FIN3722 Course Outline

As 21 July 2026

Programme : NUS Business School BBA
Module Code : FIN3722
Module Title : Sustainability Risk Management
Class Date : From 10/8/2026 To 20/11/2026
Semester : Semester 1, Academic Year 2026-2027
Faculty : A/Prof Max Wong
Department : Finance
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URL : Click here to enter text
Telephone : NA
Class Hours : 6:30-9:30 PM Thursday
Class Venue : BIZ1 3-2
Office : NA
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Consultation Hours: N/A; Other time by appointment

Course Description

1. Sustainability factors are becoming more influential for the financial returns and long-term value creation of a corporate. In addition to financial risks, the environment, social and governance (ESG) risks must be properly managed by various stakeholders such as corporate, suppliers, customers, investors, governments, and regulatory bodies.
2. This course aims to provide the comprehensive understanding on the sources of the ESG risks as well as financial tools, theoretical principles, and various risk management frameworks to be employed to manage various risks, such as financial, climate change, corporate operational, human error, and technology related crisis.
3. We will also summarize on how to make a company more sustainable by examining internal factors in addition to climate changes and other external factors. Asian-based case studies are included.
4. In the end, I will share with you my own experiences on how to make yourself more sustainable and successful in your career development.

Course Objectives

Students would expect to achieve the following learning outcomes:

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1. able to identify and understand different types of sustainability risk and their impacts on firms and other organisations.
2. able to understand fundamental financial risk management (FRM) and insurance tools and models.
3. able to implement the right risk management frameworks and tools to reduce the impact of different risk exposures.
4. Asian cases will be used to enhance students' understanding and implementation.

Basic Reference Books:

1. *Wong, M. C. Y. (2013). Bubble value at risk: A countercyclical risk management approach. John Wiley & Sons.*
2. *International Environmental Risk Management: A Systems Approach;* by Robert A. Woellner, John Voorhees, et al. Aug 13, 2020
3. *Recent Technologies for Disaster Management and Risk Reduction: Sustainable Community Resilience & Responses*; by Praveen Kumar Rai, Prafull Singh, et al. Aug 21, 2021
4. CFA Institute. (2024). Certificate in ESG investing curriculum: ESG investing official training manual. CFA Institute..

Note: Basic Reference books 1 is quantitative and for your self-study if you are weak in statistics and finance.

Assessment

Assessment Components	Weightage
Mid-term Test	30%
Final Test	30%
Group Project	30%
Class Participation	10%
Total	100%

1. **Midterm test** will cover topics from 1 to 6. **Final test** covers all topics taught in the module with more weight from Topics 7 to 12. Both tests are closed book pen and paper exams with formula provided. Students are to make sure that they are available to sit for the tests as specified in the course outline below.

2. **Suggested Guidelines for Group Project:**

   1) This is a group project (4 to 6 students). Final number of groups and group members will depend on actual enrolment. All members are required to make equal contributions toward the project report. The instructor will conduct peer review among you if there is any written complain related to the inadequate contribution you made to the project.
   2) Your choice of topic will be given to you for selection in class by the instructor.
   3) Please submit related files (word, PPT, their PDFs, and excel if there is any) to Canvas **11:59 pm 6 November and one time per group.**

3. **Class participation:** You must attend class unless you have valid reasons. Please email me if you could not attend the coming class. Your answers from clarifying questions to creative and insightful comments, are greatly encouraged. Your active participation will transform this class into a great learning experience for everyone, including myself. Marks will be awarded not based on quantity but how much one contributes to the learning of the class.

Important Note:

1) For these who are weak in math and statistics, please self-study the referenced books and articles, even though we will only focus on how to use the formulas rather than their deviations.

2) Understanding the lectures are most important and is the minimum for preparing for the tests.
3) In order for you to better understand this course, I will provide you some tutorial questions for you to practice. Only solutions for calculation questions will be provided. The answers to essay questions will be found from the related reading materials and lecture notes.

FIN3722 Schedule and Outline

(Detailed reading materials will be provided later)

Class Time: Thursdays 6:30-9:30PM; Classroom: BIZ1 3-2

Week #	Date	Topic and Title*
1	13/08	Topic 1: Climate Change and climate action
2	20/08	Topic 2: Gen AI basics and use cases in sustainability. Briefing for AI-related group project..
3	27/08	Topic 3: Sustainability reporting (ISSB) and Risk Management
4	03/09	Topic 4: ESG, Corporate Social Responsibility
5	10/09	Topic 5: Green products and green markets
6	17/09	Topic 6: Financial Risk Management Tools. Case: 2008 Great Financial Crisis..
		Recess Week 19 Sept - 27 Sept
7	01/10	No class
8	8/10	**Midterm Test 6:30-7:45 PM (Topics 1-6) in Venue TBC** 8:00 – 9:30 PM Topic 7: ESG investing..
9	15/10	Topic 8: Climate Risk Modelling. Case: Transition risk. Scenario analysis using NGFS data
10	22/10	Topic 9: Climate Risk Modelling. Case: Physical risk, Climate Stress testing
11	29/10	Topic 10: Insurance risks. Case: Climate risk to global shipping lanes..
12	05/11	**Hand in Group Project before 11:59 pm 6 Nov.** Presentations of Group project (“Sustainability reporting using Agentic AI”)
13	12/11	**Final Test 6:30-8:30pm in Venue TBC**

It is both NUS’ and the School’s policy that the classes officially scheduled in a student’s lesson timetable have precedence over any test/quiz that is scheduled outside of a course’s designated class time.

Max Wong has been a distinguished contributor to Singapore's financial sector since 1996, with a career spanning futures trading, market analysis, risk management, and quantitative investing. He began his professional journey as an "open outcry" trader at the Singapore International Monetary Exchange (SIMEX) during the 1997 Asian financial crisis, and later served as a quantitative analyst through the 2007 global credit crisis. He is currently at the Singapore Exchange as head of Model Validation.

Max is the author of two books published by Wiley Finance and has written extensively in peer-reviewed journals on topics in quantitative finance. He has also held adjunct faculty positions at several universities, where he shared his expertise with the next generation of finance professionals.

He holds a Bachelor of Science in Physics and a Master of Science in Financial Engineering. His research interests include quantitative risk management, climate risk scenario analysis, and the application of artificial intelligence in financial risk management. Max also serves on the editorial board of the *Journal of Risk Management in Financial Institutions*.

Google scholar page: https://scholar.google.com/citations?hl=en&user=aID4-UQAAAAJ

Appendix: ACADEMIC HONESTY & PLAGIARISM

Academic integrity and honesty are 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.

Plagiarism is 'the practice of taking someone else's work or ideas and passing them off as one's own' (The New Oxford Dictionary of English). The University and School will not condone plagiarism. Students should adopt this rule - You have the 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. **In case of any doubts, you should consult your instructor.**

Additional guidance is available at:

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

Online Course on Plagiarism: http://emodule.nus.edu.sg/ac/