IEOR E4579: Topics in OR: Risk Management from the C-Suite Perspective  
Instructors: Judy Lee & Lienseng Wee

COURSE DESCRIPTION
This course will cover Enterprise Risk Management principles, frameworks and practices. The perspective is to understand how CEOs, Board of Directors, and Senior Management view risks and the questions they need answered. Students will learn about Strategic, Operational, Financial Market, Political, Legal/Regulatory and Event risks. They will also learn how to identify risk drivers in corporations, and provide valuable insights in understanding all the risks faced by any organization, irrespective of the sector and business model etc. The risk frameworks and methodologies introduced allows for quantification of all risks that organizations face. This capability is useful for business lines and investment professionals in evaluating companies for acquisition, and therefore is not limited to only risk management specialists. On the whole, the methods taught are especially vital for today’s CEOs and leaders of tomorrow.

LEARNING OBJECTIVES
After this course, students will appreciate how risk management is applied in organizations and why it rises to a CEO and Board of Directors role. Students would be able to:
- Describe risk issues faced by corporations across diverse sectors
- Explain risk management frameworks used in managing risks
- Understand why risk quantification is necessary and have exposure to risk quantification frameworks
- Understand the need to synthesize risk issues into key questions
- Discuss how risk management is a powerful tool for both strategic and tactical decisions
This course is especially useful for students across disciplines who are seeking to understand how corporations create value and risks. Students will have more confidence in posing the risk questions relevant to senior management, to better understand how an organization’s value chain works, and therefore play a vital role in growing the business through a sustainable manner.

COURSE EXPECTATIONS, MATERIALS AND SCHEDULE

Expectations: 1.5 Credits -- We expect students to attend all sessions and engage in the content. Students will be evaluated based on:
- Classroom Participation (40%)
- Case Study – Group Assignment and Presentation (working groups will be assigned), (60%)

Course Materials: Students will be provided with notes and case studies.

Class Participation & Schedule: Participation is a central part of the learning process for you and your classmates. This includes attendance, full preparation prior to class including the assigned reading materials and case studies. Most of the learning in class will be done through lecture and discussions.

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<th>Date</th>
<th>Time</th>
<th>Room</th>
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<tr>
<td>Jan 8</td>
<td>1pm – 5pm</td>
<td>TBA</td>
<td>Introduction to Enterprise Risk Management</td>
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<td>Frameworks &amp; Risk Quantification</td>
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<td>Review Risk Management Disclosure in Annual</td>
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<td>Reports, Corporate Reporting</td>
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<td>Jan 9</td>
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<td>Risk Management in Corporations from a CEO’s</td>
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| Jan 10 | 1pm – 5pm | Investment Risk Quantification  
|        |           | Flaws of Control Self-Assessment  
|        |           | Case Study  
| Jan 11 | 1pm – 5pm | Making Risk Management Effective in Practice  
|        |           | How to Link Risk Quantification to Determining a Company’s Risk Appetite  
|        |           | Case Study – Group Presentation  

**COURSE OUTLINE**

**Session 1: Introduction to Enterprise Risk Management Frameworks & Risk Quantification**  
- What is Risk?  
- Risk Drivers Framework & Taxonomy of Risks  
- What is Risk Management?  
- Evolution of Risk Management – perspective of the Risk Management Industry  
- Risk Metrics needed to quantify risks in a corporation – Earnings at Risk, Cash flow at Risk, Value at Risk  
- Accounting versus Economic risks

**Session 2: Risk Management in Corporations from a CEO’s Perspective & Applications of Risk Quantification for Strategic Risk**  
- What are the Key Questions and Concerns of the CEO  
- Why Risk Management is the CEO’s Role & Key Decisions of a CEO and Board of Directors  
- Strategic Risk Management Framework  
- Quantification of Strategic Risks  
- Case Study Discussion

**Session 3: Flaws of Control Self-Assessment & Investment Risk Quantification**  
- Why is CSA used in corporations and why it’s ineffective  
- Investment Risk Quantification Framework and Approach  
- Uses of Investment Risk Quantification & Investment Risk Reviews Ex-Ante and Ex-Post  
- Case Study Discussion

**Session 4: Making Risk Management Effective in Practice & How to Link Risk Quantification to Determining a Company’s Risk Appetite**  
- Identifying Good and Bad Risk Management Practices  
- How you can support the CEO and Senior Management in Risk Management  
- Linking Risk Management to Shareholder Value  
- The Risk Appetite Decision  
- Conclusion
INSTRUCTIONAL TEAM

Liengseng WEE:
LIENGSENG WEE is CEO and co-founder of Dragonfly LLC. He was a partner and head of the strategy and risk management practice at Capco, an international financial services solutions firm. Prior to that, he was a partner at Capital Markets Risk Advisors in New York City. Liengseng was a managing director in Global Risk Management at Bankers Trust where he helped to develop and run the enterprise risk function. He also co-headed the bank’s Risk Advisory group that provided risk analysis and solutions for the bank’s clients. Liengseng was a strategy consultant with Booz Allen, based in New York City. Prior to that he was a banker at Banque Paribas based in Singapore.

Liengseng was an adjunct professor at Singapore Management University where he taught Enterprise Risk Management for 10 years – a course he and Judy developed. Liengseng has an MBA with Distinction from the Wharton School and a BBA from the National University of Singapore.

Judy LEE:
JUDY LEE is co-founder and partner at Dragonfly LLC, a New York based advisory firm founded in 2000 that provides strategy, risk management and investment evaluation to CEOs in all industry sectors worldwide. Judy is a pioneer and leader in risk management starting as a key member of the team that developed the risk methodology at Bankers Trust in the late 1980s. She also worked on financial derivatives and capital markets products. After Bankers Trust, Judy was a partner at two international risk advisory firms in New York – Capital Market Risk Advisors and Capco – before co-founding Dragonfly.

Judy was an adjunct professor at Singapore Management University where she taught Enterprise Risk Management for 10 years – a course she and Liengseng Wee developed.

Judy is a director on the Board of Temasek Lifesciences Accelerator. She also serves on the Board of Overseers of New York University Stern School. She has served on the board of directors at Solar Frontier, a subsidiary of Showa Shell Sekiyu KK that makes solar panels and develops solar power plants.

Judy has an Executive MBA from the Wharton School and a BS from New York University Stern School.