

# Risk Management and Insurance (RMI)

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Course information contained within the Bulletin is accurate at the time of publication in June 2025 but is subject to change. For the most up-to-date course information, please refer to the Course Catalog.

## **RMI 5051. Managing Risk. 3 Credit Hours.**

Risk Management requires the firm to identify opportunities for gain and exposures to unexpected loss. The firm must then assess the potential consequences, and plan to finance the consequences of the adverse event if it happens. This course is designed to introduce the risk management process in the context of general corporate management. Each step in the process will be reviewed in detail, including setting the risk management context, identification of risk, measurement and analysis of potential impact, and appropriate treatment techniques. Risk financing options will be discussed in the context of global insurance and alternative capital markets. While the risk management process encompasses all types of risks, we will focus our identification discussion on the class of risks known as pure risk events; those that pose the threat of a loss if they happen, but no possibility of a gain.

**Repeatability:** This course may not be repeated for additional credits.

## **RMI 5101. Managing Human Capital Risk. 3 Credit Hours.**

The course introduces students to the major areas in non-pension employee benefits from the perspective of actuarial practice. It reviews the general considerations in employee benefit design including federal and state regulation, group insurance and the group insurance technique, sources of healthcare benefits, HMOs, PPOs, managed care systems and disability income benefits. The course also studies flexible benefits plans and funding considerations, and examines income tax implications and healthcare cost containment issues. In addition, students learn about group and individual life insurance theory and practice and their use in employee benefits plans.

**Repeatability:** This course may not be repeated for additional credits.

## **RMI 5102. Retirement Plans. 3 Credit Hours.**

Composed of two sections: 1) Reviews basic features and defined contribution approaches of retirement income. Examines sponsor objectives served by the creation of qualified retirement plans, tax and non-tax qualification requirements, and individual account retirement plans. Subjects: profit sharing plans, Section 401(k) and 403(b), employee stock ownership, cash balance, simplified employee pension, and executive retirement arrangements. 2) explores defined benefit plans and plan administration, fundamentals of pension plans with emphasis on the defined benefit approach to providing retirement income. Subjects: plan design, actuarial aspects (costs and funding), investment of plan assets, and plan termination insurance. Provides a basic foundation of retirement income.

**Repeatability:** This course may not be repeated for additional credits.

## **RMI 5103. Health Risks. 3 Credit Hours.**

Focuses on: 1) special characteristics of risk management in healthcare institutions/agencies; 2) health insurance issues (as benefit for patients and revenue source for providers); 3) health economics (macro) as related to above.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:** Minimum grade of B- in HCM 5101.

## **RMI 5104. Managing Property and Liability Risk. 3 Credit Hours.**

The course introduces students to the major areas in property and liability insurance from the perspective of actuarial practice. This is a highly participative and writing-intensive course that is designed to broaden perspectives on insurer operations and management of risk with a focus on the following areas: Enterprise Risk Management, Property & Casualty (P&C) Insurance Underwriting, Claims Management, Insurer Distribution Channels, Financial Performance Metrics and Ratings, Insurance Regulation, Reinsurance, Alternate Risk Transfer, Modeling Catastrophic Risk, and Innovation.

**Repeatability:** This course may not be repeated for additional credits.

## **RMI 5105. Advanced Applications in Risk Management. 3 Credit Hours.**

Divided into five parts. 1) reviews statistical distributions common in insurance e.g., negative binomial, pareto, and log normal distributions and evaluates their ability to model long-tail losses. 2) considers inferences from insurance data, e.g., the fitting of theoretical distributions using the method of moments and maximum and credibility theory. 3) considers loss reserve runoffs and forecasting future. 4) applies portfolio theory (including correlation analysis) to show the relationship between firm value (net worth) and insurance purchases. 5) reviews discounted cash flow techniques to determine premiums and illustrate financial aspects of captive formation.

**Repeatability:** This course may not be repeated for additional credits.

## **RMI 5106. Adv Risk Mgmt Models. 3 Credit Hours.**

**Repeatability:** This course may not be repeated for additional credits.

**RMI 5107. Risk Management, Governance and the Role of the Board. 3 Credit Hours.**

Large scale failures of firms such as Enron, WorldCom, Adelphia, and a long list of others are widely viewed as failures of corporate governance. These cases have drawn significant regulatory attention to the role of corporate governance in preventing or contributing to those failures. One outcome of this increasing scrutiny is the emergence of Enterprise Risk Management (ERM) as a framework for managing risk while maximizing shareholder value in today's complex environment. Board members and senior officers are facing increasing scrutiny of their ERM processes from ratings organizations, standards setting agencies, regulators, clients and investors. Each of these has expectations for the role that the Board of Directors plays in managing risk across the organization. This course will focus on the relationship between corporate governance and ERM, using case analysis and discussion of both US and international governance and ERM standards, and Directors' and Officers' liability.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:** Minimum grade of B in (RMI 5301, RMI 5401, or RMI 5051)

**RMI 5108. Managing International Risk. 3 Credit Hours.**

This course provides an in-depth examination of risk management and insurance from an international perspective. It considers enterprise risk management in a global economy with emphasis on multinational corporations. The course will extensively apply principles of risk management to case studies related to some of the most salient, current international risks including in the areas of political instability, cybersecurity, terrorism, and natural catastrophes.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:** Minimum grade of B- in (RMI 5051, RMI 5101, RMI 5104, RMI 5301, or RMI 5401)

**RMI 5109. Operational and Strategic Risk Management. 3 Credit Hours.**

This course includes the study of both Strategic and Operational Risk Management. Operational Risk, broadly speaking, arises from the management of human capital, operational processes and systems including but not limited to other specialized functions such as managing information technology, physical security, supply chain, and environmental health and safety. This course will review and discuss these risks in detail. The curriculum includes the application of risk analysis frameworks and metrics; the development of common mitigation techniques, such as IT security, risk financing, business continuity planning and implementation; and, will examine the most common operational factors that give rise to risk that may cause firms to fail. This course will also review and discuss operational risk management case studies. Strategic Risk Management, according to the Risk and Insurance Management Society, is a business discipline that drives deliberation and action regarding uncertainties and untapped opportunities that affect an organization's strategy and execution. The strategic planning process results in the firm making significant investments to address stakeholder needs and drive long term growth. This begs the question: how can a firm set its overall appetite for risk, and evaluate competing strategic initiatives from a risk/reward perspective in the context of its existing portfolio of risks? The second half of the course will, therefore, explore the connections between strategy and enterprise risk management, including the concepts of risk capacity, risk appetite/tolerance, and risk profile. It will also look at the role of enterprise risk management in effective decision-making and governance from the perspective of a firm's board of directors. Finally, this course will explore several Strategic Risk Management cases including the exploration of how corporate boards address risks that can lead to stakeholder litigation and possible bankruptcy because of damage to reputation, failed mergers, and failure to innovate.

**Repeatability:** This course may not be repeated for additional credits.

**Pre-requisites:** Minimum grade of B in (RMI 5301, RMI 5401, or RMI 5051)

**RMI 5182. Independent Study. 1 to 6 Credit Hour.**

Special study in a particular aspect of insurance and risk under the direct supervision of appropriate graduate faculty member. No more than six hours of independent study may be counted toward degree requirements.

**Repeatability:** This course may be repeated for additional credit.

**RMI 5190. Special Topics - Risk Management and Insurance. 1 to 6 Credit Hour.**

Special topics in risk management and insurance.

**Repeatability:** This course may be repeated for additional credit.

**RMI 5801. Managing Risk in the Enterprise. 3 Credit Hours.**

This course is designed to introduce the risk management process in the context of general corporate management. Each step in the process will be reviewed in detail, including setting the risk management context, identification of risk, measurement and analysis of potential impact, and appropriate treatment techniques. Risk financing options will be discussed in the context of global insurance and alternative capital markets.

**Repeatability:** This course may not be repeated for additional credits.

**RMI 9001. Corporate Risk Management. 3 Credit Hours.**

This course examines how corporations, especially financial firms such as banks and insurance companies, manage the risk and uncertainty that is inherent in their businesses. In particular, this course aims to move students to the frontier of academic research on corporations in the Risk Management and Insurance field. In addition to presenting canonical theoretical work, this course also draws from recently published, empirical academic research from the top academic journals in RMI, Corporate Finance, Accounting, and Economics. As a result, it also emphasizes current applied methods and data. NOTE: Students who have completed RMI 9001 with the title "Seminar-Property and Liability Insurance Markets" should not register for RMI 9001 with the title "Corporate Risk Management" as they are the same course and students will not receive credit for taking RMI 9001 more than once.

**Repeatability:** This course may not be repeated for additional credits.

**RMI 9002. Household Finance and Risk Management. 3 Credit Hours.**

This course examines individual and household financial management under risk and uncertainty. Many household decisions are exposed to risk and this course provides an overview including household management of property, labor, health, and longevity risks. The course draws from recently published, empirical academic research. As a result, it also emphasizes current applied methods used to infer causal relationships. NOTE: Students who have completed RMI 9002 with the title "Seminar-Life Insurance and Employee Benefits" should not register for RMI 9002 with the title "Household Finance and Risk Management" as they are the same course and students will not receive credit for taking RMI 9002 more than once.

**Repeatability:** This course may not be repeated for additional credits.

**RMI 9003. Theory of Risk and Uncertainty. 3 Credit Hours.**

This course aims to move students to the frontier of academic research on consumer decision theory under risk and uncertainty. In addition to presenting canonical theoretical work based on the expected utility framework, this course also incorporates psychological and behavioral evidence into economics. As a result, students will be exposed to modern utility frameworks and the experimental methods used to test them. NOTE: Students who have completed RMI 9003 with the title "Seminar in Risk Theory" should not register for RMI 9003 with the title "Theory of Risk and Uncertainty" as they are the same course and students will not receive credit for taking RMI 9003 more than once.

**Repeatability:** This course may not be repeated for additional credits.

**RMI 9004. Healthcare Finance and Insurance. 3 Credit Hours.**

This seminar provides a set of technical skills and knowledge base for the analysis of healthcare financing in different countries. It is designed to be of use to those working in Ministries of Health, Ministries of Finance, or private insurance companies around the globe; in the economics and marketing departments of international pharmaceutical companies; or on the staff of international agencies. There will be a series of short assignments, two papers, and an exam. It is anticipated that some students will use the assignments as a starting point for their dissertation proposals.

**Repeatability:** This course may not be repeated for additional credits.

**RMI 9005. Law and Economics of Liability Markets. 3 Credit Hours.**

This seminar will cover the theoretical and empirical literature of the law and economics of liability. Insurance and tort (and their interaction) are the two major compensations systems and will be a focal part of the class, but others such as administrative compensation funds will be discussed. The first half of the class will focus on the economic theory underlying liability and liability financing. The second half of the class will focus on empirical studies of the law and economics of various markets and public policy responses to liability issues.

**Repeatability:** This course may not be repeated for additional credits.

**RMI 9090. Spec Topic Risk Mgt. 1 to 6 Credit Hour.**

**Repeatability:** This course may be repeated for additional credit.

**RMI 9183. Directed Study-Risk Mgt. 1 to 6 Credit Hour.**

**Repeatability:** This course may be repeated for additional credit.