RMBI 1010 - Risk Management in Financial Institutions
2025-26 Fall Term

General Information

- 3 Credits (Letter Graded) Common Core
- Teaching Mode: Face-to-Face
- Lecture: (L1) Tue 10:30am - 12:20pm LSK-1007
- Tutorials: (T1) Thu 11:00am - 11:50am LSK-G005
  (T2) Mon 03:00pm - 03:50pm LSK-G005
- Instructor: Prof. Jean WANG <jeanwang@ust.hk> (office hour by appointment)
- TA: Miss Anson WAN <imanson@ust.hk> (office hour by appointment)

Course Description

This course aims to examine the risks that may happen in our society and learn the benefits and impacts of risk management. The course focuses on the risks in financial institutions such as market risk and credit risk. It will introduce how enterprises assesses risk in a cohesive and quantitative way, and how various risk management methodologies can be utilized to help deliver profitability while managing downside risks. A mixture of lectures, case studies, group discussion and seminars will be delivered.

Assessments and Weighting*

- **Tutorial Exercises (20%):** week 2 to week 11

These are individual assessments. Each week, students are given an Excel file with real-world business data and a series of instructions. They are required to follow the instructions to complete the Excel file, to accomplish a specific risk analysis task. After finishing, students need to submit their Excel file to present their findings.

- **Assignment 1 (10%):** week 3 to week 7

This is an individual assessment. Students need to conduct research and summarize their findings for a given set of RM-related questions. The questions include social impact of RM, obstacles and difficulties of RM implementation, different RM techniques, and case studies of failure in enterprise risk management.

- **Assignment 2 (20%):** week 9 to week 13

This is a group assessment. 2 -3 Students form a group to conduct research and present their findings for a specific RM-related topic. Students are allowed to choose the topic of their own interest, subject to the instructor’s approval.

- **Examination (50%):** end of semester

This is an individual close-book assessment. The exam paper includes short questions, case analysis and calculation questions. The scope includes all topics covered in lectures and tutorial exercises.

** Instructor may take class participation into consideration when determining the final grade especially for marginal cases.*

Teaching Schedule

WK	Lecture Topic	Tutorial Exercise
1	*[Sep 2]* Lec01 - Introduction to Risk and Probability	*[Sep 1, 4]* *No tutorial before lecture*
2	*[Sep 9]* Lec02 - Risk Management Process	*[Sep 8, 11]* Tut01 - Slot Machines Volatility and Risk Simulation
3	*[Sep 16]* Lec03 - Risk Analysis: Qualitative and Quantitative	*[Sep 15, 18]* Tut02 - What-If Analysis in Excel for Term Deposit Return
4	*[Sep 23]* Lec04 - Financial Risk Management	*[Sep 22, 25]* Tut03 - Sensitivity Analysis in Excel for Mortgage Payment
5	*[Sep 30]* Lec05 - Market Risk and Diversification	*[Sep 29, Oct 2]* Tut04 - Monte Carlo Simulation in Excel for Profit Forecasting
6	*[Oct 7]* *No lecture on public holiday*	*No tutorial (for aligning with the lecture)*
7	*[Oct 14]* Lec06 - Market Risk and Hedging	*[Oct 13, 16]* Tut05 - Portfolio Optimization using Excel Solver
8	*[Oct 21]* Lec06 - Market Risk and Hedging (continued)	*[Oct 20, 23]* Tut06 - Forward and Options Practice Questions
9	*[Oct 28]* Lec07 - Market Risk and Value-at-Risk (VaR)	*[Oct 27, 30]* Tut07 - Currency Swap Practice Questions
10	*[Nov 4]* Lec08 – Credit Risk Management	*[Nov 3, 6]* Tut08 - VaR Calculation Practice Questions
11	*[Nov 11]* Lec09 – Asset Liability Management	*[Nov 10, 13]* Tut09 – Credit Risk Practice Questions
12	*[Nov 18]* *Project Presentation & Discussion*	*[Nov 17, 20]* Tut10 – Asset Liability Management Practice Questions
13	*[Nov 24, 25, 27]* *Project Presentation & Discussion*	

Recommended Readings

Lecture Topic	Recommended Readings
Risk Management Process	- ISO 31000:2009 Risk Management – Principles and Guidelines https://www.iso.org/obp/ui/#iso:std:iso:31000:ed-1:v1:en - ISO31000:2018 – Risk Management: A Practical Guide https://www.iso.org/publication/PUB100464.html
Risk Analysis: Qualitative and Quantitative	- Qualitative vs. Quantitative Risk Analysis http://www.mpug.com/articles/pmp-prep-qualitative-vs-quantitative-risk-analysis/ - Sensitivity Analysis in Excel Using One or Two Variables Data Table http://www.exceldemy.com/sensitivity-analysis-in-excel-using-one-or-two-variables-data-table/ - Data Tables & Monte Carlo Simulations in Excel – A Comprehensive Guide http://chandoo.org/wp/2010/05/06/data-tables-monte-carlo-simulations-in-excel-a-comprehensive-guide/
Financial Risk Management (in Banks)	- Types of Financial Institutions http://www.investopedia.com/terms/f/financialinstitution.asp - Analyzing A Bank's Financial Statements http://www.investopedia.com/articles/stocks/07/bankfinancials.asp - Book – Fundamentals of Risk Measurements Chapter 1 & Chapter 2
Diversification for Market Risk	- Portfolios of Two Assets https://web.stanford.edu/~wfsharpe/mia/rr/mia_rr5.htm - Modern Portfolio Theory: Efficient and Optimal Portfolios http://thismatter.com/money/investments/modern-portfolio-theory.htm - 6 Ways to Measure Risk in Mutual Fund https://www.etmoney.com/blog/6-ways-to-measure-risk-in-mutual-funds/
Hedging for Market Risk	- Systematic and Unsystematic Risk https://www.investopedia.com/terms/s/systematicrisk.asp https://www.investopedia.com/terms/u/unsystematicrisk.asp - Derivatives http://www.investopedia.com/exam-guide/cfa-level-1/derivatives/default.asp - Introduction to the Futures and Options Markets https://apps.theifm.org/tutorial/faq.htm

Value at Risk and Market Risk	- Value at Risk http://www.hkma.gov.hk/media/eng/publication-and-research/reference-materials/banking/ch15.pdf - How to Calculate Value-at-Risk – Step by Step https://www.glynholton.com/notes/var_measure/ - Value-at-Risk Theory and Practice https://www.value-at-risk.net/
Credit Risk Management	- Principles for the Management of Credit Risk http://www.bis.org/publ/bcbs75.pdf - Credit Risk Management - What it is and Why it Matters https://www.sas.com/en_us/insights/risk-management/credit-risk-management.html - Credit Risk Management: Trends and Opportunities https://www.capgemini.com/resources/credit-risk-management-trends-and-opportunities/
Interest Rate and Asset Liability Management	- Asset Liability Management: An Overview https://www.oracle.com/a/ocom/docs/industries/financial-services/asset-liability-management-ds.pdf - Managing Interest Rate Risk: ALM, Franchise Value, and Strategy https://www.casact.org/library/studynotes/panning.pdf - Basel Standards: Interest Rate Risk in the Banking Book https://www.bis.org/publ/bcbs108.htm
Operational Risk and Management	- The Future of Operational-Risk Management in Financial Services https://www.mckinsey.com/business-functions/risk-and-resilience/our-insights/the-future-of-operational-risk-management-in-financial-services - Asset Liability Management: An Overview https://www.hkma.gov.hk/media/eng/doc/key-functions/banking-stability/supervisory-policy-manual/OR-1.pdf - Calculation of RWA for Operational Risk https://www.bis.org/basel_framework/chapter/OPE/25.htm