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Setting a Higher Standard in Risk Education

PRMIA AND COLUMBIA BUSINESS SCHOOL
RISK MANAGEMENT EXECUTIVE EDUCATION PROGRAMS

A COMPLETE COURSE IN RISK MANAGEMENT

2010

OFFERED IN EIGHT INDIVIDUAL SESSIONS

This course is designed to meet the demands of risk professionals by bridging the gap between theory and practice in financial risk management.

PRMIA and Columbia Business School jointly offer this intensive classroom-based educational program featuring top faculty of Columbia Business School.

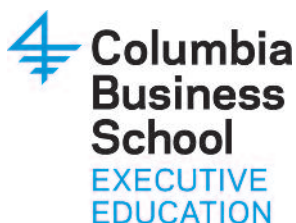
One Evening Weekly

6:30 – 9:30 p.m.

January 13 – June 2, 2010

Columbia Business School
on the Columbia University Campus
New York

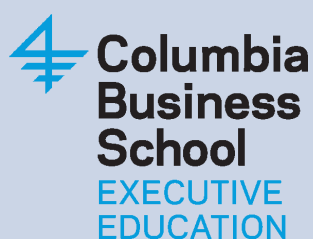
A certificate of completion will given at the conclusion of the course



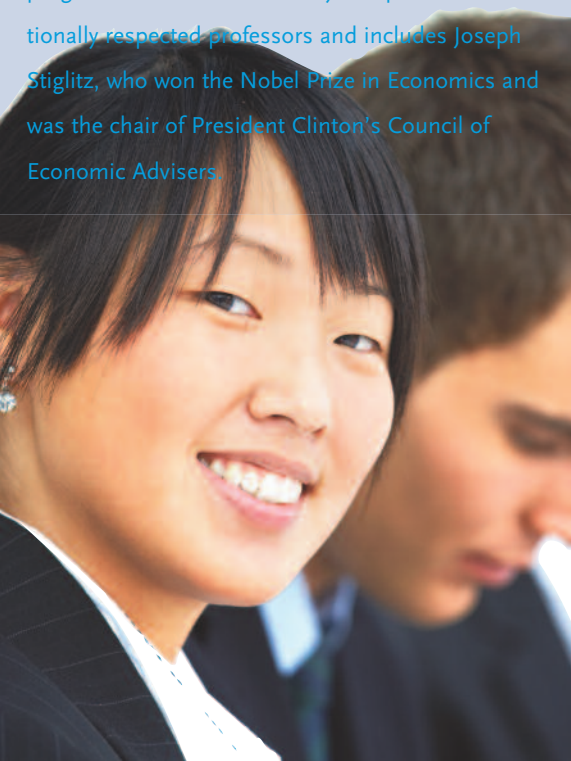


A Higher Standard for Risk Professionals

Formed in 2002 as a non-profit, member-led association of professionals, the Professional Risk Managers' International Association (PRMIA) is dedicated to advancing the standards of the risk profession worldwide through the free exchange of ideas. We are committed to providing resources to help our members achieve these standards from the cradle to the pinnacle of their careers.



Widely admired for its global and cutting-edge curriculum, Columbia Business School is among the top business schools in the world. Led by Dean Glenn Hubbard, chairman of the U.S. Council of Economic Advisers under President George W. Bush, the School offers MBA and Executive MBA (EMBA) programs as well as non-degree Executive Education programs. The School's faculty comprises internationally respected professors and includes Joseph Stiglitz, who won the Nobel Prize in Economics and was the chair of President Clinton's Council of Economic Advisers.



INTRODUCTION

Effectively practicing risk management requires a broad and solid foundation of knowledge. This intensive program, led by the faculty of one of the world's top business schools, provides delegates with just such a foundation.

Beginning with the essential elements of finance, risk measurement, markets and financial instruments, students are then introduced to the best practices of market, credit and operational risk management. The final sessions focus on integrating the knowledge gained into a capital allocation framework and study of governance best practices and some famous case studies of where things went wrong.

Registering delegates can choose the complete course or individual course groups that fit their demands. Delegates who take the complete course will be awarded a certificate of completion from Columbia Business School and PRMIA.

PREREQUISITES

This course takes a quantitative approach to risk management. A certain level of mathematical knowledge is beneficial. This includes basic understanding of equations, what a variable is, the use of logarithms and exponentials, and some crude familiarity with mathematical manipulations. Exposure to statistics is recommended.

WHAT YOU WILL LEARN

By the end of this program, participants will be able to evaluate risk management practices in an industry setting, critically assess risk management reports and research, and will be able to identify the limitations and the positive role of risk management in real-life situations.

Additionally, participants completing this program will be able to analyze the mechanism of corporate governance and its critical relationship to and with Risk Management, as well as the effects of a breakdown in this relationship in a variety of situations and be able to explain current governance best practices.

WHO SHOULD ATTEND

This program is designed to develop the knowledge and understanding of risk management practices in those advancing their careers in financial risk management. The foundations apply across all sectors: banking, insurance, asset management, hedge funds, energy, securities, regulation/supervision and more...

- **Chief Risk Officers and heads of risk management** can use this program to develop the talents of their **key staff members**.
- **Market, Credit or Operational Risk Specialists** can use this program to expand their knowledge of other approaches to understanding risk.
- **Regulators, auditors and supervisors** can use this program to increase their expertise in validation of advance risk management infrastructures.
- **IT personnel** can use this program to improve the effectiveness of their work in building the risk management architecture of their organizations.
- **Financial engineers** can use this program to enhance the application of their technical skills to the broader organization.

COURSE DELEGATE EXTRAS

In appreciation of one's participation, each delegate will receive a digital version of the *Professional Risk Managers' Handbook: A Comprehensive Guide to Current Theory and Best Practices*. The Professional Risk Managers' Handbook is used in more than 105 countries, at 23 of the world's 25 largest banks and at all ten of the world's largest financial institutions. It also serves as the foundation of graduate level programs in risk management.

Supplemental classroom notes will be provided.

A COMPLETE COURSE IN PROFESSIONAL RISK MANAGEMENT

Classes run one evening each week from 6:30 p.m. to 9:30 p.m.*
Choose the complete course or individual course groups that best fit your demands.

- ❑ **FOUNDATIONS OF RISK MEASUREMENT**
Wednesday, January 13 & Thursday, January 21, 2010
 Descriptive statistics: Mean, Variance, Standard Deviation, Correlation, Skew, Kurtosis; Basic rules of probability; Random variables; Overview of common Probability Distributions as used in Financial Models. Simple and multiple linear regression; Introduction to Advanced Topics
- ❑ **FOUNDATIONS OF RISK FINANCE THEORY**
Wednesdays, January 27 and February 3, 2010
 Risk and Risk Aversion; Basic Portfolio Mathematics; Introduction to CAPM; Efficient Frontiers; Basic Capital Structures; Term Structure of Interest Rates
- ❑ **FINANCIAL MARKETS AND INSTRUMENTS**
Wednesdays, February 10, 17, 24, and March 3, 2010
 Bond Pricing; Futures and Forwards; Options and Swaps; Credit Derivatives; Overview of OTC and Exchange Markets
- ❑ **MARKET RISK MANAGEMENT**
Wednesdays, March 10, 17, and 24, 2010
 Overview of Market Risk Management Structures; Duration, Convexity and other Risk Measures in Bonds; Portfolio risk Measures; Introduction to Value at Risk; Analytical VaR Models; Historical Simulations; Monte Carlo VaR Models; Introduction to Stress Testing; Backtesting
- ❑ **CREDIT RISK MANAGEMENT**
Wednesdays, March 31, April 7, and 14, 2010
 Overview of Credit Risk Management; Default and Recovery; Macroeconomic Factors, Central Bank and Market Institutions; Credit Ratings; Default models: Merton Model, KMV and; Credit Metrics; Loss-given-default and Correlation Effects; Credit Spreads and the Price of Credit Risk; Credit Derivatives; Regulation of Credit Risk
- ❑ **OPERATIONAL RISK MANAGEMENT**
Wednesdays, April 21 and 28, 2010
 Overview of Operational Risk Management Framework; Culture and Awareness; Loss Data Collection; Risk and Control Self Assessments; Key Risk Indicators; Scenario Analysis; Reporting; Governance Risk and Compliance, or Convergence
- ❑ **CAPITAL ALLOCATION**
Wednesday, May 12, 2010 - special time: 3:30 - 9:30 pm*
 Regulatory Capital – Banks; Regulatory Capital – Insurance; Introduction to Economic Capital; Capital Allocation by Risk Type; Introduction to RAROC and RAPM
- ❑ **GOVERNANCE AND CASE STUDIES**
Wednesdays, May 19 and 26, 2010
 PRMIA Governance Principles; Group of 30 Best Practices; Barings; LTCM; Riggs Bank; Orange County; California Power Crisis; National Australia Bank

FINAL EXAM AND RECEPTION
JUNE 2, 2010

EXECUTIVE EDUCATION PROGRAMS

Wednesdays, January 13 – June 2, 2010
 6:30 – 9:30 p.m.
 Columbia Business School
 on the Columbia University Campus
 3022 Broadway, New York, New York 10027

COURSE FEE

You may register for individual sessions or the complete course. Seating preferences will be given to those who register for the complete program. Sustaining members of PRMIA receive discounted prices.

		CPE Credits
COMPLETE COURSE:	US \$9,995	70
Foundations of Risk Measurement:	US \$1,195	7
Foundations of Risk Finance Theory:	US \$1,195	7
Financial Markets and Instruments:	US \$2,395	14
Market Risk Management:	US \$1,795	10.5
Credit Risk Management:	US \$1,795	10.5
Operational Risk Management:	US \$1,195	7
Capital Allocation:	US \$1,195	7
Governance and Case Studies:	US \$1,195	7

REGISTRATION

Online: <http://www.prmia.org/Columbia2010>

Phone: +1-612-216-5497 Email: training@prmia.org

AVAILABLE DISCOUNTS

- A \$2,000 early registration discount applies towards the Complete Course for registrations received by December 11, 2009.
- Multiple registration discounts are available for companies registering more than one delegate.
- Sustaining Members of PRMIA receive discounted prices.

CORPORATE INVOICING

Corporate invoicing is available by contacting 612-216-5497 or training@prmia.org

CANCELLATION

A refund (less a US \$500 administration fee) will be made if formal notice of cancellation is received two weeks prior to the date of the event. We regret that no refunds will be made after that date. Substitutions may be made at no extra charge.

CONTACT INFORMATION

For more information regarding refund, complaint and/or program cancellation policies, please contact our offices at 1-612-216-5497. To contact the PRMIA staff, visit the "Contact Us" link at www.prmia.org or send an email to training@prmia.org.

This program may change or cancel due to unforeseen circumstances.



ADDITIONAL ACCREDITATION

Earn Up to 70 CPE Credits
 Program Level: Intermediate
 Prerequisites: See page 2
 Delivery Method: Group-Live

PRMIA is registered with the National Association of State Boards of Accountancy (NASBA) as a sponsor of continuing professional education on the National Registry of CPE Sponsors. State boards of accountancy have final authority on the acceptance of individual courses for CPE credit. Complaints regarding registered sponsors may be addressed to the National Registry of CPE Sponsors, 150 Fourth Avenue North, Suite 700, Nashville, TN, 37219-2417. Web site: www.nasba.org.



PRMIA is registered with CFA Institute as an Approved Provider of professional development programs. This program is eligible for **40 PD credit** hours as granted by CFA Institute, the maximum amount awarded for any single course.

COURSE FACULTY



DAVID BEIM

Professor of Professional Practice, Finance and Economics
BA, Stanford, 1963; MPhil, Oxford, 1966

Professor Beim had a 25-year career in investment banking, following which he became a professor in the Finance and Economics Division of Columbia Business School. He joined Columbia as an adjunct professor in 1989 and has been a full-time professor of professional practice since 1991. His areas of teaching include corporate finance, international banking and emerging financial markets.



AWIL FEDERGRUEN

Charles E. Exley Professor of Management;
Chair of Decision, Risk and Operations Division
BA, University of Amsterdam, 1972; MS, 1975; DSc, 1978

Professor Federgruen is a world renowned expert in the development and implementation of planning models for supply chain management and logistical systems, in particular in the areas of production, inventory and distribution planning for supply chain management, and the design and analysis of operations strategies for service systems. He is also a prime contributor to various areas of quantitative methodology, in particular the areas of applied probability models and dynamic programming. He is the author of over hundred and twenty publications, in the premier journals of his field, and he has authored a book on Markovian Control problems and numerous book chapters for important survey text books.



PAUL GLASSERMAN

Jack R. Anderson Professor of Business Decision, Risk and Operations
BA, Princeton, 1984; PhD, Harvard, 1988; Joined CBS in 1991

Professor Glasserman's research and teaching address risk management, the pricing of derivative securities, Monte Carlo simulation, statistics and operations. Prior to joining Columbia, Glasserman was with Bell Laboratories; he has also held visiting positions at Princeton University and NYU. Glasserman serves on the editorial boards of *Finance & Stochastics*, *Mathematical Finance*, the *Journal of Computational Finance*, and the *SIAM Journal on Financial Mathematics*. He is a member of the Education and Standards Committee of PRMIA, and also serves on its Academic Advisory Council. Glasserman was senior vice dean of Columbia Business School in 2004-2008 and served as interim director of the Sanford C. Bernstein & Co. Center for Leadership and Ethics in 2005-2007.



PHILIPPA GIRLING

Head of Banking and Financial Services Group at Garrity and Graham

Philippa Girling is the Head of Banking and Financial Services Group at Garrity and Graham, Attorneys at Law. Previously, she was the Global Co-Head of Operational Risk Management at Nomura Holdings America. Ms. Girling also served as COO of the Global Financial Control Group and CAO of the Retail Brokerage Controllers Group at Morgan Stanley. She has 13 years experience in the global securities industry, working in the fields of operational risk, change management and project management. Ms. Girling emigrated from the UK in the US in 1996. She has an English law degree, is a New York attorney and is a certified Financial Risk Manager (FRM).



MICHAEL JOHANNES

Roger F. Murray Associate Professor of Finance
BS, Marquette, 1995; MA, University of Chicago, 2000; PhD, 2000

Professor Johannes research focuses on credit markets, over-the-counter derivatives, equity options, fixed income markets, and time series econometric methods. His current research focuses on the impact of collateralization on over-the-counter derivatives, understanding the risks embedded in long-short equity portfolios, developing pricing models for valuing mortgage securities, and evaluating high frequency trading strategies. Johannes has teaches a variety of Ph.D. courses and is currently teaching the elective Capital Markets and Investments.



MICHAEL KEEHNER

Adjunct Professor; Bernstein Faculty Leader, Sanford C. Bernstein & Company Center for Leadership and Ethics
BS., Massachusetts Institute of Technology; MBA, Harvard Business School

Professor Keehner is a seasoned executive and prominent investment banker with global experience, senior management responsibilities and a successful track record. He spent over twenty years of his career with Kidder, Peabody & Co., Incorporated, a full service global investment banking firm where he was a member of the firm's Board of Directors and Executive and Management committees. He left Kidder, Peabody in 1994 and formed a strategic advisory and private investment company. He also participates in turnaround situations and venture and other principal investment activities.



COSTIS MAGLARAS

Professor of Decision, Risk and Operations
BSEE, Imperial College, London, 1990; MSEE Stanford, 1991; PhDEE, 1998

Dr. Maglaras is a Professor at the Graduate School of Business at Columbia University in the division of Decision, Risk & Operations. His research focuses on quantitative pricing and revenue management, the economics, design, and operations of service systems, and financial engineering. He is the author of many research articles spanning the theory and application of stochastic modeling in queueing networks, service systems, quantitative pricing, and revenue management. His recent work focuses on the application of quantitative modeling in the pricing, risk management and valuation of multi-unit real estate portfolios, and in the design of portfolio trading systems and portfolio trading algorithms. During his sabbatical in 2007, he was involved in starting Mismi Inc., a financial services broker-dealer firm that introduces innovative quantitative portfolio trading tools to the marketplace. He continues to serve as Mismi's Head of Research and be part of its management team. He has also been a frequent consultant to industry.



DAN RODRIGUEZ

Chief Risk Officer, Global Arbitrage Trading Group at Credit Suisse
*BS (Distinguished Graduate), United States Military Academy
PhD - Economics, Massachusetts Institute of Technology*

Dr. Rodriguez focuses on the risk management of a global cross-asset class proprietary trading portfolio within the investment banking division of Credit Suisse. His primary responsibilities include the development of portfolio risk limits and monitoring of portfolio risk profiles. He worked previously at Morgan Stanley reporting to the CRO of the firm, with responsibility for market risk methodology for the Institutional Securities Group. He began his career in financial services in risk management monitoring the risk of the Commodities Division at Morgan Stanley. His research has been published in the *Journal of Financial Economics*, the *Industrial Labor Relations Review*, and *Corporate Governance*. Dan is a former National Science Foundation Fellow and is a regular participant in industry forums on risk management. He was recently accepted to the Steering Committee of the New York Chapter of the Professional Risk Manager's International Association. Dan is currently an Adjunct Faculty member with Baruch's Zicklin School of Business.



ASSAF ZEEVI

Kravis Professor of business
B.Sc. and M.Sc. Technion; PhD Stanford.

Assaf Zeevi is the Kravis Professor at the Graduate School of Business, Columbia University. His research focuses on stochastic modeling and statistics, and their applications in the design and analysis of service operations, revenue management, and financial services. Zeevi consults with various companies in the areas of high technology, financial services, and revenue management and serves on the editorial boards of several leading journals in his areas of research. He received his B.Sc. and M.Sc. (1997) from the Technion, in Israel, and subsequently his Ph.D. (2001) from Stanford University. Since 2001 he has been a faculty in the Graduate School of Business at Columbia University, and was also a visiting professor at Stanford University's Business School. Zeevi is a recipient of a CAREER Award from the National Science Foundation, an IBM Faculty Award, and the Graduate School of Business Dean's Award for Teaching Excellence.

CONTACT INFORMATION

To contact the PRMIA staff, visit the "Contact Us" link at www.prmia.org or send an e-mail to training@prmia.org or call +1-917-421-9651