief for MBA Missed Term Work and the McMaster University Student Health Certificate which can be found on the DeGroote website at <http://mbastudent.degroote.mcmaster.ca/forms-and-applications/>. Please do not use the online McMaster Student Absence Form as this is for Undergraduate students only. University policy states

that a student may submit a maximum of three (3) medical certificates per year after which the student must meet with the Director of the program.

To document absences for reasons other than health related, please provide Student Experience – Academic (MBA) office the Petition for Relief for MBA Missed Term Work and documentation supporting the reason for the absence.

Students unable to write a mid-term at the posted exam time due to the following reasons: religious; work-related (for part-time students only); representing university at an academic or varsity athletic event; conflicts between two overlapping scheduled mid-term exams; or other extenuating circumstances, have the option of applying for special exam arrangements. Such requests must be made to the Student Experience – Academic (MBA) office at least ten (10) working days before the scheduled exam along with acceptable documentation. Instructors cannot themselves allow students to unofficially write make-up exams/tests. Adjudication of the request must be handled by Student Experience – Academic (MBA).

If a mid-term exam is missed without a valid reason, students will receive a grade of zero (0) for that component.

Missed Final Examinations

A student who misses a final examination without good reason will receive a mark of 0 on the examination.

All applications for deferred and special examination arrangements must be made to the Student Experience – Academic (MBA) office. Failure to meet the stated deadlines may result in the denial of these arrangements. Deferred examination privileges, if granted, must be satisfied during the examination period at the end of the following term. There will be one common sitting for all deferred exams.

Failure to write an approved deferred examination at the pre-scheduled time will result in a failure for that examination, except in the case of exceptional circumstances where documentation has been provided and approved. Upon approval, no credit will be given for the course, and the notation N.C. (no credit) will be placed on the student's transcript. Students receiving no credit for a required course must repeat the course. Optional or elective courses for which no credit is given may be repeated or replaced with another course of equal credit value.

Requests for a second deferral or rescheduling of a deferred examination will not be considered.

Any student who is unable to write a final examination because of illness is required to submit the Application for Deferred MBA Final Examination and a statement from a doctor certifying illness on the date of the examination. The Application for Deferred MBA Final Examination and the McMaster University Student Health Certificate can be found on the DeGroote website at <http://mbastudent.degroote.mcmaster.ca/forms-and-applications/> Please do not use the online McMaster Student Absence Form as this is for Undergraduate students only. Students who write examinations while ill will not be given special consideration after the fact.

In such cases, the request for a deferred examination privilege must be made in writing to the Student Experience – Academic (MBA) office within five business days of the missed examination.

Special examination arrangements may be made for students unable to write at the posted exam time due to compelling reasons (for example religious, or for part-time students only, work-related reasons):

- Students who have religious obligations which make it impossible to write examinations at the times posted are required to produce a letter from their religious leader stating that they are unable to be present owing to a religious obligation.
- Part-time students who have business commitments which make it impossible to write examinations at the times posted are required to produce a letter on company letterhead from the student's immediate supervisor stating that they are unable to be present owing to a specific job commitment.

In such cases, applications must be made in writing to the Student Experience – Academic (MBA) office at least ten business days before the scheduled examination date and acceptable documentation must be supplied.

If a student is representing the University at an academic or athletic event and is available at an overlapping scheduled time of the test/examination, the student may write the test/examination at an approved location with an approved invigilator, as determined by the Student Experience – Academic (MBA) office.

In such cases, the request for a deferred examination privilege must be made in writing to the Student Experience – Academic (MBA) office within ten business days of the end of the examination period.

Note: A fee of \$50 will be charged for a deferred exam written on campus and a fee of \$100 for deferred exams written elsewhere. In cases where the student's standing is in doubt, the Graduate Admissions and Study Committee may require that the student with one or more deferred examination privileges refrain from re-registering until the examination(s) have been cleared.

ACADEMIC ACCOMMODATION OF STUDENTS WITH DISABILITIES

Student Accessibility Services (SAS) offers various support services for students with disabilities. Students are required to inform SAS of accommodation needs for course work at the outset of term. Students must forward a copy of such SAS accommodation to the instructor normally, within the first three (3) weeks of classes by setting up an appointment with the instructor. If a student with a disability chooses NOT to take advantage of an SAS accommodation and chooses to sit for a regular exam, a petition for relief may not be filed after the examination is complete. The SAS website is:

<http://sas.mcmaster.ca>

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.

POTENTIAL MODIFICATION TO THE COURSE

The instructor and university reserve the right to modify elements of the course during the term. The university may change the dates and deadlines for any or all courses in extreme circumstances. If either type of modification becomes necessary, reasonable notice and communication with the students will be given with explanation and the opportunity to comment on changes. It is the responsibility of the student to check their McMaster email and course websites weekly during the term and to note any changes.

ACKNOWLEDGEMENT OF COURSE POLICIES

Your registration and continuous participation (e.g. on A2L, in the classroom, etc.) to the various learning activities of MBA F733 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

F733 Financial Risk Management Fall 2020 Course Schedule

WEEK	WEEK OF	TOPIC	TEXTBOOK
1	Sep 15	Class Outline, Schedule, Participation, Group selection Introduction and Preliminary concepts <i>Self-review Chp 2 & 3 – to ensure familiarity with structure of banks, insurance cos and pension plans</i>	1, 5
2	Sept 22	Market Risk Overview; Basel regulatory framework	7, 15
3	Sept 29	How Traders Manage their Risks; Interest Rate Risk	8, 9
4	Oct 6	Value at Risk Historical Simulation and Extreme Value Theory	12 13
5	Oct 13	Historical Simulation and Extreme Value Theory Scenario Analysis and Stress Testing Case #1 due @8pm via Avenue	13 14
6	Oct 20	Estimating Default Probabilities CVA and DVA	19 20
7	Oct 27	CVA and DVA Credit Value at Risk	20 21
8	Nov 3	Credit Value at Risk Scenario Analysis and Stress Testing	21 22
9	Nov 10	Operational Risk Liquidity Risk	23 24

WEEK	WEEK OF	TOPIC	TEXTBOOK
10	Nov 17	Mid-Term Examination (virtual)	
11	Nov 24	The Credit Crisis of 2007 (vs COVID-19 related stress)	6
12	Dec 1	Post Global Financial Crisis Regulations – Basel and OTC Derivatives Markets	16,17
13	Dec 8	Model Risk Management Economic Capital and RAROC Case #2 due @8pm via Avenue	25, 26