

Roadmap to Become A Quant in 2025

1. Complete Data Science, Machine Learning, DL, NLP Bootcamp (Udemy) – Rs 499

This course will teach you

- Python
- Data Science
- Machine Learning

Link: <https://www.udemy.com/course/complete-machine-learning-nlp-bootcamp-mlops-deployment/?couponCode=LEARNNOWPLANS>

2. Python for Finance: Investment Fundamentals & Data Analytics (Udemy) – Rs 499

This course will teach you

- Calculate Return
- Measure Risk (Correlation, Covariance etc.)
- Markowitz Portfolio Optimization
- Capital Asset Pricing Model (CAPM)
- Multivariate Regression

Link: <https://www.udemy.com/course/python-for-finance-investment-fundamentals-data-analytics/?couponCode=LEARNNOWPLANS>

3. Quant Finance Bootcamp (Quant Finance Institute) – Rs 6,999

This course will teach you Derivatives, Risk Management, Monte Carlo and Stochastic Modeling

- Derivatives (Forward, Future, Option, Swaps)
- Options (Call, Put)
- Risk Management
 - Greeks (Delta, Gamma, Theta, Vega, Rho)
 - Hedging (Delta Hedging, Gamma Hedging, Theta Hedging, Vega Hedging, Rho Hedging)
 - Value at Risk Models for Equity Portfolio
- Quantitative Modeling
 - Binomial Tree
 - Geometric Brownian Motion
 - Black Scholes Model
 - Monte Carlo Methods (Asian, Barrier, European Option)
- Stochastic Interest Rate Modeling
 - Vasicek Interest Rate Model

- CIR Interest Rate Model
- Model Validation
- Portfolio Management

Link: <https://quantfinanceinstitute.com/courses/quant-finance-bootcamp-24/>

4. The Handbook of Fixed Income Securities

Please read Chapter 1 to Chapter 5 (Pg 3 to Pg 97)

- Types of Fixed Income Securities
- Risk Associated with investing in Fixed Income Securities
- The Structure of different Interest Rates
- Bond Pricing, Yield Measure and Total Return
- Measuring Interest Rate Risk (Duration & Convexity)

Buy: <https://www.amazon.com/Handbook-Fixed-Income-Securities-Ninth/dp/1260473899>

Or

(Free eBook at <https://libgen.is/>)

5. Time Series Analysis in Python (Udemy) – Rs 499

This course will teach you how to Time Series Models

- AR Model
- MA Model
- ARMA Model
- ARIMA Model
- ARIMAX Model
- SARIMAX Model
- ARCH Model
- GARCH Model

Link: <https://www.udemy.com/course/time-series-analysis-in-python/?couponCode=LEARNNOWPLANS>

6. Credit Risk Modeling in Python (Udemy) – Rs 499

This course will teach you how to build Credit Risk Models

- Probability of Default (PD) Model
- Loss Given Default (LGD) Model
- Exposure at Default (EAD) Model

Link: <https://www.udemy.com/course/credit-risk-modeling-in-python/?couponCode=LEARNNOWPLANS>

7. SQL - MySQL for Data Analytics and Business Intelligence (Udemy) – Rs 499

This course will teach you how to use SQL for Data Engineering

- SELECT, INSERT, UPDATE, DELETE, JOINS,

Link: <https://www.udemy.com/course/sql-mysql-for-data-analytics-and-business-intelligence/?couponCode=LEARNNOWPLANS>

The above courses will teach you the following:

- **Python, Data Science, Machine Learning** (*Strongly recommended*)
- **Fundamental of Investing** (*Strongly recommended*)
- **Derivative, Risk Management & Quant Modeling** (*Strongly recommended*)
- **Fixed Income** (*Strongly recommended*)
- **Time Series Analysis** (*Recommended*)
- **Credit Risk Modeling** (*Strongly recommended*)
- **SQL** (*Recommended*)

I am still exploring good options for the below courses. I will update the list soon

- **Primer Course on Linear Algebra & Differential Equation** (Commerce Student)
- **Algorithmic Trading**
- **Stochastic Calculus**
- **Monte Carlo Simulation for Finance**