

**THE UNIVERSITY OF HONG KONG
FACULTY OF BUSINESS AND ECONOMICS**

FINA3322 Credit Risk

GENERAL INFORMATION	
<p>Instructor: Dragon Yongjun Tang</p> <p>Email: yjtang@hku.hk Office: KKL 1004 Phone: 22194321 Consultation times: by appointment</p> <p>TA: Hermione (Oi Ching KWOK); Office in KKL 1026; Tel: 28578308; Email: oichingk@hku.hk Pre-requisites: FINA2322 Derivatives Co-requisites: NA Mutually exclusive: STAT4607 Credit risk analysis</p> <p>Lecture notes and most materials will be uploaded to moodle.</p>	
COURSE DESCRIPTION	
<p>Credit derivatives are the biggest financial innovations in the last 20 years. Credit risk analysis and management are of great interest to investment banks, commercial banks, traders, regulators, and rating agencies. This course provides an introduction as well as an in-depth understanding of credit risk measurement and credit derivatives such as credit default swaps. The objective is to provide a practice-oriented balance between developing a sound conceptual framework and market understanding and insight.</p>	
COURSE OBJECTIVES	
<ol style="list-style-type: none"> 1. To learn the principles of the valuation of credit related products. 2. To be able to analyze financial data. 3. To be able to apply the principles of no-arbitrage, and the techniques of valuation and hedging, to financial derivatives and related instruments. 4. To be familiar with the financial products in the market, and their uses. 5. To understand the issues surrounding the pricing and risk management of financial products. 	
FACULTY GOALS	
<p>Goal 1: Acquisition and internalization of knowledge of the programme discipline</p> <p>Goal 2: Application and integration of knowledge</p> <p>Goal 3: Inculcating professionalism</p> <p>Goal 4: Developing global outlook</p> <p>Goal 5: Mastering communication skills</p> <p>Goal 6: Cultivating leadership</p>	
COURSE LEARNING OUTCOMES	
Course Learning Outcomes	Aligned Faculty Goals
CLO1 know the basic features of credit instruments	Goals 1, 4, 5
CLO2 understand the role of credit rating in the economy	Goals 2, 4, 5
CLO3 describe the stylized facts of default and recovery	Goals 3, 5, 6
CLO4 grasp the frontier of credit derivative market developments	Goals 4, 5
CLO5 evaluate the risk and return of credit investments	Goals 2, 4, 5

COURSE TEACHING AND LEARNING ACTIVITIES		
Course Teaching and Learning Activities	Expected contact hour	Study Load (% of study)
T&L1. Lectures with interactive presentations	36	30%
T&L2. Group discussions	12	10%
T&L3. Case study and analysis	30	25%
T&L4. Self-study	42	35%
Total	120	100%

Assessment Methods (tentative, final arrangement will be announced by instructor in class and released in class handout)	Brief Description (Optional)	Weight	Aligned Course Learning Outcomes
A1. Written assignments	Calculate credit risk measures	30%	CLO 1, 2, 3, 4, 5
A2. Presentations	Present credit risk analysis	10%	CLO 2, 3, 4, 5
A3. Group project report	Project on credit risk using real data	25%	CLO 2, 3, 4, 5
A4. Exams	Conceptual and quantitative questions	25%	CLO 1, 2, 3, 4, 5
A5. Discussions	Active participation in discussions	10%	CLO 1, 2, 3, 4, 5
Total		100%	

STANDARDS FOR ASSESSMENT

Course Grade Descriptors

A+, A, A-	Students demonstrate very good to excellent performance in the defined assessment criteria.
B+, B, B-	Students demonstrate good to very good performance in the defined assessment criteria.
C+, C, C-	Students demonstrate fair to good performance in the defined assessment criteria.
D+, D	Students demonstrate fair performance in the defined assessment criteria.
F	Students fail to show understanding of core materials in this course.

Assessment Rubrics for Each Assessment

Detailed assessment criteria or rubrics will be distributed to students together with the assignments and assessment materials. Below are some broad guidelines:

- Project report: Full mark will be given to well defined question, good coverage of the literature, application of relevant tools, and accurate interpretation of the findings. Points will be deducted for lack of each element.
- Presentation: Full mark will be given to well-prepared slides and effective communication including Q&A session. Points will be deducted for lack of each element.
- Participation: Full mark will be given to five or more high quality comments in class and well-prepared meeting agenda. Failing to show up at scheduled meetings will result in point reduction or failure of the course.

COURSE CONTENT AND TENTATIVE TEACHING SCHEDULE

1. *Stylized facts* on default, recovery, and credit rating
2. *Credit risk modeling* through firm value or hazard rate
3. *Credit derivatives* such as CDS and CDO
4. *Credit risk management* in Basel III
5. *Credit Crisis 2007-2009* in depth analysis and discussion; European Sovereign Crisis 2010-2012
6. **China** related issues such as *RMB bonds* and *China CDS*
7. **FinTech** applications to credit markets
8. *Incentives of market players* including credit rating agencies, investment banks, and regulators

I also plan to invite practitioner to give guest talks.

REQUIRED/RECOMMENDED READINGS & ONLINE MATERIALS (e.g. journals, textbooks, website addresses etc.)

The area of credit risk management is under rapid development. The *minimum* requirement at the completion of this course is a good understanding of the content of the following book:

- Anthony Saunders and Linda Allen, 2010, *Credit Risk Management In and Out of the Financial Crisis: new Approaches to Value at Risk and Other Paradigms*, Wiley Finance.

There are also excellent advanced reference books written by leading researchers in this area:

- Darrell Duffie, 2011, *Measuring Corporate Default Risk*, Oxford University Press.
- John Hull, 2012, *Risk Management and Financial Institutions*, 3rd Edition, Wiley Finance.
- Janet M. Tavakoli, 2008, *Structured Finance and Collateralized Debt Obligations: New Developments in Cash and Synthetic Securitization* (Wiley Finance)
- George Chacko, Anders Sjöman, Hideto Motohashi, Vincent Dessain, 2007, *Credit Derivatives: A Primer on Credit Risk, Modeling, and Instruments*, Wharton School Publishing.
- Rohan Douglas (ed.), 2007, *Credit Derivative Strategies: New Thinking on Managing Risk and Return* (Bloomberg Press).
- Rutledge, Ann, and Sylvain Raynes, 2010, *Elements of Structured Finance*, Oxford University Press. (Founders of R&R Consulting <http://www.creditspectrum.com/>)
- Darrell Duffie and Kenneth Singleton, 2003, *Credit Risk*, Princeton University Press.
- David Lando, 2004, *Credit Risk Modeling: Theory and Applications* (Princeton Series in Finance)

MEANS/PROCESSES FOR STUDENT FEEDBACK ON COURSE

conducting mid-term survey in additional to SETL around the end of the semester



Online response via Moodle site



Others: _____ (please specify)

COURSE POLICY (e.g. plagiarism, academic honesty, attendance, etc.)

1. Any student with a disability should contact the office and instructor to discuss the resources available to them. Please contact the office for other administrative assistance.
2. I take cheating in any form very seriously. Any individual suspected of cheating, including copying homework solutions, stealing or using stolen examinations, will be disciplined to the maximum extent allowed by the University.

ADDITIONAL COURSE INFORMATION (e.g. e-learning platforms & materials, penalty for late assignments, etc.)

1. Course evaluation rules are strictly followed. Make-up or unsolicited extra work to improve your grade is not possible. The final grade in the course, once assigned, will not be changed except in the event of a recording error.
2. If a student misses a class, it is entirely the student's responsibility to determine what is missed including any administrative announcements.
3. Should any student have to leave class early, please notify the lecture before class, leave quietly so as not to disturb the other members of the class.

This course outline is tentative and subject to change at the instructor's discretion.

Tentative Schedule, subject to change upon the discretion of the instructor

Class	Topic	Note
1	Introduction; Debt Contracts	
2	Credit Rating 1	
3	Credit Rating 2	Individual Homework #1
4	Credit Risk Measures 1	
5	Credit Risk Measures 2	Individual Homework #2
6	Recovery rate and distress negotiations	
7	Credit Derivatives 1	
8	Credit Derivatives 2	
9	Credit Derivatives 3 Trading: CDS-bond basis, Capital structure arbitrage	Individual Homework #3
10	Default Correlation and CDO ABS in China; Regulation: Basel III	
11	FinTech /Machine Learning/P2P/ Green Bonds ...	
12	Current Issues, Review, and Outlook	Project report

I plan to invite practitioners to share with students (either in class or via other arrangements).