COURSE SYLLABUS

Finance Technology Bootcamp

During this immersive bootcamp, students dive into Microsoft Excel for data analytics, financial modeling to value public companies, and Python for Data Science.

Group classes (NYC) and onsite training are available for this course. For more information, email corporate@nobledesktop.com or visit: https://www.careercenters.com/courses/finance-technology-bootcamp



nyc@careercenters.com • (212) 684-5151

Course Outline

3 Days of Excel for Finance

Beginner Excel for Finance

Introduction

- Data Entry
- Interface

Formulas

- Autofill
- Calculations
- True or False
- AutoSum Functions
- Text Functions
- Multi-Input Functions
- Absolute Cell References

Formatting

- Formatting
- Format Painter
- Conditional Format

Charts & Tables

- Line Chart
- Column Chart
- Pie Chart
- Tables

Workbook Management

- Printing
- Worksheets
- Repeat Action
- Shortcuts
- 5 Fundamental keyboard shortcuts and a review of others previously covered

End of Class Project

- Project
- Save and Close

Intermediate Excel for Finance

Worksheet Management

- Navigation
- Paste Special

Working with Text

- Splitting Text
- Joining Text
- Named Ranges
- Data Validation
- Sort & Filter
- Remove Duplicates

Database Functions

- VLOOKUP
- HLOOKUP
- VLOOKUP—Closest Match

Logical Functions

- AND, OR
- IF statements

Pivot Tables

- Pivot Tables
- Pivot Tables & Grouping
- Multiple Pivot Tables

Statistical Functions

- Ranking
- COUNTIFS
- SUMIFS

Advanced Charts

Combo Charts

End of Class Project

Project

Advanced Excel for Finance

Cell Management

- Advanced Cell Locking
- Hot Keys
- Windows
- Cell Auditing

Special Formatting

- Date functions
- Conditional Formatting-Formulas

Advanced Functions

- Nested IF statements
- IF statements with AND/OR

What If Analysis

- Goal Seek
- Data Tables

Advanced Analytical Tools

- Data Consolidation
- Conditional SumProduct
- Pivot Table-Calculations
- Pivot Charts

Advanced Database Functions

- MATCH function
- VLOOKUP-MATCH
- INDEX-MATCH
- INDEX-Double MATCH

Introduction to Macros

- Recording Macros
- Relative Macros

End of Class Project

Project

2 Days of Financial Modeling

Day I: Advanced Excel for Financial Modeling

Advanced Techniques to Expedite Workflow

- Efficient formula writing
- Formula & model auditing
- Advanced cell locking
- Hot Keys to work without the mouse
- Windows & work with multiple applications

- Go To Special
- Paste Special
- Project #1: Revenue build-up by store count and same store sales growth

Advanced Analytical Tools & Sensitivity Analysis

- Goal Seek
- Data Tables
- Scenario Manager
- Project #2: Cash flow modeling & sensitivity analysis

Database Functions for Finance

- Advanced SUMIFS
- VLOOKUP-MATCH
- INDEX-MATCH

Functions for Financial Modeling

- Financial functions
- Date functions
- Nested IF statements
- IF Statements with AND/OR
- CHOOSE function
- Weighted average calculations
- IFERROR
- Project #3: Loan amortization model

Day II: Intro to Corporate Finance, Accounting, & Modeling

Intro to Corporate Finance

- Net Present Value (NPV) and Internal Rate of Return (IRR)
- How are PV and IRR used in financial modeling?
- How companies raise capital through debt and equity issuances

Enterprise Value

- Stocks, dividend yields, trading terminology, and valuation metrics
- Market Capitalization: Calculate the market cap for public companies
- Shares outstanding: How does share count change over time?
- Enterprise Value: Calculate the enterprise value for public companies

Financial Accounting & Statement Analysis

- Cash vs. accrual accounting
- Assets = Liabilities + Shareholders' Equity
- Annual and quarterly filings, and press releases
- Income Statement: Analyze line items on an income statement; calculate growth rates, and TTM
- Balance Sheet: Review assets, liabilities and shareholder's equity
- Cash Flow Statement: Analyze a public company cash flow statement
- Working Capital: Calculate and understand working capital

Integrated Financial Modeling

- Calculate historical ratios for revenue growth, margins, and working capital
- Project cash flows based on historical metrics
- Create debt, equity, and working capital supporting schedules
- Review how financial statements tie together and balance the model
- Integrate the income statement, balance sheet, and cash flow statement in Excel

Intro to DCF Modeling

- Calculate unlevered free cash flow from the integrated model
- Discount cash flows using the WACC
- Derive a share price from total company value

Sensitivity Analysis

- Use Data Tables to sensitize the model's key inputs
- Conditional Format with formulas to highlight cells that meet certain criteria
- Calculate the revenue growth required to hit a certain share price

Intro to LBO Modeling

- Review Leveraged Buyouts (LBOs) basics
- Create a simple LBO model
- Calculate the IRR and Equity Multiple

Day III: In-depth Financial Modeling & Valuation

Company Analysis

- Discuss the business model and value drivers of a public restaurant company
- Capital Structure: Calculate the total enterprise value and build a capital structure table
- Historical Financials: Populate the historical financials
- Ratios: Calculate the financial ratios

Financial Projections

- Create financial projections for revenues
- Create financial projections for expenses
- Create projections for the working capital items

Terminal Value

Estimate the company's terminal value using the Gordon Growth Model

Discounting Cash Flows

- Use CAPM to estimate the company's cost of equity
- Calculate the weighted average cost of capital (WACC)
- Discount future cash flows with the midpoint convention

Corporate Valuation

- Calculate the diluted shares outstanding using the treasury stock method
- Derive a value per share from total enterprise value

Final Analysis & Reasonability Testing

- Where does our model need additional analysis?
- How does our value per share compare to the current price?

- How do our financial projections compare to management's and the analyst community's?
- Analyze the output and determine reasonability of the model and assumptions
- What areas or assumptions require additional research?
- What assumptions drive the valuation and how would changes impact our thesis?
- Should we invest in the stock at current prices?

Python for Data Science

Python Fundamentals

Data Types & Variables

- Statements & Expressions
- Variables
- Integers & Floats
- Strings

Data Structures & Attributes

- Functions & Methods
- Lists
- Indexing & Slicing
- Booleans

Structuring Programs

Complex Data Structures & Control Flow

- Dictionaries
- Conditional Statements
- For Loops
- Creating Functions

Packages & Object Oriented Programming

- Classes & Objects
- Modules & Imports
- Packages & Documentation

Arrays & Dataframes

NumPy

- Arrays
- Boolean Indexing

Pandas

- Pandas Dataframes
- Pandas Series & dtypes
- Column Manipulation
- Descriptive Statistics
- Crosstab

Analyzing & Visualizing Data

Data Analysis

- Filtering & Cleaning Data
- Groupby Operations
- Applying Functions

Data Visualization

- Plotting with Matplotlib
- Scatter Plots
- Histograms
- Timeseries
- Subplot
- Customizing Visualizations

Linear Regression

Statistical Modeling

- Theory of Linear Regression
- Simple Linear Regression with scikit-learn
- Multiple Linear Regression
- Overfitting & Outliers
- Evaluating Models
- Assumption & Limitations of Linear Regression