

UNIVERSITY OF PENNSYLVANIA
 Professors Anastasia Kartasheva, Greg Nini, and Neil Doherty
 The Wharton School
Fall 2011

INSURANCE 205/805: Risk Management

The recent financial crisis and subsequent recession provide ample evidence that failure to properly manage risk can result in disaster. Individuals and firms confront risk in nearly all decisions they make. Individuals face uncertainty in their choice of career, their spending and saving decisions, family choices, and many other facets of life. Similarly, the value that firms create by designing and marketing good products is at risk from a variety sources. The bankruptcy of a key supplier, a sharp rise in the cost of financing, the destruction of an important asset, or a liability suit can quickly squander the value created by a firm. In extreme cases, risky outcomes can bankrupt a firm, as has happened recently to manufacturers of automobile parts and a variety of financial service firms. The events since 2007 provide stark evidence that risk can impose significant costs on individuals, firms, governments, and society as a whole.

Insurance 205/805 explores how individuals and firms assess and evaluate risk, the tools available to successfully manage risk, and real-world frictions that limit the amount of risk-sharing in the economy. Our focus is primarily on explaining the products and institutions that we see in the world, which will serve you in making decisions in your future careers and lives.

Course Structure and Requirements. The course is organized around three modular sections. The first module introduces the formal concept of risk, explores how individuals make decisions under uncertainty, and illustrates the impact of asymmetric information on risk management. The second module evaluates various methods for mitigating or eliminating risks faced by both individuals and corporations. The third module examines when firms do and do not have a motivation to manage risk and investigates the role of the legal system in corporate risk management.

At the end of each module, there will be a midterm exam covering the material from the module. There is no final exam. Final grades are determined solely by the three midterm exams. Each module is taught by a different professor.

Contact information and office hours for the three professors are presented below.

Contact Details and Office Hours

<i>Faculty</i>	Email	Phone	Office	Office Hours*
Prof. Kartasheva	karta@wharton	898-4751	SH-DH 3010	Wednesday 3:30 – 4:30pm
Prof. Nini	greg30@wharton	898-7770	SH-DH 2439	Wednesday 3:30 – 4:30pm
Prof. Doherty	doherty@wharton	898-7652	SH-DH 3410	Wednesday 3:30 – 4:30pm

* Additional Office Hours will be added as the exams draw near.

Prerequisites. There are no formal prerequisites for the class. However, we recommend this course to students with an introductory knowledge of statistics, microeconomics, and finance, at the level of the Wharton undergraduate classes STAT 101, BPUB 250, and FNCE 100.

Course grading. Final grades for the course will be based on an equally-weighted average of the three midterm exams. There is no option for additional work or extra credit.

Add/Drop Deadline. As per Wharton policy, you may drop the course until the end of the fifth week of classes. This semester, the deadline is Friday, October 14th. After the drop deadline, you need written permission from an instructor to drop the course. It is the policy of the course instructors that we do not sign petitions to drop the course after the fifth week of the semester. Please refer to the following link for more information:

http://spike.wharton.upenn.edu/ugrprogram/policies_forms/acad/withdrawing.cfm

Withdrawal Deadline. As per Wharton policy, the formal withdrawal deadline is after the end of the tenth week of the semester. This semester, the deadline is Friday, November 18th. According to the official policy, “after the tenth week of the semester, withdrawals are not normally permitted.”

Expectations. All students must become familiar with and adhere to the Penn Code of Academic Integrity (<http://www.vpul.upenn.edu/osl/acadint.html>). Class attendance and punctuality are expected. We do not permit laptop computers or other electronic devices to be used during class.

Missing an Exam. Students may miss scheduled examinations only with a University-approved excuse. This includes sickness accompanied with a written medical excuse from a licensed medical practitioner explaining why you cannot attend the exam. Other valid excuses include direct conflicts with another course offered at Penn that cannot be rescheduled as well as a varsity (but not club) sport competition (but not training). In particular, job interviews are *not* a legitimate reason to miss an exam. Missing an exam without a University-approved excuse will result in a zero for the exam. Arriving late to an exam will be treated as missing an exam.

Exam Regrades. To submit a regrade request for an exam, a student must submit the original test sheet, a signed regrade affidavit (see the Web-café for the template), and a written memorandum explaining why the exam should be regraded. Such requests must be submitted within a timely manner after the examination has been returned to the class, as determined by the professor of the module. The entire exam will then be reviewed, and a student’s midterm grade may go down, go up, or remain unchanged at the prerogative of the professor for the module. Students must not mark, make notes on, or alter the exam papers for which they seek a regrade; any such alteration will be seen as a violation of the Code of Academic Integrity.

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Recommended Text

- Harrington, S.E., and G.R. Niehaus (H&N): *Risk Management and Insurance*, McGraw-Hill 2003
- A set of chapters selected for this course will be available at the bookstore in a bound edition.

Additional material

- Additional readings and case studies, lecture notes, and ungraded problem sets will be posted on the course web-café. Students are responsible for checking this site regularly for updates.

Module 1. The Theory of Risk (Kartasheva)

Lectures 1 – 8

The first module is an introduction to risk and its treatment. We ask what risk means, how it is measured, and how insurance can allow offloading of risk and reducing potential insolvencies. We then analyze how individuals make choices under uncertainty and their demand for insurance. Finally, we explore some interesting incentive problems that arise because of asymmetric information, under the themes of “moral hazard” and “adverse selection.”

Module 2.

Lectures 9 – 15

Human Capital Risk Management (Nini)

Given the motivations for individual risk management, the second module examines various mechanisms for individuals to manage risks related to human capital. We begin by studying several alternatives to insurance for managing risk and consider the provision of risk management services by employers and the government. We then focus on risks that affect income and wealth, including injury, health, death, and old age. Throughout the module, we focus on the economic justifications for the institutions that have evolved to manage risk and find ever present conflicts between the demand for risk management and information and incentive conflicts that restrict supply. We will use a variety of real world examples and case studies to illustrate this idea.

Module 3.

Lectures 16 - 22

Corporate Risk Management (Doherty)

The third module addresses how firms can manage their own risk. We begin by asking why risk is a problem. Though the answer may seem obvious, it is not. We show that risk not only increases the possibility of future bankruptcy costs, but it also causes conflicts between the various stakeholders which can result in dysfunctional decision-making. Additionally, risk can raise financing costs and lead to the sacrifice of otherwise profitable investment opportunities. Finally, as exemplified by recent accounting scandals, risk management decisions often are made by managers to further their own welfare, rather than that of owners. We examine the legal duties of directors and officers and liabilities toward customers and other parties.

Tentative Course Agenda

Lecture	Day	Date	Topic	H&N Readings
1	Wednesday Thursday	9/7/2011 9/8/2011	Overview of Risk Management	Chapter 3
2	Monday Tuesday	9/12/2011 9/13/2011	Risk Pooling	Chapter 2, Including Appendix
3	Wednesday Thursday	9/14/2011 9/15/2011	Risk, Utility, and Choice under Uncertainty (1)	Chapter 9: section 9.1 and Appendix
4	Monday Tuesday	9/19/2011 9/20/2011	Risk, Utility, and Choice under Uncertainty (2)	Continued
5	Wednesday Thursday	9/21/2011 9/22/2011	Risk, Utility, and Choice under Uncertainty (3)	Continued
6	Monday Tuesday	9/26/2011 9/27/2011	Surprise!	
7	Wednesday Thursday	9/28/2011 9/29/2011	Asymmetric Information	Chapter 10
8	Monday Tuesday	10/3/2011 10/4/2011	Asymmetric Information	Chapter 10
NC	Wednesday	10/5/2011	Review Session: 6PM	
NC	Thursday	10/6/2011	Module 1 EXAM: 6 - 7:30 PM	
NC	Monday Tuesday	10/10/2011 10/11/2011	Fall Break Fall Break	
9	Wednesday Thursday	10/12/2011 10/13/2011	Alternative Methods for Managing Risk	
10	Monday Tuesday	10/17/2011 10/18/2011	(continued)	
11	Wednesday Thursday	10/19/2011 10/20/2011	Employer and Public Provision of Insurance	Chapter 16: 16.1-16.2, Chapter 19
12	Monday Tuesday	10/24/2011 10/25/2011	Risk Control and Financing: Health and Injury	Chapter 16: 16.3-16.7, Chapter 18
13	Wednesday Thursday	10/26/2011 10/27/2011	Risk Control and Financing: Living and Dying	Chapter 15
14	Monday Tuesday	10/31/2011 11/1/2011	Risk Control and Financing: Old Age	Chapter 17
15	Wednesday Thursday	11/2/2011 11/3/2011	Risk Control and Financing: Other	
NC	Monday	11/7/2011	Review Session: 6PM	
NC	Tuesday	11/8/2011	Module 2 EXAM: 6 - 7:30 PM	

Lecture	Day	Date	Topic	H&N Readings
16	Wednesday Thursday	11/9/2011 11/10/2011	Motivation for corporate risk management (1)	Chapters 9 and 20
17	Monday Tuesday	11/14/2011 11/15/2011	Motivation for corporate risk management (2)	Continued
18	Wednesday Thursday	11/16/2011 11/17/2011	Limited liability and risk management	
19	Monday Tuesday	11/21/2011 11/22/2011	Strategies for corporate risk management (1)	Chapters 24 and 25
NC	Wednesday	11/23/2011	Thanksgiving Break	
NC	Thursday	11/24/2011	Thanksgiving Break	
20	Monday Tuesday	11/28/2011 11/29/2011	Strategies for corporate risk management (2)	Continued
21	Wednesday Thursday	11/30/2011 12/1/2011	Legal liability, tort, and objectives	Chapter 12
22	Monday Tuesday	12/5/2011 12/6/2011	Optimal investment in safety	
NC	Wednesday	12/7/2011	Review Session: 6PM	
NC	Thursday	12/8/2011	Module 3 EXAM: 6 - 7:30 PM (no class)	