

EXEC MS RISK MANAGEMENT (XRM1-GB)

XRM1-GB 8003 Artificial Intelligence and Risk Management (2 Credits)

Typically offered occasionally

This class uses a blend of academic papers, research reports, popular press and real-world cases to assess and address the various sources of risk arising within organizations using artificial intelligence (AI) or machine learning (ML) technologies. We will catalogue these risks and discuss ways to mitigate them. We will do “deep dives” on two topics that have received lots of attention lately – the risks associated with using AI in HR, and the use of special boards to address ethical issues arising from use of AI.

Grading: Grad Stern Graded

Repeatable for additional credit: No

XRM1-GB 8004 Risk and FinTech (2 Credits)

Typically offered occasionally

This is a one-day course on human capital risk. Human capital risk is often defined as the risk that an organization’s human resources fail to achieve the organization’s objectives. In this light, we will view human capital risk within a general approach to “flows” of human capital through an organization and the strategic problem of achieving a “fit” between an organization’s long-term objectives and its underlying pool of human resources. We will conceive of fit as hiring people who thrive in an organization’s working environment, creating an organizational culture that is conducive to effective and ethical action, and maintaining an organization’s resilience when key personnel leave the organization. This conception of fit will orient us to three types of human capital risks in this course: hiring risks, culture risks, and retention risks.

Grading: Grad Stern Graded

Repeatable for additional credit: No

XRM1-GB 8005 Key Dimensions of Risk in Marketing (0.5 Credits)

Typically offered occasionally

Understanding and predicting consumers’ actions are key requirements for any successful business. What will be the demand for a new product? How will consumers react to a price increase, a change in brand positioning, a change in the service provided, or a widespread decrease in consumer confidence? Answering these questions often seems deceptively straightforward: we can rely on our experience and intuition, simply ask consumers, or rely on increasingly ubiquitous consumer data. Unfortunately, as we will illustrate and discuss in this class, our intuitive understanding of consumers is often misleading, consumers’ self-reports are notoriously unreliable, and past data patterns do not necessarily predict new situations. The objective of this class is to acquire awareness of the inherent (and generally underestimated) uncertainty of understanding human behavior, as well as understanding the tools and approaches available for reducing that uncertainty.

Grading: Grad Stern Graded

Repeatable for additional credit: No

XRM1-GB 8103 Managing Risk in Complex Capital Projects (1 Credit)

Typically offered occasionally

This session focuses on the energy, project and infrastructure finance market, one of the most dynamic and challenging areas in the global financial architecture. Infrastructure (dominated by the energy and power and transportation sectors) provides the connective tissue for most economies and societies and is a key dimension of global development; its impact reaches deep into the broader economy, with important implications for overall living standards and social progress. Based on McKinsey estimates, the world will need to spend an aggregate \$69 trillion (at 2017 prices) between 2017 and 2035 to keep up with infrastructure demand—both from developed OECD countries and the emerging markets—or roughly \$3.7 trillion per year in real terms, which is up from an average of \$1.9 trillion per year over 2000-2015. To meet such infrastructure demand, a significant amount of funding—mostly in the form of highly-structured, asset-based project financings—will need to be raised in the coming years. This presentation is designed to provide students with an introduction to the expanding and rapidly-changing energy-centric infrastructure and project finance market, an understanding of the myriad risks involved in developing large-scale infrastructure projects around the world and an appreciation of the various bottlenecks now facing the market in the wake of the 2008 global financial crisis. Given the idiosyncratic, credit-specific nature of the infrastructure sector, the session will emphasize a case-based analytical approach, using actual cases and market examples to illustrate important teaching points—including an integrative case study of a large U.S. natural gas liquefaction project sponsored by a publicly-listed U.S. midstream company.

Grading: Grad Stern Graded

Repeatable for additional credit: No

XRM1-GB 8104 Managing Risk in Negotiations (1 Credit)

Typically offered occasionally

Managers need analytical skills to arrive at optimal solutions to decision problems. However, often times a wide array of negotiation skills are needed for these solutions to be accepted and implemented. While there are normative rules for good negotiation, rarely can negotiations be reduced to an analytical framework without losing some of their realistic aspects. Many elements in actual negotiations, such as goals of different parties and chances for cooperation may be ambiguous and often do not have “right” answers. In such cases, understanding the negotiation process may prove useful in selecting competitive or cooperative strategies. This course will highlight the components of effective negotiations and provide you with a framework to analyze your own behavior in negotiations. The course allows you the opportunity to develop negotiation skills and understand negotiations in a useful conceptual framework. Several cognitive and emotional aspects that affect negotiation behavior will be highlighted and discussed. The course uses exercises, simulations and short cases designed to reflect the role of negotiations in strategic decision-making. The course objectives include the following:

- Gain an understanding of the central concepts and frameworks in negotiations.
- Learn how to evaluate the costs and benefits of alternative actions.
- Learn to recognize which strategies are effective in different negotiation situations.
- Improve your analytical skills in understanding the behavior of individuals, groups and organizations in both competitive and cooperative situations.
- Develop familiarity and confidence in the negotiation process to resolve conflicts.
- Improve your ability to manage the negotiation process and change tactics when needed.
- Provide individual feedback on your own negotiation behavior in class and out of class negotiations.

Grading: Grad Stern Graded

Repeatable for additional credit: No

XRM1-GB 8105 Enterprise Risk Management Introduction and Overview (1 Credit)*Typically offered occasionally*

The objective of the morning session is to provide an introduction and an overview of the field of Enterprise Risk Management. We first provide an overview of all possible types of risks, including - Strategic Risk - Financial Risk - Supply Chain Risk - Project Risk - Product Liability Risk - Cyber-Risk - Climate Risk - Pandemic Risk - Geopolitical risk - Reputation Risk We then analyze the relationships they have with each other and the various industries that have to deal with these risks, namely - Financial Services and Fintech - Oil and Gas - Manufacturing Companies - Pharmaceuticals - Health Care - Agriculture - Mining - Utilities - Sport Organizations - Aviation - Cruise industries - Insurance We discuss the similarities and the differences between the various types of industries with regard to the risks they are susceptible to. We also discuss the interactions between the different types of risks, how they affect one another, and their propagation effects. We analyze prevention and mitigation techniques for dealing with such risks. We furthermore discuss the basic techniques that are being used in order to deal with such risks, e.g., statistics, data mining, machine learning, and optimization. Each of the key risk domains discussed in the overview provided in the morning session is in many ways unique in terms of its dynamics, analytics, metrics, management issues and governance. Some, such as market risk, have become well understood and relatively tractable over the years, and have been incorporated in enterprise risk management using VaR, RAROC and other metrics. The afternoon session focuses on the other extreme – reputational risk and ESG risk – reflected in the impact of adverse events on a firm's value as a going concern after adjusting for all explicit costs associated with those events. As a consequence, the firm's business franchise becomes less valuable in the perception of its ultimate owners and investment institutions exercising control rights. This can have serious effects on an enterprise's competitive performance going forward, including its sustainability as an independent business. This session focuses on the sources, course and consequences of reputational risk broadened to what today may be called "ESG" risk. It uses a simple but robust diagnostic to assess reputational risk exposure that is driven by the strategic platform of the firm in the context of its activity profile, its client composition and its location of operations. The reputational risk discussion is illustrated by a number of case studies covering several industries, as well as quantitative results reflecting its importance relative to other risk domains such as market and liquidity risk and sovereign risk. The discussion will then be extended to cover ESG risk, which is an increasingly important attempt to identify and quantify multiple interactions with the context within which a firm operates in the environmental and social spheres as well as corporate governance. Given the growing importance of "impact investing" and the feedback of ESG scoring onto reputational risk, it is useful to understand the value and limitations of ESG profiles for the composite "enterprise risk" facing the modern business firm.

Grading: Grad Stern Graded**Repeatable for additional credit:** No**XRM1-GB 8106 Credit Risk, Derivatives, and Hedging (1 Credit)***Typically offered occasionally*

Every enterprise, small or large, is engaged in risk management in some way, be it by diversification across risky businesses or by combining risky projects with safe ones. The introduction of derivatives assets has revolutionized risk management in unprecedented ways, making enterprises more efficient, less risky and more profitable. Most businesses around the globe use derivatives to manage risk. For example, all 500 S&P companies use derivatives. In these two sessions I will outline the benefits to using derivatives for risk management. I will start by briefly describing the instruments, the markets that they trade in and the main players. I will then focus on the main hedging approach and the costs of hedging. The alternative hedging approaches will be presented and compared. Several examples (car exporters, airlines, oil co, financial entites) will be discussed and the famous metallgesellschaft case study, from the oil industry, will be analyzed in detail. The concept of VAR (Value At Risk), used mainly in the financial industry, will be briefly introduced. Time permitting, we'll also discuss another important aspect of derivatives, forward looking information used by corporations to evaluate the risk of its business and of projects that it is considering.

Grading: Grad Stern Graded**Repeatable for additional credit:** No**XRM1-GB 8107 Macro-Economic, Geopolitical, and Sovereign Risk (1 Credit)***Typically offered occasionally*

This course provides an overview of country risk, the ways in which unexpected changes in a country's economic and political environment may adversely affect business and finance in the country. The course begins by exploring indicators of a country's macroeconomic performance and how economic shocks and government macro policies affect macro performance over time and across countries. Key concepts used to understand macro performance include growth accounting, total factor productivity, potential real GDP, aggregate demand, and the expectations-augmented Phillips Curve. We will analyze the roles of monetary and fiscal policies in influencing national macroeconomic performance. The course continues by examining markets for foreign exchange, including arbitrage opportunities and possible parity relationships. Key concepts include covered interest parity, uncovered interest parity, purchasing power parity, and international price competitiveness. The course concludes by discussing the broad range of country risk that can affect business and financial activities. In addition to macroeconomic risk and exchange rate risk, other important dimensions of country risk include sovereign risk (the risk that the country's government will default on its debt obligations) and other political risks that arise from changes in government regulatory, tax, and similar policies.

Grading: Grad Stern Graded**Repeatable for additional credit:** No

XRM1-GB 8108 Global Strategic Risk Issues (2 Credits)*Typically offered occasionally*

Globalization has fostered an increasingly interconnected world, with nearly \$20 trillion in goods and services traded and more than \$1 trillion in global corporate investment each year. Managers clearly see the potential for profit in global markets; and for many companies, globalization is increasingly a strategic imperative. Despite its substantial promise, the reality is that globalization is also rife with hazards. It presents risks that managers often fail to appreciate and that they sometimes overlook. As a result, global profitability often disappoints. In order to convert globalization's potential into profits, executives need a new set of tools that will allow them to effectively identify global opportunities and better manage the risks present in dynamic global markets. The central objective of this course is to understand, and account for, the risks that companies face in the global marketplace. We will gain insight into the critical institutions that underpin the risks of globalization and demonstrate how differences in institutions between countries are so often at the root of globalization's challenges. We will examine country institutions across political, economic, and cultural dimensions and build a framework for how institutional differences impact a variety of global strategies. We will learn to measure political, economic, and cultural institutions and use those measures to estimate the risks that institutional differences pose to global companies. Ultimately, we will develop a tool that helps price those risks in a way that can be incorporated into existing strategic and financial analyses—so that companies can better capitalize on global opportunities.

Grading: Grad Stern Graded**Repeatable for additional credit:** No**XRM1-GB 8109 Economic Regulation, Conduct, and Risk Governance (Market Structures) (1.5 Credits)***Typically offered occasionally*

The objective of this course is to enhance business decision-makers' understanding of the strategic risks companies face in the economic and regulatory environment. The course begins with an analysis of firms whose strategy includes substantial involvement in international trade. How do tariffs and protectionist policies impact firms? Can firms get in trouble for how they price their products? How can aid or support in one market lead to charges of illegal subsidies in another? The course continues with a review of the economic concept of market failure, the need for competition (antitrust) policy and the impact of these policies on firm strategies. When does the government object to mergers or work to break up companies? What business practices are illegal or create future regulatory risks for companies? How does the fear of antitrust or other regulatory scrutiny limit firm strategies or operations? We examine the past and present challenges of firms facing increasing regulatory scrutiny, including IBM, Google, Amazon and DeBeers (Diamonds). As a firm's market power grows, how does regulation constrain future moves and threaten their business model? Some of the greatest strategic risks to firms come from future legal and regulatory changes that can threaten their existing business model. Proper risk management needs to consider not just existing laws, but how regulations are likely to evolve, especially in response to new market conditions, technology shifts or firm actions. What is legal today may be illegal tomorrow. Worse, the very success of firms may lead to new economic regulations designed to constrain their strategies. What steps can firms take to avoid scrutiny? How can firms or industries use self-regulation to head off government intervention? How do firms manage oversight by regulators in multiple states with conflicting imperatives? Some firms may become trapped between government-to-government conflicts or face indirect retaliation from the governments of states in conflict with their home country. Many emerging markets may condition market access on supporting the state's initiatives, transferring technology or lobbying a firm's home government. This collection of demands by governments may essentially become a continuing condition for market access. A firm's cooperation is needed in order to maintain either a de jure or a de facto "license to operate" in that country, creating a range of risks for firms.

Grading: Grad Stern Graded**Repeatable for additional credit:** No**XRM1-GB 8110 Data Privacy and Ethics, Regulatory Requirements and Legal Risk (2 Credits)***Typically offered occasionally*

The objective of this course, co-taught by a computer scientist and an attorney, is to discuss practical, legal, regulatory and ethical considerations for understanding and managing data privacy risk and responsibility, from both a technological and governance perspective. After taking this course, you should better understand: 1. Security and privacy risks for organizations that use or possess sensitive data regarding individuals. 2. Technological vulnerabilities, including the motivations and means that adversaries use to unlawfully access sensitive data, and technological defenses for preventing and identifying those attacks. 3. Laws, standards, regulations and guidance governing privacy and data security, and risks of failing to do so effectively. 4. Corporate structure and frameworks, and best practices, from both a technological and governance perspective, for ensuring privacy and data risk is properly managed within the organization. 5. Ethical challenges raised by modern digital technologies

Grading: Grad Stern Graded**Repeatable for additional credit:** No

XRM1-GB 8111 Cryptocurrenc & Cyber Risk (2 Credits)*Typically offered occasionally*

The increase of cybercrime and data breaches continue to pose major problems for organizations in today's digital world. The objective of this course is to discuss Cybersecurity Risk from an applied perspective. The goal is to introduce participants to the threat landscape of Cyber Risk and the organization specific impact of this threat. The participants will learn how to create detection and prevention controls and how to ensure control adequacy to mitigate emerging threats on a day-to-day basis in the work environments at their firms. The participants will also learn about very innovative developments like the role of quantum computing for the security of current used cryptographic methods and the application of quantum cryptography. Another topic will be developments in the field cyber threat intelligence. The course lasts two days and consists of four parts with two morning sessions and two afternoon sessions. Part 1 (the morning of the first day) discusses the impact of a rapidly changing world for Cyber-Risk. New digital business models, mobile & remote workforce, growing complexity and the rise of adaptive attackers and state actors are changing the threat profile. Especially Covid-19 changed business operations and accelerates digitalization, which results in new security risks that need to be addressed. Part 2 (the afternoon of the first day) introduces into the multitude of cyber threats and cyber threat actors in the today's environment. We consider as example the changing vulnerabilities to Cybercrime of large financial institution driven by key technologies from digitalization. We discuss the anatomy of Cyber-attacks and how hackers thinking. Part 3 (the morning of the second day) covers risk measures for Cyber-Risk and Cyber Risk Assessment methodologies and provides an overview about "best practise" standards for information security covering aspects of people, process and technology. Part 4 (the afternoon of the second day) will consider threat management frameworks to provide actionable intelligence covering the complete threat lifecycle, from initial vulnerability to active attack. The participants have reading assignments that have to be done before the first day in order to prepare themselves for the course. A more detailed outline of the module is presented below.

Grading: Grad Stern Graded**Repeatable for additional credit:** No**XRM1-GB 8112 Strategic HR and Human Capital Risk (1 Credit)***Typically offered occasionally*

Human capital risk is often defined as the risk that an organization's human resources fail to achieve the organization's objectives. In this light, we will view human capital risk within a general approach to "flows" of human capital through an organization and the strategic problem of achieving a "fit" between an organization's long-term objectives and its underlying pool of human resources. We will conceive of fit as hiring people who thrive in an organization's working environment, creating an organizational culture that is conducive to effective and ethical action, and maintaining an organization's resilience when key personnel leave the organization. This conception of fit will orient us to three types of human capital risks in this course: hiring risks, culture risks, and retention risks.

Grading: Grad Stern Graded**Repeatable for additional credit:** No**XRM1-GB 8113 Climate, Pandemic, & Sustainability Risks (2 Credits)***Typically offered occasionally*

This class uses a blend of academic papers, research reports, popular press and real-world cases to assess and address the various sources of risk arising within organizations using artificial intelligence (AI) or machine learning (ML) technologies. We will catalogue these risks and discuss ways to mitigate them. We will do "deep dives" on two topics that have received lots of attention lately – the risks associated with using AI in HR, and the use of special boards to address ethical issues arising from use of AI.

Grading: Grad Stern Graded**Repeatable for additional credit:** No**XRM1-GB 8114 Reputational Risk and Crisis Management (1.5 Credits)***Typically offered occasionally*

Most harm to an organization's reputation is self-inflicted, whether because of a business blunder made worse by poor crisis management or because of a failure to mitigate reputational risk in a crisis caused elsewhere. And the driver of reputational harm is often at the top of the enterprise. In recent years we've seen companies with stellar reputations create such harm by fundamentally mishandling crises of their own making: Volkswagen, Equifax, Wells Fargo, BP, United Airlines. This 1.5 day-long seminar focuses on the leadership skills, organizational dynamics, and strategic mindset necessary for leaders to manage crisis well, and thereby maintain the trust of stakeholders upon which reputation – as well as other measures of competitive advantage – depend. The course consists of a combination of lecture, discussion, and case studies.

Grading: Grad Stern Graded**Repeatable for additional credit:** No**XRM1-GB 8115 Enterprise Risk and Derivatives (1 Credit)***Typically offered occasionally*

Every enterprise, small or large, is engaged in risk management in some way, be it by diversification across risky businesses or by combining risky projects with safe ones. The introduction of derivatives assets has revolutionized risk management in unprecedented ways, making enterprises more efficient, less risky and more profitable. Most businesses around the globe use derivatives to manage risk. For example, all 500 S&P companies use derivatives. In these two sessions I will outline the benefits to using derivatives for risk management. I will start by briefly describing the instruments, the markets that they trade in and the main players. I will then focus on the main hedging approach and the costs of hedging. The alternative hedging approaches will be presented and compared. Several examples (car exporters, airlines, oil co, financial entites) will be discussed and the famous metallgesellschaft case study, from the oil industry, will be analyzed in detail. The concept of VAR (Value At Risk), used mainly in the financial industry, will be briefly introduced. Time permitting, we'll also discuss another important aspect of derivatives, forward looking information used by corporations to evaluate the risk of its business and of projects that it is considering.

Grading: Grad Stern Graded**Repeatable for additional credit:** No

XRM1-GB 8116 Credit Risk and Bankruptcy Risk (1.5 Credits)*Typically offered occasionally*

This course covers the current conditions and outlook in global corporate and sovereign credit markets and the development and applications of prediction models of corporate distress and reorganization. We will spend considerable time on "Covid-19 and the Credit Cycle" and the outlook of credit markets in 2022/2023. Professor Altman will review the incredible evolution of his Z-Score models over the last 50 years and its applications in financial and managerial markets. We analyze firms and countries from both macro-financial and firm level perspectives, assessing the impact of the recent financial crisis, and recovery on yields and returns in risky debt markets, and how to understand risk and return tradeoffs. With respect to sovereign debt markets, we will explore Professor Altman's new and unique model for assessing sovereign default risk and the survival of the Euro. We also examine the evolution and current status of credit risk models and applications for predicting corporate distress. Finally, we will explore the concept of corporate resiliency and global zombie firms and its determinants. Reference will be made to recent corporate failures and cases, to empirical and theoretical scholarly and professional studies, to the great financial crisis, to the sovereign debt crisis in Europe to the COVID-19 pandemic, and to the current benign credit cycle (or is it benign?).

Grading: Grad Stern Graded**Repeatable for additional credit:** No**XRM1-GB 8120 Risk and Organizational Change (1.5 Credits)***Typically offered occasionally*

Change or wither? We are living in a fast-changing and uncertain time – a disruptive age. Business organizations of all types face complex management problems that significantly challenge their existing business models and overall viability. Such problems emerge around designing organizations capable of coping with highly dynamic business environments, adopting newly-emerging digital business models, developing strategies and structures for hyper-competitive conditions, and mastering the great complexity of managing an ecosystem of interdependent collaborators. The characteristics and magnitude of the disruption we face, and the accelerating speed of change demand a new approach to managing the risks associated with change. This course will focus on methodologies and tools that help executives plan and implement change more effectively, rapidly and proactively. Participants will discuss concepts and best practices of change management, learn to diagnose the change needs of their company, and develop a change plan applying relevant implementation techniques. Participants can expect to learn the key theories and practices associated with enhancing the organizational capacity to adapt, and leading successful organizational transformations.

Grading: Grad Stern Graded**Repeatable for additional credit:** No**XRM1-GB 8157 Financial Regulation and Regulatory Risk (1 Credit)***Typically offered occasionally*

KEY LEARNINGS AND DESCRIPTION OF SESSION This is a seminar in fixed income products and credit risk management. 1. Current yield spreads and implications 2. Major Financial and Credit Market Risks going forward 3. The real economy and corporate high-yield default rates 4. Size and scope of the distressed debt market 5. Measuring and predicting sovereign debt default risk: A New "Bottom-Up" Approach 6. Predicting default and recovery rates

Grading: Grad Stern Graded**Repeatable for additional credit:** No**XRM1-GB 8171 Derivatives as Risk Management Tools (1 Credit)***Typically offered occasionally*

This session provides an overview of derivatives: 1. Definitions of the Basic Derivatives Products: Futures, Forwards, Options and Swaps 2. Historical Evolution of Derivatives Products and Markets: Equity, Interest Rate, Foreign Exchange, Commodities and Credit 3. Key Options Characteristics 4. Options Payoff Diagrams 5. Basic Options Strategies 6. Cost-of-carry Pricing of Futures Contracts 7. Arbitrage-based Restrictions on Option Pricing

Grading: Grad Stern Graded**Repeatable for additional credit:** No**XRM1-GB 8205 Concepts in Risk Management: Statistical Risk Models (1 Credit)***Typically offered occasionally*

The basic objective of this course is to provide the business student with a strong fundamental understanding of statistics and its applications. Students will learn statistical applications utilizing real world examples and exercises from various fields. This course will survey the topics of descriptive statistics, inferential statistics, linear regression and their applications. We will also teach the skills of using Excel for data analysis.

Grading: Grad Stern Graded**Repeatable for additional credit:** No**XRM1-GB 8206 Operational Risk in Service Industries (2 Credits)***Typically offered occasionally*

The objective of this course is to discuss Operational Risk from a more applied perspective; the goal is to acquaint participants to concepts and ideas that are useful in dealing with Operational Risk on a day-to-day basis in the work environments at their firms. The course consists of three parts that will be covered in three consecutive morning sessions. Part I goes into a number of historical cases concerning human errors, rogue trading, cybersecurity, model risk, while discussing their causes and effects. Part II covers Basel II and Basel III, regulatory frameworks, as well as Key Risk Indicators and Statistical prerequisites and methodologies that are currently being used in Operational Risk management. Part III goes into the details of the tools and techniques (including regression, data mining, and machine learning) that are useful for managing Operational Risk on a day-to-day basis in departments or divisions of institutions and firms. The course concludes with a discussion on integrated risk management within a firm. The participants have reading assignments that have to be done before the first day in order to prepare themselves for the case discussions.

Grading: Grad Stern Graded**Repeatable for additional credit:** No

XRM1-GB 8253 Operations Risk (2 Credits)*Typically offered occasionally*

This course covers the current conditions and outlook in global corporate and sovereign credit markets and the development and applications of prediction models of corporate distress and reorganization. We will spend considerable time on "Covid-19 and the Credit Cycle" and the outlook of credit markets in 2022/2023. Professor Altman will review the incredible evolution of his Z-Score models over the last 50 years and its applications in financial and managerial markets. We analyze firms and countries from both macro-financial and firm level perspectives, assessing the impact of the recent financial crisis, and recovery on yields and returns in risky debt markets, and how to understand risk and return tradeoffs. With respect to sovereign debt markets, we will explore Professor Altman's new and unique model for assessing sovereign default risk and the survival of the Euro. We also examine the evolution and current status of credit risk models and applications for predicting corporate distress. Finally, we will explore the concept of corporate resiliency and global zombie firms and its determinants. Reference will be made to recent corporate failures and cases, to empirical and theoretical scholarly and professional studies, to the great financial crisis, to the sovereign debt crisis in Europe to the COVID-19 pandemic, and to the current benign credit cycle (or is it benign?).

Grading: Grad Stern Graded**Repeatable for additional credit:** No**XRM1-GB 8255 Risk Mgt in Gbl Crp Finc (2 Credits)***Typically offered occasionally*

The goal of this session is to understand the international dimension of risk and develop a framework to quantify it. We will consider how firms should hedge risk from a broad strategic perspective and zoom on currency risk and, in particular, transaction, translation and economic exposure. We will study when it makes sense to hedge financially and what types of contracts to consider. We then will analyze country risk and how it affects international investment choices as well as their financing, comparing domestic issues versus international issues, and hedged structures versus non-hedged alternatives. We will define how to manage risk using "organizational risk management" and focus on the trade-off between different types of organizational risk management.

Grading: Grad Stern Graded**Repeatable for additional credit:** No**XRM1-GB 8257 Enterprise Risk & Corp Go (2 Credits)***Typically offered occasionally*

This course consists of a morning session and an afternoon session. The morning session, taught by Professor Michael Pinedo, has as objective to provide an overview the different types of risks and the industries that are susceptible to these risks. The afternoon session, taught by Professor Ingo Walter, focuses on reputational and ESG risks. The objective of the morning session is to provide an introduction and an overview of the field of Enterprise Risk Management. We first provide an overview of all possible types of risks, including - Strategic Risk - Financial Risk - Supply Chain Risk - Project Risk - Product Liability Risk - Cyber-Risk - Climate Risk - Pandemic Risk - Geopolitical risk - Reputation Risk We then analyze the relationships they have with each other and the various industries that have to deal with these risks, namely - Financial Services and Fintech - Oil and Gas - Manufacturing Companies - Pharmaceuticals - Health Care - Agriculture - Mining - Utilities - Sport Organizations - Aviation - Cruise industries - Insurance We discuss the similarities and the differences between the various types of industries with regard to the risks they are susceptible to. We also discuss the interactions between the different types of risks, how they affect one another, and their propagation effects. We analyze prevention and mitigation techniques for dealing with such risks. We furthermore discuss the basic techniques that are being used in order to deal with such risks, e.g., statistics, data mining, machine learning, and optimization.

Grading: Grad Stern Graded**Repeatable for additional credit:** No**XRM1-GB 8262 Risk in Supply Chain Management (2 Credits)***Typically offered occasionally*

A supply chain is comprised of all the parties involved in fulfilling a customer request. The integrated management of this network is a critical determinant of success in today's competitive environment. With increasing competition around the globe, supply chain risk management is both a challenge and an opportunity for companies. A strong understanding of supply chain risks and the ability to cope with risks should be in the toolbox of all managers. In this course, we will learn several best supply chain practices across industries that achieve competitive advantage by employing innovative supply chain strategies to cope with various supply chain risks.

Grading: Grad Stern Graded**Repeatable for additional credit:** No

XRM1-GB 8271 Risk Dimensions in Asset Management (2 Credits)*Typically offered occasionally*

This course delves into the various dimensions of risk associated with the asset management industry. This industry serves a critical role in the financial system that moves capital from those who wish to save to those who wish to invest in productive assets. As such, its smooth functioning is vitally important for the growth of the real economy. The various participants in asset management face different levels and types of risks, and the industry as a whole generates potential risks for the broader economy—from the return risk faced by investors in asset management products all the way to the systemic risk caused by breakdowns in the financial system. This course will introduce the various players in the industry, the broader structure of the industry, and its regulation. We will then develop a model of the economics of asset management, i.e., a framework for thinking about how to value the fees that asset managers collect. This model, in turn, highlights the incentives that asset managers face and the associated portfolio risks for them and their clients. A consideration of this first level of return risk naturally leads to questions of broader risk at the fund and asset management company level. Finally, we will consider the potentially systemic risk generated by asset management companies and the industry as a whole. The course includes two case studies highlighting some of these risks and the interactions between them.

Grading: Grad Stern Graded**Repeatable for additional credit:** No**XRM1-GB 8272 Risk and Decision Analytics (2 Credits)***Typically offered occasionally*

This course introduces the basic concepts, principles, and techniques of decision making under risk. You will learn how to model complex business problems that involve risk and uncertainty with the help of spreadsheet models. The course covers analytical tools such as Monte Carlo Simulation, Decision Analysis, and Optimization. The course is entirely hands-on. The emphasis will be on model formulation and interpretation of results, not on mathematical theory. The emphasis is on models that are widely used in diverse industries such as Financial Services, Real Estate, Pharmaceutical, and Energy industries.

Grading: Grad Stern Graded**Repeatable for additional credit:** No**XRM1-GB 8303 Statistics and Financial Risk Applications (Market Risk and Value at Risk) (2 Credits)***Typically offered occasionally*

This course introduces the basic concepts, principles, and techniques of decision making under risk. You will learn how to model complex business problems that involve risk and uncertainty with the help of spreadsheet models. The course covers analytical tools such as Monte Carlo Simulation, Decision Analysis, and Optimization. The course is entirely hands-on. The emphasis will be on model formulation and interpretation of results, not on mathematical theory. The emphasis is on models that are widely used in diverse industries such as Financial Services, Real Estate, Pharmaceutical, and Energy industries.

Grading: Grad Stern Graded**Repeatable for additional credit:** No**XRM1-GB 8350 Risk & Behavioral Finance (2 Credits)***Typically offered occasionally*

This course covers the theoretical concepts behind risk analytics and their practical use in the fund management industry. The first part starts with a review of the different sources of risk faced by bond portfolio managers, i.e. interest rate risk, re-investment risk, pre-payment risk, credit risk, liquidity risk and currency risk. Measures of risk such as duration and convexity as well as more advanced measures, i.e., key-rate duration, the shift, the tilt and the flex are then discussed. On the second day, the focus will be on risk analytics, tracking error ex-ante and ex-post, as well as tracking error decomposition and its usefulness in active portfolio management.

Grading: Grad Stern Graded**Repeatable for additional credit:** No**XRM1-GB 8351 Credit Risk & Global Risk Regulation (2 Credits)***Typically offered occasionally*

Of all the risks faced by banks, credit risk is still the most important. Indeed, a recent survey of banks attributed 60% of their risk to credit risk with the other 40% being shared by operational risk and market risk. Why is measuring credit risk so important? There are a number of answers to this question including the changing nature of the industrial structure (old industry vs. new industry), global competition, enhanced competition between banks and NBFIs, declining and more volatile asset values, and disintermediation. However, of the many reasons motivating the increased importance of measuring credit risk there is no doubt that the current worldwide credit crunch and the Bank for International Settlements new capital adequacy framework, "International Convergence of Capital Measurement and Capital Standards" (Basel 3) has propelled credit risk management to the forefront of analysis and controversy. This course will explore these and other issues and challenges in the risk management of credit assets. A key part of the course will be analysis of Basel III, the implications of the standardized and internal ratings based (IRB) approaches and issues relating to their implementation as well as the capital and liquidity requirements. Models and approaches will be analyzed including KMV, Creditmetrics, and so-called reduced-form credit risk measurement models. In addition, the course will focus on the risk and return from lending, through the introduction of so-called RAROC and RORAC models by banks, and the issues relating to the management of credit risk sensitive portfolios of assets. A core part of the course will be a case study on credit risk linked to Basel regulation and project finance contracts.

Grading: Grad Stern Graded**Repeatable for additional credit:** No**XRM1-GB 8356 Risk & Structured Finance (1 Credit)***Typically offered occasionally*

This course provides banking and finance professionals with an improved understanding of developments in securitization and structured credit risk transfer. Based on the fundamental techniques of asset securitization, the market now allows players a much wider range of choices in managing credit risk exposure. In addition to covering risk transfer through asset-backed securities and collateralized debt obligations, the course explains risk transfer using credit derivatives and synthetic asset securitization. Given its prominence among structured products today, special emphasis is placed on mortgage-backed securities. The new techniques open up fresh possibilities for the transfer, pricing and management of credit risk.

Grading: Grad Stern Graded**Repeatable for additional credit:** No

XRM1-GB 8600 Strategic Capstone (6 Credits)*Typically offered occasionally*

The MSRM Capstone is a six-credit integrative exercise, which gives you as students the opportunity to demonstrate an understanding of the core competencies taught throughout the program and apply them to real business concerns. In self-formed groups of 4 members, your project can be as big as you want as long as it is feasible in size and scope to be completed within twelve months. We encourage you to form strong, balanced teams, where you have a variety of expertise, backgrounds, skill sets, and work styles—just like you would experience in the real world. Your objective is not to “boil the ocean,” but rather address a specific, strategic issue as it relates to risk management. All projects should incorporate theory, principles, concepts, and techniques that are learned throughout the program. You will carry out this project over four phases during the course of your study: Ideation: form groups around a shared idea Investigation: analyze the processes involved, collect your data, thoroughly research Synthesis: report and findings start to take shape Execution: findings become solidified into final report and presentation There will be multiple deliverables during the year to facilitate your completion of the final Capstone, including: Assignments: Slides for the initial pitch idea, status reports, and final capstone paper Presentations: For the initial pitch idea, status updates, and final capstone presentation Surveys: Of your progress, individual participation, and capstone adviser guidance Module 6 is when your group will present your findings to the Capstone Director and external judges, typically program alumni. Please note that all deliverables are required and will be considered as a part of your overall Capstone grade. Please refer to the following information as you plan out your project.

Grading: Grad Stern Graded**Repeatable for additional credit:** No