



BOOTCAMP IN MARKET RISK

EXCEL & PYTHON



OUR TRAINEES WORK IN

Consulting



Investment Banks



Rating Agencies



ABOUT US

Peak2tails LLP is a distinguished risk training and consulting firm founded in 2019, dedicated to providing comprehensive services to individuals and corporations. With a core focus on risk management, Peak2tails LLP was established by industry experts Satypriya Ojha and Karan Aggarwal, both of whom are **highly qualified FRM** (Financial Risk Manager) and **CQF** (Certificate in Quantitative Finance) **professionals**. The firm specializes in simplifying complex quantitative concepts through user-friendly spreadsheet models, offering a unique value proposition to its clients.

SERVICES

Risk Training:

Peak2tails LLP is renowned for its exceptional risk training programs, catering to professionals seeking to enhance their expertise in areas such as Market Risk, Credit Risk, Data Science, and other quantitative disciplines. Having successfully trained over 1000 professionals, our training courses provide practical knowledge and skills, enabling participants to navigate challenging risk environments effectively.

Risk Consulting:

On the corporate front, Peak2tails LLP specializes in risk consulting projects, particularly focused on Credit Risk & Market Risk for banks & non-banking financial companies (NBFCs). With extensive experience in handling diverse consulting engagements, we collaborate closely with our clients to develop tailored risk management strategies, optimize processes, & ensure regulatory compliance. Our unique approach of simplifying quantitative concepts using spreadsheet models helps clients grasp complex risk frameworks effortlessly.

Unique Selling Proposition (USP):

Simplifying Tough Quantitative Concepts:

At Peak2tails LLP, we excel in simplifying tough quantitative concepts through the use of intuitive spreadsheet models. We understand that complex financial and risk concepts can often be challenging to comprehend. Our expertise lies in translating intricate theories into practical models that are easy to understand, enabling our clients to make informed decisions and effectively manage risks.

ABOUT THE COURSE

Market Risk and Counterparty Credit risk course is designed to empower you with tools and fundamentals to be able to value derivatives and model risk independently. The course covers FRTB market risk framework and Counterparty Credit Risk calculations in great detail with theory, analytical derivations, spreadsheet and python models for every single concept. Get hands-on modelling experience on some of the key areas such as FRTB-SA, FRTB-IMA, SA-CCR, IMM, xVA, SIMM etc. which are in huge demand today. Distinguish yourself from your peers by showcasing rock solid fundamentals and practical knowledge risk modeling. Although the core focus of this course is to train you on the latest regulatory capital framework, there is a constant emphasis on problem solving and independent thinking to tackle modelling problems throughout the course. Join this course to take advantage of over 140 hours of lecture and get access to a rich repository of Excel and Python models but more importantly be part of the transformative journey.

MODULE 1

PRIMER

Python Basic Libraries

- Data types, CRUD operations
- If Else Statements & Loops
- Numpy, Pandas, Matplotlib
- Seaborn
- Cufflinks

Python for Statistics

- Probability and statistics
- Multiple Regression
- Time Series Analysis
- Monte Carlo for Pricing
- Monte Carlo for Risk Management

Market Risk Foundations

- Overview of Regulatory Capital
- Market Risk Terminology
- Expectation & Variance Algebra - Theory & Worked Out Examples
- Taylor Series & Sensitivities - Theory & Worked Out Examples

MODULE 2

MARKET RISK REGULATORY CAPITAL (FRTB)



FRTB - standardized approach

- Delta, Vega & Curvature Risk Charge for GIRR, CSR, EQ, FX, Commodity
- Jump-to-Default Risk Charge (JTD)
- Delta & Curvature Risk charge for an Equity Portfolio (Spot, Forwards, Options)
- Vega Risk charge for an IR portfolio (Caps, Swaptions)
- Vega Risk charge of Equity Option portfolio
- Delta & Curvature Risk charge for an GIRR & CSR for an IR Portfolio (Bonds, Caps)
- Delta Risk charge for FX Portfolio (Bonds & Equity Instruments)
- JTD capital charge (Equity Forwards, Equity Options, Bonds, Callable Bonds, CDS)

MODULE 2

MARKET RISK REGULATORY CAPITAL (FRTB)

FRTB – simplified standardized app

- Maturity Ladder Framework (Vertical & Horizontal dis-allowance)
- Treatment of Options (delta, gamma approach)
- Maturity Ladder Method for an IR portfolio (Bond, IRS, Future)
- Delta, Vega, Gamma Capital charge for a call option on Bond

FRTB – Advanced Approach (IMA)

- Properties of Risk Measure
- Coherent vs Convex
- VaR vs ES
- ES aggregation framework for IMCC
- Calibration to stress period
- NMRF and stressed capital
- Default Risk Capital
- PLAT & Backtesting requirements with derivation
- IMCC calculation of an Equity Portfolio
- PLAT & Backtesting of Equity Option portfolio

MODULE 3

FRTB MODEL



Stochastic Process

- Brownian Motion
- Ito Lemma
- Dynamics of spot and forward price
- Monte Carlo & Terminal Density

Equity Derivatives

- Forwards & Options & Black Scholes PDE
- Option Greeks
- Volatility Surface & Calibration
- Local Volatility Models (Dupire)
- Stochastic volatility models (SABR, Heston)

FX Derivatives

- Forwards, Cross Currency Swaps
- FX Option

MODULE 3

FRTB MODEL

Interest Rate Derivatives

- Spot rate, Forward rate, swap rate
- Zero Coupon bond pricing
- FRA, IRS, Floaters pricing & duration
- Caps, Floors, Swaptions (Black-76)
- Equilibrium Term Structure Models (Vasicek, CIR)
- No Arbitrage Term Structure Models

Advanced Sensitivity Computation

- Pricing & Sensitivity by Finite Difference
- Sensitivity by Monte Carlo (Full valuation vs pathwise sensitivity)
- Adjoint automatic differentiation (AAD)
- Custom Library for Sensitivity Computation for Equity, IR, and FX portfolios

MODULE 4

CCR & XVA

Counterparty Credit Risk

- Exposure, Netting, Margin & Collateral
- Quantifying Exposure (EE, EPE, PFE, EEPE)
- Exposure profiles under Netting, Margin, Collateral & Wrong Way Risk
- SA-CCR Framework
- Internal Models Method Framework
- ISDA SIMM Framework
- Uncleared Margin Rules
- EAD modeling under SA-CCR for a sample portfolio
- Initial Margin Calculations (ISDA, SIMM methodology)

XVA Toolbox

- CVA, DVA, BCVA
- FVA, MVA, colVA, KVA
- xVA calculation for forwards, swaps & options

CLASSES DETAILS



01



Core conceptual classes available as recordings

02



Integrated Market Risk case study in a workshop setting spanning across 2 days for 10 hours

03



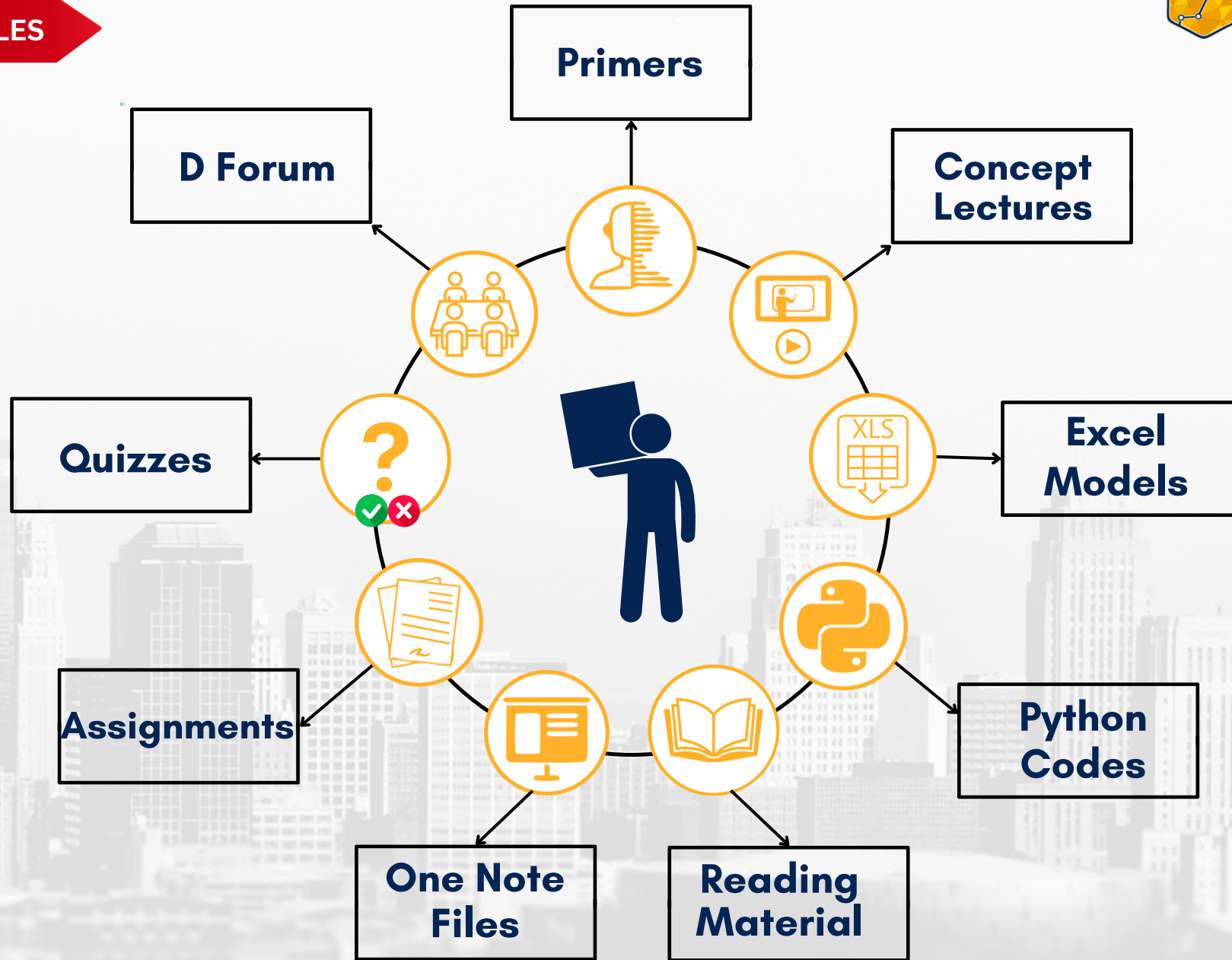
Regular live classes on topics not covered in self paced sessions.

04

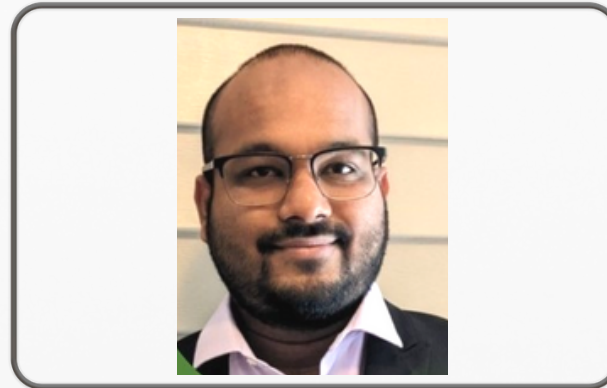


Case study to understand how three lines of defence aka model development, model validation, model audit communicate with each other.

DELIVERABLES



KNOW YOUR TRAINER



SATYAPRIYA OJHA

Satyapriya Ojha is a highly skilled Capital Markets and Risk professional with **12+ years of experience in Regulatory Capital, Valuation and Analytics.**

He is an IIT & IIM graduate and holds FRM charter (top quartile in all subjects of part I & part II) and a distinction from CQF institute. He is an expert in quantitative models used in valuation and risk management . He has worked as a consultant in several regulatory projects for some of the top banks in the US in BASEL III and FRTB space. Currently, he serves as a product owner for a top wealth management firm engaged in quantitative portfolio management for institutional clients.

APPLICATION MODULE (AM)

1st Day

Excel sheet

will be mailed to all the participants containing **unfilled templates** with corresponding **write-up** containing the directions to fill the Templates.

- 01 The templates provided may consist of two to five Excel sheets.
- 02 It's an open book exam, so students can refer to the existing excels or notes for filling the templates.
- 03 Students are marked based on the following criteria
 - a) Knowledge of Credit Risk concepts - 50%
 - b) Application of Credit Risk concepts - 30%
 - c) Presentation - 20%
- 04 Students should send their exams by **1st Day (midnight 11.59pm IST)** to **exams@peaks2tails.com**. Failure to do so can lead to the exam being unmarked leading to a **failure status**.

CONCEPTUAL MODULE (CM)

2nd Day

MCQ test

will be forwarded to all the participants
that will contain

**50 questions with 3 options,
1 correct answer
and no negative marking.**

01

A spreadsheet will be provided for you to select options a, b, or c corresponding to each question number.

02

It's an open book exam, so students can refer to notes or any material to mark the answers.

03

Each question will contain 1 mark, so the conceptual Module will contain a total of 50 marks.

04

Total duration of exam is 3 hrs, so students should send their marked excels to **exams@peaks2tails.com** **before 1.30 pm**. Failure to do so can lead to the exam being unmarked leading to a failure status.

SAMPLE CERTIFICATE

LETTER OF RECOMMENDATION

This is to certify that

Amit Agarwal

has successfully completed
150 Hours Bootcamp on Credit Risk Modelling

Karan

KARAN
AGGARWAL



Satyapriya

SATYAPRIYA
OJHA

PLACEMENT ASSISTANCE



Join Network of
more than 500
Professionals

Customized CV
Preparation &
Interview Guide



Tie-up with
Banks consulting &
Rating agencies



FREQUENTLY ASKED QUESTIONS

TENURE :	3/6/9/12 Months
CHARGES :	No interest, no processing fees & no hidden charges
APPLICABLE COURSES :	Courses valued above Rs.40000 & having lifetime access
REQUIREMENTS :	Applicant has to be a Salaried person
DOCUMENTS :	3 Months Salary Slips & Bank Statements
PROCESSING TIME :	4 - 6 Hours

PREQUISITE

Basic knowledge of statistics and excel

CERTIFICATE

On successful completion of assignments and exams

FEES

40,000 For 1 Year Access
48,000 For Lifetime Access

DURATION

140 Hours

MODE

Online

LANGUAGE



English

MODUS OPERANDI

Batch - 2024 Cohort



Every Sunday Live Session-

 5:30 pm - 8:00 pm IST
 Zoom Meeting



Training Delivery -

Self paced videos
Duration 140 Hrs
DTH player



Examination-

Twice A Year

MODUS OPERANDI FOR CORPORATES



15 hours of Customized
Boardroom sessions

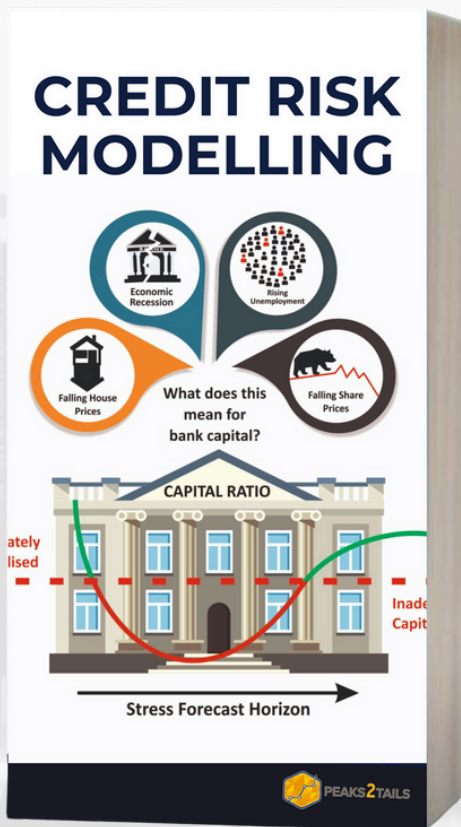
Min 15 Licences
@ Rs 48,000 each



Customized Mentoring
on client specific
simulated datasets

OUR OTHER COURSES

CREDIT RISK MODELLING



Economic Recession
 Rising Unemployment
 Falling House Prices
 Falling Share Prices

What does this mean for bank capital?

CAPITAL RATIO

Stress Forecast Horizon

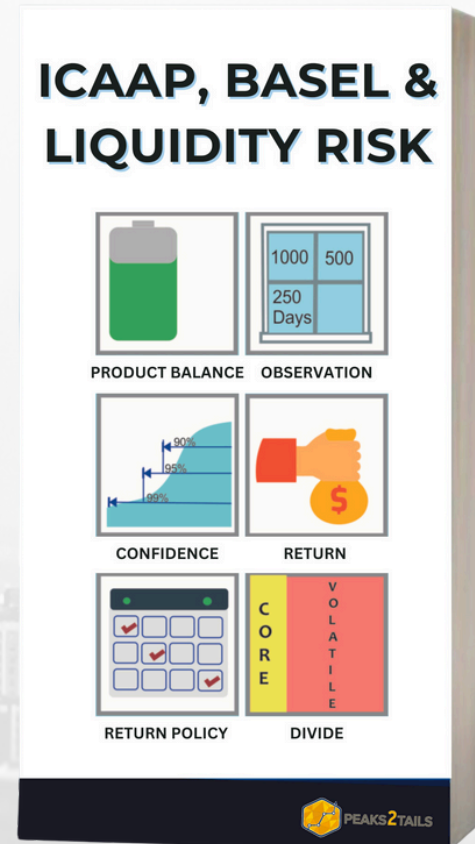
PEAKS2TAILS

DEEP QUANT FINANCE (DQF)



PEAKS2TAILS

ICAAP, BASEL & LIQUIDITY RISK



PRODUCT BALANCE
 OBSERVATION
 CONFIDENCE
 RETURN
 RETURN POLICY
 DIVIDE

1000 500
 250 Days
 90%
 95%
 99%
 CORE
 VOLATILE

PEAKS2TAILS

GARP RISK & AI, SCR



PEAKS2TAILS



Training



Solutions



Consulting



Contact us:



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**WATCH DEMOS ON OUR
YOUTUBE CHANNEL**

Peaks2Tails Company