



Department of Finance
NUS Business School
National University of Singapore

FIN 3714 (FIN3118) Financial Risk Management
TERM 1 2020/2021

Course Information

Day and Time: Wed 12PM-3PM
Location: BIZ1 03-03
Module Credit: 4

Instructor Information

Instructor: Sungjune Pyun
Office Hours: TBD
E-Mail: sjpyun@nus.edu.sg

Email is the best way to contact me. Any personal or administrative-related questions/requests should be sent by email and will be answered within two school days. However, if you have a question directly related to the course materials, I strongly suggest you write your questions directly on the Q & A section of our course web page on LumiNUS. Those questions will not be answered directly but directed to LumiNUS. (Please put course number [FIN3714] in the subject)

Course Description

This course covers one of the core functions of finance, namely, risk management. The objective is to introduce the fundamental concepts, principles, and practices of financial risk management. The focus of the module is in the identification, measurement, monitoring, and control of financial risk. This course also addresses the basic financial and statistical techniques that enhance risk management decision making. The course begins by looking at risk management concepts and the risk management process. It then examines the approaches used to identify, measure and reduce risks. Topics to be covered include risk measurement - Value-at-Risk (VaR) methods, measuring and managing market risk and credit risk, risk management applications, managing other risks such as liquidity and operational risks, regulatory and capital issues, risk-adjusted performance, and implementing a risk management program. A successful completion for this course will also help prepare for the Financial Risk Manager Exam administered by GARP.

Prerequisites

FIN3012/3702 Investment Analysis and Portfolio Management or Equivalent
A *good* understanding of probability and statistics (e.g., normal distribution, p-value, covariance)

Lecture Format

The format of lecture will depend the final number of students registered. To increase the efficiency of delivery, a fraction of the lecture will be delivered online as a pre-recorded format, which you are

required to watch before attending the class. I will do my best to accommodate everyone in class who wish to attend. However, depending on the final number of students registered, a fraction of students may have to watch the live-casted zoom lecture on a rotational basis.

Policy for Covid-19

Everyone is required to abide all rules set by the Ministry of Health (MOH), which may include social distancing, maintaining your personal hygiene, wearing a mask in the classroom, measuring your temperature before attending offline lectures, and staying at home if you feel unwell or have recently contacted someone with a suspected Covid-19 case. Please refer to the MOH website for the latest updates. <https://www.moh.gov.sg/covid-19>

Textbooks

There are several textbooks that is recommended. I assume you have access to 1-3.

1. A financial calculator (e.g. Texas Instrument BA II Plus, **Required**)
2. Elements of Financial Risk Management (Second Edition), Peter Christoffersen (**C**) : <http://www.sciencedirect.com/science/book/9780123744487>
3. The textbook you used in your investment class
4. Risk Management and Financial Institutions, 5th edition, by Hull, Wiley (**H**)
5. Financial Institutions Management (A Risk Management Approach), 9th edition, by A. Saunders and M.Cornett, McGraw-Hill (**SC**)
6. Options, Futures, and Other Derivatives (Ninth Edition), by Hull, Pearson (**HD**)

Final Grades

Your class grade will be calculated based on the following weights:

One Test (Last week of class)	30%	
Weekly Task (Homework, Report, or Quiz)	35%	(weighted equally)
Group Project	25%	
Class Participation	10%	

Test (30%)

There will be one final test on the last week of the semester (on the scheduled class time) and cover the entire material, including student presentations. The test is tentatively planned to be an open book and open notes test. Communication between students, as well as any internet connections, will be disallowed. An in-class test is currently planned, but students should also be prepared to use Examssoft and be recorded by Zoom while taking the test. Exact details will depend on the university policy regarding Covid-19 as well as government restrictions. Details will be announced later in the semester.

Weekly Task (35%)

In this class, we will have weekly assignments. The nature of the assignments will be either 1) an online quiz, 2) solving and submitting individual problem sets, or a 3) a group report following a discussion of pre-assigned topics. The goal of these assignments is primarily to engage in student participation. Hence, these assignments will be mainly graded based on whether you put enough

effort into each topic. The nature of the assignment will be announced at least four days before the deadline. Students should be prepared to use Examsoft for this purpose. Expect about ten tasks total, which will be weighted equally. Also, note that more than half of the tasks will be on an individual basis.

Group Project (25%)

The group project consists of a presentation and a report. You will be provided with a mini-case on recent incidents of risk management failures. You will analyze the causes, backgrounds, and consequences of the failures. The presentation will take place in weeks 11 and/or 12 (between 26 Oct and 6 Nov). The exact details of the presentation will depend on the situation. Students should also be prepared to record your presentation and upload on LumiNUS, present it live on Zoom, or present it in class. Further details will be announced later in the semester.

Class Participation (10%)

Your presence (either online or offline) and participation in class are essential for gaining mastery of the material. Participation mainly consist of the sum of the following. 1) In-class or online engagement, including answering or asking questions 2) involvement in the online forum on LumiNUS, which will be quantified at the end of semester 3) missing both offline and online lectures. Please do not come to class if you feel unwell. You will not be penalized for attending online zoom lectures, and there is no need to submit proof of missing a face-to-face lecture. An exception is when there are duties involved, i.e., quiz, tests, and presentations. Students are responsible for all missed work, regardless of the reason for absence. It is also the absentee's responsibility to get all missing notes or materials.

Academic Integrity:

Academic integrity and honesty is essential for the pursuit and acquisition of knowledge. The University and School expect every student to uphold academic integrity & honesty at all times. Academic dishonesty is any misrepresentation with the intent to deceive, or failure to acknowledge the source, or falsification of information, or inaccuracy of statements, or cheating at examinations/tests, or inappropriate use of resources.

The University and School will not condone plagiarism. Students should adopt this rule - You have an obligation to make clear to the assessor, which is your own work, and which is the work of others. Otherwise, your assessor is entitled to assume that everything being presented for assessment is being presented as entirely your own work. This is a minimum standard. Even if you are allowed to work with your classmates, you should give your classmates credit if you worked together. Plagiarism may result in a 'fail' grade, even when you did extremely well in other components. Additional guidance is available at:

<http://www.nus.edu.sg/registrar/administrative-policies/acceptance-record.html>

<http://www.nus.edu.sg/registrar/adminpolicy/acceptance.html#NUSCodeofStudentConduct>

Online Module on Plagiarism:

<http://emodule.nus.edu.sg/ac>

Tentative Course Outline:

1. : Introduction to Financial Risk Management H.1, C.1, SC.7
2. : Stock and Bond Markets C.1, H.12
3. : Value-at-Risk Basics C.1, H.12, HD.22
4. : Monte-Carlo Simulations C.2, H.12,14, HD.22
5. : Historical Simulations and Backtesting C.2, H.12-13, HD.22
6. : Futures and Options Basics H.5, HD.19
7. : Risk Management Using Option Greeks H.8, 14, HD.19
8. : Duration and Convexity H.9, SC.7-9, HD. 4,6,7,
9. : Duration Gap H.9, SC.7-9, HD. 4,6,7,
10. : Default Risk Basics (if time allows) H.6, 18-21, SC.10-11,24, HD.8,24-25