



Professional Postgraduate Program in Risk Management for BFSI (PPGP-RM)

(Autonomous, full-time, 6 months, residential Program in association with **Riskraft Consulting Limited**)



Identification, measurement and management of risk lies at the heart of modern finance. Recent trends in globalization and international integration of markets for goods and services have made enterprises, particularly banks and other financial institutions, more susceptible to various types of risks. The need for professionally qualified risk managers with sound domain experience have, therefore, increased manifold. It is estimated that more than 25000 risk and compliance jobs open up every year, globally. As banks across the world start implementing Basel II compliant risk management programs, the need for risk professionals in the financial sector can only grow.

To meet this emerging need, I2IT International Finishing School and Riskraft Consulting Limited have teamed up to offer a comprehensive Financial Risk Management Program at the Pune campus. The Program will cover the entire spectrum of Financial Risk Management topics in great depth. The uniqueness of the course lies in its judicious blending of industry practice and the theory that drives that practice. The simulated training environment along with a case-study oriented pedagogical approach will make the student a complete Risk Professional.

Eligibility:

Science / Engineering / Management graduates and postgraduates with good understanding of basics of calculus, algebra and matrix. Experience and exposure to BFSI industry would be an added advantage.

Curriculum:

Basic Courses

CS001 / CS002 Life Skills Development - I / II (Each 20 Hours):

The Life Skills Development Program prepares students for communication and interaction in an organizational set-up. The focus would be on grammar, vocabulary, spoken English, remedial English, presentation skills, debates, group discussions, team building, time management, cross-cultural communication, creative and business writing. The objective of this course is to develop individuals with high intelligence and emotional quotients, who are also competent speakers of English. At the end of the Life Skills Development Program, students will be well equipped with language skills, soft skills and life skills to meet the challenges of the corporate world.

Foundation Courses

RM501 Basic Statistics (80 Hours): This course focuses on the quantitative rigor that would be required for understanding risk analysis topics to be covered in the rest of the program. The basic ideas of probability distribution, various summary statistical measures including moments of distributions, quartile, regression analysis, logistic regression, tobit and probit analysis etc. will be discussed. The lectures will be followed by practical exercises with real life examples. Various regression diagnostic tools and concept of robust regression will be introduced. Estimation and hypothesis testing basics will be discussed.

RM502 Introduction to Stochastic Calculus (16 Hours): This course introduces the modern theory of mathematical finance using the tools of stochastic calculus. Topics include martingales, Brownian motions, Ito's lemma etc. The concept of time aggregation, time aggregation with correlations etc will be introduced and its implications for risk management will be discussed from a practitioner's point of view. The use of stochastic calculus in risk management practice will be discussed in depth. Various time series models like GARCH etc will be discussed. Methodology of Numerical and Analytical Simulation, Historical Simulation, Monte Carlo and Partial/Quasi Monte Carlo techniques will be discussed from a practitioner's point of view.

RM503 Bond Mathematics (80 Hours): This course explores and analyzes the mathematics of bond prices and yields as well as a

variety of quantitative analytical methodologies. The course begins with an in-depth investigation of the industry conventions for calculating price and yield applied to plain vanilla bonds, including the exploration of implicit assumptions and interpretation of resulting numbers. Subsequently, the course turns to a variety of tools used in the pricing, valuation of the risk of fixed income securities and portfolios. These tools are applied to a variety of other fixed income instruments such as bonds with embedded options, mortgage-backed securities.

RM504 Financial Institutions, Financial Instruments and markets(48 Hours) : This course focuses on various models for term structure of Interest rate, Financial Institutions, Financial Instruments and Markets: This module equips the candidates with the knowledge and fundamentals of the financial market as a whole and give participants a broad overview of the world's major financial markets, the instruments, the participants, and the relationships between the market (money markets, capital markets, domestic vs. Euromarkets, FX and the euro, derivatives). Fixed income derivatives-like Interest rate swaps, & FRA, Equity & Equity Index derivatives-Forward, Futures and Options, Commodity derivatives. Forex derivatives-Swaps, Forwards, Futures and Options will be introduced in this module.

Core Courses

RM601 Risk Analytics for Fixed Income Securities (80 Hours): This core course would cover all analytical issues related to risk measurement of fixed income securities. Concept of VaR is presented and various methodologies for VaR calculations are covered in depth. The risk measures other than VaR for a fixed income portfolio are also discussed in great depth. Concept of copula is introduced with illustrative applications.

RM602 Risk Analytics for Forex and Equities (80 Hours): This course introduces students to risk measurement and risk management issues related to positions which are exposed to foreign exchange risk. Risk analytics for Forex derivatives is covered in this module. Traditional investment risk management risk strategies including various return metrics (Sharpe ratio, information ratio, VaR, relative VaR, tracking error, survivorship bias), risk decomposition and performance attribution, risk budgeting, active Risk & tracking error are discussed.

RM603 Risk Analytics for Derivatives (80 Hours): This course covers the methodology for measuring risk of financial derivatives. Various metrics of risk for derivatives like delta, vega and gamma are discussed in depth. The hedging strategies for linear and non-linear risks are discussed. Various credit derivative products like CDS are introduced along with discussions on their market conventions, valuations etc

Advanced Courses

RM701 Risk Mitigation Techniques (16 Hours): The various risk mitigation techniques like guarantees, collaterals and insurance are discussed. The basic principle of risk hedging is introduced. Various techniques of hedging are discussed. The details of various methods of securitizations for reducing risk and use of credit derivatives for risk management are covered here

RM702 Regulatory Framework for Risk Management (16 Hours): Topics like Basel II, Solvency 2 etc are covered in depth. The standardized as well as advanced approaches for measuring credit risk, market risk and operation risk under Basel II are discussed in depth.

RM703 Advanced Measurement for Regulatory Capital Market (40 Hours): The basics of credit scoring, measurement of Probability of Default, Loss given Default are covered in depth. The IRB approach for credit risk and Advanced Measurement Approach for Operational Risk are covered in detail.

RM704 Industry Standard Models on Risk Management (34 Hours): Models like RiskMetrics, KMV, CreditRisk+, etc are discussed.

Project:

RM801 Project (140 Hours): Students will be given an industry sponsored project in the areas of Risk Management. The students can also take up in-house projects under the guidance of the faculty and/or Industry experts in their area of expertise. Students are encouraged to work on projects that will enhance their understanding in certain application domains in real-life scenario. The project report has to be submitted to the Institute in the prescribed format, and which will be examined by experts nominated by the Institute. The project is the culmination of the student's learning in the institute and is expected to be of high standards as demanded by the industry from time to time.

Program Structure			
Level	Subject Code	Subject Name	Hours
Basic	CS001	Life Skills Development I	20
	CS002	Life Skills Development II	20
Foundation	RM501	Basic Statistics	80
	RM502	Introduction to Stochastic Calculus	16
	RM503	Bond Mathematics	80
	RM504	Financial Institutions, Financial Instruments and Markets	48
Core	RM601	Risk Analytics for Fixed Income Securities	80
	RM602	Risk Analytics for Forex and Equities	80
	RM603	Risk Analytics for Derivatives	80
Advanced	RM701	Risk Mitigation Techniques	16
	RM702	Regulatory Framework for Risk Management	16
	RM703	Advanced Measurement for Regulatory Capital Market	40
Project	RM704	Industry Standard Models on Risk Management	34
	RM801	Project	140
			Total Hours: 750