

Principles of Risk Management
RMI 700 – Fall 2011
Tues/Thursday 1:00 – 2:15 pm in 2510 Grainger

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Course Description:

Life and business are full of uncertainty, and successfully identifying and managing risks is important to any enterprise. Managing risks is especially important as the world becomes more interconnected. The economic impacts of a catastrophe like the Japanese earthquake and tsunami in 2011 ripple across the globe as they affect businesses, suppliers, and customers in every country. We also saw that during the global financial crisis poor risk management at large financial firms created “systemic risk” and threatened the security of the entire financial system. Unfortunately, despite the importance of risk, in general people are not innately good at managing and identifying risk: both individuals and corporations at times ignore important risks and at other times are overly concerned with risk. RMI 700 provides an introduction to risk management for MBA students and aims to provide a foundation for learning to effectively manage risk. Although the course focuses on risk management from the perspective of business, it could be valuable to graduate students in related fields, such as law and engineering.

Course Topics:

Part 1: The Rationale for Strategic Risk Management (~2 weeks)

We begin the course with a discussion of what we mean when we talk about risk. Despite widespread interest in the topic, the word “risk” means many different things to many people. We will discuss the distinction between “pure risks” and “speculative risks” and will explore how we understand “risk as uncertainty”, “risk as variance” and “risk as potential loss”. We will then explore what it means to be “risk averse” in our personal lives and have a brief introduction to theories of risk aversion at the individual level, including expected utility theory. We turn then finally and most importantly to the question of why firms manage risk. Does risk aversion for individuals map to how firms handle risk? We will tackle the “puzzle of corporate risk management” for a corporation and will address the question of why well diversified investors in public companies value risk management. In particular, we will work to understand how risk management can help the firm achieve its strategic goals.

Part 2: Behavioral Economics and the Psychology of Making Decisions about Risk (~2 weeks)

In this section of the course we survey the literature from psychology and behavioral economics on decision-making under uncertainty. We discuss common biases in our perceptions of risks that can sometimes lead individuals and organizations to focus on the wrong risks and ignore important risks. Topics include, anchoring, availability bias, and the role of limited attention in decision making. Part of

the goal of this section is to help students be aware of the challenges of decision-making under risk and to instill a degree of humility and caution in our own assessments and judgments of risk.

Part 3: The Risk Management Process and Enterprise Risk Management (~2 weeks)

Companies are increasingly recognizing that risk management is central to ensuring that they can meet their strategic objectives. This has spawned the area of Enterprise Risk Management, which is basically a holistic approach to considering all of the organizations risks and how they impact the organization's overall strategy. This section of the course provides an overview of the process an organization can take to identify, prioritize, and decide on courses of action for managing its risks. We will focus on a number of business cases to illustrate the steps involved in these processes.

Part 4: Quantitative Approaches to Assessing Risks (~2 weeks)

This section provides an introduction to statistical approaches to analyzing and quantifying risk. We discuss distributions, correlations, common metrics such as Value at Risk. This section we will center around exercises using the simulation program @Risk for Microsoft Excel. We will discuss methods and challenges for identifying the inputs to these models and will try to gain an appreciate for both the value and limitations of using statistical models in risk management.

Part 5: Survey of Major Corporate Risks and Risk-Financing Techniques (~4 weeks)

This section uses many case studies and provides a survey of both "pure risks" and "financial risks". Some of the topics we will discuss include: property damage, business interruption risk, catastrophe risks, liability risks, environmental liability, price risk, interest-rate risk, credit and counterparty risk, and exchange-rate risk. In conjunction with these topics we will also discuss the methods firms can use to finance these risks, including retention, purchasing insurance, and the use of financial derivatives.

Readings:

There is no required textbook for this course. However, if you are looking for a supplement to the course, Harrington and Niehaus have a classic text called *Risk Management and Insurance* that would be an ideal complement to the course. The readings for the course consist of 10 Case Studies from Harvard Business Publishing and a series of supplementary readings that I will post to the course website. The class will involve a reasonably heavy reading load and I expect everyone to stay on top of the readings.

Purchase Case Studies by following: <http://cb.hbsp.harvard.edu/cb/access/10181076>

Case Studies:

Part 1: *American Barrick Resources Managing Gold Price Risk;*

Part 3: *United Grain Growers Limited; Enterprise Risk Management at Hydro One; Honeywell Inc. and Integrated Risk Management*

Part 5: *AIG Blame for the Bailout; Risk at Freddie Mac; The Collapse of Metallgesellschaft: Unhedgeable Risks, Poor Hedging Strategy, or Just Bad Luck?; Ocean Spray Cranberries: Environmental Risk Management; Nephilia: Innovation in Catastrophe Risk Insurance*

Assignments and Assessments: To a large extent I see this course as a way of thinking and approaching situations rather than a collection of facts to be applied. As such, the course will focus on assignments rather than examinations. The course will involve a series of short writing assignments that will ask you to identify real-world applications of the material we are discussing. In addition, Part 4 of the course will involve simulation assignments using @Risk.

ERM Project: In lieu of a final exam, you will conduct a limited enterprise risk management assessment for a real firm. You will identify a corporation and will seek to identify and analyze the principle risks for that company using a basic Enterprise Risk Management focus. You can either focus on a large public company and obtain information for the project from publicly available data, including annual statements, or you can approach a smaller company that will give you access to their operation to conduct a risk assessment in exchange for sharing your results. In either approach, I will ask you to make recommendations for risk management solutions for the firm and to justify those recommendations. This will be a group project that will be developed over the course of the semester. Each group will both present their final analysis to the entire class and submit to me a written analysis at the end of the semester. The last two or three classes will be devoted to group presentations.

Grading:

Active participation in class discussions:	30%
Short writing assignments:	15%
@Risk simulations:	15%
Group ERM Project:	40%

Honor Code: In this course I will expect everyone to uphold the School of Business, MBA Academic Integrity Honor Code (<http://www.bus.wisc.edu/mba/honorboard/>). I expect that each of you will respect each other and the principles of academic integrity throughout this course. I will hold myself to those standards as well and will promise to be respectful and open-minded throughout.

Use of Technology in Class: This class is designed to have a great deal of class participation surrounding discussions of cases and readings. That structure only works if everyone is actively involved in the class sections. Since modern technology can often be a distraction in the classroom, I am going to request that there be no use of laptops, cell phones, iPads and other tech devices during class time.

Guest Speakers: There will be a couple of guest speakers for the course. On September 29th, Andrew Nottestad (Director of Corporate Insurance at United-Continental) and Rich Michaels (Global Risk Management Client Executive with Marsh) will come and talk about an end-to-end risk management case study. I am also working to finalize one or two other guest talks on specific topics and will give out details of those talks as I arrange them. I expect that everyone will attend and be thoughtfully and respectfully engaged in these guest talks.