



भारतीय प्रौद्योगिकी संस्थान खड़गपुर
INDIAN INSTITUTE OF TECHNOLOGY KHARAGPUR

Executive Program in Risk Management and Analytics for Financial Decision Making

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Program Overview

Risk management activities demand analytics expertise in various aspects of financial decision making. This program seeks to update participants with state-of-the-art tools that strengthen capabilities of sound decision making. Various modules to be covered in this program are as follows:

- **Role of Risk Management Analytics:** Ask questions such as, “Why do companies manage risk?” and “How is value created?”
- **Tools of Risk Management Analytics:** Find out about tools to measure risk, package risk and price risk.
- **Business of Risk Management Analytics:** Applications to fraud detection, sustainability, environmental, Social and Governance (ESG) and strategic hedging.
- **Enterprise Risk:** Focus on cyber and digital risk.

The content has been jointly developed by experienced faculty of **Indian Institute of Technology and the University of Texas at San Antonio**.

This executive program will be delivered in a hybrid mode, through lectures, capstone project and hands-on data analysis using specific software tools. Participants will apply the tools and concepts developed in the program for analysis and visualization.

Who Should Enroll?

Although risk management is often associated with trading operations and treasury office of a firm, different types of risk management are undertaken simultaneously throughout companies.

- **Business unit managers** evaluate projects with different risk characteristics and decide on ways to alter projects to minimize risk without sacrificing return.
- The **cyber-digital, tax, legal and accounting departments** are concerned with risk and corporate governance issues.
- At the **leadership level** questions about the firm’s strategy and ability to fund operations are considered based on the risk of each alternative, and strategic decisions are made to increase shareholder value.

This program will provide executives from these domains with the perspectives and analytical tools necessary to understand potential implications and effectively evaluate recommendations.

Why Enroll in this Program?

- Learn the **basics of Risk Management & Analytics for Financial Decision Making**
- Explore **data-driven techniques** to guide your risk management-based financial decisions
- Gain **actionable insights**
- Learn via live lectures from faculty of **Indian Institute of Technology** (in-person) and **The University of Texas at San Antonio** (online)
- Build your **network and learn with a cohort** of experienced colleagues

Course Fees

Rs.75,000/- + GST

Accommodation, all meals and local transport during stay at IIT are included in the course fees.

Apply Online by Dec. 17, 2023

<https://erp.iitkgp.ac.in/CEP/courses.htm>



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Module	Topics	Delivered by
1	<p>What is Risk Management? (12 hours)</p> <ul style="list-style-type: none"> • Activities of a Firm: Asset and Liability Side <ul style="list-style-type: none"> • Operating Decisions (ESG/Cyber Risk/Trading and Production) • Investment Decisions (Customer Risk - extending credit to customers) • Pricing Decisions (Customer Value) • Real Assets (LP Stakes/Expansion/Venture/Drilling) • Cash Management, Debt and Strategic Hedging <p>Framework: How is Value Created via Risk Management</p> <ul style="list-style-type: none"> • Basics of Systematic Risk and Value Creation (gold mining example) • How Do Bankruptcy Costs Impact the Value of Risk Management? (Metallgesellschaft example) • How Do ESG Initiative Clienteles Create Value? (CPS Energy example) • Example of Airline Industry (Indigo and SWA) 	UTSA
2	<p>ENTERPRISE RISK (12 hours)</p> <p>Focus Area: Cyber Risk and Digital Risk</p> <ul style="list-style-type: none"> • Cyber Risk and Information Assurance, Risk Policy • Antidotes to Cyber Risk – Law, Investigation and Ethics • Risk Analysis and Assessment – Risk Management, Risk Identification and Risk Control • The TJX Data Breach Case • Risk and Security Metrics and the Balanced Scorecard • The Psychology of Risk 	UTSA
3	<p>CUSTOMER RISK AND OPERATIONAL RISK MANAGEMENT (12 hours)</p> <p>Risk of Customer Credit in Online and Traditional Retail Applications</p> <ul style="list-style-type: none"> • Use Individual Data to Identify Customer Credit Risk • Can More Credit Be Extended to Some Customers? • Cross-selling of Products Based on Credit Risk? <p>Evaluation of Customer Value at Risk</p> <ul style="list-style-type: none"> • Value Loss Due to Customer Migration and Its Impact on Firm Value/Retention Strategies 	UTSA



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4	<p>TOOLS OF RISK MANAGEMENT AND MEASURING RISK (12 hours)</p> <p>Measuring Risk for Financial Assets like Equity, Debt Instruments, Commodities and Foreign Exchange</p> <ul style="list-style-type: none"> • Beta, Sharpe Ratio and Information Ratio as Measures of Equity Risk • Duration and Convexity Measures of Debt Instruments • Value at Risk Measures <p>Managing Risk</p> <ul style="list-style-type: none"> • Hedging Market Risk with Derivatives Contracts on Equity, Portfolios, Commodity and Foreign Exchange • Interest Rate Swaps, Immunization Techniques, Embedded Options in Debt Instruments like Cap and Collars <p>Stress Testing of a Risk Management Model</p>	IIT Kgp
5	<p>SUSTAINABILITY RISK - ASSESSMENT AND MANAGEMENT (12 hours)</p> <p>Identification and Evaluation of ESG Risks in an Organization</p> <ul style="list-style-type: none"> • Template to Assess Impact of Organizational Policies and Activities on ESG Issues Through Risk Weights and Probability • Develop Organizational Risk Index <p>Management of ESG Risk</p> <ul style="list-style-type: none"> • Green Finance, Sustainability Linked Bonds, ESG Investment • Regulatory Reporting Requirements <p>Net Zero Targets</p> <ul style="list-style-type: none"> • Introduction to Carbon Markets • Calculation of Emission Reductions 	IIT Kgp
6	<p>ACCOUNTING FRAUD INVESTIGATION (12 hours)</p> <p>Investigative Strategies</p> <ul style="list-style-type: none"> • Earnings Management • Benford's Law • Associational Analysis <p>Fraud Accounting and Auditing</p> <ul style="list-style-type: none"> • Fraud Schemes – associated red flags and characteristics of fraud schemes • Fraud Detection – ratio analysis, financial statement analysis • Fraud Prevention 	IIT Kgp



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Session	Delivered by	Date	Duration	Class Time	Mode
After every module, participants will complete assignments and project work to be followed by an assessment.					
Module 1	UTSA	January 5-7	12 hours	TBD	Online
Module 1 Project	UTSA	January 8-11			
Module 2	UTSA	January 12-14	12 hours	TBD	Online
Module 2 Project	UTSA	January 15-18			
Module 3	UTSA	February 2-4	12 hours	TBD	Online
Module 3 Project	UTSA	February 5-9			
Module 4	IIT Kgp	February 12-13	12 hours	TBD	In Person
Module 5	IIT Kgp	February 14-15	12 hours	TBD	In Person
Module 6	IIT Kgp	February 16-17	12 hours	TBD	In Person
Module 4-6 Project	IIT Kgp	February 19 - March 1			
Final Project Presentation	IIT Kgp and UTSA	March 2-3		TBD	Online



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Faculty Profiles



Prabina Rajib has over twenty years of academic experience. Rajib has authored two books, *Commodity Derivatives & Risk Management* and *Stock Exchanges, Investments & Derivatives: Straight Answer to 250 Nagging Questions*. Rajib's teaching and research interests include Financial Accounting, Corporate Finance, Financial Markets, Risk Management using Financial & Commodity Derivatives. She is also a Fulbright Scholar.



C.S. Mishra has 25 years of teaching and research experience. Mishra's areas of interest in teaching and research include financial reporting and analysis, business valuation, earnings management, accounting fraud analytics and mergers and acquisitions. He has published several research papers in national and international journals.



Parama Barai has over ten years of teaching experience in finance-related subjects, specifically in the areas of investment management, financial analytics, financial risk modeling, derivatives, capital budgeting and corporate finance. Barai also conducts research in these areas. Prior to joining VGSOM, she worked in the manufacturing sector for six years as a Design Engineer.



Karan Bhanot is the finance department chair in the Alvarez College of Business at The University of Texas at San Antonio. Bhanot has taught at the Stern School of Business at New York University, University of Wisconsin at Madison and the University of Iowa, Iowa City. He is currently a regular visiting faculty at Indian School of Business. He has also worked in the Investment Banking Division of Standard Chartered Bank (formerly ANZ) in Bombay. Bhanot earned his MBA from The Indian Institute of Management in Ahmedabad, India, and his Ph.D. in finance from the University of Iowa.



Ashwin Malshe is an associate professor of marketing in the Alvarez College of Business at The University of Texas at San Antonio. Malshe has research interests in marketing-finance interface, social media marketing, and machine learning applications. In particular, his research focuses on measuring the impact of marketing strategy in the financial markets. He was the academic director of the Masters of Science in Data Analytics program (MSDA) at the Alvarez College of Business for four years. He is also a core faculty on the UTSA-MITRE GenAI Program.



H.R. Rao is the AT&T Distinguished Chair in Infrastructure Assurance and Security at the Alvarez College of Business at The University of Texas at San Antonio. He also holds a courtesy appointment as full professor in the UTSA Department of Computer Science. Prior to working at UTSA, Rao was the SUNY Distinguished Service Professor at the University at Buffalo. He graduated from Krannert Graduate School of Management at Purdue University and is an alum of IIT Kanpur and FMS, Delhi.



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About Indian Institute of Technology Kharagpur

Indian Institute of Technology Kharagpur is a higher educational institute known globally for producing high quality research and creating global leaders in science, technology and management. Set up in 1951 in a detention camp, Indian Institute of Technology Kharagpur (IIT Kharagpur) is the first IIT and was recognized as an Institute of Eminence by the Government of India in 2019. The Institute is engaged in several international and national mission projects and ranks significantly in research output, including 50-100 IPRs being filed annually and about 2,000 research publications in top journals and conferences. At present, the Institute has about 800 full-time equivalent faculty members, more than 16,000 students and over 75,000 alumni.



For more information, visit: <http://www.iitkgp.ac.in>

Vinod Gupta School of Management

Vinod Gupta School of Management started in 1993 as a unique initiative among the Indian Institutes of Technology. VGSOM imbibed the parent Institute's culture of research and quality teaching. Almost 30 years since its inception, the School has grown holistically, winning several accolades and setting new benchmarks of excellence.

For more information, visit: <https://som.iitkgp.ac.in/>

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