

School of Administrative Studies  
Faculty of Liberal Arts and Professional Studies  
**Financial Risk Management**  
Course Number: **AP/ADMS 4509 Section M**  
Term: **Winter 2021**

**Course Outline**

**Instructor:** Professor Xiaofei Li  
Email: [xiaofeil@yorku.ca](mailto:xiaofeil@yorku.ca)

**Office Hours:** by e-mail only

**Class Hours:** Tuesdays, 11:30 am – 2:30 pm, online

**ESSENTIAL NOTICE: PLEASE READ THIS FIRST**

This course is online due to COVID-19. Before every scheduled class, on a weekly basis, I will post the lecture recording, PowerPoint slides, detailed lecture notes, and supporting documents (if there is any) on eClass (i.e., Moodle). **Our class is asynchronous and an online session at the scheduled class time is not necessary.** You are responsible for studying all the posted course materials and the textbook. Please feel free to ask me questions by e-mail.

In order to make an online course work, you have to keep working every week rather than leaving everything to the end of the course. You will be responsible for owning and maintaining a computer (not a phone) with Internet connection that will allow you to participate in all aspects of this course.

**Course Description**

Financial risk management is an area of financial services that is growing rapidly across the globe. Identifying and managing financial risks is critical for financial success and ignoring these risks will very likely cause financial failure. This course introduces risk management theory and provides a practical approach to understanding the ways in which risks are quantified and managed.

The first part of the course will present students with the tools used to assess financial risk. Students will attain a good understanding of how risk is measured, how derivatives and fixed income securities work, and how these securities are used in risk management. The second part of the course will introduce students to risk management concepts such as value at risk (VaR) and stress testing. Students will then learn how to apply these concepts and the tools acquired in the first part of the course to market, credit, operational, liquidity, and enterprise risk management.

By the end of this class, students will be able to master key concepts and issues of financial risk management and to evaluate risk management practices in an industry setting. This course will be particularly useful for those students studying for Financial Risk Manager (FRM<sup>®</sup>) and/or Professional Risk Manager (PRM<sup>®</sup>) designations. *However, please note that this course is not an FRM and/or PRM prep course.*

### **Prerequisite**

ADMS 3531 (Personal Investment Management) is the prerequisite. Both ADMS 4503 (Derivative Securities) and ADMS 4504 (Fixed Income Securities and Risk Management) are also highly recommended to be taken at your convenience.

### **Student Evaluation**

Take-home Midterm Exam	35%
Take-home Final Exam	45%
Term Paper	20%

### **Required Textbook**

[Risk Management and Financial Institutions](#), fifth edition, John C. Hull, Wiley, 2018, ISBN: 978-1-119-44811-2 (hereafter, *Hull*).

### **Supplementary Readings**

1. [Value at Risk: The New Benchmark for Managing Financial Risk](#), third edition, Philippe Jorion, McGraw-Hill, 2007, ISBN-13: 978-0-07-146495-6.
2. [Financial Risk Manager Handbook](#), sixth edition, Philippe Jorion, GARP, Wiley, 2011, ISBN: 978-0-470-90401-5.

*Please Note:* A number of articles will be posted on eClass throughout the course.

### **Method of Instruction**

You are required to think, to analyse, to evaluate, and to apply problem-solving techniques. You are also expected to complete the assigned reading before each class.

### **Calculator**

You need a handheld non-programmable calculator that includes basic math functions (e.g., logarithm, exponential, square root, and power functions). It is also helpful if the calculator includes basic financial functions (e.g., PV, FV, and PMT etc.).

### **Midterm and Final Exams**

The midterm and final exams are both *take-home* and involve numerical questions only. There is no make-up midterm exam. The midterm exam is **on Thursday, February 25<sup>th</sup>**. You will be given 24 hours to complete the midterm exam and return your answers to me by e-mail. **The details of the midterm exam will be provided later.** The final exam is non-cumulative, i.e., it only tests the topics after the midterm exam, between Weeks 6 and 12. **The date and duration of the final exam are to be announced.**

If you miss the midterm exam for a legitimate reason, your final exam performance relative to other students in the class will be used to estimate your midterm exam mark. The estimation and any further adjustment will be entirely at the discretion of the Course Director/Area Coordinator and are not subject to any appeal. All students who need a passing grade for the course must write the final exam.

**Note:** It is the policy of the School of Administrative Studies Finance Area that **instructors will not sign a DSA form if a student misses both the midterm and final exams.** Students in this situation will need to petition for a remedy appropriate to their circumstances.

### **Formula Sheets**

Because the midterm and final exams are both take-home, formula sheets will not be provided at the exams. You may use the formula sheets in the previous terms as a reference. These sample formula sheets are posted on eClass.

### **Term Paper**

You will need to write a term paper on financial risk management. Please submit a paragraph of abstract to me for approval **by our fourth class on February 2<sup>nd</sup>**. Your abstract should indicate the title of your term paper, research objective, research methodology, and sources of data (if needed) etc. The term paper is due **by our last class on April 6<sup>th</sup>**. The paper may be either qualitative or quantitative and may deal with any topic of financial risk management in any country. However, when writing your paper, you must apply the concepts and tools learned in our class. The term paper cannot exceed ten pages (single-sided) in length, which should include all the tables, graphs, equations (if there is any), and references etc. Lastly, please note that a term paper is not equivalent to a case study, and I will not accept any case study in lieu of term paper.

### **Academic Honesty and Integrity**

In this course, we strive to maintain academic integrity to the highest extent possible. **Breaches of academic integrity range from cheating to plagiarism (i.e., the improper crediting of another's work, the representation of another's ideas as your own, etc.). All instances of academic dishonesty in this course will be reported to the appropriate university authorities, and can be punishable according to the Senate Policy on Academic Honesty:**

<https://secretariat-policies.info.yorku.ca/policies/academic-honesty-senate-policy-on/>

### Relevant University /LA&PS/ School Regulations

The regulations on many aspects of coursework that apply to you are on this site:

<http://sas.laps.yorku.ca/students/>

You are responsible for understanding and following these regulations.

### Deferred Standing – Missed Final Exam

Deferred standing may be granted to students who are unable to write their final examination at the scheduled time. In order to apply for deferred standing in an AP/ADMS class, students must register at:

<http://sas-app.laps.yorku.ca>

The DSA and supporting documentation must be submitted no later than five (5) business days from the date of the exam. These requests will be considered on their merit and decisions will be made available by logging into the same link as above. No individualized communication will be sent from the School to the students (no letter or e-mails).

### Tentative Course Schedule

The topic order will be as stated below. Depending on time constraint some topics may be subject to minor changes.

Week	Date	Topics and Chapter Readings
1	January 12 <sup>th</sup>	Introduction, Bonds, and Interest Rate Risk <i>Hull</i> , Chapters 1 and 9
2	January 19 <sup>th</sup>	Futures and Options, and How Traders Manage Their Risks <i>Hull</i> , Chapter 8
3	January 26 <sup>th</sup>	Volatility, Correlations and Copulas <i>Hull</i> , Chapters 10 and 11
4	February 2 <sup>nd</sup>	Value at Risk and Expected Shortfall <i>Hull</i> , Chapter 12 <b>Term Paper abstract is due</b>

5	February 9 <sup>th</sup>	Market Risk Value at Risk <i>Hull, Chapters 13 and 14</i>
	<b>Take-home Midterm Exam is on February 25<sup>th</sup></b>	<b>Midterm Exam covers Weeks 1 - 5</b>
6	February 23 <sup>rd</sup>	Regulation <i>Hull, Chapters 15, 16, and 17</i>
7	March 2 <sup>nd</sup>	Regulation ( <i>continued</i> ), and Credit Risk I <i>Hull, Chapters 18 and 19</i>
8	March 9 <sup>th</sup>	Credit Risk II <i>Hull, Chapters 20 and 21</i>
9	March 16 <sup>th</sup>	Scenario Analysis and Stress Testing, Operational Risk <i>Hull, Chapters 22 and 23</i>
10	March 23 <sup>rd</sup>	Liquidity Risk, and Model Risk <i>Hull, Chapters 24 and 25</i>
11	March 30 <sup>th</sup>	Economic Capital, RAROC, and Enterprise Risk Management <i>Hull, Chapters 26 and 27</i>
12	April 6 <sup>th</sup>	Financial Innovation, and Risk Management Mistakes to Avoid <i>Hull, Chapters 28 and 29</i> <b>Term Paper is due</b>