
Additional readings may be posted on Blackboard

Course Description

This is the foundational course in risk management and insurance. The objective is to provide students with a broad framework for evaluating all types of risk, along with conceptual tools for making risk management decisions rationally and consistently.

The course is structured to serve as core element of business literacy. It is intended for business students from all disciplines, including those who intend to take only one course in risk management and insurance. The course also serves as the introductory course for students wishing to pursue further studies in the field.

The course focuses on the economics of risk, decision-making under uncertainty, and the methods for managing risk. It examines risk transfer markets, including both insurance markets and derivative markets.

The course opens with an exploration of the various meanings of risk, before settling on a twofold definition. The broad distinction between pure and speculative risk is introduced. The overlap between these categories is explored, and different methods of classifying risk are discussed.

Risk management is introduced as a rational method for identifying and treating risk all types of risk. Within this framework, we establish that the overall objective of risk management is to minimize the cost of risk.

As the course unfolds, students learn practical techniques for identifying, classifying and managing risk. They apply concepts from finance, probability and statistics to measure risk and to make better risk decisions. The student is also introduced to public policy issues involving risk. The goal is to build an appreciation of the difficult trade-offs that are required to resolve these issues.

The study of risk is a powerful example of how humans develop language, tools and concepts to manage a complex world. In addition to learning about risk, students should find themselves challenged. The broader aim is to strengthen critical thinking ability, and grow problem solving and decision making skills.

Course Objectives

The goals of the course are to:

1. Define and explain the meaning of risk. Distinguish between pure, speculative risk and other kinds of risk.

2. Introduce the risk management methodology. Learn how to identify, analyze and evaluate various kinds of risks faced by business firms and individuals. Apply the risk management process to select among the alternative techniques for treating these risks.
3. Become familiar with the unique language of risk and insurance. Develop an understanding of the common characteristics of insurance contracts. Learn the institutional features of the insurance industry.

4. Integrate and apply knowledge from other business courses to solve risk management problems.

5. Help students become more knowledgeable and efficient consumers of both personal and business insurance.

**Grading Requirements**

Grading will be based on five requirements:

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Participation</td>
<td>5%</td>
</tr>
<tr>
<td>Homework Assignments</td>
<td>25%</td>
</tr>
<tr>
<td>1st exam (Feb. 10)</td>
<td>20%</td>
</tr>
<tr>
<td>2nd exam (Mar. 17)</td>
<td>25%</td>
</tr>
<tr>
<td>Final exam (TBD)</td>
<td>30%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Homework questions will include problems, short narrative responses and financial and statistical calculations. Late assignments will suffer a 10% penalty per day. All homework assignments will be graded on content and writing. Assignments should be typewritten. Poorly written assignments will be returned and you will be required to rewrite.

There will be three examinations in the course. Each exam will cover roughly one third of the course material. The exams will be cumulative. The exam questions will cover the assigned chapters in the text, as well any background material covered in class and posted to Blackboard.

As a general rule, no make-up exams will be given in this course. However, if special or extenuating circumstances force a student to miss a regularly scheduled exam, the instructor may offer a make-up opportunity.

**Class Participation**

The class participation of students will be my subjective evaluation of the following criteria:

1. **Attendance**: Did you attend class? Did you arrive on time? Did you stay for the full class?

2. **Preparation**: Did you read the textbook and other material assigned for the class **prior** to coming to class?

3. **Participation**: Did you contribute to the class discussion in a positive manner? Were you able to respond to questions asked in class appropriately? Were you able to relate your comments and/or answers to the course material?

Arriving late for class or leaving in the middle of class disrupts other students; this behavior therefore will lower your contribution to class grade. Missing class also will lower your contribution to class grade.

Cell phone courtesy will also impact your class participation grade. Cell phones must be turned off in class, and texting is strictly prohibited.
Grade Scale

If you achieve an overall percentage in the ranges below, you will receive at worst the letter grade associated with that range. It is possible that grades will be curved at the end of the semester, so that some scores in a particular range will obtain a letter grade associated with a higher range. For example, it is possible that a 78 overall average could result in a B grade.

- 90-100 A
- 87-89 B+
- 80-86 B
- 77-79 C+
- 70-76 C
- 60-69 D
- < 60 F

Student Learning Outcomes

By the end of this course, students will be able to:
1. Understand various interpretations of risk
2. Calculate various measures of risk
3. Know the risk management process and the various methods that are used to manage risk
4. Understand the behavioral biases that impact individuals’ risk decisions
5. Understand how risk can be diversified away and the factors that influence the extent to which risk can be diversified
6. Know the types of insurance company ownership; understand the role of insurer capital and the factors affecting insurer capital decisions; explain how insurers reduce insolvency risk through underwriting diversification, reinsurance and investment choices.
7. Understand how moral hazard, adverse selection, correlated losses, and transaction costs impact the extent to which risk can be traded
8. Explain and calculate “fair” insurance premiums
9. Apply cost-benefit analysis to risk mitigation decisions
10. Understand the sources, variety and potential magnitude of legal liability, particularly for injury and property damage to the others
11. Understand insurability of risk, standard insurance contractual provisions and the fundamental legal doctrines underlying insurance contracts.
12. Understand the risk arising from the ownership and use of automobiles; learn major features of the personal auto policy; apply insurance pricing principles to the auto insurance rating and underwriting; explain the factors leading to residual markets, compulsory auto insurance and no-fault insurance
13. Explain systemic risk
14. Understand the payoffs on different types of derivative contracts
15. Select a derivative contract that would hedge a particular risk.
Course Outline (Readings are listed in parenthesis)

The following course outline is ambitious. It is intended to be challenging. The schedule is subject to change at the instructor’s discretion. Students will be given prior notice.

What is Risk & Risk Management (H&N: ch. 1, 2)
   - What is risk?
   - Types of risks facing businesses and individuals
   - The risk management process
   - Biases in decision making under uncertainty
   - Objective of risk management
   - Understanding the cost of risk

Risk Identification, Risk Measurement and Review of Probability Theory (H&N: ch. 3)
   - Business Risk Exposures
   - Individual Risk Exposures
   - Random variables
   - Probability distributions
   - Expected value, variance, standard deviation, skewness, percentile values
   - Value at risk, maximum probable loss
   - Correlation between random variables
   - Probability distributions for sums of random variables

Pooling Arrangements & Diversification of Risk (H&N: ch. 4)
   - Impact of pooling on expected losses
   - Impact of pooling on variability of losses
   - Correlation and pooling arrangements

Insurance Pricing (H&N: ch. 8)
   - Determinants of fair premiums
     - Expected claims costs
     - Administrative costs
     - Capital costs
     - Time value of money
   - Risk classification
   - Adverse selection
   - Underwriting cycles
   - Regulation
   - Residual markets
   - Metrics used to assess performance
     - Loss ratio, expense ratio, combined ratio
     - Solvency measures

Organization of and Insolvency Risk Management of Insurance Companies (H&N: ch. 5)
   - Mutual versus stock companies
   - Distribution of insurance
   - Insurer management of insolvency risk
     - Capital
     - Reinsurance
     - Asset management
Risk Mitigation (H&N, ch. 11)
- Cost – benefit analysis
- Government safety programs
- Value of life calculations

Legal Liability for Injuries (H&N, ch. 12)
- Basic tort legal liability rules
  - Gradations of liability (No liability, negligence, strict, absolute)
  - Damages
  - Joint and several liability
- Elements of negligence
- Economic objectives of the tort liability system
- Limited wealth and limited liability
- Tort liability and safety regulation
- Proposals for tort reform

Contractual Provisions and Legal Doctrines in Insurance (H&N, ch. 10)
- Moral hazard
- Deductibles
- Coinsurance
- Policy limits
- Exclusions
- Indemnity principle
- Subrogation

Automobile Insurance (H&N, ch. 13; ISO Personal Auto Policy)
- Overview of Auto Loss Exposures
- Personal Auto Policy (PAP)
  - Liability coverage (split limits vs. combined single limit)
  - Medical payments coverage
  - Uninsured motorists coverage
  - Damage to your auto
- Auto Insurance pricing and selection
  - Rating factors
  - Underwriting
  - Residual markets
- Compulsory auto insurance – types, pros and cons
- No-fault auto insurance – types, pros and cons

Social Security (H & N, ch. 19)
- Overview of Social Security
- OASDI Benefits
- OASDI Financing
- Understanding Pay-as-you go Systems
- Proposed Changes and Alternatives to Social Security
- Medicare

Hedging with Derivatives (H&N, ch. 24)
- Options
- Forwards
- Swaps
Corporate Liability to Customers, Third Parties and Shareholders (H & N, ch. 28)
   Products Liability
   Environmental Liability
   Directors and Officers Liability

Issues in Liability Risk and Its Management (H & N, ch. 29)
   Risk Shifting through Limited Liability
   Liability for the Actions of Employees and Other Parties
   Hold Harmless and Indemnity Agreements

Instructor
   George D. Krempley
   Office 456D

Office Hours
   Tuesday 2:30-4:00 PM
   Thursday: 2:30-4:00 PM

University of South Carolina Honor Code

It is the responsibility of every student at the University of South Carolina Columbia to adhere steadfastly to truthfulness and to avoid dishonesty, fraud, or deceit of any type in connection with any academic program. Any student who violates this Honor Code or who knowingly assists another to violate this Honor Code shall be subject to discipline.

This Honor Code is intended to prohibit all forms of academic dishonesty and should be interpreted broadly to carry out that purpose. The following examples illustrate conduct that violates this Honor Code, but this list is not intended to be an exhaustive compilation of conduct prohibited by the Honor Code:

1. Giving or receiving unauthorized assistance, or attempting to give or receive such assistance, in connection with the performance of any academic work.
2. Unauthorized use of materials or information of any type or the unauthorized use of any electronic or mechanical device in connection with the completion of any academic work.
3. Access to the contents of any test or examination or the purchase, sale, or theft of any test or examination prior to its administration.
4. Use of another person’s work or ideas without proper acknowledgment of source.
5. Intentional misrepresentation by word or action of any situation of fact, or intentional omission of material fact, so as to mislead any person in connection with any academic work (including, without limitation, the scheduling, completion, performance, or submission of any such work).
6. Offering or giving any favor or thing of value for the purpose of influencing improperly a grade or other evaluation of a student in an academic program.
7. Conduct intended to interfere with an instructor’s ability to evaluate accurately a student’s competency or performance in an academic program.

Whenever a student is uncertain as to whether conduct would violate this Honor Code, it is the responsibility of the student to seek clarification from the appropriate faculty member or instructor of record prior to engaging in such conduct.

Suspected violations of the honor code will be reported to the Office of Academic Integrity. Violations of the honor code will result in disciplinary measures.