

City University of Hong Kong

**Information on a Course
offered by the Department of Economics and Finance
with effect from Semester A in 2014 / 2015**

Part I

Course Title: Credit Risk Management

Course Code: EF5340

Course Duration: 1 semester (39 hours)

Credit Units: 3

Level: P5

Medium of Instruction: English

Prerequisites: Nil

Precursors: EF5042 Corporate Finance; and
EF5370 Mathematics and Statistics for Financial Services; or
EF5070 Econometrics; or
MA5182 Mathematical Methods in Finance

Equivalent Courses: EF5161 Management of Financial Institutions (from the old curriculum)

Exclusive Courses : Nil

Part II

Course Aims

Credit investments have been existing in the financial markets for over centuries. However, modern credit risk management techniques have only achieved significant breakthroughs during the last decade, largely due to the implementation of the global bank regulatory standards set out in the Basel III framework which mandates internationally active banks to strengthen their credit risk management and match their credit risk with sufficient regulatory capital. These initiatives motivate banks to spend huge resources to enhance their credit risk management systems with qualified risk management professionals.

This course aims at introducing the credit risk management techniques under the latest Basel III framework and discussing a wide range of methodologies that enable banks to manage their credit risk with contemporary econometric techniques. The course is particularly beneficial to those working in the following areas: risk management, compliance, bank audit, corporate banking, retail banking and private banking.

Course Intended Learning Outcomes (CILOs)

Upon successful completion of this course, students should be able to:

No.	CILOs	Weighting (if applicable)
1.	Identify the credit risk factors and analyze the credit risk of common debt products	10%
2.	Assess the credit quality of a listed company, private firm, individual person and small business with various methods and consolidate the results	20%
3.	Measure the credit risk of homogenous and heterogeneous debt portfolios	10%
4.	Monitor and mitigate the credit risk of single debt and debt portfolio	10%
5.	Analyze the properties of major credit derivatives, including CDS, CDS index, CLN and CDO	15%
6.	Investigate the major causes of and impacts from the financial tsunami 2008	10%
7.	Discover the philosophy behind credit provisioning and Basel Capital Accord	10%
8.	Calculate the capital charge for credit risk of debt and securitization exposures	15%

Teaching and Learning Activities (TLAs)

(Indicative of likely activities and tasks designed to facilitate students' achievement of the CILOs. Final details will be provided to students in their first week of attendance in this course)

CILO No.	TLAs	Hours/week (if applicable)
CILO 1-8	Lectures with audio-visual illustration	
CILO 1-4	Excel worksheet implementation of credit models Hands-on computer laboratory examples Term project (Part 1 and Part 2)	
CILO 2-4	Assigned readings In-class project presentations	
CILO 5	Assigned readings	
CILO 6	Movie: Inside Job	
CILO 5, 7, 8	Excel worksheet implementation of capital charge calculation approaches Term project (Part 3)	

Assessment Tasks/Activities

(Indicative of likely activities and tasks designed to assess how well the students achieve the CILOs. Final details will be provided to students in their first week of attendance in this course)

CILO No.	Type of Assessment Tasks/Activities	Weighting (if applicable)
CILO 1-2	Term project (Part 1 and Part 2 (a),(b)): to assess the credit quality of several listed companies Presentation of analysis results	12.5%
CILO 3-4	Term project (Part 2 (c),(d)): to recommend a lending strategy Presentation of analysis results	12.5%
CILO 5	Term project (Part 3 (a),(b)): to mitigate the credit risk of a debt basket after deterioration using credit derivatives Participation in class discussion	12.5%
CILO 7-8	Term project (Part 3 (c),(d),(e)): to calculate the capital charge of a debt basket before/ after deterioration and before/ after credit risk mitigation Proposal of the most appropriate capital charge calculation approach	12.5%
CILO 1-8	Examination (3 hours)	50%

Coursework (term project):

- Successfully assess the credit quality of listed companies with credit ratings, Merton's corporate default model and Altman's Z-scores;
- Successfully measure the credit risk of individual debts in a basket with expected loss;
- Successfully mitigate the credit risk of individual debts with EAD, LGD, PD and

- maturity reductions and/or using credit derivatives;
- Successfully calculate the capital charge for credit risk of debt exposures with the standardized and IRB approaches; and
- Successfully identify the most appropriate approach for a bank to calculate its capital charges for credit risk.

Examination:

- Able to assess the credit quality of corporate and retail borrowers;
- Able to measure the credit risk of individual debts, homogenous debt portfolios and heterogeneous debt portfolios;
- Able to monitor and mitigate the credit risk of individual debts and debt portfolios;
- Able to hedge the credit risk of individual debts and debt portfolios with credit derivatives;
- Able to create new credit products with credit derivatives and through credit structuring; and
- Able to calculate the capital charges for a bank's credit exposures.

Students are required to pass both coursework and examination components in order to pass the course.

Grading of Student Achievement:

Letter Grade	Grade Points	Grade Definitions	Remarks
A+ A A-	4.3 4.0 3.7	Excellent	Strong evidence of original thinking; good organization, capacity to analyse and synthesize; superior grasp of subject matter; evidence of extensive knowledge base. Students have demonstrated very strong overall ability to discover and innovate, and shown very strong evidence of accomplishments of discovery.
B+ B B-	3.3 3.0 2.7	Good	Evidence of grasp of subject, some evidence of critical capacity and analytic ability; reasonable understanding of issues; evidence of familiarity with literature. Students have demonstrated strong overall ability to discover and innovate, and shown strong evidence of accomplishments of discovery.
C+ C C-	2.3 2.0 1.7	Adequate	Students who is profiting from the university experience; understanding of the subject; ability to develop solutions to simple problems in the material. Students have demonstrated some overall ability to discover and innovate, and shown some evidence of accomplishments of discovery.
D	1.0	Marginal	Sufficient familiarity with the subject matter to enable the student to progress without repeating the course. Students have demonstrated marginal overall ability to discover and innovate, and shown marginal evidence of accomplishments of discovery.
F	0.0	Failure	Little evidence of familiarity with the subject matter; weakness in critical and analytic skills; limited, or irrelevant use of literature. Students have demonstrated

			little overall ability to discover and innovate, and shown little evidence of accomplishments of discovery
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Part III

Keyword Syllabus

Credit risk factors, credit assessments, debt portfolios, credit risk monitoring, credit risk controls, credit derivatives, credit securitizations, financial tsunami 2008, credit provisioning, Basel III framework, standardized approach, internal ratings based approach.

Recommended Reading

Optional Reference Book

LAM, KWAN and LAI, 2014 Managing Credit Risk Under The Basel III Framework (Second Edition)

Online Resources

<https://sites.google.com/site/quanrisk/ef5340-credit-risk-management>