

UNIVERSITY OF PENNSYLVANIA
 Professors David Huffman, Freda Song, and Greg Nini
 The Wharton School
Fall 2012

BEPP 305: 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 of 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 different measures of risk, and presents the theory of optimal decision-making under uncertainty. The second module illustrates how asymmetric information and psychological considerations affect risk management. 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.

Contact information and office hours for the three professors are presented below. There are three TAs for this course. They will hold a weekly recitation and office hour.

Contact Details and Office Hours

<i>Faculty</i>	Email	Phone	Office	Office Hours
Prof. Huffman	dhuffma1@swarthmore			Tuesday 2:00 – 3:00pm
Prof. Song	fredasong@gmail	746-3094	SH-DH 3012	Tuesday 2:00 – 3:00pm
Prof. Nini	greg30@wharton	898-7770	SH-DH 2439	Tuesday 2:00 – 3:00pm

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, BEPP 250, and FNCE 100.

Course grading. Final grades for the course are determined by three midterm exams and required exercises. The equally-weighted average of the three midterm exams is worth 90% of the final grade. The remaining 10% is determined by the grades of homework exercises and the proportion of survey answers turned in before their deadlines.

Add/Drop Deadline. As per Wharton policy, you may drop the course until the end of the fifth week of classes. 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. 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.

INSURANCE 205/805: Risk Management

Course Material

- Lecture notes, readings, case studies, and problem sets will be posted on the course canvas site. Students are responsible for checking this site regularly for updates.
- 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.

Module 1. The Theory of Risk (Huffman)

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 optimal decision-making under risk.

Module 2. Individual and Market Failures (Song)

Lectures 9 - 15

The second module explores barriers to risk management. First, we study incentive problems that arise because of asymmetric information, under the themes of “moral hazard” and “adverse selection.” Then, we study typical mistakes when making decisions involving risk. We will use a variety of real world examples and case studies to illustrate the ideas.

Module 3. Corporate Risk Management (Nini)

Lectures 16 - 22

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.

Course Agenda

Lecture	Day	Date	Topic
1	Wednesday Thursday	9/5/2012 9/6/2012	“Flaw of Averages” and Overview of Statistics
2	Monday Tuesday	9/10/2012 1/11/2012	Law of Large Numbers and Risk Pooling
3	Wednesday Thursday	9/12/2012 9/13/2012	Central Limit Theorem and Value at Risk
4	Monday Tuesday	9/17/2012 9/18/2012	Expected Utility Theory (1)
5	Wednesday Thursday	9/19/2012 9/20/2012	Expected Utility Theory (2)
6	Monday Tuesday	9/24/2012 9/25/2012	Expected Utility Theory (3)
7	Wednesday Thursday	9/26/2012 9/27/2012	Subjective Expected Utility and Ambiguity
8	Monday Tuesday	10/1/2012 10/2/2012	Precautionary Saving
NC	Wednesday	10/3/2012	Review Session 6-7 p.m.
NC	Thursday	10/4/2012	Midterm Exam: Module 1, 6 -7:30PM
9	Monday Tuesday	10/8/2012 10/9/2012	In Class Game
10	Wednesday Thursday	10/10/2012 10/11/2012	Asymmetric Information (1)
11	Monday Tuesday	10/15/2012 10/16/2012	Asymmetric Information (2)
12	Wednesday Thursday	10/17/2012 10/18/2012	Asymmetric Information (3)
NC	Monday Tuesday	10/22/2012 10/23/2012	FALL BREAK
13	Wednesday Thursday	10/24/2012 10/25/2012	Insurance Markets
14	Monday Tuesday	10/29/2012 10/30/2012	Behavioral Economics (1)
15	Wednesday Thursday	10/31/2012 11/1/2012	Behavioral Economics (2)
NC	Sunday Monday Tuesday	11/4/2012 11/5/2012 11/6/2012	Review Session Midterm Exam: Module 2, 6 -7:30PM No Class
16	Wednesday Thursday	11/7/2012 11/8/2012	Motivation for corporate risk management (1)
17	Monday Tuesday	11/12/2012 11/13/2012	Motivation for corporate risk management (2)
18	Wednesday Thursday	11/14/2012 11/15/2012	Motivation for corporate risk management (3)

Lecture	Day	Date	Topic
19	Monday Tuesday	11/19/2012 11/20/2012	Strategies for corporate risk management (1)
NC	Wednesday Thursday	11/21/2012 11/22/2012	THANKSGIVING BREAK
20	Monday Tuesday	11/26/2012 11/27/2012	Strategies for corporate risk management (2)
21	Wednesday Thursday	11/28/2012 11/29/2012	Strategies for corporate risk management (3)
22	Monday Tuesday	12/3/2012 12/4/2012	Corporate Legal Liability
	Tuesday	12/4/2012	Review Session
NC	Wednesday Thursday	12/5/2012 12/6/2012	Midterm Exam: Module 3, 6 -7:30PM No Class