



**Financial Modeling • Corporate Finance • Capital Markets**

wallst.training

## **FINANCIAL MODELING & VALUATION**

**CUSTOMIZED TRAINING PROGRAMS**

**DETAILED COURSE DESCRIPTIONS**

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## ABOUT WALL STREET TRAINING & ADVISORY, INC.

WST OVERVIEW	WST COURSE TOPICS
<p>WST provides professional financial training solutions to Wall Street through hands-on classroom training and customized corporate training programs for financial analysts. All of our courses take a hands-on, interactive, practical, non-theoretical approach and is exactly how it is done on Wall Street.</p>	<p>WST offers a wide variety of topics ranging from Basic to Advanced levels. Our courses are designed for participants with various backgrounds, from students and entry-level professionals to professionals with some work experience to professionals in the midst of a career transition.</p>
<b>WST Overview</b>	<b>Basic and Fundamental Concepts</b>
<ul style="list-style-type: none"> <li>◆ Corporate training</li> <li>◆ Public, open-enrollment seminars</li> <li>◆ Online, interactive video-based learning</li> </ul>	<ul style="list-style-type: none"> <li>◆ Accounting and Financial Statements for the Non-Accountant</li> <li>◆ How to Analyze a 10K &amp; Footnotes</li> <li>◆ Corporate Valuation and Corporate Finance Fundamentals</li> </ul>
<b>WST Services</b>	<b>Financial &amp; Valuation Modeling</b>
<ul style="list-style-type: none"> <li>◆ Train finance professionals</li> <li>◆ Conduct new hire and lateral hire training</li> <li>◆ Teach fundamental financial analytics</li> <li>◆ Instruct and promote mastery of advanced topics</li> <li>◆ Provide practical, real-world, hands-on instruction</li> </ul>	<ul style="list-style-type: none"> <li>◆ Advanced Financial Modeling – Core Model</li> <li>◆ Segment Build-up &amp; Sensitivity Modeling</li> <li>◆ Fundamental &amp; Relative Valuation Modeling (DCF &amp; Comps)</li> </ul>
<b>WST Areas of Specialty</b>	<b>M&amp;A, LBO Modeling and Credit Analysis</b>
<ul style="list-style-type: none"> <li>◆ Investment Banking, M&amp;A, Private Equity and Venture Capital</li> <li>◆ Buy-Side and Sell-Side Equity and Fixed Income Research</li> <li>◆ Portfolio Management, Asset and Investment Management</li> <li>◆ Credit Analysis, Underwriting and Monitoring</li> <li>◆ Corporate Business Development, Internal Strategy and M&amp;A</li> <li>◆ Regulators and Government Agencies</li> </ul>	<ul style="list-style-type: none"> <li>◆ M&amp;A Deal Structuring and Merger Modeling</li> <li>◆ Capital Structure and LBO Modeling</li> <li>◆ Credit Analysis, Covenants &amp; Credit Agreements and Distressed</li> </ul>
	<b>Industry Specific Modeling</b>
	<ul style="list-style-type: none"> <li>◆ Financial Institutions: Banks, Insurance and Asset Management</li> <li>◆ Hard Assets: Real Estate, Integrated Oil &amp; Gas and Infrastructure</li> </ul>
	<b>Technical Applications</b>
	<ul style="list-style-type: none"> <li>◆ Advanced Excel for Data Analysis</li> <li>◆ Charting and PowerPoint Presentation Integration</li> </ul>

## WHY CHOOSE WST

We analyzed the current learning process in finance and Wall Street, figured out how teaching and training should be done and then implemented our learning processes. In short, our strengths that separate us from our competitors include:

- Hands-on, interactive, practical, non-theoretical, no "b.s." approach
- Training modules replicate exactly how it is done on Wall Street
- Blend of real-world and effective teaching style that is more down to earth and at the audience's level
- Fast-paced learning where the goal is for participants to become experts and extremely quick and efficient so they could spend more time on analysis of the numbers rather than pure number crunching
- Learn how to completely avoid using the mouse when building financial models
- Ability to translate difficult and advanced concepts into plain English while providing highly detailed explanations and intricacies; ability to integrate a variety of disparate topics into one focused theme
- Teach nuances and real-life intricacies, not just the basic how-to; we teach the rules and the exceptions!
- Models that are built more cleanly, more efficiently and are meant to be self-contained reference models
- Highly interactive, dynamic teaching approach – we guarantee you will learn AND have fun!

## ABOUT WST SELF-STUDY

WST's Self-Study was formed with the goal of:

- Helping people obtain, advance and **achieve their career aspirations**
- Supplying the tools, skills, knowledge and **ability to succeed on Wall Street**
- **Replicating** the live learning environment to learn at your own pace and time, location-independent
- Providing a **more efficient way** to disseminate knowledge to empower professionals with required skills
- **Improving** self-study – alternatives are text & paper-based; who wants to read 400 pages?
- **Elevating standards** and promoting best practices and efficiencies on Wall Street

## WST SELF-STUDY VIDEO LEARNING PLATFORM

Our fully-integrated, video-based learning platform is a content & learning management system custom-designed for Wall Street financial modeling needs. It was developed to deliver state-of-the-art video & interactive assets to your organization. It is **extremely robust** and provides:

- **Same materials** used for training investment banks, research departments and asset managers
- Dynamic, instructional, **streaming videos** of the entire financial analyst program
- **Interactive and engaging** side-by-side learning with instructor and video
- Excel **templates & models**, presentation and slide materials and supporting content and exhibits

## WHO CAN BENEFIT

- Current finance professionals looking to advance career
- Professionals looking to career transition into finance
- Anyone with an interest in finance and looking to learn analysis
- College or business school students
- Corporations and employees

Our courses set the standard in the following finance areas:

- Investment banking (bulge bracket and boutiques)
- Mergers & Acquisitions (buy and sell-side)
- Securities Research (equity & fixed income)
- Asset and Investment Management
- Credit Analysis (corporate & commercial banking)
- LBO Modeling (private equity & high yield)

## WHY CHOOSE WST SELF-STUDY

- **Robust Learning Platform:** text- and slide-based alternatives simply don't compare
- **Superior Content:** we teach the nuances and real-life intricacies, not just the basic how-to
- **Superior Instruction:** we tie together random disparate pieces of knowledge and translate difficult and advanced concepts into plain English while providing highly detailed explanations and intricacies
- **Ease of Use:** our content is interactive, fun, engaging, easy to follow and is not boring

## WST COURSE TOPICS

WST offers a wide variety of topics ranging from Basic to Advanced levels. Our courses are designed for participants with various backgrounds, from students and entry-level professionals to professionals with some work experience and professionals in the midst of a career transition. Additional courses are available and can be customized to fit your needs. We are flexible in designing & customizing a program structure that works for you.

We begin with the **basic & fundamental** topics to **core financial modeling & valuation** topics to the **extremely complex, super-advanced** financial modeling courses. We highly recommend that you begin with our Basic & Fundamental courses which you must master before proceeding to the core modeling and advanced modeling topics. Our Excel-based courses are extremely keyboard and shortcut oriented to speed up number crunching to allow more time for proper qualitative analysis and interpretation of quantitative results.

### THE APPETIZERS

#### Accounting & Financial Statement Intensive Bootcamp

Our in-depth crash course in accounting helps you learn and master a subject that is **critical to the start of your finance career**. This is oriented towards finance professionals as opposed to future accountants and as such, the focus is on **analysis, proper interpretation and manipulation of accounting** numbers to get closer to economics of what's transpiring. Throw the debits & credits out the door – we take a non-textbook and non-academic approach: we have two versions of our Accounting Bootcamp: one focused on immersion in financial statements and borderline “forensic accounting” and another geared towards M&A investment bankers.

#### PACKAGE 1: Basic & Fundamental Concepts

Our basic concepts will allow you to learn and **gain the fundamental knowledge that you must master** before the advanced content. We answer all the rarely answered "WHY" questions - "why do we do this, why do we do that" - instead of answering: "well, just because" or "that's the way it's always been done", **we actually clearly and easily explain the logic of why and how not just the what**. Whether you are an economics or liberal arts major or a business/finance major looking to summarize the critical 30 pages in that 400 page textbook, our Basic & Fundamental course modules will quickly set the proper foundation for you to excel.

#### PACKAGE 2: Core Fundamental Concepts

Our core fundamental concepts in finance involve the basic **financial modeling and valuation techniques** that introduce model building best practices as well as getting used to working efficiently in Excel. After understanding the basic fundamental concepts, the most important building blocks of modeling are introduced as we begin to **thoroughly analyze financial statements and their implications**. We introduce the underpinnings of **fundamental valuation** (i.e. DCF analysis) and **relative valuation** (comps & multiples).

## MAIN COURSE

### PACKAGE 3: Advanced Financial Modeling

Take everything to the next level as we build upon the basic & core concepts to cover the **fundamental financial modeling concepts** that one must be master in order to perform the minimum financial analysis required. We will make you "**super-stars**" in **Excel** and modeling techniques by plowing deep into **building robust, integrated models** and properly analyzing the results of our models.

### PACKAGE 4: Valuation Modeling

We dive deeper into the nuances of valuation by **understanding the art (not science) of valuation**. Build upon your core financial models by integrating and layering on hands-on valuation analysis. Construct standard full-blown **DCF analysis, trading & deal comps analysis and summary football field**. Dive real deep into the **nuances of valuation** by ripping apart footnotes and making subjective inputs while balancing objectivity.

### PACKAGE 5: Merger Modeling Topics

Our merger modeling topics introduce critical skills required for understanding how to **structure and analyze mergers & acquisitions**. After modeling a company's profits / cash flow and valuing the entity, one must decide what to do with the company in the grand scheme of its strategic alternatives, including a merger or acquisition. We introduce the basics of deal structuring and **implications on accretion/dilution** to building more involved **merger models** with the complexity of complicated FASB and IFRS accounting rules.

### PACKAGE 6: Leveraged Buyout (LBO) Topics

Our LBO modeling courses introduce critical skills required for properly **understanding and quantifying capital structure changes** from simple share repurchases to the extreme of a leveraged buyout. The techniques and concepts learned in building proper, robust, dynamic and flexible LBO models are highly valued given the relatively **difficult nature of setting up, quantifying and articulating the complex relationships and intricacies of the LBO**. We clearly convey the complexities involved in understanding the deal structure, sources & uses, refinancing options, credit ratios and the all-important debt sweep.

## DESSERT & DRINKS

### TECHNICAL APPLICATIONS: Excel and more

A financial analyst won't be spending all their time on Excel building financial models, but will be **crunching a fair amount of data and creating charts, tables & presentations**. From due diligence of analyzing salary rosters and client lists to industry analysis and reports to creating charts and graphs, you will **live and breathe Excel, Word & PowerPoint** and we will teach you all the best practices of the most important tools.

### OVERVIEW OF FINANCIAL MARKETS + EXHIBITS

In our Overview of Financial Markets, we introduce the **major jargon and terminology in finance**, from the sell-side to the buy-side and capital markets, from investment banking to sales & trading and research and asset management. In addition, we **quantify and dig deep into specific selected topics of interest** from the long-term relationship of depreciation and capital expenditures to share repurchase impacts, to cause of circular references in financial models and much more!

## SECOND ROUNDS!

### Private Company Valuation

Evaluation of middle market and private companies with sparse publicly available data take a **completely different approach than those of publicly traded companies**. Usually, analysis of private companies requires a **different approach to modeling** than public entities. Instead of focusing just on corporate finance, a **deeper more thorough understanding** of the private company's operations is required.

### Super-Complex M&A LBO Modeling

Take your modeling skills to an unmatched level: build **full-blown, fully-integrated, merger & LBO models** that slap together the complete target + acquiror model into the extremely robust merger model. The integrated full-blown LBO model allows the target to be acquired or LBO'ed. **This is among the most advanced models out there. Period. End of story.**

## INDUSTRY SPECIFIC MODELING

### Distressed Financial Modeling

Normally, our financial modeling & valuation courses are always prefaced with a caveat: "applies to run-rate, going concern entities, not distressed or restructuring" companies. Why? It's simple - **the rules of engagement are completely different for distressed entities** that have financial or operational difficulties. Our distressed series will teach you how to **model and value distressed companies** and securities undergoing restructuring or the bankruptcy process.

### Bank Financial Modeling

Banks, similar to insurance companies, play by a **different set of accounting** rules in which the **normal approach of building financial models don't apply** (such as revenue growth, COGS and SG&A, % of revenue, BS and days outstanding working capital). When it comes to balance sheet based companies, it's a whole other world out there, so strap in and get ready! But don't worry, we'll take it easy with a **detailed commercial bank industry primer** and overview to familiarize ourselves with the new terminology and then tee you up methodically before **diving into the complex stuff**.

### Insurance Financial Modeling

Insurance companies, similar to banks, play by a **different set of accounting** rules in which the **normal approach of building financial models don't apply** (such as revenue growth, COGS and SG&A, % of revenue, BS and days outstanding working capital). When it comes to balance sheet based companies, it's a whole other world out there, so strap in and get ready! But don't worry, we'll take it easy with a **detailed insurance industry primer** and overview to familiarize ourselves with the new terminology and then tee you up methodically before **diving into the complex stuff**.

### Oil & Gas Industry Financial Modeling & Valuation

The energy industry impacts everyone in one way or another, from commuters to bottled water consumers. Oil and natural gas are the world's leading energy supply, with gas stations in every neighborhood fueling cars and trucks that travel millions of miles a day. In our oil & gas industry-specific courses, we cover both the **integrated oil & gas players** and its subsectors (**upstream**: exploration & production; **downstream**: refining & marketing; **midstream**: logistics and transportation) as well as the **oil & gas services and equipment** ecosystem.

**INDUSTRY SPECIFIC MODELING (cont.)****Real Estate Development Modeling**

Real estate takes a **different twist from traditional companies** in that it doesn't sell or produce any goods. As such, the process of building up **the P&L requires a different logic**. From quantifying the costs of a development project to the revenue build-up, we explore a **master plan for community and condo development** to a **commercial hotel project**.

**REIT Modeling**

Real Estate Investment Trusts take a different life of their own by **aggregating all the real estate investments** and development projects the REIT manages and owns. The individual line items per property are not as relevant as everything in totality on a corporate basis. The goal is **quantifying construction-in-progress, acquisitions and new development starts** on the overall REIT financial statements.

**CREDIT, PORTFOLIO & RISK MANAGEMENT****Credit & Risk Analysis**

Tangential to financial modeling and valuation is credit analysis. We take the typical dry boring credit training and tweak it with perspectives from the buy-side credit point of view. This allows for a much broader and yet, simultaneously deeper, discussion and understanding of credit, a hard task to pull, but we think we've done it. As if that weren't enough, we think we've also been able to nicely blend hard core quantitative and statistics based concepts into our suite of portfolio and risk management courses.

**Portfolio & Risk Management**

Our suite of portfolio and risk management courses takes a quantitative approach to managing diversification strategies and hedging strategies in the portfolio context. Understanding the impact of market factors and Monte Carlo simulations will allow you to better sensitize and quantify risk factors on your portfolio. Our Technical Trading course explains how to perfect your timing after your trade decision has been made. Once again, understand how the "boring" statistics concepts are actually used in the real world for hedging, speculation and risk management.

**Buy-Side Series**

Oftentimes, the results of your quantitative, fundamental and relative valuation provides an answer and decision rule, but **results in a different (and opposite) action item than the buy-side analyst**. Get introduced to the **psyche of a hedge fund** and learn **how to think like a buy-side analyst**. If you're a buy-side professional, you must master these fundamentals. If you're a sell-side professional, adoption of these techniques will **increase the value** of the presenter's ideas and result in increased and stronger buy-side relationships.

While the buy-side broadly has an abundance of specialists in a particular niche (e.g., market technicians, valuation gurus, etc.), we believe that maximizing alpha comes from **the combination of both fundamental and technical analysis**. Bolster your investment/trade decisions by using the two approaches, minimizing bias and skewing risk/reward as favorably as possible. This series of courses provides a framework that merges the yin and the yang to better navigate today's volatile markets.

**Banker's Law & Soft Skills**

Unfortunately for the hard-core number-crunching banker, it's not all fun and games with financial modeling on the job. An important part of banking and finance is the legal aspects of a transaction beginning with the "baby-contract", the NDA, understanding and hand-holding the due diligence process and wrapping up with purchase agreements. After all, bonuses don't get paid until the deal closes! Furthermore, while WST focuses on hard, technical skills training, the inevitable soft skills creep in, such as "executive presence" (or lack of, for those that need it). An additional important skill is learning how to properly craft information memorandums and research reports with specific techniques and style to make your point more impactful, beyond the annoying 8<sup>th</sup> grade grammar lessons.

**Note:**

The stated times on the following pages are approximate. Classroom duration refers to approximate duration of that course module taught in a live, on-site setting. If there is an online equivalent of a course module, duration information will be listed under the "Online Version" columns. Total time = video length + additional interactive tools and setup time. In reality, one can expect to review the videos at least twice to properly absorb all the material. The courses with an "N/A" in the Video Length and Total Time columns indicate that online, streaming video option is not yet currently available.

**WST COURSE TOPICS – CORE MODULES**

Course Module	Classroom Duration	Online Version	
		Video	Total
<b>ACCOUNTING BOOTCAMP</b>	3 days	≈ 11 hours	≈ 16 hours
Accounting & Financial Statements Intensive Bootcamp	3 days	11 hours	16 hours
Intensive Accounting for Investment Bankers	5 days	N/A	N/A
<b>PACKAGE 1: BASIC &amp; FUNDAMENTAL CONCEPTS</b>	2 ½ days	≈ 9 hours	≈ 13 hours
Accounting & Financial Statements Integration	½ day	2.5 hours	4 hours
How to Analyze a 10K	½ day	2 hours	3 hours
Finance 101 – Introduction to Finance	½ day	1.5 hours	2 hours
Company Profiles	½ day	1 hour	1.5 hours
Company Overview	½ day	1.5 hours	2 hours
<b>PACKAGE 2: CORE FUNDAMENTAL CONCEPTS</b>	2 days	≈ 7 hours	≈ 9 hours
Corporate Valuation Methodologies & Corporate Finance	½ day	2 hours	2.5 hours
Basic Financial Modeling + DCF Modeling	1 day	4 hours	5 hours
Basic Valuation Techniques	½ day	1 hour	1.5 hours
<b>PACKAGE 3: ADVANCED FINANCIAL MODELING</b>	4+ days	≈ 14 hours	≈ 18 hours
Advanced Financial Modeling – Core Model	1+ day	3.5 hours	5 hours
Enhancements to the Core Model – Part 1	1 day	3 hours	4 hours
Enhancements to the Core Model – Part 2	1 day	3 hours	4 hours
Segment Build-up, Channel Checks, Drivers of Growth and Sensitivity Modeling	1+ day	4 hours	5 hours
<b>PACKAGE 4: VALUATION MODELING TOPICS</b>	4 days	≈ 10 hours	≈ 15 hours
Corporate Valuation Methodologies & Corporate Finance	½ day	2 hours	2.5 hours
Quick & Dirty Trading Comps	¼ day	1 hour	1.5 hours
Relative Valuation – Football Field	¼ day	0.5 hour	1 hour
Complex Trading Comps Analysis	2 days	4.5 hours	7 hours
Deal Comps Analysis (Precedent Transactions)	1 day	1.5 hours	2 hours
<b>PACKAGE 5: MERGER MODELING TOPICS</b>	2+ days	≈ 6 hours	≈ 9 hours
M&A Deal Structuring	½ – 1 day	2 hours	2.5 hours
Merger Modeling Basics	½ – 1 day	1.5 hours	2.5 hours
Intermediate / Advanced Merger Modeling	1 day	2.5 hours	4 hours
<b>PACKAGE 6: LEVERAGED BUYOUT (LBO) TOPICS</b>	2 days	≈ 5 hours	≈ 7 hours
Leveraged Buyout Overview	¼ day	1 hour	1.5 hours
Quick & Dirty Basic LBO Modeling	½ day	1 hour	1.5 hours
Advanced LBO Modeling	1 day	2.5 hours	4 hours
<b>OVERVIEW OF FINANCIAL MARKETS + EXHIBITS</b>	½ day	≈ 2 hours	≈ 3 hours
<b>TOTAL DURATION – CORE MODULES</b>	<b>23 days</b>	<b>≈ 64 hours</b>	<b>≈ 90 hours</b>

**WST COURSE TOPICS – ADVANCED & INDUSTRY MODULES**

Course Module	Classroom Duration	Online Version	
		Video	Total
<b>PRIVATE COMPANY VALUATION</b>	4 days	~ 10 hours	~ 13 hours
Private Company Valuation	1 day	3 hours	4 hours
Segment Build-up & Sensitivity Modeling	1 day	4 hours	5 hours
Private Company Pro Forma Modeling	½ day	1.5 hours	2.5 hours
M&A Earnout Modeling	½ day	1 hours	1.5 hours
VC Investing: Participating Preferred Securities Waterfall	1 day	NA	NA
<b>SUPER-COMPLEX M&amp;A LBO MODELING</b>	4 – 6 days	~ 14 hours	~ 20 hours
Complex, Super-Advanced Merger Modeling	2 – 3 days	5 hours	10 hours
Complex LBO Modeling & LBO Model Enhancements	2 – 3 days	8.5 hours	10 hours
<b>DISTRESSED MODELING</b>	1 day	~ 6 hours	~ 9 hours
Distressed Investing Overview & Financial Modeling	1 day	6 hours	9 hours
<b>BANK FINANCIAL MODELING</b>	5 days	~ 12 hours	~ 19 hours
Bank Industry Primer	½ day	2.5 hours	4 hours
Basic Bank Financial Modeling	½ day	2 hours	3 hours
Intermediate Bank Financial Modeling	1 day	2 hours	3 hours
Advanced Bank Financial Modeling	3 days	5 hours	9 hours
<b>INSURANCE FINANCIAL MODELING</b>	4 days	~ 9 hours	~ 16 hours
Insurance Industry Primer	½ day	2.5 hours	4 hours
Basic Insurance Company Financial Modeling	½ day	1.5 hours	3 hours
Advanced Insurance Company Financial Modeling	3 days	5 hours	9 hours
<b>OIL &amp; GAS FINANCIAL MODELING &amp; VALUATION</b>	5 – 6 days	N/A	N/A
Oil & Gas Services Industry Primer & Financial Modeling	1 – 2 days	N/A	N/A
Integrated Oil & Gas Industry: Basic Financial Modeling	1 day	N/A	N/A
Integrated Oil & Gas Industry: Financial Modeling & Valuation	3 days	N/A	N/A
<b>REAL ESTATE DEVELOPMENT &amp; REIT MODELING</b>	8 days	~ 4 hours	~ 5 hours
Real Estate Development – Introduction (Master Plan + Hotel)	1 day	3.5 hours	5 hours
Advanced Property Development (Condos, Office, Mall, Hotels)	5 days	N/A	N/A
REIT Modeling	2 days	N/A	N/A
<b>TECHNICAL APPLICATIONS – EXCEL</b>	5 - 6 days	~ 11 hours	~ 16 hours
Excel Fundamentals for the Finance Professional	1 day	3 hours	5 hours
Advanced Excel for Data Analysis	1 – 2 days	3.5 hours	5 hours
Excel Charting & Graphing Techniques & PowerPoint Integration	1 day	3.5 hours	5 hours
VBA for Excel (Visual Basic for Applications in Excel)	2 days	N/A	N/A
<b>TOTAL DURATION – ADVANCED &amp; INDUSTRY MODULES</b>	<b>38 days</b>	<b>~ 66 hours</b>	<b>~ 98 hours</b>

**WST COURSE TOPICS – QUANTITATIVE: CREDIT, PORTFOLIO, RISK MGMT**

Course Module	Classroom Duration	Online Version	
		Video	Total
<b>BUY-SIDE SERIES</b>	2 ½ days	2 hrs.	3 hrs.
Hedge Fund – Mechanics & Applications of Long/Short HF	½ day	2 hrs.	3 hrs.
Science of Portfolio Management: Fundamental vs. Technical Analysis	1 day	N/A	N/A
Technical Analysis & Trading	1 day	N/A	N/A
<b>CREDIT &amp; RISK ANALYSIS TRAINING</b>	9 days	N/A	N/A
Credit and Risk Analysis Training	3 days	N/A	N/A
Case Study and Credit Memo	1 day	N/A	N/A
Credit Agreements and Covenants Analysis	1 day	N/A	N/A
13-Week Cash Flow Modeling	2 days	N/A	N/A
Recapitalization Modeling	2 days	N/A	N/A
<b>PORTFOLIO &amp; RISK MANAGEMENT</b>	9 days	N/A	N/A
Global Macroeconomics (and Implications on Rates)	1 day	N/A	N/A
Credit Risk Modeling in Excel & VBA: Default Risk & Prepayments	2 days	N/A	N/A
Value at Risk (VaR) Modeling for Different Asset Classes in Excel	2 days	N/A	N/A
Portfolio Optimization & Efficient Frontier Modeling	2 days	N/A	N/A
Bank Capital Adequacy Modeling and Basel III Compliance	1 day	N/A	N/A
<b>PORTFOLIO &amp; RISK MANAGEMENT (PRODUCTS)</b>	14 days	N/A	N/A
Credit Derivatives Modeling in Excel & VBA	2 days	N/A	N/A
Volatility/Correlation Modeling and Risk Management	2 days	N/A	N/A
Fixed Income Modeling and Risk Management	2 days	N/A	N/A
Interest Rate Derivatives Modeling and Term Structure of Rates	2 days	N/A	N/A
Foreign Exchange (FX) Modeling & Hedging	2 days	N/A	N/A
Introduction to Options: Greeks & Option Strategies	1 day	N/A	N/A
Complex and Exotic Option Pricing Models & Simulation in Excel & VBA	2 days	N/A	N/A
<b>LEGAL &amp; SOFT SKILLS</b>	3 days	N/A	N/A
Banker's Law: Legal Aspects of Transactions (NDA, Due Diligence, SPA)	1 day	N/A	N/A
Soft Skills: Executive Presence	1 day	N/A	N/A
Soft Skills: Research Report Writing	1 day	N/A	N/A
<b>TOPICAL SUBJECTS</b>	5 days	N/A	N/A
Pension & OPEB Accounting & Analysis	½ – 1 day	N/A	N/A
Overview of Financial Markets & Capital Markets / Securities Markets	2 days	N/A	N/A
Introduction to Economics (Macro, Micro and Global)	1½ days	N/A	N/A
<b>TOTAL DURATION – QUANTITATIVE TOPICS</b>	<b>42 days</b>	<b>N/A</b>	<b>N/A</b>

## WST CURRICULUM TRACKS/SPECIALIZATIONS

Our financial modeling course modules will help those who want to propel to the top of their field and industry by sharpening and honing specific technical skills. Our courses are thorough and comprehensive to help you achieve your goals, regardless of your specialty within fundamental analysis.

	Financial Modeling	Valuation Modeling	Private Company Analysis	M&A/ LBO Modeling	Credit/ Covenants/ Distressed	Technical Analysis & Options	Risk & Portfolio Mgmt
<b>Inv. Banking</b>	✓	✓	✓	Basic & Adv			
<b>Research &amp; HF</b>	✓	✓	✓	Basic	✓	✓	✓
<b>PE &amp; LBO</b>	✓	✓	✓	Basic & Adv	✓		
<b>Credit &amp; Debt</b>	✓	✓		Basic	✓		
<b>Internal M&amp;A</b>	✓	✓		Basic & Adv M&A			
<b>Risk/Port Mgmt</b>	✓					✓	✓

### Notes:

- Prerequisites for all tracks include Basic & Core Concepts, including Accounting Boot Camp, 10-K Analysis, & Finance 101.
- Research Analysts need to know enough about M&A and LBOs, but not necessarily the super-complex deal structuring.
- Risk Management includes Credit Risk Modeling and Default Risk & Prepayment Modeling.
- Portfolio Management includes Portfolio Optimization & Efficient Frontier Modeling and VaR Modeling.

**WST CURRICULUM TRACKS/SPECIALIZATIONS****INVESTMENT BANKING & CORPORATE FINANCE TRACK:**

Investment bankers need to learn financial modeling so they can project the profitability of the clients they work on as well as valuation. Ultimately, they help companies raise equity capital and debt financing as well as advisory services such as mergers & acquisitions. In all cases, they need to predict the future earnings and cash flow for valuation purposes. Our courses teach both the modeling and valuation aspects.

Boutique investment banks focus on a specific niche, usually an industry. These firms most likely have only M&A capabilities since they don't have the reach and distribution / sales force aspect of the larger banks. Professionals working at boutique investment banks are perfect for our self-study courses since boutiques usually have fewer people to train and need formalized training but don't have the headcount to justify corporate, in-house training.

At a minimum, bankers need the suite of financial and valuation modeling courses, as well as merger and LBO modeling courses. Boutique firms may not need the complex LBO and advanced merger courses but probably would be nice to have. Obviously in all cases, the bankers need to master the basic and fundamental concepts.

**BUY-SIDE AND SELL-SIDE EQUITY RESEARCH & LONG/SHORT HEDGE FUNDS TRACK:**

Research professionals analyze and value stocks and fixed income securities in the industries that they follow. Sell-side equity analysts recommend buy, sell or hold and their responsibility is to generate independent investment ideas to sell to their clients (individuals and institutions). Buy-side research analysts make their investment recommendation and pitch them internally to their portfolio manager.

Sell-side research professionals are either part of a larger bank or are "independent research firms" that sell their research to other larger firms. Nowadays, the research staff is thinly staffed, with no more than a handful of professionals per team. Fewer and increasingly, younger, junior research staff supporting a head analyst or portfolio manager further increases the need to master financial modeling.

Asset managers are the buy-side, typically large institutional investors with sums of money to invest. These can be mutual funds, independent asset managers, pensions, foundations, endowments or insurance companies. These can fall into a multitude of possibilities but either way, they need to evaluate if they should buy a stock or security and therefore, need financial modeling and valuation courses.

Oftentimes, the focus of the job is diverted away from proper learning, training and understanding towards simply "updating the quarterly model." Mastering our financial and valuation courses will give you the leg up to spend more time on qualitative instead of quantitative analysis. A key course is our Segment Build-up Modeling course to better quantify drivers of growth.

Research professionals are supposed to generate investment ideas by identifying the catalyst - what will make this stock move? The rigor of analysis actually is a little bit less focused on financial modeling. Financial modeling is merely step one, and serves as a tool to quantify the research analyst's qualitative assessment; as such, financial modeling is a critical skill, though not the "end-all, is-all." A research analyst's coverage might include 30-50 companies and so when a deal is inevitably announced in their industry they need to be able to analyze the deal and ascertain quickly if this is good or bad for the parties involved.

Thus, research analysts also need to know enough about M&A and LBOs, but not necessarily the super complex deal structuring aspects. Analysts need to know the basics to carry on a good conversation and make the quick determination of good or bad. Get the basic terminology, understand the implications and how to evaluate the results and screen for companies that are ideal LBO candidates for private equity firms to swoop in and snatch up. At a minimum, research professionals need our suite of financial modeling and valuation courses with just the basic merger and LBO courses.

**WST CURRICULUM TRACKS/SPECIALIZATIONS****PRIVATE EQUITY / LEVERAGED BUYOUT/ VENTURE CAPITAL TRACK:**

Private equity and venture capital firms invest large sums of money to buy an entire company as opposed to just shares or stock of a company. This falls right into the leveraged buyout courses. Basically, leverage means use of debt, using massive amount of debt to buy a company, take it private (off the public markets). Private equity and LBO professionals basically need to master all of our courses, from modeling to valuation and including (and especially), the super advanced modeling packages.

The rigor of financial analysis & modeling that PE professionals undertake is considered to be more rigorous than investment banking. Investment banking tends to be transaction oriented (close the deal, get the fee), whereas with private equity, you have to live with the company - you own the company and therefore you actually care about what happens after you buy the company. Private equity is considered a very natural next step career-wise after investment banking.

Many private equity firms hire experienced bankers from M&A, leveraged finance or financial sponsors groups and as such, mastery of LBO modeling is a required skill. Merger courses are also required since the PE fund first needs to buy the company, perhaps integrate it with an existing portfolio company and then in the future, exit the company. Understanding and articulating capital structure is critical as well.

**CREDIT, DEBT UNDERWRITING AND DEBT RATINGS TRACK:**

Credit analysts evaluate whether or not to make loans to companies. They focus on modeling out future cash flows to forecast ability to pay down debt, as opposed to a focus on earnings & valuation. Credit and leverage statistics (i.e. ratios) are covered in detail in our Accounting and Advanced Financial & Valuation Modeling - Enhancements courses. Investment grade debt (bonds) and bank loans are usually safer securities whereas high yield (junk bonds) are more risky. Many of these banks lend debt in transactions and as such, credit analysts would need to be familiar with LBOs and M&A to understand how bankers priced and structured the deal.

The lending side of the world can be broken down into Corporate Banking (bank debt such as revolvers and term loans) and Commercial Banking (public or private bonds and fixed income securities). In either case, banks lend debt in LBO and M&A transactions and as such, need to understand how to evaluate such transactions - does it make sense for the company to borrow that amount of debt or should they borrow more or less, what is the ideal structure. Historically, banks more focused on what was earned in previous years and not on what will be earned next year to pay the loan. This is why our courses on the credit side are important!

**INTERNAL CORPORATE BUSINESS DEVELOPMENT / M&A TRACK:**

Corporate development and business development professionals are the internal buy-side division of companies that make acquisitions. As such, they need to understand the full financial modeling, valuation and merger modeling topics. Emphasis should be placed on the Advanced Financial Modeling and Valuation - Enhancements courses, M&A Deal Structuring, Merger Modeling Basics and our Complex, Super-Advanced Merger Modeling for complete thoroughness. Beyond understanding capital structure impacts, the LBO courses are not required other than personal learning.

**ACCOUNTING BOOTCAMP****Accounting & Financial Statements Intensive Bootcamp****Course Goals & Overview:**

Our Financial Accounting Intensive Bootcamp is specifically built as a pre-requisite for our finance, valuation, financial modeling and more complex course topics. The bootcamp is structured as an interactive discussion in which we cover definitions and terminology thru examples and case studies. Oftentimes, learning and teaching accounting is associated with boring definitions; however, our approach is to tell a story, illustrate what the numbers mean through interesting examples, not by reading slides or textbooks. We stress learning through application, practice and repetition not memorization. We emphasize, hone and re-hone concepts via one large integrated case study in which the focus is not on debits/credits and t-accounts, but rather financial analysis. This is geared towards those with little to no accounting background (i.e. liberal arts majors) and is perfect as a refresher of the most important concepts for those having previously taken "Accounting 101" courses.

**Course Sections:****Ten Ways to Cook the Books**

- Overview of importance of accounting, accounting as a performance measurement tool and discussion of various stakeholders involved
- Accrual concept of accounting, revenue recognition and matching principle
- Classification and construction of financial statements
- Comprehend the basic concepts underlying the Income Statement and Balance Sheet and the relationship between the two
- Ten ways to cook the books, significance of & how to spot them from a financial point of view; how to:
  - Overstate revenue and prematurely recognize income
  - Distort performance measurement by including non-recurring items
  - Manipulate and decrease expenses and distort profit
  - Fail to recognize losses through write-offs and allowances
  - Use LIFO/FIFO accounting methods to manipulate profits and inventories
  - Analyze off-balance sheet items such as operating (and capital) leases to distort debt and profitability
  - Over / under - value marketable securities to distort profitability
  - Hide pension expenses and create phantom income
  - Manipulate cost vs. equity accounting methods and minority interest overview
  - Manage earnings by modifying reserve valuation estimates

**Detailed Income Statement review, including definition, significance and application of:**

- Revenue, COGS, Gross Profit, SG&A, Operating Income (EBIT) & EBITDA
- Interest Expense and Income, Pre-Tax Income, Taxes (Current & Deferred)
- Net Income, Shares Outstanding (Basic and Diluted), Earnings per Share

**Detailed Balance Sheet review, including definition, significance and application of:**

- Current Assets (Cash, Inventories, Accounts Receivables, Pre-paid Expenses)
- Fixed Assets (PPE), Long-Term Assets (Equity Investments)
- Goodwill and Intangibles
- Current Liabilities (Accounts Payable and Deferred Revenue)
- Long-Term Liabilities (Debt and Capital Leases)
- Minority Interest
- Shareholders / Stockholders Equity items: Common Stock (Par Value), Additional Paid in Capital, Retained Earnings, Treasury Stock and Other Comprehensive Income

**ACCOUNTING BOOTCAMP****Accounting & Financial Statements Intensive Bootcamp (cont.)****Detailed Cash Flow Statement review, including definition, significance and application of:**

- Review of working capital and understanding its impact on a business and cash flow
- Understand how depreciation, amortization and other non-cash expenses are accounted for and how they impact the financial statements
- Detailed Cash Flow Statement review, including definition, significance and application of:
  - CFO: Cash Flow from Operations (Net Income, Depreciation & Amortization, Changes in Working Capital)
  - CFI: Cash Flow from Investing (Capital Expenditures, Acquisitions, Divestitures)
  - CFF: Cash Flow from Financing (Dividends, Stock Issuances, Repurchases, Debt Borrowings & Paydown)
- Understand why the Cash Flow Statement is the “ultimate balancer and equalizer”
- Appreciate the information content of the Income Statement, Balance Sheet and Cash Flow Statement and their inter-relationships
- Analyze financial statements from a high-level context and how to spot inconsistencies on the Income Statement and Balance Sheet (“cooking the books”) that appear and cannot be hidden on the Cash Flow Statement (“cash is king” – can’t hide cash or lack of cash)
- Understand the process by which an entity’s financial activities ultimately get reflected in its financial statements

**Wrap-up & Summary**

- Begin hands-on, interactive case study creating major financial statements
- Modify and enhance case study by interjecting ways to “cook the books” and analyzing the results
- Continuation, analysis and wrap-up of hands-on, interactive case study
- Conclusion of case study demonstrating, illustrating and highlighting all key discussion points, definitions and examples
- Discussion of deferred tax liabilities and deferred tax assets; permanent vs. temporary differences and effect on effective tax rates
- Review of important financial and accounting ratios
- Compute, compare and contrast performance measures (internal liquidity ratios, asset management and efficiency metrics, profitability measures, external liquidity statistics and debt management)

**Prerequisites:**

- Desire to learn accounting terminology, general business smarts and common sense

**INTENSIVE ACCOUNTING FOR INVESTMENT BANKERS**
**Intensive Accounting for Investment Bankers**
**Course Goals & Overview:**

Our week-long Intensive Accounting course is specifically built as a pre-requisite for our finance, valuation, financial modeling and more complex course topics with an emphasis and focus on investment bankers. The Bootcamp-style “crash course” is structured as an interactive discussion in which we cover definitions and terminology thru examples and case studies. Oftentimes, learning and teaching accounting is associated with boring definitions; however, our approach is to tell a story, illustrate what the numbers mean through interesting examples, not by reading slides or textbooks. We stress learning through application, practice and repetition not memorization. We emphasize, hone and re-hone concepts via one large integrated case study in which the focus is not on debits/credits and t-accounts, but rather financial analysis. This is geared towards those with little to no accounting background (i.e. liberal arts majors) and is perfect as a refresher of the most important concepts for those having previously taken “Accounting 101” courses.

Timing	Topic
<b>Day 1</b>	Accrual Concept of Accounting & Financial Statements Compilation Financial Statements Integration & Analysis
<b>Day 2</b>	Financial Ratio Compilation & Analysis How to Analyze a 10K & Footnotes
<b>Day 3</b>	Normalizing One-Time Adjustments & Restructuring Charges EPS: Basic EPS, Diluted EPS, Anti-dilution, Options, Warrants, Converts Taxes: Understanding Deferred Taxes: DTAs & DTLs
<b>Day 4</b>	Business Combinations: Equity Accounting vs. Consolidation vs. Minority Interest Advanced M&A Purchase Accounting (FASB 141R/142 & IFRS #3)
<b>Day 5 (Optional)</b>	EXAM: Accounting Exam WST Exam review and grading

**INTENSIVE ACCOUNTING FOR INVESTMENT BANKERS****Intensive Accounting for Investment Bankers (cont.)****DAY ONE: Accrual Concept of Accounting & Financial Statements Compilation**

- Overview of importance of accounting, accounting as a performance measurement tool and discussion of various stakeholders involved
- Accrual concept of accounting, revenue recognition and matching principle
- Classification and construction of financial statements
- Comprehend the basic concepts underlying the Income Statement and Balance Sheet and the relationship
- Review of working capital and understanding its impact on a business and cash flow
- Understand how depreciation, amortization and other non-cash expenses are accounted for and how they impact the financial statements
  
- Detailed Income Statement review, including definition, significance and application of:
  - Revenue, COGS, Gross Profit, SG&A, Operating Income (EBIT) & EBITDA
  - Interest Expense and Income, Pre-Tax Income, Taxes (Current & Deferred)
  - Net Income, Shares Outstanding (Basic and Diluted), Earnings per Share
  
- Detailed Balance Sheet review, including definition, significance and application of:
  - Current Assets (Cash, Inventories, Accounts Receivables, Pre-paid Expenses)
  - Fixed Assets (PPE), Long-Term Assets (Equity Investments)
  - Goodwill and Intangibles
  - Current Liabilities (Accounts Payable and Deferred Revenue)
  - Long-Term Liabilities (Debt and Capital Leases)
  - Minority Interest (Non-Controlling Interest)
  - Equity (Common Stock, Additional Paid in Capital, Retained Earnings, Treasury Stock and OCI)
  
- Detailed Cash Flow Statement review, including definition, significance and application of:
  - CFO – Cash Flow from Operations (Net Income, Depreciation & Amortization, Changes in Working Capital)
  - CFI – Cash Flow from Investing (Capital Expenditures, Acquisitions, Divestitures)
  - CFF – Cash Flow from Financing (Dividends, Stock Issuances and Repurchases, Change in Debt)
  
- Understand why the Cash Flow Statement is the “ultimate balancer and equalizer”
- Appreciate the information content of the IS/BS/CF and their inter-relationships
- Explanation of Accrued Expenses, Receivables and Payables and how they tie together
- Analyze financial statements from a high-level context and how to spot inconsistencies on the Income Statement and Balance Sheet (“cooking the books”) that appear and cannot be hidden on the Cash Flow Statement (“cash is king” – can’t hide cash or lack of cash)
- Understand the process by which an entity’s financial activities ultimately get reflected in its financials
- Hands-on, interactive case study creating major financial statements

**INTENSIVE ACCOUNTING FOR INVESTMENT BANKERS****Intensive Accounting for Investment Bankers (cont.)****DAY TWO: Financial Ratio Compilation & Analysis**

- Detailed review of important financial and accounting ratios
- Compute, compare and contrast performance measures
  - Internal liquidity ratios and ability to pay measurements
  - Asset management and efficiency metrics
  - Profitability measures & margins
  - Capital structure, external liquidity statistics and debt management
- Interactive group project break-out to analyze, compare and contrast financial statements of various companies; discussion and recommendation of which companies are more attractive

**DAY TWO: How to Analyze a 10K & Footnotes**

- Main components of a 10K filing and how it is different from an Annual Report
- What type of information can be extracted from the MD&A section
- Detailed discussion of all major footnotes, how to analyze and interpret footnotes
- Hands-on project analyzing, comparing and contrasting 10K's of various companies
  
- What is a 10K and how is it different from an Annual Report?
- Major components of a 10K filing
- Detailed discussion on the MD&A section (Management Discussion & Analysis)
- Detailed discussion of all major footnotes and how to analyze and interpret major categories of footnotes:
  - General footnotes
  - Balance Sheet footnotes
  - Contingencies footnotes
  - Income Statement footnotes
  - Capital Structure footnotes
  - Other footnotes
- Interactive group project break-out to analyze, compare and contrast 10K's of various companies
  - Revenue terminology differences
  - Interest and expense classification
  - Balance sheet analysis
  - Cash flow analysis
  - Analysis and comparison of footnotes
  - MD&A / Segment breakdown and discussion
- Brief discussion of Proxy statement and its utility

**INTENSIVE ACCOUNTING FOR INVESTMENT BANKERS****Intensive Accounting for Investment Bankers (cont.)****DAY THREE: Normalizing One-Time Adjustments & Restructuring Charges**

- Normalize financials for extraordinary items, non-recurring and restructuring charges
- Our adjustments module covers just about 98% of ALL adjustments one would possibly encounter!!
  
- When and when not to adjust for asset impairments and write-downs
- How to adjust for zero-coupon convertible securities that are simultaneously in- and out-of-the-money
- The effects of a LIFO / FIFO change in accounting recognition
- How to adjust for changes in accounting principle and discontinued operations
- Below- vs. above-the-line adjustments and evaluate when an item affects both, one or the other or neither
- How to properly account for difference in fiscal year ends
- Proper treatment of capital leases for adjustments, valuation and credit
- When to use reported GAAP Income Statement figures and when to use Pro Forma figures

**DAY THREE: Diluted Earnings per Share**

- Understand nuances associated with calculation of Basic and Diluted EPS for financial projections
- Extremely useful for standalone financial modeling, merger consequences and accretion/dilution as well as waterfall treatment of preferred securities
- Basic EPS: plain vanilla calculation with and without preferred coupons/dividends
- Proper treatment of next layer of dilution: treasury method of options outstanding vs. exercisable
- Extrapolate options treatment to accounting for warrants
- Incorporate effects of convertible debt and how to handle anti-dilutive securities in EPS
- Compare and contrast effects of convertible preferred vs. convertible debt

**DAY THREE: Deferred Taxes**

- Discussion of deferred tax liabilities and deferred tax assets
- Compare and contrast permanent vs. temporary differences and effect on effective tax rates
- Understand logic and calculation of deferred tax liabilities from straight-line and accelerated depreciation
- Perform calculations and compare and contrast impact on Income Statement and tax liabilities on BS
- Comprehend and analyze the effect of Net Operating Losses (NOLs) carryback and carry-forward
- Run through tax implications of combining both DTA and DTL on financial statements
- Precursor for understanding NOL Section 382 limitations in mergers and acquisitions

**INTENSIVE ACCOUNTING FOR INVESTMENT BANKERS**
**Intensive Accounting for Investment Bankers (cont.)**
**DAY FOUR: Business Combinations: Equity Accounting vs. Consolidation vs. Minority Interest**

- Understand the accounting treatment for: cost vs. equity method vs. consolidation/minority interest
- Compare cost accounting and its similarities to cash accounting and contrast against accrual accounting
- Understand the IS and BS and CF entries and impact of cost accounting
- Articulate the goals of equity method of accounting and its stark contrast to cost accounting
- Understand the IS and BS and CF entries and impact of equity accounting
- Recognize the accrual method of accounting that equity accounting uses and its financial modeling impacts
- Compile Income Statement based on provided assumptions and margins for equity method
  
- Understand consolidation of companies and the impact on financial statement
- Appreciate the lack of “proportionate consolidation” when ownership is less than 100%
- Comprehend how minority interest (non-controlling interest) is created upon consolidation
- Understand the IS and BS and CF entries and impact of consolidation and minority interest accounting
- Precursor for full-blown financial modeling in mergers and acquisitions
  
- Interactive exercise to compare the IS / BS impact of cost vs. equity method and lack of impact to CF
- Interactive exercise to compare the IS / BS impact of equity method vs. consolidation and lack of CF impact

**DAY FOUR: Advanced M&A Purchase Accounting (FASB 141R/142 & IFRS #3)**

- Thorough discussion and review of Purchase Price Allocation rules (FASB 141R/142 and IFRS 3)
  - Allocate purchase price among tangible book value (existing assets at cost), step-up in basis to FMV, tax deductible and non-tax deductible identifiable intangibles and goodwill
  - Proper accounting treatment of transaction costs, tender costs and accrued interest of any refinanced debt and debt transaction financing fees
  - Account for differences in GAAP book deductibility and tax deductibility of intangible assets
  - Difference between asset deal vs. outright asset purchase
- Compare and contrast acquirors’ preference to allocate purchase price to goodwill vs. other intangibles
- Articulate creation of deferred tax liabilities as a secondary purchase price allocation adjustment required
  - Review basic rules as to creation of deferred taxes and differences in book vs. tax basis
  - Goodwill as offsetting entry to balance purchase price allocation in cases of stock deals with step-ups
  - Review goodwill impairment rules and non-tax deductibility of goodwill
- Understand USA’s 338(h)(10) and Section 754 elections and implications on tax accounting for mergers
- Compare and contrast stock deal accounting treatment vs. 338(h)(10) elections
  
- Fully comprehend the nuances of purchase price allocation:
  - No difference on P&L for stock vs. asset deal treatment, just differences in tax deductibility
  - Understand the true implications of FMV (fair market value) step-up of tangible assets and intangibles
  - Compare and contrast stock deal accounting treatment vs. asset deal vs. asset purchase
  - Run through examples of each that crystallize the M&A accounting rules
  - Understand how to run purchase price allocation through full blown merger models
  - Compare and contrast historical allocations and percentages based on various industry sectors
  
- NOLs and taxes revisited: understand how Section 382 limitations impact financial statements & projections
- Understand how Goodwill is created upon consolidation only and doesn’t reside on specific Balance Sheets
- Understand exact mechanics of how Minority Interest is created & how to model out MI on financial models

**PACKAGE 1: BASIC AND FUNDAMENTAL CONCEPTS****Accounting & Financial Statement Integration****Course Goals & Overview:**

This is not an Accounting class, but rather, is a perfect course for those needing a refresher or those desiring a financial statements crash course as it relates to financial analysis. Learn the most important and relevant areas of financial statements for financial modeling.

This program covers the basics of financial accounting including the major financial statements (Income Statement, Balance Sheet and Cash Flow) and the most important components of each as it relates to financial analysis. Concentration is placed on the integration of the financial statements and provides a full integrated grasp of accounting from a finance perspective.

**Course Sections:****Accounting Overview:**

- Definition of Accounting and its importance
- GAAP vs. FASB vs. FIN vs. IASB
- Explanation and illustration of accrual concept of accounting and matching principle

**Financial Statement Analysis**

- Income Statement, Balance Sheet, Cash Flow Statement defined and importance of
- Comprehensive Financial Statement review
- Components of each major financial statement
- IS: Revenue and expense items, EBITDA defined and discussed
- BS: Assets, Liabilities, and Shareholders' Equity
- CF: Cash Flow from Operations, Investing Activities and Financing

**Financial Statement Interaction:**

- Understand how financial statements are inter-related to each other
- Relationship between the Income Statement and Cash Flow Statement
- Explanation of Accrued Expenses, Receivables and Payables and how they tie together

**Depreciation, Working Capital, Ratio Analysis**

- Depreciation – what it is, why it's absolutely critical to understand and examples of
- Working Capital – what it is, why it's absolutely critical to understand and examples of

**Key Ratios**

- Overview and explanation of major financial ratios, including: liquidity, asset management, debt management, profitability, and market value ratios

**Hands-on Exercise**

- Interactive group project break-out to analyze, compare and contrast financial statements of various companies; discussion and recommendation of which companies are more attractive

**Prerequisites:**

- Desire to learn accounting terminology, general business smarts and common sense

**PACKAGE 1: BASIC AND FUNDAMENTAL CONCEPTS****How to Analyze a 10K****Course Goals & Overview:**

"How to Analyze a 10K" builds upon basic accounting and financial statements concepts to focus on the major components of a 10K SEC filing, including the Management Discussion & Analysis, Financial Condition and Results and how to analyze the myriad of footnotes.

It's simply not enough to merely analyze the financial statements, but especially critical to plow through and understand the footnotes and the management discussion & analysis, where most of the qualitative information is contained. The challenge is that there are a myriad of footnotes and figuring out which are the important and relevant ones is no small feat. This course provides the overview and analysis for most major common footnotes and gives you a starting point to plow in deeper when we build our financial models. The irony is that in the process of crunching numbers and building numbers, reading comprehension, particularly on the 10K, is probably even more important in terms of getting the right inputs.

**Course Sections:****Overview & Analysis**

- What is a 10K and how is it different from an Annual Report?
- Major components of a 10K filing
- Detailed discussion on the MD&A section (Management Discussion & Analysis)
- Detailed discussion of all major footnotes and how to analyze and interpret major categories of footnotes:
  - General footnotes
  - Balance Sheet footnotes
  - Contingencies footnotes
  - Income Statement footnotes
  - Capital Structure footnotes
  - Other footnotes
- Brief discussion of Proxy statement and its utility
- Brief discussion and introduction to differences between US and International GAAP

**Hands-on Exercise**

- Interactive group project break-out to analyze, compare and contrast 10K's of various companies
- Concentration on:
  - Revenue terminology differences
  - Interest and expense classification
  - Balance sheet analysis
  - Cash flow analysis
  - Analysis and comparison of footnotes
  - MD&A / Segment breakdown and discussion

**Prerequisites:**

- Accounting for Financial Statements Integration
- Reading comprehension

**PACKAGE 1: BASIC AND FUNDAMENTAL CONCEPTS****Finance 101 - Introduction to Finance****Course Goals & Overview:**

Learn the basic finance concepts that are the backbone of any financial analysis. An understanding of these basic core tools is absolutely critical to mastering any Wall Street analysis. Topics covered include risk / return trade-offs, time value of money, cost of capital, Gordon growth model and basic valuation theories.

Moving beyond the accounting and 10K analysis, this course provides an introduction to the major concepts in finance that many people take for granted. Understanding financial modeling, valuation, and the capital markets in general would be difficult without a full grasp of these fundamental concepts.

**Learning Objectives:**

- Risk / Return: benefits of diversification, security market line, capital asset pricing model, beta
- Time Value of Money: present and future values, net present value, internal rate of return
- Basic Valuation Theories: value of any asset, Gordon growth model, growing perpetuity
- Cost of Capital: sources of capital, component costs, weighted average cost of capital

**Course Sections:****Time Value of Money**

- Present and future values
- Net present value and internal rate of return
- Compounding and discounting
- Uneven cash flow streams, simple vs. effective rates, periodic rates
- CAGR (Compound Annual Growth Rates)

**Risk / Return**

- Calculating returns and measuring risk
- Benefits of diversification (systematic and unsystematic risk, total risk, market risk and firm-specific risk)
- Security market line
- Capital asset pricing model and beta

**Basic Valuation Theories**

- Value of any asset
- Dividend discount model (theory only!),
- Gordon growth model and growing perpetuity model

**Cost of Capital**

- Sources of capital
- Component costs
- Weighted average cost of capital

**Prerequisites:**

- Desire to learn finance terminology, general business smarts and common sense

## PACKAGE 1: BASIC AND FUNDAMENTAL CONCEPTS

### Company Profiles

#### Course Goals & Overview:

Company profiles are the most basic overview and descriptions of a company being analyzed. Profiles supply the most basic and fundamental, yet probably the most important aspects of a company. Gain an introduction and explanation of the major components of a profile for a publicly traded company.

#### Course Sections:

- Summary business description and financial summary and trading analysis
- Stock price charts: price / volume graphs, indexed stock price history, moving averages, shares traded at various prices, forward PE history, historical EBITDA multiple valuation trends, beta and volatility, management and Board of Directors biographies, ownership analysis

#### Prerequisites:

- Desire to learn finance terminology, general business smarts and common sense

### Company Overview

#### Course Goals & Overview:

Build very quick financial summary and trading statistics exhibit using historical results, analyst estimates & basic assumptions in Excel. This course will allow you to understand basic structure of building an analysis in Excel and navigating through and becoming efficient in Excel.

#### Course Sections:

##### Financial Summary

- Build a very simple financial overview exhibit by inputting historical results, analyst estimates and basic projections.

##### Trading Statistics

- Build trading statistics exhibit displaying standard market valuation multiples.

#### Prerequisites:

- Accounting & Financial Statements Integration
- Finance 101 – Introduction to Finance
- Corporate Valuation Methodologies
- Prior experience with Excel, decent ability to type and follow instructions

**PACKAGE 2: CORE FUNDAMENTAL CONCEPTS****Corporate Valuation Methodologies & Corporate Finance Fundamentals****Course Goals & Overview:**

How can you tell if a company is undervalued or overvalued? Is the current stock price the only measure of value? Why would one company command a higher or lower premium than its direct competitor? This course takes a practical, tangible, and non-theoretical approach to examining how corporations are valued and the major analytical tools that are used. Go beyond the academic theory of financial ratios and apply fundamental analysis and real-world methods of evaluating a company's intrinsic value. Gain insight into relative valuation methodologies (trading comps, deal comps) to fundamental valuation (discounted cash flow analysis, break-up / sum of the parts valuation). Coverage goes beyond the academic theory of financial ratios to the practical application of fundamental analysis, offering alternative, real-world methods of evaluating a company's intrinsic value. The Course includes a crucial primer to Corporate Finance and its non-theoretical application; apply learning objectives and goals immediately to today's environment.

**Learning Objectives:**

- How to value a company (trading comps, deal comps, DCF, LBO, break-up and asset valuation)
- Importance of Enterprise Value, EBITDA, capital structure, leverage and WACC
- Analyze valuation multiples and ratios; why are PE ratios sub-optimal as a valuation metric?
- Practical, non-theoretical application of introduction to corporate finance

**Course Sections:****Introduction to Valuation and Corporate Finance**

- How much is a company worth? Why is the current stock price not an accurate indication of value?
- How do you tell if a company is under-valued or over-valued?
- Why would one company command a higher or lower premium than its direct competitor?
- What is the importance between enterprise value and equity value?
- TEV: what is the correct treatment of minority interest and capital leases from a standalone valuation aspect vs. credit perspective vs. change of control
- What is the relevance of capital structure and leverage on a company's value?
- Why and how is corporate finance so critical to managing a firm's profitability?

**Ratios and Multiples Discussion**

- What exactly does a multiple tell us? Learn the correct way to use P/E ratios and other multiples
- Why are P/E ratios misunderstood and what other profitability-related ratios are more important?
- What is EBITDA and why is it so important?
- Utilizing the correct numerator for multiples analysis
- Calculating implied value based on multiples analysis

**Detailed Valuation Analysis**

- Analysis of "football field" and reference ranges
- Detailed discussion of the major valuation methodologies, their nuances and application in the real-world
- Analyzing, comparing and contrasting trading comps, deal comps and premiums paid
- Detailed explanation of Discounted Cash Flow (DCF) valuation, its theory and application
- Discussion of why the DCF is arguably one of the most important analyses while simultaneously one of the most academic and least practical of them all
- Review of WACC (weighted average cost of capital), CAPM (Capital Asset Pricing Model)
- How do you approach valuing a company with completely disparate businesses?

**Prerequisites:**

- Accounting & Financial Statements Integration, How to Analyze a 10K, Finance 101 – Introduction to Finance

**PACKAGE 2: CORE FUNDAMENTAL CONCEPTS****Basic Financial Modeling + DCF Modeling****Course Goals & Overview:**

This course builds upon, and implements in Excel, the fundamental financial analysis and valuation topics. Create a top-down, five year income statement projection model and then construct a basic discounted cash flow analysis on top of your projection model. This course provides a non-academic, real-world, hands-on primer to the quantitative and technical aspects of financial modeling. The model could be further expanded for valuation purposes or analyzing mergers and acquisitions – either way, you will leave the classroom with a template model that is scalable and applicable to other companies immediately. In addition, learn about subtle nuances including the proper figure for “cash flow” in perpetuity growth models and handling dilutive options for valuation.

\*\* Don't get thrown off by the word “basic” – this Basic Financial Modeling serves as the fundamental basis for all of our additional Excel-based courses. Before you “graduate” onto our advanced modeling courses, we HIGHLY recommend you take this course for the full background on working efficiently in Excel the way we want you to, otherwise you may have a much steeper learning curve in our other classes. \*\*

**Course Sections:****Course Overview**

- How do you construct a projection model with a five-year forecast?
- How do you begin to forecast a company's profitability?
- What are the intricacies involved with model building?
- What are the basic methods of projecting a company's revenues and expenses?

**5-Year Income Statement Projection Model**

- Input historical financial results and recast as necessary
- Calculate historical growth rates and margins which serve as the basis for your projection assumptions
- Calculate your projected profitability from revenue down to EPS
- Learn the correct way to calculate diluted shares outstanding

**Discounted Cash Flow Analysis**

- How is a discounted cash flow analysis actually constructed?
- Estimate unlevered free cash flow (free cash flow to firm)
- Why is amortization non-tax-deductible from a tax perspective and what are the implications on value?
- What are different proxy methods for calculating working capital?
- Terminal Value estimation: what are the differences between the EBITDA multiple and perpetuity growth approaches and what are the implications on value?
- Learn subtle nuances including the proper figure for “cash flow” in perpetuity growth models
- Calculate from enterprise value down to equity value and ultimately down to stock price per share

**Prerequisites:**

- Accounting & Financial Statements Integration
- Finance 101 – Introduction to Finance
- Corporate Valuation Methodologies
- Company Overview

**PACKAGE 2: CORE FUNDAMENTAL CONCEPTS****Basic Valuation Techniques****Course Goals & Overview:**

Build upon Corporate Valuation Methodologies with a short, hands-on exercise to hone in the core concepts in practice before diving into the more advanced valuation modeling topics. Translate the valuation concepts into real-life case study that demonstrates and shows the valuation principles.

**Course Sections:**

- Calculate current trading and valuation statistics of industry competitors
- Project value of a company and stock based on estimated industry average valuation multiples
- Construct a sample DDM and DCF valuation analysis
- Estimate WACC, component costs of capital and CAPM and incorporate into valuation analysis

**Prerequisites:**

- Accounting & Financial Statements Integration
- Finance 101 – Introduction to Finance
- Corporate Valuation Methodologies



**PACKAGE 3: ADVANCED FINANCIAL MODELING****Advanced Financial Modeling - Core Model****Course Goals & Overview:**

Build a fully integrated financial statement projection model with income statement projections, a self-balancing balance sheet, an automated cash flow statement, and the balancing cash flow sweep/debt schedule. While knowledge of advanced accounting concepts is not required for this course, you should possess knowledge of basic accounting ratios and a basic understanding of how the major financial statements are inter-related. Emphasis is placed on the integration of the major financial statements and becoming experts in Excel. Incorporate different methodologies to forecasting the different types of assets on the balance sheet and compare and contrast with projecting liabilities. Learn how to balance a model utilizing the debt sweep and the revolver and not using any "plugs". Appreciate the danger of and properly control for circular references. Avoid messy nested "if" statements!! You will leave the classroom with a fully constructed model that can be customized and applied to other companies. The final model is a fully scalable model that can be added upon.

**Learning Objectives:**

- Build an integrated set of financials, including IS, BS & CF statements
- Learn how to balance a model utilizing debt sweep and no "plugs"
- Become super-efficient in Excel through intensive use of keyboard shortcuts
- Intensive focus on correct financial modeling approaches & best practices

**Course Sections:****5-Year Financial Statement Projection Model**

- How do you project a company's Income Statement from revenues and expenses down to Net Income?
- What are the different methodologies to forecasting the different types of assets on the balance sheet and how do they compare and contrast with projecting liabilities?
- How do you project the shareholders' equity account?
- What is the importance of financial ratios in building the balance sheet projections?
- How do you approach building an integrated cash flow statement?
- How do you build each component of the cash flow statement and why is cash the last item to project?

**Supporting Schedules**

- Incorporate calculation and payment of dividends into your integrated financial model
- Emulate announced share repurchase program by estimating implied price and shares repurchased

**Integration and Balancing of Financial Model**

- Balance the model using the debt schedule and debt sweep logic – the most important analysis in terms of balancing the model!!
- How does the cash actually flow through the model?
- Incorporate automatic debt payments and use cash generated to either pay down debt or build cash
- How does the revolver facility actually balance the model? Avoid messy nested "if" statements!!
- How does the balance sheet and financial statements balance by itself without the use of "plugs"?
- How are the financial statements integrated using the Interest schedule?
- What are circular references, why should they be avoided and how to get around circular references

**Prerequisites:**

- Accounting & Financial Statements Integration
- Company Overview
- Basic Financial Modeling
- Efficiency in Excel

**PACKAGE 3: ADVANCED FINANCIAL MODELING****Enhancements to the Core Model – Part 1****Course Goals & Overview:**

Enhance core integrated financial model by building a detailed revenue and segment build-up into your larger financial model, properly deriving a depreciation schedule, analyzing financial ratios, and automating credit and leverage statistics. For capital intensive businesses, it is critical to derive a more precise depreciation schedule that flows off Capital Expenditures assumptions instead of merely projecting percentage of revenue. Simplify your credit analysis as we automate the estimated credit ratios analysis for you with our unique proprietary construction that is supplied for you and flows from the Core Model and the projection model. This Enhancements course will allow you to have a much more detailed stand-alone financial model and valuation model!

**Course Sections:****Depreciation Schedule**

- Build a stand-alone depreciation schedule to better estimate working capital changes and free cash flow by depreciating existing PPE as well as new capital expenditures
- Capture and incorporate detail such as remaining useful life estimates
- Allocate accumulated depreciation correctly
- Depreciate existing Net PPE and new CapEx based on weighted average life

**Enhancements to Core Integrated Financial Model**

- Create quick financial summary exhibit that summarizes key figures from financial model
- Build an analysis of trading statistics that can be used to compare companies across an industry
- Provides current snapshot of the current public market valuation
- Sensitize trading analysis through an “Analysis at Various Prices” analysis
- Hypothetical “what if” scenario based on acquisition offer prices and implied multiples

**Financial & Credit Ratio Analysis**

- Construct detailed financial accounting ratios to quantify profitability & operating efficiency metrics
- Analyze liquidity ratios, profitability ratios and asset management efficiency ratios
- Credit and leverage statistics ratio analysis with automated comparisons vs. S&P rating statistics
- Distinguish between various types and tranches of debt

**Detailed Business Segment Build-Up**

- Model out historical change in key drivers of growth and project future detailed growth
- Analyze and break down growth based on publicly available data and inputs from 10K filing
- Incorporate and remove effect of growth from non-core items such as foreign exchange rate fluctuations
- Project future detailed growth assumptions that roll up into larger projection model

**Valuation Modeling**

- Construct a discounted cash flow analysis, estimate unlevered free cash flow (free cash flow to firm) and terminal value using multiples approach and perpetuity growth approach
- Build reference range and football field to summarize valuation

**Prerequisites:**

- Accounting & Financial Statements Integration
- Finance 101 – Introduction to Finance
- Corporate Valuation Methodologies
- Company Overview
- Basic Financial Modeling and Advanced Financial Modeling – Core Model

**PACKAGE 3: ADVANCED FINANCIAL MODELING****Enhancements to the Core Model – Part 2****Course Goals & Overview:**

Further enhance core integrated financial model by building a detailed tax schedule incorporating NOLs (Net Operating Losses), Section 382 limitations on NOL usage and differences between book and tax depreciation. Dive deep into recalculating depreciation for tax purposes based on accelerated depreciation – MACRS (Modified Accelerated Cost Recovery System) in the US. Incorporate and flow the accelerated tax depreciation into the larger tax schedule to account for differences in GAAP Pre-Tax Income and Taxable Income. Finish up with a quick Residual Income analysis and EVA (Economic Value Added) analysis, which complements our Enhancements Part I course.

**Course Sections:****Construct flexible Tax Depreciation Schedule**

- GAAP depreciation schedule is off simplistic straight-line assumption while tax write-offs allow for accelerated depreciation schedule
- Incorporate real-world MACRS schedule (US IRS tax code) to depreciate assets based on various property classes and recovery year
- Integrate with new capital expenditures assumptions by asset class
- Compare and contrast with GAAP depreciation
- Gain better precision into cash flow modeling and working capital line items

**Construct and reconcile extremely detailed Book vs. Tax Income Tax Schedule**

- Combine GAAP and tax depreciation schedule into tax schedule for model's deferred tax liability
- Further enhance detailed tax schedule incorporating NOLs (Net Operating Losses)
- Incorporate limitations on NOL usage based on change of control provisions
- Construct detailed accelerated tax depreciation schedules based on MACRS
- Properly build-up detailed deferred tax assets and liabilities Balance Sheet accounts

**Perform and analyze Residual Value and EVA analysis**

- Understand differences among traditional DCF analysis vs. Residual Income and EVA analysis
- Calculate equity capital charge total capital charge
- Use correct discount rate for each analysis
- Compare and contrast pros and cons and the purpose of each analysis

**Prerequisites:**

- Basic Financial Modeling
- Advanced Financial Modeling – Core Model
- Enhancements to the Core Model – Part 1

**PACKAGE 3: ADVANCED FINANCIAL MODELING****Segment Build-up, Channel Checks, Drivers of Growth and Sensitivity Modeling****Course Goals & Overview:**

Learn how to build detailed revenue and segment build-ups into your larger financial model by quantifying the drivers of growth. Many financial projection models are based off simple revenue growth rate and expense margin assumptions, resulting in reduced precision in the projection model. This course teaches various approaches to true, bottoms-up, fundamental analysis for both publicly trade and listed companies as well as private companies or entities in which you have additional detail. We start by understanding the logic of channel checks and building the case for growth rates based on qualitative analysis and comprehension of industry- and company-specific drivers of growth. We then turn around and quantify our qualitative analysis by incorporating into our financial model on a business and operating segment basis. The results of the build-up analysis rolls into the Income Statement from your core integrated financial projection model. In addition, layer on sensitivity and scenario analysis to easily toggle through various cases, including base (management) case, upside and downside cases.

**Course Sections:****Detailed Business Segment Build-Up:**

- Model out historical change in key drivers of growth and project future detailed growth
- Analyze and break down growth based on publicly available data and inputs from 10K filing
- Incorporate and remove effect of growth from non-core items such as foreign exchange rate fluctuations
- Project future detailed growth assumptions that roll up into larger projection model instead of just 10% growth
- Understand additional granularity for various industries including retail, manufacturing, financial services, energy, etc.

**Operating & Division Segment Build-Up:**

- Calculate and analyze different operating segments as reported in public filings to roll-up into IS
- Adjust for extraordinary items by segment based on MD&A and disclosed footnotes
- Extract, utilize and incorporate volume and pricing increases into operating segment performance
- Estimate and project future revenue and segment income and allocate for corporate overhead
- Estimate projected COGS and SG&A on the entire base after operating build-up

**Detailed New Business Build-Up:**

- Bridge the gap and quantify future, as-yet-unachieved growth initiatives based on concrete assumptions
- Analysis would roll into core "organic growth" model and sensitized
- Model out effects of hiring new sales representatives and the associated increased revenue
- Triangulate new revenue and tiered commission expenses due to renewal business
- Calculate incremental salary and bonus cost of new sales representatives
- Calculate additional cost of sales and other expenses related to new business

**Detailed Account by Account Build-Up:**

- Project sources of revenue based on growth in number of accounts and customers
- Model out revenue per account and associated commissions and expenses
- Incorporate rate increases into model
- Further enhance model via sensitivity & scenario modeling and analysis
- Detailed build-up consolidates into Consolidating Income Statement which feeds into model
- Account for inter-company eliminations in historical pro forma model and projections

**Sensitivity Analysis and Multiple Cases:**

- Layer sensitivity analysis on top of segment build-up to incorporate various assumptions and cases
- Build multiple scenarios and cases, including Base Case, Optimistic & Pessimistic Cases
- Toggle and sensitize profitability and cash flow of model based on various case assumptions

**PACKAGE 4: VALUATION MODELING TOPICS****Corporate Valuation Methodologies & Corporate Finance Fundamentals****Course Goals & Overview:**

How can you tell if a company is undervalued or overvalued? Is the current stock price the only measure of value? Why would one company command a higher or lower premium than its direct competitor? This course takes a practical, tangible, and non-theoretical approach to examining how corporations are valued and the major analytical tools that are used. Go beyond the academic theory of financial ratios and apply fundamental analysis and real-world methods of evaluating a company's intrinsic value. Gain insight into relative valuation methodologies (trading comps, deal comps) to fundamental valuation (discounted cash flow analysis, break-up / sum of the parts valuation). Coverage goes beyond the academic theory of financial ratios to the practical application of fundamental analysis, offering alternative, real-world methods of evaluating a company's intrinsic value. The Course includes a crucial primer to Corporate Finance and its non-theoretical application; apply learning objectives and goals immediately to today's environment.

**Learning Objectives:**

- How to value a company (trading comps, deal comps, DCF, LBO, break-up and asset valuation)
- Importance of Enterprise Value, EBITDA, capital structure, leverage and WACC
- Analyze valuation multiples and ratios; why are PE ratios sub-optimal as a valuation metric?
- Practical, non-theoretical application of introduction to corporate finance

**Course Sections:****Introduction to Valuation and Corporate Finance**

- How much is a company worth? Why is the current stock price not an accurate indication of value?
- How do you tell if a company is under-valued or over-valued?
- Why would one company command a higher or lower premium than its direct competitor?
- What is the importance between enterprise value and equity value?
- TEV: what is the correct treatment of minority interest and capital leases from a standalone valuation aspect vs. credit perspective vs. change of control
- What is the relevance of capital structure and leverage on a company's value?
- Why and how is corporate finance so critical to managing a firm's profitability?

**Ratios and Multiples Discussion**

- What exactly does a multiple tell us? Learn the correct way to use P/E ratios and other multiples
- Why are P/E ratios misunderstood and what other profitability-related ratios are more important?
- What is EBITDA and why is it so important?
- Utilizing the correct numerator for multiples analysis
- Calculating implied value based on multiples analysis

**Detailed Valuation Analysis**

- Analysis of "football field" and reference ranges
- Detailed discussion of the major valuation methodologies, their nuances and application in the real-world
- Analyzing, comparing and contrasting trading comps, deal comps and premiums paid
- Detailed explanation of Discounted Cash Flow (DCF) valuation, its theory and application
- Discussion of why the DCF is arguably one of the most important analyses while simultaneously one of the most academic and least practical of them all
- Review of WACC (weighted average cost of capital), CAPM (Capital Asset Pricing Model)
- How do you approach valuing a company with completely disparate businesses?

**Prerequisites:**

- Accounting & Financial Statements Integration, How to Analyze a 10K, Finance 101 – Introduction to Finance

**PACKAGE 4: VALUATION MODELING TOPICS****Fundamental and Relative Valuation Modeling****Course Goals & Overview:**

This Valuation Modeling course builds on the fundamental concepts in our Corporate Valuation Methodologies course and is hands-on, interactive and Excel-based. Apply the concepts learned in the discussion portion and perform relative valuation modeling techniques in Excel. We start the fundamental valuation modeling portion by building a DCF valuation model and turn our attention to relative valuation modeling by building a quick and dirty trading comps analysis by inputting historical results and analyst projections for comparable companies and calculating current standalone market valuation multiples. Then, construct a detailed comprehensive reference range analysis that quantifies valuation methodologies. In doing so, crystallize and appreciate the capital structure and the relationship between total enterprise value, equity value and price per share. Finally, build and update dynamic football field to graphically summarize valuation metrics. These tools are useful for any finance professional interested in valuing a company.

**Learning Objectives:**

- How to value a company (trading comps, deal comps, DCF, LBO, break-up and asset valuation)
- Importance of Enterprise Value, EBITDA, capital structure, leverage and WACC
- Analyze valuation multiples and ratios; why are PE ratios sub-optimal as a valuation metric?
- Practical, non-theoretical application of introduction to corporate finance

**Course Sections:****Discounted Cash Flow Analysis Modeling**

- Construct DCF model by starting with estimating unlevered free cash flow (free cash flow to firm)
- Terminal Value: model out EBITDA multiple and perpetuity growth approaches and when to use each
- Calculate from enterprise value down to equity value and ultimately down to stock price per share

**Quick & Dirty Trading Comps Analysis**

- Input historical results and analyst projections for comparable companies (public traded competitors)
- Calculate current standalone market valuation multiples and compare/contrast against target company
- Differentiate between over/undervalued vs. trading at premiums/discounts
- Incorporate industry and sector specific knowledge and company-specific factors into analysis

**Reference Range and Football Field**

- Build reference range that quantifies fundamental and valuation methodologies
- Crystallize and appreciate capital structure and the relationship between TEV, equity value and price per share
- Utilize best practices to reduce average construction time from 2 hours to 30 seconds
- Update dynamic football field to graphically summarize valuation metrics
- Compare and contrast intrinsic value vs. current market valuation and understand final investment decision

\*\* NOTE: This course topic is a live, classroom based course.

The online version of this course has been modularized into separate standalone modules. \*\*

**Prerequisites:**

- Accounting & Financial Statements Integration, How to Analyze a 10K, Finance 101 – Introduction to Finance

**PACKAGE 4: VALUATION MODELING TOPICS****Quick & Dirty Trading Comps Analysis****Course Goals & Overview:**

Build a basic, quick and dirty, back-of-the-envelope trading comps analysis (analysis of selected publicly traded companies). This course will allow you to quickly construct a relative valuation analysis and serves as a critical basis for our Complex Trading Comps Analysis course.

**Course Sections:**

- Input historical results and analyst projections for comparable companies (public traded competitors)
- Calculate current standalone market valuation multiples

**Prerequisites:**

- Accounting & Financial Statements Integration
- Corporate Valuation Methodologies
- Company Overview
- Basic Financial Modeling

**Relative Valuation – Football Field****Course Goals & Overview:**

Relative Valuation Basics is an extracted section from Advanced Financial & Valuation Modeling - Enhancements course module. In particular, we construct the reference range and football field analysis to complete the valuation picture. We recommend taking the following courses in order to gain the holistic relative valuation view:

- Corporate Valuation Methodologies & Corporate Finance
- Quick & Dirty Trading Comps Analysis
- Relative Valuation Basics

**Course Sections:**

- Build reference range that quantifies fundamental and valuation methodologies
- Summarize valuation modeling techniques including: quick & dirty trading comps, reference range analysis
- Crystallize and appreciate the capital structure and the relationship between total enterprise value, equity value and price per share
- Utilize best practices to reduce average construction time from 2 hours to 30 seconds
- Update dynamic football field to graphically summarize valuation metrics
- Step-by-step 25 page graphic instruction on how to create football field from scratch

**Prerequisites:**

- Accounting & Financial Statements Integration
- Company Overview
- Corporate Valuation Methodologies
- Basic Financial Modeling

**PACKAGE 4: VALUATION MODELING TOPICS****Complex Trading Comps Analysis****Course Goals & Overview:**

Build a detailed, thorough trading comps analysis (analysis of selected publicly traded companies) and learn how to properly construct a relative valuation analysis the correct way as well as how to normalize financials for extraordinary items, non-recurring and restructuring charges. This course itself isn't terribly complex or difficult, but is very tedious, time consuming and at times frustrating as it requires a great deal of patience, attention to detail and reading comprehension. Hence, the first four letters of the title "analyst" ring true – perfection is required for accuracy.

**Learning Objectives:**

- Analyze current market data from a relative perspective (trading comps)
- Learn the nuances of "spreading" comps and how to avoid common mistakes
- Normalizing financials for extraordinary items, non-recurring and restructuring charges
- Best practices on inputting and checking data, "Do's and Don'ts" tips

**Course Sections:****Trading Comps Overview and Instruction**

- Learn the steps required to construct a trading comps analyses
- Learn how to filter straight through to the relevant information
- Best practices on inputting and checking data, "Do's and Don'ts" tips
- Calculate LTM (last twelve months) and handling projections for comparability
- Treasury Method of calculating diluted shares outstanding
- Normalizing financials for extraordinary items, non-recurring and restructuring charges
- Specific Income Statement and Balance Sheet reminders
- Handling projections for comparability
- Incorporate trading comps with core financial model and DCF valuation to build reference range and football field to summarize overall valuation ranges
- Weighted average cost of capital analysis

**Complex Trading Comps Adjustments**

Our comps module covers just about 98% of ALL adjustments one would possibly encounter!! Learn:

- When and when not to adjust for asset impairments and write-downs
- How to adjust for zero-coupon convertible securities that are simultaneously in-the-money and out-of-the-money
- The effects of a LIFO / FIFO change in accounting recognition
- How to adjust for changes in accounting principle and discontinued operations
- The difference between below-the-line and above-the-line adjustments and evaluate when an item affects both, one or the other or neither
- How to properly account for difference fiscal year ends
- Proper treatment of capital leases
- When to use reported GAAP Income Statement figures and when to use Pro Forma figures

**Prerequisites:**

- Accounting & Financial Statements Integration
- Finance 101 – Introduction to Finance
- Company Profiles
- Corporate Valuation Methodologies
- Company Overview
- Basic Financial Modeling
- Quick & Dirty Trading Comps Analysis

**PACKAGE 4: VALUATION MODELING TOPICS****Deal Comps Analysis (Precedent Transactions)****Course Goals & Overview:**

Build a deal comps analysis (analysis of selected acquisitions), similar to trading comps analysis, but from an acquisition context using historical transaction data instead of current market valuation data. This course will allow you to properly construct a deal comps analysis the correct way, uncovering some of the nuances related to calculating transaction value and purchase price. This course is not a complex course and in fact, is a relative breeze compared with our Complex Trading Comps course, but builds upon the concepts in the latter course.

**Learning Objectives:**

- Analyze market data from a historical acquisition perspective (trading comps)
- Learn the nuances of “spreading” comps and how to avoid common mistakes
- Normalizing financials for extraordinary items, non-recurring and restructuring charges
- Calculating transaction value (purchase price), premiums and multiples in past deals
- Best practices on inputting and checking data, “Do’s and Don’ts” tips

**Deal Comps Instruction**

- Learn the steps required to construct a deal comps analyses and how to filter straight through to the relevant information
- Plow through the myriad of deal information such as 8K filings, 10K filings, press releases and industry databases
- Calculate transaction value (purchase price), premiums and multiples in past deals
- Uncover subtle nuances of determining correct enterprise value and avoid valuation mistakes

**Prerequisites:**

- Accounting & Financial Statements Integration
- Company Profiles
- Corporate Valuation Methodologies
- Company Overview
- Basic Financial Modeling
- Quick & Dirty Trading Comps Analysis
- Complex Trading Comps Analysis
- Efficiency in Excel

**PACKAGE 5: MERGER MODELING TOPICS****M&A Deal Structuring****Course Goals & Overview:**

The goals of this course include: (i) understand the major steps and timelines of M&A; (ii) learn how to structure an M&A deal; (iii) explore common deal structures and determine optimal deal structures such as cash vs. stock consideration, stock vs. asset deals; and (iv) accretion / dilution and breakeven analysis. This course provides the fundamental knowledge required to understand, analyze and structure mergers & acquisitions. To hone the concepts learned in this module, be sure to follow-up with our hands-on, Excel-based Merger Modeling Basics course.

**Learning Objectives:**

- Common structural issues in a transaction (stock vs. asset, 338(h)(10) elections)
- Merger consequence analysis including accretion / dilution and financial implications of a deal
- Build a fully functional accretion / dilution model that accounts for different transaction structures
- Learn how to sensitize financial projections and the financial impact on a transaction

**Course Sections:****Mergers & Acquisitions Overview**

- Motivations for mergers and acquisitions
- M&A sale process and timetable
- Review of strategic planning & preparation of required materials
- Examination of the types of potential buyers
- Description of the due diligence process
- Overview of negotiation & closing processes
- Overview of representations and warranties

**M&A Deal Structuring**

- Review of various deal considerations and deal structuring options (cash vs. stock)
- Common structural issues in a transaction (stock vs. asset, 338(h)(10) elections)
- Buyer and seller preferences for various deal structures and rationale
- Tax implications of transactions based on deal structure and FASB 142 goodwill amortization
- Brief discussion of upfront vs. deferred payments, employee retention and bonus pools

**Accretion Dilution Analysis**

- Merger consequence analysis including accretion / dilution and financial implications of a deal
- Discussion of key components with financial impact on transactions
- Detailed explanation and analysis of line-by-line construction of accretion / dilution model
- Analysis of breakeven PE for both 100% stock and 100% cash considerations
- Contribution analysis and its relevant in the analytical process

**Prerequisites:**

- Accounting & Financial Statements Integration
- Company Profiles
- Corporate Valuation Methodologies

**PACKAGE 5: MERGER MODELING TOPICS****Merger Modeling Basics****Course Goals & Overview:**

This merger modeling course builds on top of our M&A Deal Structuring course in which you will build an accretion / dilution analysis, a generic “ability to pay” analysis, and a simple merger model slapping together two income statements, selected balance sheet items and cash flow sweep for debt payment. This course will allow you to quickly understand basics of merger modeling. To maximize your learning in this module, you need to absolutely understand the concepts in our M&A Deal Structuring course! This course serves as the backdrop to our super-advanced, complex merger modeling course.

**Learning Objectives:**

- Common structural issues in a transaction (stock vs. asset, 338(h)(10) elections)
- Merger consequence analysis including accretion / dilution and financial implications of a deal
- Build a fully functional accretion / dilution model that accounts for different transaction structures
- Learn how to sensitize financial projections and the financial impact on a transaction

**Course Sections:****Accretion Dilution Model**

- Build dynamic merger consequence analysis (accretion / dilution) incorporating the following:
- Synergies switch, cash vs. stock sensitivity
- Amortization of goodwill switch (depending on purchase price allocation)
- Common structural issues: Stock vs. asset deals and 338 (h)(10) elections
- Tax implications of transactions based on deal structure and FASB 142 goodwill amortization
- Analysis of breakeven PE for both 100% stock and 100% cash considerations
- Calculate pre-tax and after-tax synergies / cushion required to breakeven

**Ability to Pay Analysis**

- Construct an “Ability to Pay” Analysis, a reverse Accretion / Dilution analysis
- Calculate maximum equity value and enterprise value based on cost of debt
- Sensitize analysis based on interest rates and pre-tax synergy assumptions

**Simple Merger Model**

- Construct a merger model, simple combination of Income Statement for target and acquiror
- Project simple stand-alone Income Statement for both target and acquiror
- Analyze selected balance sheet figures and ratios and multiples
- Estimate target valuation and deal structure
- Calculate selected Pro Forma balance sheet items
- Combine target and acquiror’s Income Statement and estimated synergies
- Calculate cash flow for debt repayments to estimate debt repayments and cash balances
- Compute interest expense and interest income based on paydowns
- Calculate accretion / dilution and credit ratios

**Prerequisites:**

- Accounting & Financial Statements Integration
- Corporate Valuation Methodologies
- Basic Financial Modeling
- M&A Deal Structuring
- Efficiency in Excel

**PACKAGE 5: MERGER MODELING TOPICS****M&A Deal Structuring and Merger Modeling Basics** (Combined 1-day intensive live training course)**Course Goals & Overview:**

Learn about mergers and acquisitions and how deals are structured. The first half of this course focuses on the mergers and acquisitions process and the basics of deal structures, presenting the main tools and analyses that M&A investment bankers and acquirers utilize. It covers the following modules: (i) in-depth analysis of the entire M&A process, including due diligence and legal issues; (ii) common structural issues including cash vs. stock, upfront payments vs. earn-outs, and stock vs. asset deals; (iii) crucial merger consequence analysis including detailed accretion/dilution and contribution analyses; and (iv) detailed analysis of transaction case studies to illustrate various deal structures and demonstrate detailed alternative earn-out structures and methodologies.

The second half of this course builds on the first half and is hands-on, interactive, Excel-based and covers different ways to model out financial combinations. Different techniques are covered including the most basic and widely used back-of-the-envelope method, accretion / dilution and more robust analyses. Build dynamic models that account for different transaction structures, learn how to sensitize financial projections and the financial impact on a transaction and construct a pro forma merger model. Calculate estimated combined income statement for target and acquiror, key pro forma balance sheet items, cash flow for debt repayments and other relevant items in a merger and acquisition context.

**Course Sections:****M&A Deal Structuring:**

- Review of various deal considerations and deal structuring options (cash vs. stock)
- Common structural issues in a transaction (stock vs. asset)
- Buyer and seller preferences for various deal structures and rationale
- Tax implications of transactions based on deal structure and IFRS #3 goodwill amortization
- Merger consequence analysis including accretion / dilution and financial implications of a deal
- Analysis of breakeven PE for both 100% stock and 100% cash considerations

**Accretion / Dilution Modeling:**

- Build dynamic merger consequence analysis (accretion / dilution) incorporating the following:
- Synergies switch, cash vs. stock sensitivity
- Amortization of goodwill switch (depending on purchase price allocation)
- Common structural issues: Stock vs asset deals
- Tax implications of transactions based on deal structure and IFRS #3 goodwill amortization
- Analysis of breakeven PE for both 100% stock and 100% cash considerations
- Calculate pre-tax and after-tax synergies / cushion required to breakeven

**Simple Merger Modeling:**

- Construct a merger model, simple combination of Income Statement for target and acquiror
- Project simple stand-alone Income Statement for both target and acquiror
- Analyze selected balance sheet figures and ratios and multiples
- Estimate target valuation and deal structure
- Calculate selected Pro Forma balance sheet items
- Combine target and acquiror's Income Statement and estimated synergies
- Calculate cash flow for debt repayments to estimate debt repayments and cash balances
- Compute interest expense and interest income based on paydowns
- Calculate accretion / dilution and credit ratios

**PACKAGE 5: MERGER MODELING TOPICS****Intermediate/Advanced Merger Modeling****Course Goals & Overview:**

Our Intermediate/Advanced Merger Modeling course significantly builds upon our Merger Modeling Basics course. We go beyond the simple concepts of accretion /dilution and build additional precision into estimating the correct, pro forma combined earnings. First, enhance the Sources & Uses of Funds to allow for additional clarity in deal structure. Then, dive right into the fine details of the complex FASB 141/142 and IFRS 3 purchase price allocation rules and fair market value tangible assets step-up intertwined with intangibles asset allocation. We tackle and quantify the resulting nuances in deferred tax liabilities and better quantify our synergies estimates. Participants should have mastered the merger concepts and financial modeling techniques covered in our M&A Deal Structuring and Merger Modeling Basics course.

**Course Sections:****Construct a merger model, simple combination of Income Statement for target and acquiror**

- Project simple stand-alone Income Statement for both target and acquiror
- Analyze selected balance sheet figures and ratios and multiples
- Estimate target valuation and deal structure

**Build an expanded Sources and Uses of Funds analysis that controls the merger model**

- Utilize cash from the acquiror to fund the merger, balanced with minimum cash balances
- Dynamically handle different percent cash and stock deal structures
- Incorporate target net debt refinanced / assumed
- Calculate and incorporate proper treatment of debt financing fees and transaction costs

**Merge target and acquiror income statements and calculate starting balance sheet items**

- Calculate selected Pro Forma balance sheet items (full B.S. not projected)
- Combine target and acquiror's Income Statement
- Estimate various types of synergies – revenue, COGS and SG&A synergies

**Estimate condensed Cash Flow Statement and simplified Debt Sweep**

- Calculate cash flow for debt repayments to estimate debt repayments and cash balances
- Compute interest expense and interest income based on paydowns
- Calculate accretion / dilution and credit ratios

**Calculation of Purchase Price Allocation (FASB 141/142 and IFRS 3)**

- Allocate purchase price among tangible book value (existing assets at cost), step-up in basis to FMV, tax deductible and non-tax deductible identifiable intangibles and goodwill
- Proper accounting treatment of transaction costs, tender costs and accrued interest of any refinanced debt and debt transaction financing fees
- Account for differences in GAAP book deductibility and tax deductibility of intangible assets
- Build in the ability to treat acquisitions as an asset sale for tax treatment

**Prerequisites:**

- Basic Financial Modeling
- M&A Deal Structuring
- Merger Modeling Basics
- Efficiency in Excel

**PACKAGE 6: LEVERAGED BUYOUT (LBO) TOPICS****Leveraged Buyout Overview****Course Goals & Overview:**

This course provides a basic overview and introduction to leveraged buyouts, including discussion of rationale for 'going private', ideal LBO candidate, drivers of value. The following items are discussed, including description, importance, implications and general thoughts on: valuation, debt capacity, scenario analysis, sources & uses of funds, rollover equity, pro forma capital structure, purchase vs. recap accounting, goodwill treatment and other issues. You will gain some basic & fundamental knowledge required to understand LBO transactions. The purpose of this course is to introduce some of the terminology and concepts required for our Quick & Dirty LBO Modeling and Complex LBO Modeling courses.

**Course Sections:**

Discussion of the following, including description, importance, implications and notes of the following areas:

- Valuation Summary
- Maximum Debt Capacity
- Refinancing Scenarios
- Expenses – Definitions and Accounting Treatment
- Sources and Uses of Funds
- Equity Sources and Rollover Equity
- Interest Rate Scenarios
- Pro Forma Capital Structure
- Purchase Accounting vs. Recapitalization Accounting
- Goodwill Calculation / Treatment and Amortization (FASB 141/142)
- Pro Forma Opening Balance Sheet & Adjustments
- Pro Forma Shareholder's Equity Treatment
- Cash Flow Statement and Debt Sweep Adjustments and Expansion

**Prerequisites:**

- Accounting & Financial Statements Integration
- Finance 101 – Introduction to Finance
- Corporate Valuation Methodologies

**PACKAGE 6: LEVERAGED BUYOUT (LBO) TOPICS****Quick & Dirty Basic LBO Modeling****Course Goals & Overview:**

In the normal course of running a company, the CFO must balance capital requirements with capital sources of funds. Changes to the capital structure are not insignificant as each component of capital has an opportunity cost. In this course, we introduce the impact of changes in capital structure and the resulting impact on a company's decision to borrow vs. raise equity. We quantify the thought process and the logic that dictates one or the other by examining both extremes of capital structure changes: from a simple small share repurchase to the opposite spectrum, the leveraged buyout. This class examines and incorporates all the major inputs and value drivers of capital structure changes by building a short, quick and dirty LBO analysis, providing an excellent condensed overview and introduction to LBO modeling. As LBOs are risky and complex financial transactions, sometimes, building a full-out, complex LBO model is not necessary or required if one just wants to quickly gauge the feasibility of an LBO.

**Course Sections:**

- Drivers of value from a financial point of view and changes in capital structure
  - Comparison to share repurchases and the lack of value creation
  - Counter argument of cost of capital, funding costs and opportunity costs arbitrage
  - Counter-counter argument of weighted average cost of capital changes
  - Final assessment of source of returns of LBOs
  - We first introduce the obvious rationales, then prove why that is wrong, then disprove the proof and disprove that and disprove that and finally agree on how corporate finance and the capital markets extract value from capital structure arbitrage
  - In short, participants might be thoroughly confused at first, but will finally understand every aspect of the value proposition by the time we are done!
- Discussion on LBOs, including: overview of LBOs, rationale for going private, ideal LBO candidate
- Create a quick and dirty, condensed LBO model from scratch
- Build a summary Sources and Uses of Funds analysis that dictates LBO value
- Construct a Pro Forma, post-LBO Income Statement projection model incorporating LBO changes
- Calculate cash flow available to firm through simplified debt sweep pay off high debt volumes
- Create condensed IRR (internal rate of return) analysis to evaluate financial sponsor returns
  - Comparison of IRR to multiple of capital as a return metric and benchmark
  - Identify true source of returns, from building of equity to time value of money
  - Compare and contrast returns trends based on exit multiple contraction or expansion
  - Discussion on why highly levered transactions must exit within 3 to 5 years
  - Analyze and partially quantify the trend towards dividends to financial sponsor as opposed to debt paydown
- Analyze basic credit and leverage statistics and equity sources that drive the LBO model

**Prerequisites:**

- Accounting & Financial Statements Integration
- Corporate Valuation Methodologies
- Company Overview
- Basic Financial Modeling
- Advanced Financial Modeling – Core Model
- M&A Deal Structuring
- Merger Modeling Basics
- LBO Overview
- Efficiency in Excel

**PACKAGE 6: LEVERAGED BUYOUT (LBO) TOPICS****Advanced LBO Modeling****Course Goals & Overview:**

This course builds upon our Share Repurchase and Quick & Dirty LBO modeling courses which quantifies changes to capital structure and opportunity cost and our Basic, Quick & Dirty LBO modeling course. We start off by diving deeper into the typical LBO deal structure and then expand upon the different components of the Sources & Uses analysis; projecting selected critical Balance Sheet items; constructing more detailed Cash Flow Statement estimates and robust Debt Sweep, as well as triangulating IRRs for dividends to equity sponsor. Learning objectives include: construct and sensitize an advanced leveraged buyout model with many nuances and complications of our full-blown complex LBO model; incorporate fundamental drivers including Sources & Uses, Pro Forma, post-LBO projections, available cash flow, debt sweep, credit ratios and IRR; selected Pro Forma Balance Sheet items, Debt and Shareholder Equity accounts; Debt Sweep: incorporate Term Loan mandatory amortization and integrating and sweeping additional new and existing debt tranches; sensitize core IRR to equity sponsor as well as triangulate IRR.

**Learning Objectives:**

- Discussion on leveraged buyouts, including overview, rationale, ideal candidate and drivers of value
- Construct and sensitize an intermediate level leveraged buyout model with many nuances and complications of our full-blown complex LBO model
- Incorporate fundamental drivers including Sources & Uses, Pro Forma, post-LBO projections, selected Pro Forma Balance Sheet items, available cash flow, detailed debt sweep, credit ratios and IRR

**Course Sections:**

- Drivers of value from a financial point of view and changes in capital structure
  - Comparison to share repurchases and the lack of value creation
  - Counter argument of cost of capital, funding costs and opportunity costs arbitrage
  - Counter-counter argument of weighted average cost of capital changes
  - Final assessment of source of returns of LBOs
  - We first introduce the obvious rationales, then prove why that is wrong, then disprove the proof and disprove that and disprove that and finally agree on how corporate finance and the capital markets extract value from capital structure arbitrage
  - In short, participants might be thoroughly confused at first, but will finally understand every aspect of the value proposition by the time we are done!
- Build an expanded Sources and Uses of Funds analysis that dictates LBO value
  - Sources of Funds: inclusion of rollover equity, detailed debt structure & maximizing debt capacity
  - Uses of Funds: ability to toggle refinancing of existing debt, excess cash usage, proper treatment of debt financing fees, tender costs and transaction costs
- Construct a Pro Forma, post-LBO Income Statement projection model incorporating LBO changes
  - Calculate new, Pro Forma interest expense and amortization of debt financing fees
  - Calculate cash flow available to firm through expanded debt sweep pay off high debt volumes
  - Constructed simulated Cash Flow Statement, including CFO, CFI and CFF
- Expanded Debt Sweep schedule to flow through various debt items
  - Incorporate Term Loan mandatory amortization and dynamic pre-payment
  - Integrate and sweep through additional new and existing debt tranches
- Create condensed IRR (internal rate of return) analysis to evaluate financial sponsor returns
  - Comparison of IRR to multiple of capital as a return metric and benchmark
  - Identify true source of returns, from building of equity to time value of money
  - Compare and contrast returns trends based on exit multiple contraction or expansion
  - Discussion on why highly levered transactions must exit within 3 to 5 years
  - Analyze & partially quantify the trend towards dividends to financial sponsor as opposed to debt paydown
  - Triangulate IRR when there are unequal cash flow returns to equity sponsor primarily through dividends
  - Analyze basic credit and leverage statistics and equity sources that drive the LBO model

**PRIVATE COMPANY VALUATION****Private Company Valuation****Course Goals & Overview:**

This course builds upon our basic Corporate Valuation course and introduces the complex nuances associated with analyzing and valuing private companies. We dive deep into the details and concepts deeply imbedded with valuation of large publicly traded and listed companies and take it to next level by applying it to companies and regions with very sparse publicly available data. Learn nuances of adjusting for DCF valuation, WACC analysis when no data exists, how to select and adjust peer comparables when no "good comp" exists. While there is certainly no magic bullet to the tough questions and lack of information, there are techniques and best practices to get us as close as possible.

**Course Sections:****Fundamental & DCF Valuation Nuances:**

- Detailed explanation of Discounted Cash Flow (DCF) valuation, its theory and application
- Discussion of why the DCF is arguable one of the most important analyses while simultaneously one of the most academic and least practical of them all
- Analysis of EBITDA and growth approaches to Terminal Value estimation and pros and cons of each
- Discussion on the correct Cash Flow starting point for Gordon Growth Rate: long-term relationship between CapEx and depreciation and the theoretical implications on DCF
- Computing reasonable perpetual growth rate and the nuances associated
- Perpetual growth rate method and applications: how to value high growth companies in which the terminal year growth has not yet reached steady state growth for perpetuity

**WACC and Cost of Component Capital Nuances:**

- Application of WACC and matching of cash flows with the riskiness of the cash flows
- Correct Cost of Debt to use: coupon rate, current YTM if available vs. investment banker rate
- Estimating Cost of Debt when there is no outstanding debt or interest rates unavailable
- Cost of Equity and CAPM (Capital Asset Pricing Model): theory, implications and application
- Concept of diversification and risk/reward model and practical approach as discount factor
- Correct risk free rate and market risk premium and the various premiums and adjustments made to MRP
- Concept of beta and sensitivity to the market and adjusting for capital structure differences
- Estimating beta with none present, and un-levering and re-levering betas to adjust for earnings volatility
- Use of beta to manipulate and influence discount rate to affect overall DCF valuation
- Thinking through the logic of a company with a ton of cash on the books and adjustments (if any) to beta
- Determining the correct capital structure (Debt & Equity / Capitalization) – your own or industry ideal?
- Adjusting WACC and DCF for private companies, liquidity, size and country-specific adjustments

**DCF Revisited:**

- Importance of DCF, NPV & IRR analysis for start-ups, growth capital and project finance
- Private company PE ratios and nuances associated with Equity Value / Net Income as a proxy
- Short, brief discussion on industry specific valuation and introduction to basic nuances and differences
- Brief honorable mention of alternative valuation methodologies

**Enterprise Value Nuances:**

- TEV: what is the correct treatment of minority interest and capital leases from a standalone valuation aspect vs. credit perspective vs. change of control
- What is the relevance of capital structure and leverage on a company's value?
- Crystallizing Enterprise Value: Proper Allocation of TEV in HoldCo context
- Case study analyzing proper allocation of value of public traded parent and subsidiaries
- Analysis of market valuation attribution to standalone parent and majority owned subsidiary
- Difference in treatment of TEV based on if subsidiary's debt is owed to third party or to parent
- Reconciliation of book value treatment of Minority Interest vs. minority owned percentage of sub

**PRIVATE COMPANY VALUATION****Advanced Segment Build-up Sensitivity Modeling****Course Goals & Overview:**

Learn how to build detailed revenue and segment build-ups into your larger financial model. Many financial projection models are based off simple revenue growth rate and expense margin assumptions, resulting in reduced precision in the projection model. This course teaches various approaches to true, bottoms-up, fundamental analysis, from both an "account-by-account" and "business segment" basis (very detailed build-up vs. division by division). The results of build-up analysis roll-up into a consolidating income statement that feeds into the Income Statement revenue items.

**Course Sections:****Detailed Business Segment Build-Up:**

- Model out historical change in key drivers of growth and project future detailed growth
- Analyze and break down growth based on publicly available data and inputs from 10K filing
- Incorporate and remove effect of growth from non-core items such as foreign exchange rate fluctuations
- Project future detailed growth assumptions that roll up into larger projection model
- Instead of just calculating 10% growth rate in revenue, dig into deeper layers of growth drivers
- For instance, for a retailer, calculate Sales / Sq Foot / Type of Store, which captures: (i) number of stores (store count growth); (ii) size of each store (expansion and size creep); (iii) profitability of each sq foot and same store comps sales (YoY sales growth)

**Operating & Division Segment Build-Up:**

- Calculate and analyze different operating segments as reported in public filings to roll-up into IS
- Adjust for extraordinary items by segment based on MD&A and disclosed footnotes
- Extract, utilize and incorporate volume and pricing increases into operating segment performance
- Estimate and project future revenue and segment income and allocate for corporate overhead
- Estimate projected COGS and SG&A on the entire base after operating build-up

**Detailed New Business Build-Up:**

- Bridge the gap and quantify future, as-yet-unachieved growth initiatives based on concrete assumptions
- Analysis would roll into core "organic growth" model and sensitized
- Model out effects of hiring new sales representatives and the associated increased revenue
- Triangulate new revenue and tiered commission expenses due to renewal business
- Calculate incremental salary and bonus cost of new sales representatives
- Calculate additional cost of sales and other expenses related to new business

**Detailed Account by Account Build-Up:**

- Project sources of revenue based on growth in number of accounts and customers
- Model out revenue per account and associated commissions and expenses
- Incorporate rate increases into model
- Further enhance model via sensitivity & scenario modeling and analysis
- Detailed build-up consolidates into Consolidating Income Statement which feeds into model
- Account for inter-company eliminations in historical pro forma model and projections

**Sensitivity Analysis and Multiple Cases:**

- Layer sensitivity analysis on top of segment build-up to incorporate various assumptions and cases
- Build multiple scenarios and cases, including Base Case, Optimistic & Pessimistic Cases
- Toggle and sensitize profitability and cash flow of model based on various case assumptions

**Prerequisites:**

- Basic Financial Modeling
- Advanced Financial Modeling – Core Model

**PRIVATE COMPANY VALUATION****Private Company Pro Forma Modeling****Course Goals & Overview:**

Pro Forma financial statements are a tool to recast financial results in a manner that is more representative of future performance and to remove the effects of private ownership. Pro Forma financial statements have one or more assumptions or hypothetical conditions built into the data and are often used to develop core earnings capacity (quality of earnings) when the objective is to value a company for sale to a third party or for internal perpetuation. The goal is to examine a sampling of the most common types of Pro Forma adjustments most often seen when valuing closely-held entities. Similar to analyzing one-time adjustments for public companies, the adjustments can affect both revenues and expenses, increasing or decreasing either one. However, private company pro form adjustments require a much more detailed analysis of each expense line to adjust for the effects of private ownership.

**Course Sections:**

- How to recast financial results to be more representative of future performance and adjust for the effects of private ownership
- Understand the different types of adjustments required, ranging from discretionary to non-recurring to standalone corporate entity
- Comprehend the major types of revenue adjustments to isolate true, organic revenue base
- Learn the right questions to ask regarding new clients, lost clients, profit sharing agreements and more
- Plow through all the expense line items, focusing on SG&A expenses
- Apply industry-wide rules of thumbs on compensation and benefits
- Adjust for the impact of key officers and management's run-rate compensation level
- Dive in deep on operating expenses, from auto expenses/allowances to advertising/marketing, etc.
- Adjust for taxes from a private, pass-thru entity to a standalone corporation
- Analyze key Balance Sheet adjustments such as midnight shareholder dividends and officer loans

**Prerequisites:**

- Accounting & Financial Statements Integration
- Company Overview
- Basic Financial Modeling

**PRIVATE COMPANY VALUATION****M&A Earnout Modeling****Course Goals & Overview:**

This Merger Modeling – Earnout Discussion module builds upon our M&A Deal Structuring and Merger Modeling Basics course by reconciling differences that arise in private middle-market transactions in which a buyer wants to be rewarded for future growth and a seller is only willing to pay for growth that has been achieved. But, the seller reckons – “why should I sell when I believe I can achieve greater growth and then sell for an even larger valuation at that future point”. The main tool to bridge this gap is for the seller to put his money where his mouth is – if you say you can achieve \$1 billion of revenue, then prove it – one should be willing to accept deferred, contingent payments for such future growth that has yet to be realized. In this add-on module, we explore different ways to analyze and structure earnouts.

**Learning Objectives:**

- Detailed discussion of earnouts including
- Advantages and disadvantages of utilizing earnouts in acquisitions
- Different techniques in structuring earnouts
- Defining, adjusting and calculation of earnout benchmarks

**Course Sections:****Super-Earnout Modeling**

- Construct a sample earnout model based on a base earnout and a “super-earnout”:
- Create a two-tiered earnout structure that is dependent on achieving management projections
- Structure earnout based on both Revenue and EBITDA targets
- Evaluate the “base” target financial goals and calculate corridor earned
- Review best practices in calculating the actual earnout earned
- Repeat analysis for second earnout tier, the “super-earnout”, a much more difficult to achieve set of projections
- Evaluate pros and cons of being too optimistic in management projections vs. being too pessimistic

**Additional Earnout Modules (Live training only):****Buy-Side Earnout Modeling**

- Detailed analysis of HFOF transaction sensitizing and analyzing management projections and deal economics
- The Transaction: a large financial services company looking to acquire a rapidly growing hedge fund of funds with extremely aggressive management projections
- The Task: the potential acquirer had several considerations in this transaction:
- How to structure an earnout that is financially fair for both parties
- Financial implications for 100% equity deal and a 50% equity / 50% cash deal
- Other ways to think about the transaction:
  - First, the target’s “hockey stick” management projections were modified to a base case
  - Involves applying certain conservative growth and operating assumptions based on industry knowledge
  - Using the revised, more realistic projections, an earnout structure was constructed
  - Performed a ROE (Return on Equity) analysis
  - Ran a basic accretion / dilution model and constructed a back-of-the-envelope IRR analysis

**Sell-Side Earnout Modeling**

- Detailed analysis of middle-market transaction comparing two bidders’ terms and economics of earnouts
- The Transaction: middle market insurance broker with approximately \$15 million in revenue
- The Task: analyze the proposals of the two final bidders focusing on the following aspects:
- Guaranteed vs. deferred earnout portion
- Detailed earnout analysis that required adjustments to management projections
- The Approach: when measuring future profitability to determine earnout targets, acquirors typically make certain adjustments that have financial implications including: employee benefits, depreciation assumptions, insurance expense, corporate overhead allocations, new incentive plans

**PRIVATE COMPANY VALUATION****VC Investing: Private Company Valuation & Participating Preferred Securities Waterfall Modeling****Course Goals & Overview:**

In the first part of this course, we discuss the complex nuances associated with analyzing and valuing emerging markets and private companies. We dive deep into the details and concepts deeply imbedded with valuation of large publicly traded and listed companies and take it to next level by applying it to companies and regions with very sparse publicly available data. Learn nuances of adjusting for DCF valuation, WACC analysis when no data exists, how to select and adjust peer comparables when no "good comp" exists. While there is certainly no magic bullet to the tough questions and lack of information, there are techniques and best practices to get us as close as possible. Learning objectives include: fundamental & DCF valuation nuances (adjustments to Gordon growth); WACC and cost of component capital nuances (adjustments to cost of debt and equity and beta); review of basic valuation methodologies, focusing on relative valuation multiples and ratios and tacking on private company discounts; emerging markets case study and real-life valuation nuances when data simply doesn't exist.

The second part of this course involves modeling out early stage investment securities' waterfalls. When investing in earlier stage companies, whether start-up, growth or mezzanine stage investing, there is a fine balance between incentivizing the newest round of investors injecting capital and providing enough returns for earlier round investors, while still motivating management to strive for mutual alignment of economic interests. Investors desire downside protection while craving equity upside. Thus, the participating preference securities evolved from a blend of common stock with equity upside & voting rights to debt with accruing interest and priority of liquidation. In this course, learn how to structure, and model out such hybrid securities commonly used in VC and earlier stage investing.

**Liquidation Waterfall Modeling:**

- Modeling Preferred Equity and Multiple Class Share Positions:  
Structuring returns for each equity participant and class/series of investors
- Equity Assumptions: capitalization tables, pre-money vs. post-money calculations
- Liquidation Preference: minimum return threshold based on pre-determined multiple and accrued dividends over time provides LIFO effect of last dollar in, first dollar out
- Dividends: Cash pay vs. PIK; compounding vs. simple; cumulative vs. non-cumulative
- Participation Rights: investors shall participate on equity upside based on fully diluted ownership percentage and allows investors to participate in upside valuation after liquidation preference protection
- Participation Caps: the crux of the analysis focuses on the capped upside of the investor and re-distribution of fully diluted ownership percentage for remaining investors → it gets complicated and that's why it's called a waterfall!
- Conversion: complicate the analysis by adding in a conversion option for all investors to further participate in upside could radically change the valuation parameters based on final valuation/liquidation amount
- Management Options & Warrants: incorporate management options in allocation of final management proceeds based on cashless converts

Please note that this is a financial modeling class, not a legal class.

**Prerequisites:**

- Accounting & Financial Statements Integration
- Corporate Valuation Methodologies
- Basic Financial Modeling

**SUPER-COMPLEX M&A LBO MODELING****Complex, Super-Advanced Merger Modeling****Course Goals & Overview:**

The goal of this course is quite simple and yet extremely complex in implementation: build an all-out, full combination and merger analysis of target and acquirer company, integrating full projection model for both. This course will allow you to build one of the most dynamic, sophisticated and complex merger models out there, slapping together complete Income Statement, Balance Sheet, Cash Flow Statement, brand new, highly complex Debt Sweep and Interest schedule for the two companies and combined merged entity. Determine deal structure, purchase price allocation and tax deductibility, accretion / dilution and a whole host of issues.

Learning objectives include: (i) calculate Sources & Uses of Funds, post-transaction ownership, accretion / dilution; (ii) combine Target and Acquiror Income Statements and incorporate synergies into pro forma merger model; (iii) calculate pro forma, post-transaction opening Balance Sheet and project future combined Balance Sheet; (iv) derive combined Cash Flow Statement, debt sweep & interest schedule to balance and integrate model.

The core LBO model serves as the beginning model for the target company in this Complex, Super-Advanced Merger Modeling course and as such, you must have completed the Complex LBO Modeling course first to have the model!

**Course Sections:****Merger Summary & Sensitivity Options**

- Sensitize deal structure options, including stock & cash consideration
- Construct Sources & Uses of Funds including various financing scenarios and ability to refinance any existing debt and utilize existing excess cash to fund acquisition
- Calculate correct transaction value incorporating economic effect of management options
- Calculate post-transaction ownership summary
- Allocate purchase price among tangible book value (existing assets at cost), step-up in basis to FMV, tax deductible identifiable intangibles, non-tax deductible identifiable intangibles and goodwill
- Proper accounting treatment of transaction costs, tender costs and accrued interest of any refinanced debt and debt transaction financing fees
- Account for differences in GAAP book deductibility and tax deductibility of intangible assets
- Build ability to treat acquisitions as an asset sale for tax treatment

**SUPER-COMPLEX M&A LBO MODELING****Complex, Super-Advanced Merger Modeling (cont.)****Merger Model (Financial Statement Integration)**

- Line-by-line combination of Target & Acquiror Income Statements including revenue and expense synergies and correctly depreciation and amortization of assets from purchase price allocation analysis
- Calculate pro forma, post-transaction EPS, accretion / dilution analyst and pre-tax synergies / cushion required to breakeven
- Project tax levels, incorporating permanent differences in book vs. tax deductibility of intangible assets
- Combine Target & Acquiror Balance Sheets and perform transaction adjustment entries to calculate pro forma opening Balance Sheet
- Calculate projected Balance Sheet and Cash Flow Statement of combined merged company
- Analyze & construct complex debt schedule to sweep through mandatory & discretionary debt payments
- Ability to dynamically pay down tranches of Target & Acquiror's debt and new debt raised
- Calculate pro forma and projected credit & leverage statistics and automatically evaluate debt ratings of merged company

**Prerequisites:**

- Accounting & Financial Statements Integration
- Company Profiles and Corporate Valuation Methodologies
- Company Overview and Basic Financial Modeling
- Advanced Financial Modeling – Core Model & Enhancements
- M&A Deal Structuring and Merger Modeling Basics
- LBO Overview and Quick & Dirty LBO Model
- Complex LBO Model & Enhancements
- Super extreme efficiency in Excel

**SUPER-COMPLEX M&A LBO MODELING****Complex LBO Modeling & LBO Model Enhancements****Course Goals & Overview:**

Layer a complex LBO model on top core standalone projection model and build one of the most dynamic, sophisticated and complex LBO models out there. This is a highly complex and a very advanced modeling class and requires an absolute grasp of all basic and advanced accounting and financial concepts. Your finished LBO model will be a highly versatile and functional financial model able to capture and sensitize a great deal of inputs to project a realistic and more precise outcome including the ability to toggle between status quo, standalone model vs. all-out LBO vs. partial recap. The core LBO model serves as the beginning model for the target company in our Complex, Super-Advanced Merger Modeling course.

Significantly enhance the LBO model by incorporating the following: PIKs (Paid-In-Kind), warrants and partial, less than 100% recapitalization. Further modify LBO model for mezzanine debt, non-cash interest, issue warrants and modify equity acquired. Incorporate all enhancements into end-all IRR analysis by significantly scaling out returns calculation via massive triangulation of cash flows.

**Standalone Projection Model**

- Build standalone, fully-integrated projection model that serves as the core model for the LBO model and to check final LBO model against status quo, no transaction scenario.
- Mirrors our Advanced Financial Modeling – Core Model course

**LBO Summary**

- Layer LBO model on top by modifying core standalone projection model
- Build the ever-so-critical “LBO Summary” page that controls all the drivers and inputs of the LBO model: valuation metrics, maximum debt capacity, Sources and Uses of Funds
- Sensitize the LBO with the following options: recapitalization vs. purchase accounting, interest rate scenarios, refinancing scenarios
- Incorporate proper accounting treatment of expenses (debt transaction financing fees, tender costs and transactions costs)
- Calculate equity sources and rollover equity and financial implications
- Create Pro Forma capital structure and opening balance sheet incorporating transaction adjustments
- Calculate goodwill incorporating the FAS 141 and 142 goodwill amortization rules
- Toggle between various LBO scenarios and no transaction for valuation purposes

**Balance Sheet & Cash Flow Statement Adjustments**

- Translate LBO summary and deal structure into Pro Forma Opening Balance Sheet
- Balance Sheet adjustments include: cash changes, goodwill, capitalization of expenses, debt and capital structure modifications
- Properly calculate and incorporate Pro Forma Shareholder’s Equity treatment
- Cash Flow Statement modifications including updating existing share repurchase and dividends model

**Expanded Debt Sweep and IRR**

- Debt Sweep expansion including integrating and sweeping additional debt tranches
- Expand debt sweep to account for new debt issued and discretionary cash flow recapture
- Construct credit & leverage ratios and automate credit ratings
- Create IRR (internal rate of return) analysis to evaluate financial sponsor returns
- Complete complex LBO model with Status Quo, standalone model vs. all-out LBO toggle

**SUPER-COMPLEX M&A LBO MODELING****Complex LBO Modeling & LBO Model Enhancements** (cont.)**Enhancements to the Core LBO Model**

- Introduce enhancements and complications into your LBO model to account for various transaction structures and more complex securities typically issued in an LBO transaction.
- Incorporate mezzanine securities with PIKs (paid-in-kind)
- Account for dilution due to warrants attached to preferred securities
- Enhance LBO model to dynamically incorporate recapitalizations (vs. full LBOs)
- Properly modify and significantly expand IRR analysis to include effect of enhancements

**Prerequisites:**

- Accounting & Financial Statements Integration
- Company Profiles and Corporate Valuation Methodologies
- Company Overview and Basic Financial Modeling
- Advanced Financial Modeling – Core Model & Enhancements
- M&A Deal Structuring and Merger Modeling Basics
- LBO Overview and Quick & Dirty LBO Model
- Super extreme efficiency in Excel



**DISTRESSED MODELING****Distressed Investing Overview****Course Goals & Overview:**

Learn how to analyze and value distressed companies and securities undergoing restructuring or bankruptcy process. First, appreciate and understand the historical perspective and context of the distressed market. Then, explore various opportunities in distressed investing from securities types to investment strategies. Properly identify and isolate the true sources and drivers of returns from supply & demand to operational changes to market rebound to recapitalizations. Quantify and comprehend the dramatic changes to a distressed firm's capital structure and the implications on the valuation process and realignment of economics. Understand the reorganization and bankruptcy process, including DIP (debtor-in-possession) financing, Section 363 sales (stalking horse), Chapter 11 reorganization, and Chapter 7 liquidation. Fully comprehend the key critical covenants required involved in distressed securities as well as the entire turnaround & restructuring process by identifying key parameters for successful business plan implementation.

**Learning Objectives:**

- Understand distressed investing, different investment strategies & valuation and bankruptcy process
- Comprehend capital structure pre- and post-petition, significant of identifying fulcrum security
- Comprehend the complexities and nuances involved with distressed analysis

**Course Sections:****Distressed Investing Overview**

- Various definitions of distressed and causes of distressed securities
- Understanding different securities types to invest in based on investment strategy

**Investment Strategies & Valuation**

- Understanding and taking advantage of capital structure arbitrage opportunities
- DIP (Debtor-In-Possession) financing and the controversial roll-up DIP
- Identifying all-important fulcrum security and impact on valuation and returns

**Bankruptcy: Legal Aspects & Chapter 11**

- Brief overview to Chapter 11 – Reorganization Process and impact on distressed investing in US
- Section 363 sales & stalking horse bidder's impact on determining success of Chapter 11 process

**Prerequisites:**

- Accounting & Financial Statements Integration
- Corporate Valuation Methodologies
- Basic Financial Modeling

**DISTRESSED MODELING****Distressed Financial Modeling****Course Goals & Overview:**

Learn how to model and value distressed companies and securities undergoing restructuring or bankruptcy process. Build upon our Distressed Investing Overview course by quantifying the dramatic changes to a distressed firm's capital structure and the implications on the valuation process and realignment of economics. Build robust distressed sensitivity financial model. Learning objectives include: model out sample distressed company on a standalone basis, with and without restructuring; incorporate detailed valuation sensitivity to identify key value drivers in a distressed situation; analyze the fulcrum security based on various valuation and leverage scenarios

**Course Sections:****Distressed Financial Modeling**

- Summarize pre-petition capital structure of distressed situation & determine normalized valuation
- Construct standalone Income Statement project of distressed company
- Layer on various restructuring and turnaround scenarios
- Evaluate & analyze decision to restructure and understand financial implications on valuation
- Construct super-dynamic and flexible model to automate new vs. old cash flow capital structure

**Distressed Financial Modeling & Sensitivity Analysis:**

- Construct robust sensitivity analysis to determine ultimate recovery to capital structure classes
- Sensitize distressed model based on leverage, valuation, new pro forma capital structure
- Analyze what constitutes a "bad" deal and its implications for the distressed investor
- Understand and appreciate various financial stakeholders and inherent conflicts of interest
- Quantify and evaluate the importance of determining the right fulcrum security

**Prerequisites:**

- Distressed Investing Overview

**BANK FINANCIAL MODELING****Bank Industry Primer****Course Goals & Overview:**

Balance sheet based companies, such as banks, play by different rules and methodologies based on the unique nature of their business. Focus is placed on our Commercial Banks financial statements primer which dives deep into a bank's unique financial statement terminology and drivers. Understand how to analyze a bank and why the standard financial analysis and valuation methodologies that apply to most companies do not apply to industries that "use money to make money". Start with a brief overview of the main banking functions (commercial, investment, asset management) and quickly turn to the quality of book of loans and analysis of net vs. gross charge-offs vs. provisions, etc. Understand the critical credit ratios and capital adequacy analysis as well as Tier 1 and II definitions and Basel II impact. Crystallize the impact of Interest Rates, importance of term structure and credit spreads and implications on a bank's profitability. Examine best practices in calculating net interest income via average asset and liability balances on the income statement. Dive into an analysis of Balance Sheet assets & liabilities and articulate the drivers of EPS growth. Wrap up by analyzing valuation parameters: key banking valuation multiples (PE, PEG, Book Value, ROE).

**Course Sections:****Banking Industry Overview**

- Overview of main banking functions (commercial, investment, asset management)
- Quality of book of loans and analysis of net charge-offs
- Critical credit ratios and capital adequacy analysis; Tier 1 and 2 definitions and Basel impact
- Impact of Interest Rates, importance of term structure and credit spreads

**Banking Financial Statement Terminology & Drivers**

- Net Interest Income Margin (Interest Expense net against Revenue not COGS)
- Analysis of Balance Sheet Assets & Liabilities
- Drivers of EPS growth
- Valuation Parameters: key banking valuation multiples (PE, PEG, Book Value, ROE)

**Prerequisites:**

- Accounting & Financial Statements Integration
- Corporate Valuation Methodologies
- Basic Financial Modeling

**BANK FINANCIAL MODELING****Basic Bank Financial Modeling****Course Goals & Overview:**

Build a basic, streamlined bank financial model that builds upon the bank terminology in our Bank Industry Primer course. Before diving deep into the complex nuances of our Advanced Bank Financial Model, really solidify your understanding of developing the logic in loan losses and provisions and its impact on the rest of the larger bank financial statements. Perform quick back-of-the-envelope calculations for key Balance Sheet items such as Interest Earning Assets and Interest Bearing Liabilities, which yield Net Interest Income. Estimate and calculate capital adequacy ratios to wrap up your summary simplified basic bank model.

**Prerequisites:**

- Bank Industry Primer

**Intermediate Bank Financial Modeling****Course Goals & Overview:**

Construct a more robust bank financial model by building a bank balance sheet and derived income statement. Project gross loan balance, provisions for credit losses, gross charge-offs, recoveries, net charge-offs, net loan balance based on important key trends and ratios. Predict the critical funding requirements on the liability side of the balance sheet to support the loans and asset side. Learn the techniques and best practices to balancing the bank model. Examine different techniques to estimate the crucial interest-earning assets and interest-bearing liabilities. Estimate asset yield, funding costs and net interest spread to minimize forecasting error. Identify line items that constitute non-interest fee revenue beyond using simple percent growth rates. Incorporate and integrate provision for credit losses. Calculate compensation and overhead expenses and leave with a completed balance sheet and income statement. Make sure you master the concepts in this Intermediate class before diving into our Advanced Bank Financial Modeling course.

**Prerequisites:**

- Bank Industry Primer
- Basic Bank Financial Modeling

**BANK FINANCIAL MODELING****Advanced Bank Financial Modeling****Course Goals & Overview:**

The standard financial analysis and valuation methodologies that apply to most companies do not apply to industries that “use money to make money”. Balance Sheet based companies, such as banks, play by different rules and methodologies based on the unique nature of their businesses. First, start off with an interactive primer on commercial banks and their financial statement terminology and drivers. Then, build a fully integrated bank financial model that addresses the key drivers of profitability, cash flow, and valuation. Focus is placed on: projecting the Balance Sheet line items which drive the entire model; estimating interest-earning assets and interest-bearing liabilities which drives profitability; projecting loan portfolio growth, provisions for credit losses, and net charge-offs which determine overall impact on the financial statements. Complete the model by projecting different fee revenue sources and integrating the Cash Flow Statement. Finish the model by calculating and analyzing capital adequacy ratios, financial performance indicators and valuation metrics.

**Course Sections:****Balance Sheet:**

- Project gross loan balance, provisions for credit losses, gross charge-offs, recoveries, net charge-offs, net loan balance based on important key trends and ratios
- Analyze detailed components of and balance scope vs. depth in projecting mix of loan portfolio
- Project the critical funding requirements on the liability side of the Balance Sheet to support the loans and asset side of the Balance Sheet based on bank modeling best practices
- Dynamically calculate the critical fed funds sold and purchased line items
- Properly incorporate the equity account based on financing activities from Cash Flow Statement
- Calculate crucial interest-earning assets and interest-bearing liabilities from the Balance Sheet
- Estimate asset yield, funding costs and net interest spread to minimize forecasting error

**Income Statement:**

- Calculate future Net Interest Income and margin from IEA and IBL
- Project line items that constitute non-interest fee revenue beyond using simple % growth rates
- Incorporate and dynamically integrate provision for credit losses on IS and BS
- Estimate compensation and overhead expenses to round out the Income Statement
- Correctly incorporate and integrate share buybacks and issuances, treasury options, restricted stock units and stock-based compensation into all three financial statements (IS, BS, CF)

**Cash Flow Statement:**

- Construct automated Cash Flow Statement based on the Income Statement and Balance Sheet
- Differentiate between a bank's financial statements by properly allocating the correct components of CFO, CFI, CFF
- Understand and appreciate which line items are impossible to calculate independently and must be lumped and grouped together to arrive at the net impact instead of tediously (and incorrectly) trying to project every single item
- Build more supporting detailed schedules to project dividends and stock repurchases and issuances and have it properly flow through the rest of the financials

**Financial & Capital Ratios and Valuation Metrics:**

- Construct and analyze internal profitability ratios to analyze core performance of the bank
- Calculate profitability ratios and asset utilization ratios for direct comparisons
- Reconstruct and estimate Tier I and Total Capital (Tier I and II), risk weighted assets, adjusted assets and corresponding capital adequacy ratios for regulatory supervision
- Calculate current market multiples and valuation metrics relevant for a bank

**Prerequisites:**

- Bank Industry Primer, Basic Bank Financial Modeling, Intermediate Bank Financial Modeling

**INSURANCE FINANCIAL MODELING****Insurance Industry Primer****Course Goals & Overview:**

Balance sheet based companies, such as insurance companies, play by different rules and methodologies based on the unique nature of their business. Focus is placed on our Insurance Industry primer which dives deep into an insurance company's unique financial statement terminology and drivers. Distinguish between P&C (Property & Casualty) and L&H (Life & Health) insurance companies. Comprehend all the major players along the insurance spectrum from retail to wholesale brokers, to MGAs and MGUs and captive carriers and much more. Understand the different types of insurance, reinsurance and their financial statement impact. On the Income Statement, differentiate between the different types of premiums (direct, ceded, net, written, earned); comprehend loss triangles and the main differences between statutory vs. GAAP accounting. On the Balance Sheet, understand key assets line items (premiums receivable, reinsurance recoverable, prepaid reinsurance premiums) as well as the liabilities (loss & LAE reserve, unearned premium reserve). Understand insurance valuation parameters: key insurance multiples (PE, book value, premium/surplus).

**Course Sections:****Insurance Industry Overview**

- Types of Insurance: Property & Casualty vs. Life & Health
- Insurance industry players and their functions, roles and value-add
- Modern insurance industry structure
- Reinsurance and retrocession: types (quota-share vs. XOL) and their impact on financials

**Insurance Financial Statement Terminology & Drivers**

- IS: Premiums: Direct vs. Ceded vs. Net and Written vs. Earned vs. UEPR
- IS: Losses Incurred and LAE Incurred (ALAE vs. ULAE) and Commissions vs. DAC
- Statutory vs. GAAP Net Income – main differences
- BS Assets: Premiums Receivable, Reinsurance Recoverable, Prepaid Reinsurance Premiums
- BS Liabilities: Loss & LAE Reserve, Unearned Premium Reserve
- Valuation Parameters: key insurance multiples (PE, Book Value, Premium/Surplus)

**Prerequisites:**

- Accounting & Financial Statements Integration
- Corporate Valuation Methodologies
- Basic Financial Modeling

**INSURANCE FINANCIAL MODELING****Basic Insurance Company Financial Modeling****Course Goals & Overview:**

Build a basic, streamlined insurance company financial model that builds upon the insurance financial statements terminology in our Insurance Industry Primer course. Before diving deep into the complex nuances of our Advanced Insurance Company Financial Model, really solidify your understanding of the major items on an insurance company's Income Statement and Balance Sheet. Take the time to further immerse yourself with understanding insurance.

**Learning Objectives:**

- Project written and earned premiums and unearned premium reserve
- Calculate Loss & LAE and reserves based on a simple two-year incurred/paid logic
- Construct basic Income Statement, distinguishing between Underwriting Income and GAAP
- Construct simplified Balance Sheet – does not incorporate all major GAAP “grossed up” line items
- Utilize short cash flow sweep to balance the mini-model
- Perform quick Statutory Adjustment from GAAP financials

**Prerequisites:**

- Accounting & Financial Statements Integration
- Corporate Valuation Methodologies
- Basic Financial Modeling
- Insurance Industry Primer



## INSURANCE FINANCIAL MODELING

### Advanced Insurance Company Financial Modeling

#### Course Goals & Overview:

Build a fully integrated, scalable, new insurance company model including detailed build-up by line of business from Gross Written Premiums to Net Premiums down to Underwriting Income. Consolidate the lines of business performance into a GAAP Income Statement with statutory adjustments. Integrate income statement projections with a self-balancing balance sheet, an automated cash flow statement and the balancing cash flow sweep schedule. Learning objectives include: build an integrated set of financials, including LOB, income statement, balance sheet & cash flow; project direct, ceded and net premiums and underwriting income based on assumed loss triangles; consolidate multiple lines of businesses, calculate GAAP and Stat Net Income with Tax Schedule; project self-balancing balance sheet including items such as premiums receivable and recoverables

#### Course Sections:

##### Line of Business Breakdown:

- Project gross written and earned premiums, from direct down to ceded and net
- Incorporate fundamentals drivers of premiums including premiums growth and rate changes
- Calculate unearned premium reserve and flow that back into larger financial model
- Calculate Loss & LAE and reserves – construct critical paid and reserve loss triangles based on payout patterns and different “tail” assumptions
- Estimate ceded quota share and XOL amounts, which results in the “grossed up” Balance Sheet
- Generate net premiums, losses, commission expense and underwriting income
- Consolidate multiple lines of business into Consolidating Income Statement

##### Income Statement:

- Calculate all revenue items including various top-line premiums and investment income
- Calculate total expenses including underwriting expenses and other relevant expenses
- Tax schedule to properly adjust for deferred acquisition costs (DAC) and any NOLs
- Adjust from GAAP Net Income to estimated Statutory Net Income

##### Balance Sheet:

- Project cash & invested assets balances, which is the ultimate balancer for insurance companies
- Project premiums receivable, reinsurance recoverables and other relevant insurance assets
- Derive loss reserves, unearned premium reserves, and other relevant insurance liabilities
- Learn how to cast a proper GAAP Balance Sheet based on these “grossed up” balances
- Project shareholders’ equity account including APIC, retained earnings, etc.

##### Cash Flow Statement and Sweep:

- Calculate CFO (including working capital), CFI and CFF
- Build cash flow sweep to capture any shortfalls / build-up in cash to balance the entire model
- Build interest schedule to fully integrate the model
- What are circular references, why should they be avoided and how to get around circular references

##### Internal Rate of Return (IRR):

- Project returns to financial sponsor / investor based on financial model

##### Prerequisites:

- |   |  |
|---|--|
| • Accounting & Financial Statements Integration | • Insurance Industry Primer                  |
| • Corporate Valuation Methodologies             | • Basic Insurance Company Financial Modeling |
| • Basic Financial Modeling                      |  |

**OIL & GAS FINANCIAL MODELING & VALUATION****Oil & Gas Services Industry Primer & Financial Modeling****Course Goals & Overview:**

The energy industry impacts everyone in one way or another, from commuters to bottled water consumers. Oil and natural gas are the world's leading energy supply, with gas stations in every neighborhood fueling cars and trucks that travel millions of miles a day. Supporting the entire oil & gas sector is the entire oil & gas services ecosystem.

We begin with an oil & gas services industry primer by introducing the oil & gas field development cycle and the corresponding supporting oil services, from feasibility studies to contract drilling from onshore to offshore, marine-based oil rigs. Drill into the drilling related services & equipment and understand casing and completion to infrastructure & installation and production & maintenance.

Then we focus on analyzing a leading global oil & gas services provider (Halliburton). We will build and constructing the detailed segment build-up portion of the financial model that feeds the Income Statement of your oil & gas services financial model. Understand various industry conventions for rig counts (SWACO and Baker Hughes).

**Course Sections:****Oil & Gas Services Industry Primer:**

- What exactly is oil & gas? How did oil start? Who started it?
- Products that use petroleum; different types of oil (light vs. heavy, sweet vs. sour)
- Worldwide oil benchmarks and why they matter
- Onshore well drilling and pumping; primary and secondary recovery
- Offshore drilling from start to finish, including various drilling platform types
- Mining oil sands; what is special about bitumen?
  
- Oil & Gas Services: Learn all the services with which oil firms need assistance
- Who do they call on when they need help, tools and parts?
- Deep dive into major oil services: seismology, contract drilling, drill bits, casing & completion, infrastructure and production & maintenance
- Understand key drivers of growth: How many oil rigs are out there today? How are they counted?
- Brief overview of oil & gas taxation and concession vs. production based contracts

**Oil & Gas Services Financial Modeling:**

- Quantify the readily identifiable drivers of growth for oil & gas services provider
- Understand rig counts and various footnotes to roll up to revenue figures
- Gain insight into channel checks required to properly ascertain future growth
- Roll-up segment and geographic operating data in footnotes into Income Statement
- Project from Revenue down to Net Income and Earnings per Share
- Analyze various one-time adjustments required and how to properly calculate normalize profitability
- Construct trading statistics analysis, summarize current market valuation of company
- Build fully integrated financial model (optional)

**Prerequisites:**

- Accounting & Financial Statements Integration
- Basic Financial Modeling
- Advanced Financial Modeling – Core Model (optional)

**OIL & GAS FINANCIAL MODELING & VALUATION****Integrated Oil & Gas Industry: Basic Financial Modeling****Course Goals & Overview:**

The energy industry impacts everyone in one way or another, from commuters to bottled water consumers. Oil and natural gas are the world's leading energy supply, with gas stations in every neighborhood fueling cars and trucks that travel millions of miles a day. However, oil's ubiquity should not be mistaken for simplicity; sound investment decisions require the exploration of the many intricacies within this space.

In this abridged version of our full blown oil & gas integrated analysis, we explain the various sectors and subsectors of an E&P company with our short introductory primer to familiarize the concepts and terminology. We then introduce and build a basic, simplified version of our oil & gas integrated model to communicate how one should approach modeling out the key drivers of growth and basic NAV analysis.

**Course Sections:****Oil & Gas Integrated Industry Primer:**

- What exactly is oil & gas? How was oil formed? What are the different worldwide benchmarks?
- Products that use petroleum; different types of oil (light vs. heavy, sweet vs. sour)
- Upstream: Onshore & offshore well drilling and pumping; primary, secondary & tertiary recovery
- Downstream: converting unusable crude oil into refined, useable various end products
- Summary review of the process of refining, distillation and cracking; transportation and petrochemicals
- Understanding Nelson complexity index for refineries and economics of crack spreads
- Brief overview of oil & gas taxation and concession vs. production based contracts
- Financial statements analysis: oil reserves (P1, P2, P3) & expense treatment (successful efforts vs. full cost)
- Operating metrics: reserves to production ratio, reserve replacement ratio, cost ratios, production curves

**Oil & Gas Integrated – Segment Build-up**

- Build simplified oil & gas model, highlighting the important modeling concepts for oil & gas integrateds
- Upstream segment build-up analysis: project future exploration & production revenue and EBITDA based on oil-equivalent production volume, realized prices, % realized vs. benchmark and other key drivers of growth
- Downstream segment: project refining capacity, throughput, capacity utilization, gross vs. net refining margins, crack spreads, realized vs. crack spreads to calculate refining & marketing revenue and EBITDA
- Petrochemicals segment: project volume, petrochemicals product price differentials to derive future revenue
- Roll-up upstream, downstream and petrochemicals segments to start Income Statement projection model

**5-Year Income Statement Projection Model**

- Input historical financial results and recast as necessary for one-time adjustments
- Incorporate segment build-up as the start of future projection years into Income Statement
- Calculate historical growth rates and margins which serve as the basis for your projection assumptions
- Calculate projected profitability from revenue down to EPS

**NAV and PV-10 Valuation Model**

- Analyze reported proven reserves footnote which serve as the starting point NAV and PV-10 analysis
- Incorporate production curve projections from larger financial model to project future total production
- Estimate realized prices and production costs per barrel from your larger model and past projection period
- Calculate revenue and costs to derive pre- and post-tax cash flows and discount for NAV and PV-10 analysis
- Include other segments (downstream and petrochemicals) to arrive at estimated Total Enterprise Value

**Prerequisites:**

- Accounting & Financial Statements Integration
- Basic Financial Modeling
- Advanced Financial Modeling – Core Model (optional)

**OIL & GAS FINANCIAL MODELING & VALUATION**

**Integrated Oil & Gas Industry: Advanced Financial Modeling & Valuation**

**Course Goals & Overview:**

The energy industry impacts everyone in one way or another, from commuters to bottled water consumers. Oil and natural gas are the world's leading energy supply, with gas stations in every neighborhood fueling cars and trucks that travel millions of miles a day. However, oil's ubiquity should not be mistaken for simplicity; sound investment decisions require the exploration of the many intricacies within this space.

In this full blown version of our oil & gas integrated financial modeling, we explain the various sectors and subsectors of an E&P company with our short introductory primer to familiarize the concepts and terminology. We then build a full integrated model including detailed build-ups of various segments of our oil & gas integrated model to fully map out drivers of growth for both financial modeling and valuation.

**Course Sections:**

**Oil & Gas Integrated Industry Primer:**

- What exactly is oil & gas? How was oil formed? What are the different worldwide benchmarks?
- Products that use petroleum; different types of oil (light vs. heavy, sweet vs. sour)
- Upstream: Onshore & offshore well drilling and pumping; primary, secondary & tertiary recovery
- Downstream: converting unusable crude oil into refined, useable various end products
- Summary review of the process of refining, distillation and cracking; transportation and petrochemicals
- Understanding Nelson complexity index for refineries and economics of crack spreads
- Brief overview of oil & gas taxation and concession vs. production based contracts
- Financial statements analysis: oil reserves (P1, P2, P3) & expense treatment (successful efforts vs. full cost)
- Operating metrics: reserves to production ratio, reserve replacement ratio, cost ratios, production curves

**Oil & Gas Integrated – Segment Build-up**

- Build detailed oil & gas integrated financial statement model, quantifying all key drivers of growth
- Upstream segment build-up analysis: project future production volume by type of oil & gas production: crude oil & NGL, bitumen, synthetic oil and natural gas growth rates
- Discuss and select relevant benchmarks for each product type and calculate average prices, input and analyze realized prices, and calculate product price differentials based on % realized
- Project future E&P revenue, reconcile to reported unconsolidated revenue and incorporate intercompany eliminations to arrive at GAAP reported revenue that properly foots to footnotes and segment reporting
- Reconcile and sort through confusing EBITDA build-up based on reported segment data
- Downstream segment: project refining capacity, throughput, capacity utilization for both US and non-US
- Discuss and understand difference between gross vs. net refining margins and when to use which margin
- Understand and incorporate key drivers: crack spreads, realized vs. crack spreads
- Calculate refining & marketing revenue and EBITDA including very confusing EBITDA reconciliation
- Petrochemicals segment: project volume, petrochemicals product price differentials to derive future revenue
- Construct robust sensitivity and scenario analysis for toggling various future spot prices assumptions that ultimately drive the profitability of oil & gas companies
- Analyze the implications of price impacts on upstream and downstream segments and the offsetting nature
- Construct massive detailed Consolidating Income Statement that fully reconciles historical and future projected segment build-up of revenue and expenses that ties to Income Statement line items and incorporating Corporate division and Minority Interest (this Herculean task cannot be understated enough!)

**OIL & GAS FINANCIAL MODELING & VALUATION****Integrated Oil & Gas Industry: Advanced Financial Modeling & Valuation (cont.)****Income Statement Projection Model**

- Input historical financial results and recast as necessary for one-time adjustments
- Incorporate segment build-up as the start of future projection years into Income Statement
- Calculate historical growth rates and margins which serve as the basis for your projection assumptions
- Calculate projected profitability from revenue down to EPS

**Balance Sheet & Cash Flow Statement Projection Model**

- Input historical Balance Sheet and understand the drivers of growth for various line items
- Review of days outstanding and different working capital projection methods
- Project “first pass” of the Balance Sheet, the first 75% of line items that don't require Cash Flow Statement
- Construct Cash Flow Statement based on the completed Income Statement and “first pass” Balance Sheet
- Calculate all of CFO, estimate Capital Expenditures for CFI and project capital structure items for CFF
- Incorporate calculation and payment of dividends into your integrated financial model
- Emulate announced share repurchase program by estimating implied price and shares repurchased

**Debt Sweep and Integration & Balancing of Financial Model**

- Balance the model using debt schedule and revolver logic – extremely important for balancing the model
- Incorporate automatic debt payments and use cash generated to either pay down debt or build cash
- How does the revolver facility actually balance the model? Avoid messy nested “if” statements!!
- How does the balance sheet and financial statements balance by itself without the use of “plugs”?
- How are the financial statements integrated using the Interest schedule?
- What are circular references, why should they be avoided and how to get around circular references

**Enhancements to the Core Model and Supporting Schedules**

- Build a stand-alone depreciation schedule by incorporating details such as remaining useful life estimates
- Depreciate existing Net PPE and new Capital Expenditures based on weighted average life
- Construct detailed financial accounting ratios to quantify profitability & operating efficiency metrics
- Analyze liquidity ratios, profitability ratios and asset management efficiency ratios
- Credit and leverage statistics ratio analysis with automated comparisons vs. S&P rating statistics
- Build an analysis of trading statistics that can be used to compare companies across an industry
- Provides current snapshot of the current public market valuation

**Traditional Discounted Cash Flow Analysis**

- How is a discounted cash flow analysis actually constructed?
- Estimate unlevered free cash flow (free cash flow to firm)
- Terminal Value estimation: what are the differences between the EBITDA multiple and perpetuity growth approaches and what are the implications on value?
- Learn subtle nuances including the proper figure for “cash flow” in perpetuity growth models
- Calculate from enterprise value down to equity value and ultimately down to stock price per share

**NAV and PV-10 Valuation Model**

- Analyze reported proven reserves footnote which serve as the starting point NAV and PV-10 analysis
- Incorporate production curve projections by product type to project future total production
- Estimate realized prices and production costs per barrel by product type, during and past projection period
- Calculate revenue and costs to derive pre- and post-tax cash flows and discount for NAV and PV-10 analysis
- Include other segments (downstream and petrochemicals) to arrive at estimated Total Enterprise Value

**Prerequisites:**

- Accounting & Financial Statements Integration, Basic Financial Modeling, Advanced Financial Modeling – Core Model

**REAL ESTATE DEVELOPMENT MODELING****Real Estate Development Introduction – Master Plan****Course Goals & Overview:**

Evaluate the financial feasibility of a greenfield real estate development project. Determine the valuation of an empty plot of land by developing and building different lots, houses and condos. First, incorporate infrastructure costs required for a master plan development. Then dynamically differentiate among developing empty lots, building single family houses, and constructing & selling condominiums. Account for variability in construction timelines for different types of properties and sensitize the master financial model for various per unit and per square foot costs as the project is in planning, construction and post-construction phases. Learn how to quickly modify assumptions to customize the model to reflect a poor operating environment as the pace of lot sales significantly decline. In addition, learn how to determine optimal funding mix of equity vs. debt based on project cash flows and IRR.

**Learning Objectives:**

- Build a sample master plan which involves buying raw land, creating community-wide infrastructure (shared utilities and resources that didn't previously exist) and then constructing buildings for sale or rent
- Understand timeline and construction costs associated with common land and unit specific development
- Model out monthly revenues based on assumptions regarding pre-sales volume, deposits, and various phases of planning, construction and post-construction
- Map out draw down of construction costs and final cash flow stream which dictate capital required, influencing IRR and multiple of capital

**Prerequisites:**

- Accounting & Financial Statements Integration
- Corporate Valuation Methodologies
- Basic Financial Modeling

**Real Estate Development Introduction – Hotel Development****Course Goals & Overview:**

Evaluate and analyze the acquisition, construction and renovation of a boutique hotel. Quantify hotel-specific construction costs and Sources & Uses of Funds. Perform detailed construction loan analysis that rolls into larger debt funding facility. Funnel into the core projection, estimating REVPAR (Revenue per available room), various revenue streams and operating expenses. Compute management incentives and ultimately roll into Net Cash Flow and IRR.

**Learning Objectives:**

- Build a sample hotel investment analysis which involves buying land, constructing or renovating a new boutique hotel, industry standards in raising debt capital and of course ultimately, P&L and cash flow analysis to determine returns
- Model out detailed construction loan analysis with various drawdown percentages and interest reserves which feeds the amortization schedule of larger debt funding facility
- Construct projection model based on key factors such as room-nights available, occupancy rates, daily room rate, REVPAR and other relevant factors

**Prerequisites:**

- Accounting & Financial Statements Integration
- Corporate Valuation Methodologies
- Basic Financial Modeling

**PROPERTY DEVELOPMENT MODELING****Residential Condos****Course Goals & Overview:**

Model the development of a residential condominium building, from pre-construction all the way through either the sale of the property or hold and lease after construction. Start with a property profile and a list of all units before delving into Sources and Uses of Funds for the transaction. Sources span a variety of debt/equity combinations, each with their respective costs. Uses are also quite diverse, ranging from hard costs associated with the actual construction to soft costs. Model out most common types of debt and debt structures available to finance the project. Learn how to model all the revenue and expense drivers in order to calculate expected cash flows. Then compute debt and leverage constraints as well as valuation based on cap rates, which ultimately feed into the financial returns section.

**Learning Objectives:**

- Construct Sources and Uses of Funds, identify and project revenue and expenses based on drivers for condos
- Build a dynamic and integrated model that forecasts cash flows, NOI, cap rates and other relevant metrics
- Compute permitted debt levels and leverage constraints, including debt amortization and equity requirements
- Calculate financial returns (IRR, multiple of capital, breakeven) and sensitivity analysis to maximize equity returns

**Sources & Uses of Funds and Construction / Pre-Construction Roll-up:**

- Understand the importance of construction and pre-construction inputs, as they control the CF and P&L of the model
- Project Sources of Funds: developer vs. investor equity, mezzanine vs. senior debt and associated financing costs
- Delineate hard costs (raw materials, excavation, demolition, construction, doors) and relevant depreciation treatment
- Account for soft costs (legal, architects, designers, engineers, insurance, taxes, marketing) and expense treatment
- Compile a rent roll summarizing the various units, complete with occupancy, market rent, and square footage
- Analyze other types of costs (FF&E, tenant improvements) that are incurred as move-in dates approach

**Revenue and Expense Drivers:**

- Split units by pricing (Market, Pre-Sales, Affordable) and maximize floor area ratio (FAR) for each unit based on lot size
- Capture key revenue drivers such as: pre-sale / closing rates (sales path) and price per square foot (or per unit)
- Incorporate number of employee units, parking income, concessions, and other ancillary fees revenue
- Net out revenue deductions associated with exiting via property sale (broker fees, marketing fees, etc.)
- For continuous leasing, analyze individual operating expenses (maintenance, security, common area, payroll, management fees, deposits/closing, administrative, insurance, utilities, taxes, etc.)
- Factor in the absence of tenants sharing any of the costs of property taxes, insurance, and maintenance
- Account for security deposits, closing costs, and lease cancelling charges, affecting monthly timing on tenant income
- Determine whether the condominium is subject to specific electricity charges in certain markets (may be based on a stated amount in the lease, annual surveys of usage, submetering of usage, or direct metering)

**CF Model Integration with Leverage and Equity Requirements:**

- Construct P&L and cash flow model for cash-on-cash analyses and other metrics such as NOI, FFO as appropriate
- Incorporate CapEx and maintenance CapEx assumptions that properly flow through the model
- Combine metrics such as Loan-To-Value (LTV) and Loan-to-Cost (LTC) ratios to start evaluating credit risk
- Construct debt amortization schedules and distinguish between levered and unlevered returns
- Proper treatment of capitalized interest expense during construction period vs. expensing interest post-construction
- Calculate relevant credit ratio and leverage statistics (DSCR, etc) to determine ideal mix of debt and equity capital
- Refine equity injection required with debt sweep logic to maintain a minimum level of working capital
- Calculate key financial return metrics including levered and unlevered cash-on-cash IRR, multiple of capital, etc.
- Layer on sensitivity analyses to simulate various scenarios reflecting fluctuations in key drivers of profitability
- Model out capital structure nuances: contributed capital tiers, desired leverage, JV partner shares, and IRR thresholds
- Understand sensitivity of accruals and fund-level IRR & equity multiples driven by changes in levered cash flows

**PROPERTY DEVELOPMENT MODELING****Office Properties****Course Goals & Overview:**

Model the development of an office complex, from pre-construction all the way through either the sale of the property or leasing for several years after construction. Start with a property profile and a list of all units before delving into sources and uses of funds. Sources span a variety of debt/equity combinations, each with their respective costs. Uses are also quite diverse, ranging from hard costs associated with the actual construction to soft costs such as hiring designers and engineers. Figure out the various types of debt and debt structures available to finance the project. Learn how to model all the revenue and expense drivers in order to calculate expected cash flows. Then compute debt and leverage constraints as well as valuation based on cap rates, which ultimately feed into the financial returns section.

**Learning Objectives:**

- Construct Sources and Uses of Funds, identify and project revenue and expenses based on drivers for office buildings
- Build a dynamic and integrated model that forecasts cash flows, NOI, cap rates and other relevant metrics
- Compute permitted debt levels and leverage constraints, including debt amortization and equity requirements
- Calculate financial returns (IRR, multiple of capital, breakeven) and sensitivity analysis to maximize equity returns

**Sources & Uses of Funds and Construction / Pre-Construction Roll-up:**

- Understand the importance of construction and pre-construction inputs, as they control the CF and P&L of the model
- Project Sources of Funds: developer vs. investor equity, mezzanine vs. senior debt and associated financing costs
- Delineate hard costs (raw materials, excavation, demolition, construction, doors) and relevant depreciation treatment
- Account for soft costs (legal, architects, designers, engineers, insurance, taxes, marketing) and expense treatment
- Compile a rent roll summarizing the various units, complete with occupancy, market rent, and square footage
- Analyze other types of costs (FF&E, tenant improvements) that are incurred as move-in dates approach
- Subtract out costs associated with exiting via property sale (broker fees, marketing fees)

**Revenue and Expense Drivers:**

- Maximize floor area ratio (FAR) for each unit based on lot size
- Capture all typical revenue drivers such as vacancy allowance, rent per square foot, rentable area, number of employee units, parking income, concessions, and other fees (application, termination, redecoration, late)
- For continuous leasing, analyze individual operating expenses (janitorial, maintenance, landscaping, security, office expense, payroll, management fees, deposits/closing, administrative, insurance, utilities, taxes)
- Factor in significant capital investment from owner upon new/changing tenants, as office lessors have a TI obligation
- Forecast long-term space modification trends such as the growing popularity of open co-working spaces, etc.
- Allow for more flexible lease terms for extremely long-term anchor tenants

**CF Model Integration with Leverage and Equity Requirements:**

- Distinguish between different types of leases such as Triple Net Leases inclusive of OpEx and property taxes
- Construct P&L and cash flow model for cash-on-cash analyses and other metrics such as NOI, FFO as appropriate
- Incorporate CapEx and maintenance CapEx assumptions that properly flow through the model
- Combine metrics such as Loan-To-Value (LTV) and Loan-to-Cost (LTC) ratios to start evaluating credit risk
- Construct debt amortization schedules and distinguish between levered and unlevered returns
- Proper treatment of capitalized interest expense during construction period vs. expensing interest post-construction
- Calculate relevant credit ratio and leverage statistics (DSCR, etc.) to determine ideal mix of debt and equity capital
- Refine equity injection required with debt sweep logic to maintain a minimum level of working capital
- Calculate key financial return metrics including levered and unlevered cash-on-cash IRR, multiple of capital, etc.
- Layer on sensitivity analyses to simulate various scenarios reflecting fluctuations in key drivers of profitability
- Model out capital structure nuances: contributed capital tiers, desired leverage, JV partner shares, and IRR thresholds
- Understand sensitivity of accruals and fund-level IRR & equity multiples driven by changes in levered cash flows

**PROPERTY DEVELOPMENT MODELING****Shopping Mall****Course Goals & Overview:**

Model the development of a retail shopping mall, from pre-construction all the way through either the sale of the property or leasing for several years after construction. Start with a property profile and a list of all units before delving into sources and uses of funds. Sources span a variety of debt/equity combinations, each with their respective costs. Uses are also quite diverse, ranging from hard costs associated with the actual construction to soft costs such as hiring designers and engineers. Figure out the various types of debt and debt structures available to finance the project. Learn how to model all the revenue and expense drivers in order to calculate expected cash flows. Then compute debt and leverage constraints as well as valuation based on cap rates, which ultimately feed into the financial returns section.

**Learning Objectives:**

- Construct Sources and Uses of Funds, identify and project revenue and expenses based on drivers for shopping malls
- Build a dynamic and integrated model that forecasts cash flows, NOI, cap rates and other relevant metrics
- Compute permitted debt levels and leverage constraints, including debt amortization and equity requirements
- Calculate financial returns (IRR, multiple of capital, breakeven) and sensitivity analysis to maximize equity returns

**Sources & Uses of Funds and Construction / Pre-Construction Roll-up:**

- Understand the importance of construction and pre-construction inputs, as they control the CF and P&L of the model
- Project Sources of Funds: developer vs. investor equity, mezzanine vs. senior debt and associated financing costs
- Delineate hard costs (raw materials, excavation, demolition, construction, doors) and relevant depreciation treatment
- Account for soft costs (legal, architects, designers, engineers, insurance, taxes, marketing) and expense treatment
- Compile a rent roll summarizing the various units, complete with occupancy, market rent, and square footage
- Analyze other types of costs (FF&E, tenant improvements) that are incurred as move-in dates approach
- Subtract out costs associated with exiting via property sale (broker fees, marketing fees)

**Revenue and Expense Drivers:**

- Split units by type (Anchor, In-line Shop, Food Court) and maximize floor area ratio (FAR) for each unit based on area
- Capture all typical revenue drivers such as vacancy allowance, sales per square foot, rent per square foot, rentable area, concessions, and other recoveries (CAM recoveries, RET recoveries, marketing income, utility charges)
- For continuous leasing, analyze individual operating expenses (security, janitorial/food court, landscaping, repairs/maintenance, administrative, insurance, utilities, taxes)
- Strongly sensitize single-tenant lease roll-up to anchor tenants (no penalty for in-line tenants if an anchor leaves)
- Center rent structure around anchor tenants, who pay significantly less rent in order to simply drive foot traffic

**CF Model Integration with Leverage and Equity Requirements:**

- Analyze the range of metrics for each property subsector (e.g. Regional Mall, Community Shopping Center, Power Center, Neighborhood Shopping Center, Outlet, Specialty Retail)
- Construct P&L and cash flow model for cash-on-cash analyses and other metrics such as NOI, FFO as appropriate
- Incorporate CapEx and maintenance CapEx assumptions that properly flow through the model
- Combine metrics such as Loan-To-Value (LTV) and Loan-to-Cost (LTC) ratios to start evaluating credit risk
- Construct debt amortization schedules and distinguish between levered and unlevered returns
- Proper treatment of capitalized interest expense during construction period vs. expensing interest post-construction
- Calculate relevant credit ratio and leverage statistics (DSCR, etc.) to determine ideal mix of debt and equity capital
- Refine equity injection required with debt sweep logic to maintain a minimum level of working capital
- Calculate key financial return metrics including levered and unlevered cash-on-cash IRR, multiple of capital, etc.
- Layer on sensitivity analyses to simulate various scenarios reflecting fluctuations in key drivers of profitability
- Model out capital structure nuances: contributed capital tiers, desired leverage, JV partner shares, and IRR thresholds
- Understand sensitivity of accruals and fund-level IRR & equity multiples driven by changes in levered cash flows

**PROPERTY DEVELOPMENT MODELING****Hotel Development****Course Goals & Overview:**

Create a complete hotel financial model from construction/funding to a full breakdown of revenue streams and operating costs. Learn how to model the various revenue and expense drivers related to hotel operations & understand relevance to brand/positioning, chain scale, on-site managed services, and industry-standard P&L classifications. Feed these cash flows into a robust financial valuation that accounts for various mixes of debt and equity. Also become familiar with hotel-specific metrics such as RevPAR and ADR which are used to assess performance/value across individual rooms, room types, brands, or the property overall.

**Learning Objectives:**

- Construct Sources and Uses of Funds, identify and project revenue and expenses based on drivers for hotels
- Build a dynamic and integrated model that forecasts cash flows, NOI, cap rates and other relevant metrics
- Compute permitted debt levels and leverage constraints, including debt amortization and equity requirements
- Calculate financial returns (IRR, multiple of capital, breakeven) and sensitivity analysis to maximize equity returns

**Sources & Uses of Funds and Construction / Pre-Construction Roll-up:**

- Understand the importance of construction and pre-construction inputs, as they control the CF and P&L of the model
- Project Sources of Funds: developer vs. investor equity, mezzanine vs. senior debt and associated financing costs
- Delineate hard costs and soft costs, with respective depreciation treatment and expense treatment, respectively
- Account for soft costs (legal, architects, designers, engineers, insurance, taxes, marketing) and expense treatment
- Analyze other types of costs (FF&E, including furnishings and computer equipment) with respective reserves
- Input costs associated with exiting via property sale, which is very common in hotels due to cyclicity/economic risk

**Revenue and Expense Drivers:**

- Capture revenue drivers (e.g. occupied room-nights, average daily rate, RevPAR/TRevPAR, Revenue PSF)
- Classify room-nights by market segment (e.g. corporate, retail, group, transient) to optimize revenue mix
- Categorize bookings by room type (e.g. standard room vs. suite style, king bed vs. double-double setup)
- Include other revenue streams (while minimal) such as gift shop sales, HSIA sales, parking, golf, spa, etc.
- Classify F&B revenues and expenses into banquet vs. onsite revenues, and account for division outsourcing
- Forecast direct operating costs; start with appropriate labor structures, F&B, telecom, and other revenue-related costs
- Expense room-related costs, beginning with a proper head count (housekeeping, valet and bell, etc.) and those related to F&B supplies/labor, telecom infrastructure costs, and other operating costs (spa, golf, etc.)
- Forecast undistributed operating expenses such as A&G, sales and marketing (including franchising fees), utilities, and R&M (repairs & maintenance, including janitorial staff and routine capex/upkeep)
- Budget for fixed expenses such as base & incentive management fees, FF&E reserve, property taxes, and insurance

**CF Model Integration with Leverage and Equity Requirements:**

- Construct P&L and cash flow model for cash-on-cash analyses and other metrics such as NOI, FFO as appropriate
- Incorporate CapEx and maintenance CapEx assumptions that properly flow through the model
- Combine metrics such as Loan-To-Value (LTV) and Loan-to-Cost (LTC) ratios to start evaluating credit risk
- Construct debt amortization schedules and distinguish between levered and unlevered returns
- Proper treatment of capitalized interest expense during construction period vs. expensing interest post-construction
- Calculate relevant credit ratio and leverage statistics (DSCR, etc.) to determine ideal mix of debt and equity capital
- Refine equity injection required with debt sweep logic to maintain a minimum level of working capital
- Calculate key financial return metrics including levered and unlevered cash-on-cash IRR, multiple of capital, etc.
- Layer on sensitivity analyses to simulate various scenarios reflecting fluctuations in key drivers of profitability
- Model out capital structure nuances: contributed capital tiers, desired leverage, JV partner shares, and IRR thresholds
- Understand sensitivity of accruals and fund-level IRR & equity multiples driven by changes in levered cash flows

**REIT MODELING****REIT Modeling****Course Goals & Overview:**

Build a fully integrated, scalable, REIT financial model including detailed build-up by internal growth, acquisitions, dispositions, and new development. Consolidate the various business assumptions with Consolidating Income Statement which flows through to the rest of the financial statements. Integrate income statement projections with a self-balancing balance sheet, an automated cash flow statement and the balancing cash flow sweep schedule. Learning objectives include: build detailed, fully integrated, quarterly REIT financial projection model; model various real estate acquisition volume scenarios; incorporate dispositions and relevant adjustments to financials; integrate new development and construction-in-progress assumptions.

**Course Sections:****REITs, REIT Terminology and REIT Market:**

- Overview of REITs, terminology and legal structure (e.g., UPREIT)
- REIT profitability and performance metrics including FFO, AFFO, straight-lining and FAS 141

**Acquisitions:**

- Model out future quarterly projected acquisition volume based on historical trends
- Estimate revenue, expenses, margins and NOI
- Calculate associated estimated depreciation expense

**Dispositions:**

- Model out future quarterly projected dispositions based on historical trends
- Estimate revenue, expenses, margins and NOI
- Estimate gross proceeds, gain/loss, net book and change to accumulated depreciation

**New Development:**

- Model out future quarterly projected development starts and completions
- Estimate revenue, expenses, margins and NOI
- Calculate net change to development properties, construction in process and investments

**Income Statement:**

- Consolidate acquisitions, dispositions & development figures into Consolidating Income Statement
- Calculate revenue and NOI including rental revenue and real estate expenses
- Calculate total expenses down to EBITDA, Net Income, FFO and EPS

**Balance Sheet, Cash Flow Statement and Sweep:**

- Project investments, CIP, land under development and all asset and liability balances
- Calculate CFO (including working capital), CFI and CFF items specific to REITs
- Build cash flow sweep to capture any shortfalls / build-up in cash to balance the entire model
- Build interest schedule to fully integrate the model
- Incorporate capitalized interest expense estimates, convertible notes and share repurchases
- What are circular references, why should they be avoided and how to get around them

**Prerequisites:**

- Accounting & Financial Statements Integration
- Basic Financial Modeling
- Advanced Financial Modeling – Core Model

**TECHNICAL APPLICATIONS - EXCEL AND MORE****Excel 2003 => Excel 2007/2010/2013/2016 Transition****Course Goals & Overview:**

When Excel and Office 2007 first debuted, Excel power-users around the world collectively groaned with a massive headache. While there are certainly key enhancements to Excel 2007 that we like, navigating the new “ribbon” caused some grief as users were forced to re-learn how to use Excel. Thankfully, most of the shortcut accelerator keys are still in place. But change is never easy, so we created this short tutorial on getting you up to speed real quick – the one stop source on mastering Excel 2007. Embrace it, Excel 2007 is here to stay.

**Learning Objectives:**

- Goal: communicate the key differences in Excel 2007 vs. Excel 2003 pertaining to financial professionals
- If you don't want to spend hours figuring out how to navigate the new interface, then you're at the right place
- No need to spend hundreds of dollars on a book that you won't read
- We'll teach you the key things in a fraction of the time

**Prerequisites:**

- Excel Fundamentals for the Finance Professional



**TECHNICAL APPLICATIONS - EXCEL AND MORE****Excel Fundamentals for the Finance Professional****Course Goals & Overview:**

This course focuses on how learning the fundamental building blocks of Excel so you can begin to take advantage and leverage all of Excel's true capabilities. In order to efficiently build models and crunch large data dumps in Excel, one must master the basics before the advanced content. Learn relevant financial formulas, proper navigation, formatting of files and worksheets, creating calculations in cells, and linking between worksheets/tabs. Functions and tools covered in this course include: mathematical, financial, logic, date/time formulas; data manipulation; anchoring; data tables; and building a capstone model. Emphasis will be on using shortcut keys, simplifying steps, and manipulating data. You will leave with techniques you can use immediately, allowing you to work faster and with less effort.

**Learning Objectives:**

- Learn basic features of Excel and how to properly navigate and format Excel files and worksheets
- Learn basic functions and creating calculations in cells and linking between tabs (worksheets)
- Introduction to basic data manipulation and realizing the power and capabilities of Excel
- Learn relevant financial formulas and functions and how to begin maximizing Excel's abilities

**Course Sections:****Fundamental Excel Functions**

- Mathematical functions: SUM, MAX, AVERAGE, MEDIAN, MIN
- Financial functions: PV, FV, RATE, NPV, IRR
- Logic Functions: IF, nested IF, CHOOSE, AND, OR
- Date Functions: MONTH, DAY, YEAR, WEEKDAY, EO MONTH
- Time Functions: HOUR, MINUTE, SECOND, TODAY, NOW
- Formatting: fills, copy formulas, paste special

**Intermediate Excel Techniques**

- Data Manipulation: TEXT, CONCATENATE, ROUND
- Anchoring and locking cell references
- Build simple capstone financial model that encompasses efficiencies, shortcuts and sensitivity analysis
- Shortcuts and working with Add-ins

**Prerequisites:**

- Some basic familiarity with Microsoft Excel

**TECHNICAL APPLICATIONS - EXCEL AND MORE****Advanced Excel for Data Analysis****Course Goals & Overview:**

This course focuses on how to effectively and efficiently utilize Microsoft Excel for data analysis. A financial analyst will not only use Excel to build financial models, but also to crunch a large data dump. Learn how to minimize as much manual labor as possible, thereby saving time and performing more detailed analysis quickly. Apply commonly-used formulas in new and different ways; uncover often over-looked Excel formulas; streamline number crunching and analysis via functions and tools including pivot tables, sumif, sum+if, transpose, working with arrays, vlook-up, subtotals, and regression analysis; enhance your spreadsheets with drop-down boxes, data validation techniques, automation of alternate row shading; take Excel to the next level with emphasis on automation.

**Learning Objectives:**

- Learn how to minimize as much manual labor as possible in data analysis
- Learn to use the most overlooked Excel formulas that will make your life easier
- Learn powerful functions built in Excel that streamline your analysis

**Course Sections - Part I:**

- Master Excel shortcuts via formatting & analytical exercises encompassing efficiencies, shortcuts & sensitivity analysis
- Data integrity techniques: understand how Excel implodes when you don't maintain integrity of your raw data
- Learn different "switches alternatives" (if, choose, offset and toggles ) to build more robust analyses
- Understand why IF statements are the second root of all evil in Excel and why they should be avoided at all costs
- Learn data validation techniques to dummy proof your model and provide additional error checking in your analysis
- Add some spice to your Excel analysis and models using dropdowns and how to automate options and scenarios
- Automate alternate row shading in a table of data using complex conditional formatting
- Fully automate vlookup to streamline tedious analysis while understanding the limitations of vlookup
- Understand why OFFSET(MATCH) is vastly superior to vlookup and why we discourage use of INDEX function
- Pivot Tables and Pivots on Steroids: summarize and dissect large amounts of data as well as calculated fields
- Truly unlock the full power of Excel by utilizing ARRAYS simplify complex calculations
- Learn how to use the transpose array function without static copy paste special transpose as values

**Course Sections - Part II:**

- Use the subtotal formula and function to minimize errors; combine with AutoFilter to easily crunch all sorts of data
- How do you perform one-dimension and two-dimensional sensitivity analyses using data tables?
- Understand how Excel thinks by combining seemingly disparate formulas to fully automate text manipulation of data
- Automate the process of parsing and splitting out numbers/labels from raw data dumps that haven't been cleaned up
- Correctly rank a series of data without receiving the dreaded duplicate rankings for data items that are the same
- Extract relevant, non-blank data from a data set that has random blank rows inserted between the raw data
- Perform basic regression analysis using least squares approach
- Understand the power of the LINEST array in performing regression analysis and compare against ANOVA tables
- Manipulate dates into labels that display periodic or fractional years such as monthly and quarterly time periods
- Continue to manipulate dates by automating whether a specific date marks the end of a month or quarter
- Automatically calculate and update a YTD (Year-to-Date) summation without manually re-summing
- Assemble and understand logic behind "step charts" with X and Y Error bars to connect the dots
- Perform our master capstone analysis that incorporates many of the data analysis tools in this course: we call it our Cross Sum Indirect Array that automatically manipulates the data from multiple worksheets

**Note:**

- Online module mixes and matches from Part I and II. For full list of topics, visit our website.

**TECHNICAL APPLICATIONS - EXCEL AND MORE****Excel Charting & Graphing Techniques & PowerPoint Integration****Course Goals & Overview:**

"A Picture is Worth a Thousand Words" – but what happens when you have the perfect image in your head but you can't get Excel to graph it the way you want? Ever get annoyed at constantly having to go back into "Source Data" whenever you add an item to your data series? Or how about getting the perfect sized bar or line without resorting to using a ruler to literally draw it on! This course builds upon our Advanced Excel for Data Analysis course and focuses advanced charting & graphing techniques and how to properly integrate with PowerPoint. A critical, must-take course especially for professionals that have to create graphs in their presentations, reports and slides. As usual, we emphasize and teach all the best practices and focuses on our core Excel learning goal: automation, automation, automation! Leave nothing to chance, there is always a way to simplify and automate your charting & graphing approach. This jam-packed session includes: waterfall charts, football fields, dynamic ranges, and much, much more! Learn the best practices of integrating into PowerPoint, when to embed, link (never) and copy as picture, as well as add to our Excel macros with a couple handy PowerPoint macros.

**Learning Objectives:**

- Translate Excel analysis into meaningful charts and graphs to visually present your work
- Master the skills necessary to create robust dynamic charts easily and effortlessly
- Learn different techniques and best practices of integrating charts into PowerPoint
- Advance beyond simple charting functions to create multi-layered graphs that combine and display multiple data sets and ideas simultaneously

**Course Sections:**

- Creating Price Volume chart with call-out box annotations with perfect alignment
- Calculate and create dynamic moving average charts
- Construct Indexed Stock Price History graph with automated information box
- Build historical industry graph summarizing average, high low bars detailing valuation spreads
- Construct combination charts and graphs including precise annotations and secondary axis formatting
- Properly structure beta and volatility analysis and regression on multiple axis
- Construct historical and projected linear regression graph with automated best fit lines
- Assemble and understand logic behind "step charts" with X and Y Error bars to connect the dots
- Create dynamic charts and graphics that automatically update as additional source data is added
- Build Shares Traded at Various Prices graph with absolute perfectly sized and aligned graphs
- Create simple column and cumulative column (or bar) chart (multiple stacked chart)
- Learn how to create complex, combination charts such as double stacked charts
- Go all out by building a "football field" valuation range chart that combines triple stacked charts with XY scatter plot to automate current stock price line
- Construct waterfall chart that graphically summarizes sum-of-parts valuation
- Learn best practices of bringing Excel charts and exhibits into PowerPoint
- Avoid the forbidden linking between files and learn when to embed vs. copy/paste as picture
- Learn the fastest and best ways to work in PowerPoint without the mouse
- Facilitate chart and graph placement in PowerPoint with our custom PPT macros

**Prerequisites:**

- Excel 2003 => Excel 2007/2010 Transition
- Excel Fundamentals for the Finance Professional
- Advanced Excel for Data Analysis

**TECHNICAL APPLICATIONS - EXCEL AND MORE****Visual Basic for Applications in Excel****Course Goals & Overview:**

Excel is well-known as a very powerful spreadsheet application, but its full potential can arguably only be unlocked using VBA, or the hidden code running behind the scenes. Start with an overview of the basics, such as Excel's object model, data types and variables. Write your own functions and subroutines while learning when to use one or the other, complete with five cumulative case study examples simulating actual use-cases in data validation and automation. While no background in other programming languages is required, it can definitely help during this intensive VBA primer. Those starting from scratch may even end up building the foundation for further coding skills both in Excel (or other Microsoft Office software) and in other applications, as data structures, loops, and other best practices are universal.

**Learning Objectives:**

- Learn the fundamentals of VBA in Excel, including the object model, data structures, methods, and properties
- Begin using the Macro Recorder, before progressing to the VBA Editor and getting familiar with its layout/functions
- Explore the various elements of the VBA language, such as variables, procedures, VBA functions, and operators
- Prepare macros with proper error handling and diligent debugging components to accommodate user error
- Build visually pleasing user forms, following best practices in user interface design to add/manipulate data seamlessly

**Course Sections - Part I:**

- Overview of the Excel object model, including the definitions of its various elements
- Use proper syntax to reference objects, call their methods, and access its properties
- Forgo the Macro Recorder for the full-featured VBA Editor, becoming acquainted with its various panels/windows
- Study VBA's wide variety of supported data types (e.g. strings, doubles, Booleans) and how to select the correct one
- Declare, set, and reset variable, arrays, collections, and more
- Use Option Explicit to ensure strict control over variable declaration and sloppy execution
- Annotate code with comments for increased program legibility and to help other contributing developers
- Write functions and subroutines and learn the differences between the two as well as the best situations for both
- Utilize Excel's built-in functions in VBA code using the Application keyword to avoid reinventing the wheel
- Take advantage of the overlaps between VBA functions and Excel functions, especially for text manipulation
- Understand VBA control statements, such as conditionals and the assortment of loop types
- Create nested loops to iterate through two-dimensional arrays or ranges of rows/columns
- Establish variable scope to ensure proper program flow and permission logic

**Course Sections - Part II:**

- Identify the various ways a program can yield compile (syntax) errors
- Handle run-time errors (exceptions) and learn to correct them beforehand based on the accompanying error code
- Implement error handling techniques with On Error, GoTo, and Resume statements
- Debug proactively throughout the development process via message boxes and breakpoints
- Take a more passive approach to debugging during development via the Locals and Immediate views
- Use Step Into, Step Over, and Step Out to execute specific lines or procedures precisely to narrow down bugs
- Design message boxes with or without buttons, each complete with their respective subroutines
- Prompt the user for information using input boxes that accept either inputs (e.g. text, numbers) or a cell range
- Construct user forms by selecting the appropriate toolbox controls (e.g. TextBox, Label, Frame, buttons)
- Manage control properties in the VBA Editor to handle both appearance (size/color) and functionality
- Develop best practices underlying effective forms, utilizing event-specific and control-specific code prudently

**Prerequisites:**

- Excel Fundamentals for the Finance Professional

**Mechanics & Applications of Long/Short Hedge Funds****Course Goals & Overview:**

Participants will be introduced to the psyche of a hedge fund and learn how to think like a buy-side analyst. Through this course, participants will be shown how to expand their analysis beyond theory (valuations, trends, etc.) and apply the same practical techniques that hedge funds do. Specifically, learn what information is valued by funds, how and when hedge funds buy stocks, how single stock ideas are vetted through the construct of an entire portfolio, and how/why short decisions are made. Trade strategies will be detailed so conceptual ideas can be presented as actionable trades. Trading mechanics such as short interest, liquidity analysis, and ownership will also be discussed. Participants will be shown where to gain insights on funds and how to cater ideas/information to the fund's existing book of stocks, market exposure, and stated mandate. If you're a buy-side professional, you must master these fundamentals. If you're a sell-side professional, adoption of these techniques will increase the value of the presenter's ideas and result in increased and stronger buy-side relationships.

**Course Sections:****Thinking like Hedge Funds**

- Understanding what information funds value, what they don't and what they pay attention to
- Making stock ideas more practical – moving beyond valuation and theory
- When a fund might short a stock even though fundamental valuation says fair or even undervalued

**Shorting**

- Shorting as a source of funds and viewing short performance relative to the offsetting long position
- Managing return expectations for a short; distinguish between hedges, absolute returns & capital sources

**Performance**

- Understanding how beta impacts returns and managing funds' exposures
- Distinguish between AUM and assets deployed – and the impact on manager performance and risk

**Liquidity & Trades**

- The impact of liquidity on stock selection and profiting from anticipated liquidity changes
- Designing trades with the whole portfolio in mind and pair trades – when & why & how they work
- Understanding the impact of sentiment on anticipated trades

**Knowing and Using the Information Available to You**

- Where to find relevant filings – understanding what they mean
- Following competitors' trades while maintaining discretion in your own book
- Profiting from liquidations
- Calculate net change to development properties, construction in process and investments

**Prerequisites:**

- Accounting & Financial Statements Integration
- Corporate Valuation Methodologies
- Overview of Financial Markets

**BUY-SIDE SERIES****The Science of Portfolio Management: Fundamental vs. Technical Analysis****Course Goals & Overview:**

Have you ever gone long on a company, only to see the stock price continually collapse, defying your otherwise valid fundamental analysis? Or perhaps your technical analysis suggested a buy, which was working well until a sudden, negative headline revealed troublesome fundamentals in the company. Even the best fundamental analyst can still struggle to beat benchmarks despite picking winners. Perhaps the solution lies in a more holistic framework that combines multiple perspectives.

This course pairs together the worlds of fundamental and technical analysis. While many industry professionals sit firmly in one camp or the other, we couldn't help but ask: why not both? On the fundamental analysis side, we take an intensive deep dive into the pillars of bottom-up analysis: channel checks, drivers of growth, and true catalysts. After making a fundamental-based thesis, we compare it with a technical-based analysis in a two-layered decision-making process. Reacquaint yourself with a quick refresher on technical indicators and chart patterns and tie everything together by reviewing several securities whose fundamental and technical conclusions disagree.

**Learning Objectives:**

- Build a framework for utilizing both fundamental and technical analysis to make more well-informed decisions
- Given a fundamental-based thesis (Buy/Sell/Hold), compare it against a technical-based decision to the contrary
- Reconcile both approaches into a unified, rigorous system that is resistant to hindsight and confirmation bias
- Quest for alpha: distinguish alpha from beta via market timing and beta tilt, emphasizing risk-adjusted return

**Course Sections:****Introductory Case Study**

- Understand the logic of channel checks and identify industry- and company-specific drivers of growth
- How can you identify the catalysts – “true” drivers of growth, which can sometimes be counterintuitive?
- Using fundamental analysis as an anchor point, how do you supplement it with technical analysis?

**The Fundamentals of Fundamental Analysis**

- Briefly review the major valuation methodologies, highlight their nuances and application in the real-world
- What is the relevance of capital structure and leverage on a company's value (e.g., TEV vs. Equity Value)?
- How are P/E ratios potentially misleading due to capital structure, especially versus other valuation metrics?

**The “Technical” of Technical Analysis**

- Technical Indicators: Refresher on what they are, how to use them properly, and why they largely fail
- Candlesticks: Recognize common patterns, and how they may lead to an investment/trade decision
- Price Level: Acknowledge price action as the ultimate arbiter, which trumps and usurps all technical signals
- Trend: Understand how to identify trends, spot trend changes/reversals, breakouts and early trend changes

**Putting It All Together**

- Evaluate 3 different securities provided by the audience, and discuss the investment theses based on fundamentals
- Evaluate price action using real-time, multi-timeframe charts to arrive at a technical-based trade decision
- Apply a framework for comparing/contrasting fundamental & technical based decisions, especially when they conflict

*Note: This course provides a framework for reconciling fundamental and technical investment/trade decisions. We do not provide specific investment/trade decisions or recommendations. The content in this course is for informational purposes only, and should not be construed as solicitation, recommendation, endorsement, or offer to buy or sell any securities or other financial instruments.*

**Technical Analysis & Trading****Course Goals & Overview:**

Technical analysis offers powerful, objective tools for trading stocks and securities. It's one thing to master fundamental analysis (accounting, reading and dissecting financial statements, financial modeling & valuation); however, many times, especially in extreme market dislocations, technical analysis overpowers the fundamentals and takes a life of its own. Certainly, technical analysis combined with fundamental analysis will rule the day; in either case, both sides of the equation are important.

This course provides a thorough review and primer to the fundamentals of technical analysis and trading based on technicals. We introduce the major types of technical indicators and tools and dive into the practical application in the real trading world. While the common saying "you can't time the market" certainly has merit, this course will teach how to make disciplined trades and improve your timing by identifying trends. Learn how to interpret charts and translate them into actionable trades.

We start with understanding the critical concepts of moving averages, support and resistance levels, to chart patterns such as head & shoulders, tops & bottoms, reversals and gaps, to incorporating price with volume, time, momentum and other sentiment factors, to more complex analysis such as candlesticks, Elliott waves, Bollinger bands, stochastics, relative strength, Fibonacci retracements, and much, much more!

We debunk the myths and cut through the jargon to provide a straightforward, non-theoretical application – for each technical indicator, we explain: (i) the basic premise of the analysis; (ii) the information it provides; (iii) how it works; (iv) examples with graphics to clarify; (v) how to implement it; (vi) compare and contrast with other indicators.

**Course Sections:****Introduction to Technical Analysis**

- Fundamental Analysis vs. Technical Analysis
- Effectiveness of Technical Analysis

**Step One: Reading, Understanding & Interpreting Charts**

- Arithmetic vs. Logarithmic Scaling
- Useful Line and Bar Charts
- Candlestick Charts

**Step Two: Reading, Understanding & Interpreting Trends**

- Time Horizons, Trend Lines & Volume
- Support / Resistance Levels and Moving Averages
- Gaps (Breakaway, Runaway, Exhaustion)
- Oscillators, Momentum & Sentiment Indicators (VIX, Put/Call, Bull/Bear, etc.)

**Step Three: Reading, Understanding & Interpreting Patterns**

- Head & Shoulders
- Double Tops & Bottoms
- Continuation and Reversal Patterns
- Identify Channel Boundaries and Trading Channels

**Step Four: Advanced Technical Analysis**

- Dow & Elliott Wave Theory
- Relative Strength Indicators
- Fibonacci, Stochastics & Bollinger Bands

**CREDIT & RISK ANALYSIS TRAINING****Credit and Risk Analysis Training****Course Goals & Overview:**

Learn to analyze and understand the factors driving the risk / reward profile for a borrower and its debt securities. Many independent elements impact a borrower's creditworthiness and the value of its loans; however, true mastery of credit analysis demands an integrated perspective, weaving these disparate parts into a comprehensive, big-picture mosaic.

This program's goal is to assist you in developing a comprehensive foundation in credit analysis. Our framework for evaluating credit begins with the fundamentals; traditional and universally-accepted elements reviewed by lenders: the Character, Capital, Collateral, Capacity, and Conditions (the "Five C's") of debt and the debtor. These basics support building a stronger foundation to understand the qualitative and quantitative factors impacting a firm's ability to repay interest and principal. Learn the qualities which most impact a firm's solvency from a top-down analytical perspective, beginning with global economic trends and business cycles. Further assess a company's credit quality with a bottom-up analysis, evaluating the firm's performance relative to its peers. Finally, drill down even deeper to assess the structure of the company's debt securities and the potential value from specific attributes protecting creditors' investment.

Leverage your foundation to understand how major ratings agencies assess credit and ratings are determined. Learn which elements of credit are most relevant to the agencies and which are evaluated less rigorously. Compare the rating methodologies and contrast the meanings of the underlying credit ratings across credit ratings agencies. Understand how ratings changes can have drastic effects on a security's market pricing.

In addition to employing these academic practices and standard methodologies in evaluating a debtor's creditworthiness, you will also learn and integrate real world market dynamics into your credit analysis. Examining the impact of qualities such as market liquidity and the long-term objectives of creditors provides further visibility into the borrower's risk / reward profile. Reviewing additional considerations that impact a loan's risk / reward profile, including counterparty risk and concentration risk, adds deeper insight into a position's creditworthiness.

Recognize the actions and tools sometimes applied by lenders to mitigate credit risk, including credit derivatives and insurance, credit tightening, and portfolio diversification. Understand the costs and benefits of utilizing these tools, and the scenarios in which they are most effective. Finally, put your comprehensive foundation into practice by creating an actual credit review write-up.

The comprehensive analysis of a debtor and its securities from both the top-down and the bottom-up will allow you to judge a company's creditworthiness with a greater breadth and depth of understanding relative to many other market participants. This real world analysis, integrating established methodologies with the tools used by front-line Wall Street credit analysts, is a comprehensive foundation for credit review and analysis.

**5-Day Credit Risk Training Course**

- Day 1: Overview of Credit and Lending
- Day 2: Create a Credit Memo
- Day 3: Covenants & Credit Agreement Analysis
- Day 4: Covenant Comps & Debt Comps
- Day 5: Capstone Credit Memo & Presentation

**CREDIT & RISK ANALYSIS TRAINING****Credit and Risk Analysis Training** (cont.)**Course Sections:****Debt & Lending Overview**

- What are some of the advantages of borrowing capital? Disadvantages?
- How do debt and equity investors differ in their approach to risk and reward?
- List the standard elements examined by lenders, and define the importance of each
- Understand the perspectives taken by analysts in evaluating credit, and sell-side vs. the buy-side differences
- Why is a security's position in the capital structure important?
- Why is a company's capital structure relevant to the firm's value?
- Who are the main ratings agencies and what role do they play? Understand why a loan's price isn't necessarily related to its credit rating
- How do the major credit ratings agencies evaluate debt or a debtor?
- How do the major credit rating agencies approach the rating process differently? How do ratings at similar levels differ across the agencies?

**Market Factors**

- Why are some industries / sectors preferred by debt investors over others?
- Evaluate the impact of fixed costs and barriers to entry in shaping an industry and its competitive dynamics
- Review the competitive dynamics of a market by analyzing Porter's Five Forces of competitive intensity
- How does a company's headquarters or geographic profile impact its creditworthiness and risk / reward profile?
- Analyze the risk of government regulation / intervention, and the potential impact of this on an industry
- Differentiate between cyclical, seasonal, and secularly shifting sectors
- Determine at what point in the economic cycle a specific industry / sector is expected to grow, and at what point it is expected to decline
- In what circumstances is a company operating in a declining industry not necessarily a bad investment?
- Recognize industry trends and metrics used to measure performance
- Predict the impact that global capital markets activity may have on the structure of loan documents
- Describe how a change in interest rates or future interest rate expectations can impact current debt pricing. Which types of debt securities are most sensitive to this risk?
- Explain how macroeconomic factors can influence counterparty risk
- Describe how historical or recent events may influence a lender's perception of a borrower

**Company Factors**

- Calculate a firm's credit ratios, and evaluate how they compare to the company's peers. Analyze what these ratios mean for the company from a credit analysis perspective
- Evaluate whether a company is a leader or a laggard within its sector
- Conduct an analysis of the company's Strengths, Weaknesses, Opportunities, and Threats (SWOT Analysis)
- How will a company's owners, and lenders, influence the company's value? Understand the conflicts of interest between equity holders and bond holders
- What factors do major rating agencies typically not take into account when rating a bond, loan, or note?
- Examine a firm's financial ratios to determine its operational success and the management's performance in efficiently running the business
- Describe the potential conflicts of interest between a debtor's management team and the creditors. List several counterbalances that lenders can utilize to control or this conflict
- Explain why asset coverage is a significant factor for a lender. Describe one way borrowers previously took advantage of this perspective, and explain why they typically can no longer do so
- How can the Use(s) of Proceeds impact the pricing of a loan? Describe some Use(s) of Proceeds that are generally viewed favorably by creditors, and some that creditors view unfavorably

**CREDIT & RISK ANALYSIS TRAINING****Credit and Risk Analysis Training** (cont.)**Company Factors** (cont.)

- Given a change in a company's financial or operational condition, determine the effects on the borrower's cash flow and ability to repay the loan
- What options are available to a company when a loan's maturity is imminent but they lack adequate cash / cash flow to pay back the debt?
- Understand the 'early warning signs' of a deterioration in a borrower's creditworthiness
- Distinguish between a financially distressed firm and an operationally distressed firm

**Security Analysis**

- Understand structural protections typically afforded to security investors, and why they are important
- What are the most common covenants and loan terms? Assess the impact from a security's possessing tighter or looser terms relative to its peers
- Explain the most common loan and pricing structures, and under which circumstances each would be most appealing to borrowers and to lenders
- Why do more senior loans typically mature prior to less senior loans?
- Consider the liquidity of a security and its impact on the loan's value. How do a firm's lenders, and the lenders' strategies, influence the security's liquidity? How do they influence its value?
- Differentiate between counterparty risk at the macroeconomic level and at the individual holder level
- Distinguish between the disparate components which may comprise a bond's yield – principal repayment, cash interest, and PIK interest – and evaluate the circumstances in which each might be preferred relative to the others
- Identify reasons for a security's price fluctuations that are isolated from the security's underlying value
- Describe the steps taken by lenders to mitigate credit risk, and characterize the scenarios in which each action may be most effective
- What are the advantages or disadvantages to portfolio diversification? Understand how diversification influences an individual security

**Case Studies & Credit Memo**

- Compare and contrast loose covenants, tight covenants, covenant-light agreements, and covenant-tight agreements
- Evaluate the impact of certain provisions on a loan's recovery by examining historical outcomes
- Review the segments typically included, and concerns generally addressed, in a comprehensive analysis of a bond, loan, or note
- Create a formal credit review write-up

**Prerequisites:**

- Accounting & Financial Statements Integration
- Company Overview
- Finance 101 – Introduction to Finance
- Corporate Valuation Methodologies

**CREDIT & RISK ANALYSIS TRAINING****Credit Agreements and Covenants Analysis****Course Goals & Overview:**

Understand the legal aspects of issuing bank debt and corporate bonds by analyzing major sections of debt agreements and legal and financial covenants. Comprehend the major types of covenants found in credit agreements and bond indentures: affirmative, negative and financial. In addition, delve into maintenance and incurrence covenants, reps and warranties, indemnities. Learn objective of relevant credit agreement provisions and common related structural issues and thoroughly analyze senior credit agreements covenants and high-yield bond covenants. Understand implications of covenants on "events of default" and differentiate between technical defaults as well as compare and contrast "loose" vs. "tight" covenants and covenant-light and covenant-tight agreements.

**Course Sections:****Debt & Lending Overview**

- Capital Structure & Implications on Loan Seniority
- Lender Concerns, Borrower Creditworthiness & Measurement & Ratings Agencies
- Bank Debt / Senior Secured Loans Overview
- Bank Debt comparison with High Yield notes

**Credit Agreements**

- Introduction to Credit Agreements
- Role of Covenants
- Administrative Agent
- Defaulting on Credit Agreements: Types of Default and Post-default
- Debt Tranche Interdependence: Conflicts of Interest & Cross-Defaults
- Relative importance of Bank Debt to High Yield note covenants
- Formal Sections of Credit Agreement: Introduction to Solutia Case Study

**Standard & Variable Provisions of the Credit Agreement**

- Explanation of standardization
- General Overview of major CA sections
- Section summary specific to Solutia case study
- Title Page: Importance of Legal Borrower, Corporate Structure Overview
- Table of Contents
- Recitals: Detail on Guarantors
- Definitions: Emphasize importance of definitions due to variability across CAs
- Loan Terms: Detail on amortization structures of loans, company-specific amortization preferences
- Representations & Warranties
- Conditions (to closing)
- Events of Default: Overview of cure period & amendments
- Other & Voting majority

**Credit Agreements and Covenants Analysis (cont.)****Covenant Overview & Detail**

- Covenant Summary

**Covenants: Affirmative Covenants**

- Role as reporting covenants
- 1.1 Financial Statements
- 1.2 Certificates & Other Information
  - Insider Access / Information Arbitrage
  - Solutia EBITDA definition to exemplify reporting complications
- 1.3 Other Events
- 1.4 Environmental Matters
- 1.5 Geography / Timeline Importance
- 1.6 Additional Collateral & Guaranties
- 1.7 Additional Affirmative Covenants
  - Maintenance of Corporate Existence
  - Payment of Obligations
  - Maintenance of Property & Insurance

**Covenants: Negative Covenants**

- Role of Negative Covenants
- 2.1 Indebtedness
- 2.2 Liens
  - Importance of Liens in collateral protection
  - Restricted Liens
- 2.3 Investments
  - Permitted Investments
- 2.4 Asset Sales
  - Sale & Leaseback Transactions
- 2.5 Prepayments of Indebtedness
- 2.6 Fundamental Changes
- 2.7 Transactions with Affiliates

**Covenants: Financial Covenants**

- Maintenance & Incurrence Covenant Overview
- 3.1 Maintenance Covenants
- 3.2 Incurrence Covenants
  - Example of Incurrence break & compliance, while within Maintenance Covenants

**Covenant-Lite Credit Agreements**

- Excluded Covenants
- Comparison with Traditional Loans
- Standard Credit Agreement to diluted CA to lite CA evolution
- Re-emergence

**Prerequisites:**

- Accounting & Financial Statements Integration

**13-Week Cash Flow Modeling****Course Goals & Overview:**

This program's goal is to assist you in developing a comprehensive foundation in forecasting and modeling a business' cash needs. Our framework for developing a cash flow model begins with the fundamentals; understanding the variances between traditional and near-term modeling, of which aspects of operations will have the probable largest impact on cash balances, differences the various rationales for creating a 13-Week Cash Flow (TWCF) model, and how they impact both a business in both the short and long term.

After gaining a fundamental and in-depth understanding of TWCF models, learn to build and create a business cash flow forecast. Analyze the results to determine potential pressure points on a business, review variances to comprehend short-term changes in the business, and adjust for future periods based on immediate results. Understand how to use this analysis to better manage operations and obligations, and to position a business for long-term success.

**13-Week Cash Flow Overview:**

- Learn the principal uses and goals of building TWCF models
- Understand businesses and industries that most frequently utilize TWCF projections
- Delve into disparate situations that benefit from TWCF modeling and analysis, and how models may differ in their focus / structure depending on a company's current situation
- Evaluate the differences and advantages of TWCF models relative to more common financial models
- TWCF models are built on a pure cash basis, down to the last dollar – showing actual cash inflows and outflows, as opposed to being built on an accrual basis (which can be misleading, especially during a cash crisis)
- More detail, in the form of additional line items which can be forecast more accurately due to the short-term nature of TWCF models
- Insight into the specifics of timing due to the weekly nature of the projections (for example, forecasting a month in which there are three payroll periods rather than two or taking seasonal trends into account)

**Getting Started:**

- Understand what information is necessary to gather before beginning the model's construction
- Realize the assumptions necessary to build a TWCF model
- Discover resources to make these assumptions as accurate as possible
- Evaluate the limitations of utilizing assumptions and how to 'sanity-check' your work to minimize the impact from assumption variances

**Information Impact:**

- Determine in which cases utilizing historical information is appropriate and in which cases this information must be adjusted
- Emphasize how this differs across industries, and how to adjust your assumptions / historical data accordingly
- Learn how the cash cycle works across disparate industries and markets
- Review common pitfalls in TWCF modeling and how to control for them to minimize their potential impact
- Review the status of the business to determine the context of the TWCF model
- Many executives utilize TWCFs simply to forecast the near-term period
- Operators frequently examine 13-Week Cash Flow models when initiating new strategies or introducing new products to determine whether a project is viable
- Other businesses which are in transitional or distressed situations use TWCF models to actively manage cash and needs
- Learn which factors are most likely to cause a liquidity issue, such as customers delaying payments in the context of a business' potential distress
- Analyze run-rate cash outflows and inflows to determine which must be adjusted or may present future problems

**13-Week Cash Flow Modeling (continued)****Information Impact:**

- Determine the drivers of each specific line-item to enhance the model's accuracy (for example, seasonality impacting order volume)
- Analyze larger customers and expected receipts to determine the actual timing of cash inflows
- Review current and historical working capital balances to determine whether these accounts may be stretched to gain a short-term cash benefit
- Evaluate relationships with and importance of suppliers and vendors to make judgments on whether payment terms may be relaxed
- Utilize balance sheet ratios to determine expected changes in working capital
- Determine which capital expenditures are necessary (maintenance-related and required to continue operations at the steady state) and which can be delayed (expansionary capital expenditures)
- Identify potential sources of cash funding and the associated costs, timing, and likelihood of receiving this funding
- Review corporate managements' previous forecasts and their accuracy to understand whether an 'optimism' discount is applicable

**Model Building:**

- List and probability-adjust all expected cash inflows and outflows
- On an account-by-account basis
- Utilize line-item drivers to build up expectations with a greater degree of accuracy
- Begin with an analysis of Accounts Receivable aging and determine which collections may be accelerated and the probable timing of cash payments
- Determine recurring cash outflows, such as operating expenses, interest expenses, and payroll
- Add in the impact of future sales and collections
- Build dynamic features allowing scenario analyses:
  - In which funding is received or unavailable
  - In which working capital balances may be stretched
  - In which emergency cash expenditures may be necessary
  - In which suppliers or vendors demand adjusted payment terms
- Show inventory roll-forwards and other collateral balances, again differentiating between scenarios in which balances can be stretched or collateral can be liquidated for an emergency cash injection
- Create a master summary page which shows inflows, outflows, and expected cash balance at the end of each week
- Determine timing of potential liquidity issues and cash balance cushions to understand the business' margin of safety

**13-Week Cash Flow Analysis:**

- Once the TWCF model is built, track weekly and monthly variances to projections
  - Adjust on a go-forward basis, taking variances into account
  - Determine whether additional costs may be cut and whether strategy implementation is effective
  - Identify potential problem areas or departments within a business to determine accountability
- Review customer behavior to ensure payments are consistent with contract terms and historical performance
- Review customer losses to gauge competitors' reactions to a business' transition or distress
- Review supplier and vendor activity to ensure contract and delivery terms have remained consistent
- Evaluate additional options to manage cash balances, such as accelerating collections
  - Determine whether recent performance or collateral balances may allow eligibility for financing which was previously unavailable
  - Evaluate 'emergency' options, such as temporary staff reductions or the factoring of accounts receivable in order to keep the business afloat
  - Use positive variances to improve supplier and vendor relationships, potentially negotiating a relaxation of terms

**Recapitalization Modeling****Course Goals & Overview:**

This course walks through the concepts behind company recapitalizations (recaps) and quantifies the impact of the various approaches available. The first section opens with a high-level discussion of recaps and debt/equity swaps. Next is a brief primer on key credit ratios and how they can be implemented with best practices in Excel. The meat of the course then begins, reviewing multiple recapitalization strategies one by one, thoroughly explained qualitatively and executed quantitatively in a working Excel model. Afterward, these results are analyzed before wrapping up with a complicated scenario and sensitivity layer that can determine viable scenarios based on different assumptions of credit/leverage statistics. What's left is a comprehensive model capable of simulating strategies for any recap situation.

**Course Sections:****Intro to Recapitalizations:**

- Understand the definition of a recapitalization, including the parties and subjects involved
- Identify a recapitalization's general motivations and consequences
- List several real-world use cases of recaps with an emphasis on standard debt-for-equity swaps

**Plain Debt Sweep & Credit Ratios:**

- Review basic mechanics of financial statements to understand a debt sweep's structure
- Create a simple debt/interest schedule in Excel using real historical financial statements
- Discuss and calculate various key credit ratios including leverage, net leverage, FCCR, and interest coverage
- Quantify the impact that changes to revenues/expenses have on EBITDA and cash flow

**Recapitalization Model – Status Quo and Swap:**

- Start with a "status quo" recap option spanning across three cases (base, downside, worst)
- Add an initial recap option for taking on a debt/equity swap, ensuring the model also accounts for interest rates, etc.

**Recapitalization Model Enhancement – Swap with Term Loan:**

- Implement a third recap option that breaks out a second lien term loan from aggregate tranche
- Allow the user to modify the amortization schedule for the term loan
- Learn the implications of this term loan on the mandatory payment schedule

**Recapitalization Model Enhancement – Swap with Paid-in-Kind (PIK) Debt:**

- Implement a fourth recap option incorporating the conversion of the debt/equity swap's balance to PIK debt
- Fully integrate all the PIK components into the model, noting the PIK's impact on cash flow
- Add "cash interest" alternatives for potentially misleading ratios such as EBITDA/Interest and EBIT/interest

**Recapitalization Model Enhancement – Scenario Pairing:**

- Lay out different scenarios depending on assumed credit/leverage statistics
- Modify the model to easily switch between viable scenarios
- Create ratings statistics tables for the scenarios to quickly gauge the available options

**Recapitalization Model Enhancement – The Works:**

- Implement a fifth recap option incorporating the debt/equity swap, a term loan, and PIK debt
- Add a "Cash DSCR" ratio and utilize Excel's conditional formatting to draw attention to unfavorable scenarios
- Carefully re-examine DSCR under the fourth and fifth recap options to clarify an otherwise simple analysis

**Conclusion:**

- Select the best courses of action (per case) to recapitalize, and develop a solid understanding of managing cash flow

**PORTFOLIO & RISK MANAGEMENT****Global Macroeconomics (and Implications on Rates)****Course Goals & Overview:**

Economics – if not dismal, the “science” can certainly be frustrating. Ask yourself, do weak employment figures portend a decline in corporate profits and falling equity prices, or does it signal potential intervention from the central bank and rising equity prices? Exasperating, right?

The application of economic data to real world investment decisions often requires a secondary and even tertiary analysis of its meaning. Said differently, using economic data in the real world is more a “sentiment game” than a mathematical formula. What is a sentiment game? Keynes would describe it as a newspaper beauty contest, but more technically it’s a strategic interaction between multiple players seeking to ascertain not necessarily their interpretation of a given set of information, but the interpretation and reaction of the other players in the game.

This Global Macroeconomics course examines the practice of interpreting economic information in a way that is helpful to decision makers. We address key theoretical concepts including basic macroeconomics, the business and debt cycles, monetary and fiscal policy, and international trade; but also leave the ivory tower to examine actual economic releases and discuss not what “should” happen but what does or can happen.

The course is broadly divided into two sections: Core Concepts and Key Economic Indicators & Data Series. The Core Concepts section of the course covers introductory economic theories and models that are required background information for economic analysis. This is done through an explanation of content followed by a real world example taken from a leading financial news source. The second portion of the course looks at key economic data series including among others, employment figures, price levels, monetary policy measures, and business/consumer activity measures. We use recent economic data to make it more applicable to current investment decisions and avoid the obfuscation that often accompanies older data sets.

Students should walk away with a better understanding of basic economic theory, how it translates into real world application, and knowledge about the distribution of and meaning behind important economic indicators. This is perfect for investment decision makers looking to integrate economic analysis into their decision making process or more experienced “economists” looking for a review of key concepts.

**Core Concepts:**

- Basic Macro: fundamental understanding of the global economy; aggregate supply/demand, gaps, stagflation, etc
- Business & Debt Cycles: determinants of economic growth, Neoclassical vs. Keynesian economics and implications
- Monetary and Fiscal Policy: monetary vs. fiscal policy impacts and trading implications for rates trading desks
- International Trade: comparative advantage and impact of trade treaties on trading strategy
- Balance of Payments and FX: impact of balance of payments and foreign exchange trade strategies

**Key Economic Indicators & Data Series:**

- Understand what each indicator is, importance of and strengths and limitations of each of the following:
- Business Activity: business outlook, durable goods & factory orders report, production, capacity utilization and others
- Employment: employment cost index, employment situation, jobless claims report and related employment figures
- Real Estate: existing home sales, housing starts, new residential sales
- Prices: consumer price index, headline vs. core, producer price index
- Monetary: Federal Reserve Beige Book, Fed communications and signaling, money supply, commercial banks
- Consumer: consumer confidence index, consumer sentiment index, consumer credit report, personal income
- International and Output: international transactions, GDP, productivity and costs
- Other: commodities, 10-year government bonds, currencies, other miscellaneous indicators

**PORTFOLIO & RISK MANAGEMENT****Credit Risk Modeling in Excel & VBA: Default Risk and Prepayment Modeling****Course Goals & Overview:**

This course provides an in-depth introduction to credit risk. Techniques for modeling credit transition matrices are covered in great detail, while several statistical techniques for modeling default probabilities and correlations are explored in depth. Methodologies for modeling credit portfolio risk are covered, including the asset value approach and the structural approach. Prepayment models are developed for Mortgage-Backed Securities (MBS). All models are developed in Excel/VBA.

**Learning Objectives:**

- Excel - learn several of Excel's specialized functions. Understand how to use Excel's add-in tools to implement advanced statistical techniques, such as regression analysis. Learn how to use Solver, Excel's optimization package.
- Visual Basic for Applications (VBA) - learn the fundamental programming structures of the VBA language, and how it can be used to extend Excel's capabilities.
- Statistical foundations - learn to implement Monte Carlo simulation using Excel/VBA. Learn techniques for improving the speed of convergence, including importance sampling and low-discrepancy sequences. Understand the binomial and Poisson distributions. Learn the fundamental principles of linear regression analysis, as well as Poisson regression. Understand the maximum likelihood and method of moments approaches to statistical estimation.
- Merton's model - understand Merton's model of credit risk; learn how it is related to the Black-Scholes model and how it can be used to compute default probabilities.
- Credit ratings transition matrices - understand the structure of a transition matrix. Learn how to estimate a transition matrix with the cohort approach and the hazard rate approach.
- Estimating default probabilities and correlations - understand how to use linear regression analysis to estimate default probabilities. Learn how to apply Poisson regression to estimate default probabilities. Understand how the asset value approach can be used to estimate default correlations using the method of moments approach and maximum likelihood approach.
- Credit portfolio risk models - understand different approaches to modeling credit portfolio risk. Learn how to use Monte Carlo and Quasi-Monte Carlo simulation to implement the asset value approach. Learn how the structural approach is used to explain the sources of credit risk, and how it can be implemented as an extension of the Black-Scholes option pricing model.
- Prepayment modeling - understand the structure of Mortgage-Backed Securities (MBS) and MBS derivatives, such as Interest-Only (IO) strips and Principal-Only (PO) strips. Understand different measures of prepayment speed, such as Single Monthly Mortality (SMM), Conditional Prepayment Rate (CPR) and Absolute Prepayment Speed (ABS). Learn how to implement these measures in Excel.

**Course Sections:**

- Implement statistical foundations, including Monte Carlo simulation using built-in native Excel functions and tools
- Understand the structure of a credit ratings transition matrix and estimate using the cohort approach and the hazard rate approach
- Estimate default probabilities and correlations, using Merton's model of credit risk, linear & Poisson regression analysis, the asset value approach (method of moments and maximum likelihood approaches)
- Simulate and model prepayment rates, incorporating the structure of MBS & related derivatives, including IO and PO strips
- Model different measures of prepayment speed, such as Single Monthly Mortality (SMM), Conditional Prepayment Rate (CPR) and Absolute Prepayment Speed (ABS)
- Utilize Excel's specialized functions, including advanced statistical techniques, and Excel's built-in optimization tools
- Code in Excel VBA: learn the fundamental programming structures and how it can be used to extend Excel's capabilities in Credit Risk Modeling

**Value at Risk (VaR) Modeling for Different Asset Classes in Excel****Course Goals & Overview:**

This course provides an overview of Value at Risk (VaR) modeling for a wide array of financial assets, including stocks, bonds, forward contracts, futures contracts, swaps and options. The key statistical assumptions underlying the VaR methodology are explored; several different models for computing VaR are implemented in Excel. The Delta-Normal approach is used to compute VaR for bonds, stocks and linear derivative securities, such as forwards, futures and swaps, as well as calls and puts. The Delta-Gamma approach is introduced as an alternative to computing VaR for options; this approach can capture the non-linear behavior of an option but at the cost of greater computational complexity. Full valuation approaches to computing VaR are covered in great detail; these have the advantage of being independent of any distributional assumptions about financial assets. These approaches include Historical Simulation, Weighted Historical Simulation and Monte Carlo Simulation. Several portfolio VaR measures are demonstrated; these are designed to measure the impact of a potential trade on portfolio VaR. These measures are known as Marginal VaR, Incremental VaR and Component VaR. The course concludes with a discussion of the strengths and weaknesses of the VaR methodology, with a consideration of several alternative possible approaches.

**Learning Objectives:**

- Excel - Learn several advanced statistical and mathematical functions in Excel. Understand how random numbers can be generated in Excel. Understand how to implement probability distributions in Excel, including the normal distribution. Learn how Excel's add-in tools can be used to implement advanced statistical techniques. Understand Excel's specialized matrix algebra operations.
- Statistical properties of financial assets - gain an in-depth understanding of the statistical concepts that form the foundation for all risk management models, including volatility, covariance and correlation and the normal distribution.
- The Value at Risk methodology - understand the statistical foundations of the Value at Risk framework. Gain insight into how the assumptions of Value at Risk are violated in practice. Understand how to interpret the output of a Value at Risk model.
- Delta-Normal approach to VaR - understand how VaR can be computed from the volatilities and correlations among the assets in a portfolio. Understand how VaR mapping is used to measure the exposure of financial assets to various risk factors. Learn how VaR can be computed for more complex assets, including fixed income products and derivative securities.
- Delta-Gamma approach to VaR - understand how the Delta-Normal approach can be extended to capture the behavior of non-linear assets, such as options.
- Full-valuation approach to VaR - understand how VaR can be computed directly from historical data or from simulated market prices. Gain an in-depth understanding of the Historical Simulation approach, which is used to compute VaR directly from past market returns. Understand how the Weighted Historical Simulation approach more realistically allows for the decay in the impact of past prices over time. Learn how Monte Carlo simulation uses assumptions about the statistical properties of asset returns to compute VaR. Understand how Monte Carlo simulation can be extended to multiple assets through the use of Cholesky Decomposition. Understand the advantages and disadvantages of the full-valuation approaches relative to the delta-normal and delta-gamma approaches.
- Portfolio VaR measures - understand how changes in the composition of a portfolio affect VaR. Be able to implement three important measures of the sensitivity of VaR to changes in a portfolio: marginal VaR, incremental VaR and component VaR and understand how to interpret these measures.
- Extensions of VaR - understand how to compute the Expected Shortfall (ES) measure and be able to interpret it. Understand how VaR may be implemented with non-normal distributions, such as the Generalized Pareto Distribution (GPD), which can better capture the tail behavior of financial returns.

**PORTFOLIO & RISK MANAGEMENT****Value at Risk (VaR) Modeling for Different Asset Classes in Excel (cont.)****Course Sections:**

- Explore the statistical foundations and methodology of the VaR framework in Excel and gain insight into how the assumptions of VaR are violated in practice
- Learn the Delta-Normal, Delta-Gamma & Full Valuation approaches to compute VaR for bonds, stocks and linear and non-linear derivative securities, such as forwards, futures and swaps, as well as calls and puts
- Understand how changes in the composition of a portfolio affect VaR and implement VaR sensitivities in a portfolio: marginal, incremental and component VaR
- Comprehend extensions of VaR and how VaR may be implemented with non-normal distributions, such as the Generalized Pareto Distribution (GPD), which can better capture the tail behavior of financial returns
- Utilize Excel's advanced statistical and mathematical functions, from basics of random numbers to implementing probability distributions (including normal distribution) to Excel's specialized matrix algebra operations

**PORTFOLIO & RISK MANAGEMENT****Portfolio Optimization & Efficient Frontier Modeling****Course Goals & Overview:**

This course provides an overview of portfolio modeling. The course reviews several key components of portfolio math, such as standard deviation, correlation and covariance, as well as optimization techniques. Markowitz' formula for measuring portfolio risk is covered in detail. The equivalent matrix representation is introduced, along with Excel's matrix algebra functions. The Capital Asset Pricing Model (CAPM) framework is used to introduce several key concepts, such as beta and the efficient frontier. Excel Solver is used to derive the efficient frontier from a portfolio of stocks. Beta is estimated using linear regression analysis. The Capital Market Line and Security Market Line are derived, showing the relationship between risk and return in equity markets. The Sharpe Ratio is introduced as a measure of relative risk.

**Learning Objectives:**

- Excel - - Learn several advanced statistical and mathematical functions in Excel. Understand how Excel's add-in tools can be used for regression analysis. Learn how to use Excel's specialized matrix algebra operations. Understand how to optimize functions using Excel's Solver add-in.
- Portfolio math - gain an in-depth understanding of the statistical concepts that form the foundation of portfolio theory, including expected return, standard deviation, covariance and correlation. Learn how to calculate these measures in Excel, and understand their economic significance. Learn how the inputs to a portfolio model can be estimated from historical data using Excel.
- Optimization - learn the basic principles of constrained and unconstrained optimization using Excel's matrix algebra functions and Solver.
- Markowitz's model - understand how Markowitz's model is used to measure the risk of a portfolio. Understand the concept of diversification and how it relates to correlation and covariance. Learn how to implement Markowitz's formula for multiple assets using Excel's built-in matrix algebra functions.
- The Capital Asset Pricing Model (CAPM) - understand the statistical foundations of the CAPM model. Understand how beta is derived and how it is interpreted. Understand the significance of the Capital Market Line and the Security Market Line and how they may be implemented in Excel. Learn how to compute and interpret Jensen's alpha.
- The Efficient Frontier - understand the properties of the efficient frontier and how it can be implemented using optimization techniques. Learn how to construct the efficient frontier using Excel Solver. Understand how the minimum variance portfolio and the market portfolio are constructed. Learn how to optimize the weights of the assets in a portfolio to earn a target return given any constraints on the risk of the portfolio. Learn how the ability to sell stocks short affects the efficient frontier. Understand how the availability of a risk-free asset impacts the efficient frontier. Understand how portfolio rebalancing may be used to preserve a portfolio's risk and return characteristics over time.

**Course Sections:**

- Extend the fundamentals of CAPM to the foundations of portfolio math, such as standard deviation, correlation and covariance, as well as optimization techniques
- Learn how to easily implement Markowitz's efficient frontier methodology using Excel's matrix algebra functions and array tools to quickly calculate correlations amongst almost infinite set of securities
- Understand and quantify the concept and benefits of diversification and how risk can be reduced with a portfolio of assets
- Start with raw return data for equity securities and construct optimal stock portfolio in Excel; then layer on different asset classes including cash, fixed income and options
- Sensitize and quantify the effect of specific securities in the context of the overall portfolio: for instance, a stock may optimize the stock portfolio but not the overall diversified portfolio
- Utilize Excel to optimize portfolio construction based on maximizing returns and minimum variance mix of securities, using advanced statistical and mathematical functions

**Bank Capital Adequacy Modeling and Basel III Compliance****Course Goals & Overview:**

This course presents an overview of the Basel Accords and how they have evolved since their debut in 1988. The three-pillar structure is explained in great detail, with a focus on the measurement of capital requirements under Pillar 1. The Value at Risk methodology is covered in depth as a technique for computing market risk capital requirements. The key features of the approaches to computing credit risk capital are covered: the Standardized Approach, the Foundation Internal Ratings Based Approach and the Advanced Internal Ratings Based Approach. The three approaches to computing operational risk capital are explored in detail: the Basic Indicator Approach, the Standardized Approach and the Advanced Measurement Approach. The new features of Basel III are explained, including changes to the measurement of Tier 1 and Tier 2 capital, updates to the calculation of credit risk capital and a more advanced approach to measuring liquidity risk.

**Learning Objectives:**

- Overview of the Basel Accords – understand how the Basel Accords have evolved since being introduced in 1988. Learn how Basel II improves risk measurement and how it is organized into three pillars: determining regulatory capital for market, credit and operational risk; supervisory review and market discipline. Gain a broad understanding of the different methods that are used to compute capital requirements for market risk, credit risk and operational risk under Pillar 1. Understand the four key principles of supervisory review under Pillar 2: having a process for assessing overall capital adequacy, evaluation of banks' internal capital adequacy strategies, expecting banks to hold more capital than required, and early intervention. Understand that Pillar 3 is designed to impose market discipline on banks by requiring them to disclose key information about risk and capital holdings.
- Modeling capital requirements for market risk – understand the Value at Risk methodology and how it is used to calculate capital requirements under the Basel Accords.
- Modeling capital requirements for credit risk – learn how the Standardized Approach assigns risk weights to different types of assets, such as claims against corporations, loans to individuals and small businesses, residential and commercial real estate loans and claims against sovereign governments and central banks. Understand how the Standardized Approach incorporates several risk mitigating techniques, such as collateral, netting and credit derivatives. Understand how the Foundation Internal Ratings Based (IRB) Approach enables banks to use their own estimates of default probabilities, while the Advanced Internal Ratings Based Approach allows banks to estimate their own default probabilities, loss given default, exposure at default and effective maturity for each exposure.
- Measuring capital requirements for operational risk – understand how the Basic Indicator Approach computes the operational capital charge as 15% of a bank's average gross income. Learn how the Standardized Approach divides a bank's activities into eight business lines, and weights each with a risk factor. Learn how the Advanced Measurement Approach enables a bank to use internal data to determine the appropriate operational risk capital charge.
- Basel III – understand the changes that will occur under Basel III. These include updated definitions for Tier 1 and Tier 2 capital, the risk-based capital ratio, countercyclical capital buffers, changes to the Standardized and IRB approaches to credit risk and the measurement of liquidity risk.

**PORTFOLIO & RISK MANAGEMENT (PRODUCTS)****Credit Derivatives Modeling in Excel & VBA****Course Goals & Overview:**

This course provides an in-depth introduction to credit derivatives modeling. Techniques for calibrating the LIBOR curve are introduced. Alternative approaches to modeling default probabilities are considered, including Merton's model, reduced-form models and the hazard rate model. The basic properties of credit derivatives are covered in detail, along with pricing models. Strategies for hedging credit risk with these derivatives are discussed in detail. Correlation products are covered, including Collateralized Debt Obligations (CDOs) and single-tranche CDOs. These are priced with Monte Carlo simulation while hedging strategies are developed. All models are implemented in Excel/VBA.

**Learning Objectives:**

- Excel - learn several of Excel's specialized bond pricing functions. Understand how to use Excel's add-in tools to implement advanced statistical techniques, such as regression analysis and random number generation.
- Visual Basic for Applications (VBA) - learn the fundamental programming structures of the VBA language, and how it can be used to extend Excel's capabilities.
- Statistical foundations - learn how to implement Monte Carlo simulation using Excel/VBA. Learn techniques for improving the speed of convergence, including importance sampling and low-discrepancy sequences.
- Calibrating the LIBOR curve – understand how the LIBOR curve may be estimated from market data in order to price credit derivatives.
- Default rate modeling – understand how Merton's structural model may be used to estimate default probabilities. Understand alternative approaches to default rate modeling, including reduced-form models and the hazard rate model.
- Credit spread derivatives - understand how credit spread forwards, swaps and options are structured and how they are priced. Understand how credit spread options can be priced with an extension of the Black-Scholes model.
- Credit Default Swaps (CDS) – understand the properties of a CDS and how it can be priced. Learn how a CDS can be used to create a synthetic position in a risky asset, such as a corporate bond. Understand how CDS expose investors to changes in the credit spread curve, LIBOR curve and recovery rates and how these risks may be measured and hedged. Understand how credit DV01, spread convexity and theta are defined for a CDS.
- Correlation products – understand the properties of credit derivatives whose value depends on the behavior of two or more underlying assets. Understand the structure of Collateralized Debt Obligations (CDOs) and the motivations for issuing them. Learn how to price CDO tranches using Monte Carlo simulation and other alternative approaches. Understand how to measure the risk associated with a CDO tranche. Understand how nth-to-Default Swaps are structured and how they may be used to enhance returns through the use of leverage.

**PORTFOLIO & RISK MANAGEMENT (PRODUCTS)****Volatility/Correlation Modeling and Risk Management****Course Goals & Overview:**

This course provides a detailed overview of volatility and correlation models. First, estimate volatility from historical data then, implied volatility is defined and derived from option prices using root-finding methods. Dive deeper into the term structure of volatilities and volatility surface are analyzed in great detail. Learn how to price exotic options and the corresponding Greeks from the volatility surface. An overview of hedging and trading strategies using volatility derivatives is given; these include VIX options and futures and OTC derivatives, such as variance and volatility swaps. Several techniques for estimating correlation are covered, along with an overview of correlation derivatives. Trading and hedging strategies with correlation products are explored in detail. All models are implemented using Excel and the Visual Basic for Applications (VBA) programming language.

**Learning Objectives:**

- Excel - understand how to use Excel's optimization package Solver to estimate volatility models.
- Visual Basic for Applications (VBA) - learn how to extend the capabilities of Excel with the VBA programming language. Understand the basic programming structures of VBA, such as arrays, objects, properties, methods, and branching and looping statements. Learn how to write user-defined functions and macros.
- Historical volatility – understand how to estimate volatility from historical data. Implement the simple moving average approach, the Exponentially-Weighted Moving Average (EWMA) approach and the GARCH methodology using Excel. Understand the advantages and disadvantages of each approach.
- Implied volatility – understand how implied volatility can be computed from the Black-Scholes model using root-finding techniques such as Newton-Raphson. Understand the properties of the volatility skew and how the term structure of volatilities is calculated. Learn how the implied volatility surface is constructed from the volatility skew and the term structure of volatilities.
- Implied trees – understand the methodology used to generate implied binomial and trinomial trees from the volatility surface. Learn how to implement the Derman-Kani implied tree model in order to price exotic options and calculate the Greeks for these options. Understand how the Greeks may be used for hedging.
- Stochastic volatility models – learn how volatility can be modeled as a two-factor stochastic process. Understand how the Heston model may be implemented with Monte Carlo simulation and as a closed-form solution using numerical methods. Use Heston model to calculate implied volatility surface and use this information to price exotic options.
- Volatility derivatives – understand the properties of several volatility derivatives, including VIX options and futures, variance and volatility swaps. Understand how the VIX index is constructed and how VIX options and futures may be used to hedge volatility. Understand several trading strategies using VIX options and futures to speculate on future direction of volatility, including bull / bear spreads, calendar spreads, diagonal spreads, butterfly spreads & condors.
- Correlation models – understand how correlation can be estimated from historical data using simple moving averages, Exponentially-Weighted Moving Averages and GARCH. Be able to extract implied correlations from the prices of currency options. Understand the properties of the correlation skew. Learn how default correlations may be estimated from structural models such as Merton.
- Correlation derivatives – learn key properties of correlation derivatives, such as covariance & correlation swaps, nth-to-default swaps and Collateralized Debt Obligations (CDOs.) Understand different types of risk carried by correlation products, such as default risk, spread risk, implied correlation risk and time decay and how these risks may be managed using delta and gamma. Learn how a position in correlation may be taken with CDS or CDO tranches.
- Copulas – understand how several types of copulas are constructed, including the Gaussian copula. Learn how these may be used to price correlation products, such as CDS and CDOs.

**PORTFOLIO & RISK MANAGEMENT (PRODUCTS)****Fixed Income Modeling and Risk Management****Course Goals & Overview:**

This course is designed to provide an intensive introduction to fixed income markets and interest rate derivatives. The course presents several alternative measures of interest rates: yield to maturity, spot rates, forward rates and discount factors; techniques for pricing bonds with these measures are covered. The measurement and management of interest rate risk is then explored in depth.

**Learning Objectives:**

- Excel - learn how Excel can be used to implement several sophisticated models of interest rates and interest rate risk. Understand how interest rate derivative securities can be priced based on these models.
- Visual Basic for Applications (VBA) - learn how to extend the capabilities of Excel with the VBA programming language. Understand the basic programming structures of VBA, such as arrays, objects, properties, methods, and branching and looping statements. Learn how to write user-defined functions and macros.
- Interest rate modeling – understand the definitions of yield to maturity, spot rates, forward rates and discount factors. Learn how these measures relate to each other and how they can be used to price fixed-income securities, including bonds. Understand different types of compounding conventions.
- Measuring interest rate risk - understand the properties of duration and convexity and how they are derived. Learn how duration and convexity are used to measure and manage interest rate risk. Understand how duration hedging is implemented and the drawbacks to this approach. Gain insight into how convexity can be used to increase the effectiveness of duration hedging.
- Principal components analysis (PCA) – understand how PCA is used to identify the factors that explain the behavior of the yield curve. Learn how PCA can be used to derive more realistic versions of duration, known as level, slope and curvature duration, and how these may be used to hedge interest rate risk.
- Modeling interest rates – understand how the term structure of interest rates can be modeled as a binomial tree and implemented in Excel. Understand how the binomial tree can be used to price callable and puttable bonds, floating rate bonds and inverse floaters. Learn how the tree is used to compute analytics such as effective duration, effective convexity and option-adjusted spread (OAS.) Understand how OAS is used in rich-cheap analysis to identify the relative value of different fixed income securities.
- Monte Carlo simulation - understand how Monte Carlo simulation can be used to price fixed income securities and compute effective duration, effective convexity and OAS.
- Interest rate derivatives – understand basic properties of interest rate futures, forwards, swaps and options. Learn how interest rate options can be priced using modified Black-Scholes model and the binomial interest rate tree.
- Hedging with interest rate derivatives - understand basic strategies for hedging interest rate risk with interest rate futures, such as Eurodollar futures and Treasury bill futures. Understand the concept of basis risk. Learn how hedging strategies can be implemented with interest rate swaps and options.
- Passive fixed income portfolio management strategies – understand how passive strategies are used to replicate the returns to an index, such as the Barclays Capital Aggregate Bond Index. Learn different approaches to replication, such as stratified sampling, tracking-error minimization, factor-based replication, and derivatives-based replication. Understand how immunization strategies can be implemented; these include cash-flow matching and duration matching. Learn how derivatives can be used to implement passive strategies.
- Active fixed income portfolio management strategies – learn how market timing strategies are implemented based on anticipated yield curve changes. These include “riding the yield curve” and bullet, barbell, ladder and butterfly strategies. Understand how trading strategies can be based on exploiting market inefficiencies, such as spread and convergence trades. Learn how derivatives can be used to implement active strategies.

**PORTFOLIO & RISK MANAGEMENT (PRODUCTS)****Interest Rate Derivatives Modeling and Term Structure of Rates****Course Goals & Overview:**

This course provides an analysis of the term structure of interest rates and interest rate derivatives pricing models. Several different types of interest rate derivatives are covered, including interest rate futures and forwards, interest rate swaps and interest rate options. The uses of these derivatives for hedging and trading purposes is explored in depth. Black's model is applied to the pricing of European interest rate options. Equilibrium models of the term structure of interest rates are introduced and implemented in Excel. These models are used to price zero-coupon bonds and coupon bonds. The drawbacks of equilibrium term structure models are considered. No-arbitrage models of the term structure are explored in depth, including the lognormal model, Black-Derman-Toy (BDT) and Hull-White. The comparative strengths and weaknesses of these models are considered. The BDT model is implemented in VBA as a binomial interest rate tree. The model is then used to price European, American and Exotic interest rate options.

**Learning Objectives:**

- Excel - learn how Excel can be used to implement several sophisticated pricing models for interest rate derivatives. Understand how simple models of the term structure of interest rates can be implemented in Excel.
- Visual Basic for Applications (VBA) - learn how to extend the capabilities of Excel with the VBA programming language. Understand the basic programming structures of VBA, such as arrays, objects, properties, methods, and branching and looping statements. Learn how to write user-defined functions and macros.
- Stochastic processes – learn the statistical properties of key stochastic processes and how they may be used to model the evolution of interest rates over time.
- Interest rate forwards and futures – understand the properties of interest rate forward contracts, such as forward rate agreements (FRAs), and how they are priced. Learn how FRAs are used to lock in a borrowing or a lending rate. Learn how interest rate futures, such as Eurodollar futures, are used for hedging fluctuations in interest rates. Understand how basis risk arises when hedging with futures contracts. Learn how to implement duration-based hedges with futures contracts. Learn how and why cross-hedging is implemented, and how to measure its effectiveness with regression analysis. Understand the convexity adjustment that relates forward rates of interest to futures rates.
- Interest rate swaps – learn how interest rate swaps are structured. Understand how swap rates are determined from the term structure of interest rates, and how interest rate swaps are priced. Learn how interest rate swaps may be used to hedge risk by transforming floating rate assets/liabilities to fixed rate and vice versa. Learn how the risk of a negative or positive GAP can be hedged with an appropriate position in an interest rate swap. Understand how a synthetic position in a security can be created with an interest rate swap.
- Interest rate options – become familiar with the properties of interest rate options, such as caps, floors, collars, swaptions and futures options. Understand how European interest rate options can be priced with Black's model, how Greeks can be calculated for these options, and how the prices of caps, floors and swaps are related. Understand how the Greeks can be used to implement hedging strategies. Analyze the strengths and weaknesses of Black's model. Understand the properties of American and exotic interest rate options. Learn how caps can be used to hedge floating rate liabilities, floors can be used to protect the returns to floating rate assets and collars are used to set upper and lower boundaries on interest rates. Understand how swaptions can be used to lock in a maximum rate for floating rate debt, and how they can be used to transform fixed-rate assets into floating rate assets to benefit from rising rates.

**PORTFOLIO & RISK MANAGEMENT (PRODUCTS)****Interest Rate Derivatives Modeling and Term Structure of Rates (cont.)****Learning Objectives:**

- Equilibrium term structure models – understand the key features of two key equilibrium models: Vasicek and Cox-Ingersoll-Ross. Understand how these models can be used to price coupon bonds and zero coupon bonds. Understand how these models are derived and why they are not appropriate for pricing interest rate derivatives.
- No-arbitrage term structure models – learn the key properties of no-arbitrage term structure models, such as the lognormal model, Black-Derman-Toy (BDT) and Hull-White. Gain insights into the stochastic processes that underlie these models. Understand how to implement the Black-Derman-Toy model using VBA. Learn how to use the Black-Derman-Toy model to price European interest rate options, such as caps, floors and collars, and compare the results with Black's model. Use BDT to price American and exotic interest rate options, such as barrier caps and floors, bounded caps and floors, cancelable swaps and captions and floortions.

**PORTFOLIO & RISK MANAGEMENT (PRODUCTS)****Foreign Exchange (FX) Modeling & Hedging****Course Goals & Overview:**

The course presents an overview of exchange rates, foreign exchange risk and strategies for pricing and hedging with foreign exchange derivatives. The basic features of the foreign exchange markets are introduced, along with several international parity conditions. The key properties of foreign exchange forwards, futures, swaps and options are covered in detail; pricing models are introduced for each type of derivative along with hedging strategies. Several models are introduced for pricing foreign exchange options and are implemented in VBA. These models are used to compute the Greeks and implement sophisticated hedging strategies. The properties of exotic foreign exchange options are covered; these are priced with stochastic volatility option pricing models.

**Learning Objectives:**

- Excel - understand how to use Excel's optimization package Solver for applications such as computing implied volatility. Learn how to implement regression analysis using Excel's Data Analysis Tool-Pak add-in.
- Visual Basic for Applications (VBA) - learn how to extend the capabilities of Excel with the VBA programming language. Understand the basic programming structures of VBA, such as arrays, objects, properties, methods, and branching and looping statements. Learn how to write user-defined functions and macros.
- The foreign exchange markets – understand the meaning of spot, forward and cross-exchange rates. Learn how real exchange rates are determined from nominal exchange rates, and how both are calculated.
- International parity relations – understand how exchange rates are affected by interest rates and inflation rates through purchasing power parity and the International Fisher Effect. Learn how interest rate parity ties together the values of spot and forward exchange rates, and how violations of IRP lead to arbitrage profits. Understand how uncovered interest rate parity “carry trade,” can be used to increase returns.
- Foreign exchange forwards and futures – understand the properties of foreign exchange forwards and futures; understand how FX forward contracts are priced. Learn how marking-to-market affects the relationship between futures and forward prices. Understand how FX forwards can be used to lock in the exchange rate at which future transactions will take place. Learn different approaches to futures hedging and how the optimal hedge ratio can be determined with regression analysis. Understand how basis risk arises with FX futures hedging and how cross hedges are implemented and their effectiveness.
- Foreign exchange swaps - learn how FX swaps can be priced as a sequence of FX forward contracts or as a portfolio of bonds. Understand how FX swaps can be used to convert the denomination of assets and liabilities from one currency into another in order to hedge FX risk or increase rates of return.
- FX options – understand the basic features of FX options and several hedging strategies, including bull spreads, bear spreads, butterfly spreads, straddles and strangles. Learn the properties of several exotic FX options, including barrier options, digital options and quantos. Understand the properties of the standard Greeks: delta, gamma, theta, vega and rho, as well as the higher-order Greeks, such as vanna and volga.
- Implied volatility – understand how implied volatility can be computed from the Black-Scholes model using root-finding techniques such as Newton-Raphson. Understand the properties of the volatility skew and how the term structure of volatilities is calculated. Learn how the implied volatility surface is constructed from the volatility skew and the term structure of volatility.
- Foreign exchange option pricing models - learn how plain vanilla FX options can be priced with an extension of the Black-Scholes model, known as the Garman-Kohlhagen model, and how the Greeks may be derived from the model. Understand how the Greeks are used for hedging strategies. Learn how exotic FX options can be priced with the stochastic volatility SABR (stochastic alpha beta rho) model and how the Greeks can be determined with the model. Understand the vanna-volga approach to pricing exotic FX options and computing the Greeks. Learn strategies for hedging delta, vega, vanna and volga risk.

**PORTFOLIO & RISK MANAGEMENT (PRODUCTS)****Introduction to Options: Greeks & Option Strategies****Course Goals & Overview:**

This course is an intensive introduction to option trading strategies and the Greeks. Several examples of spreads and combinations are covered in detail; strategies that combine options with other types of assets are also explained in depth. These include covered calls, protective puts and collars. In addition to these strategies, the use of options to synthetically replicate other types of positions is also explored. Several option risk measures, known as the Greeks, are covered in detail: delta, gamma, theta, vega and rho. The properties of the Greeks are analyzed, while models for computing the Greeks are derived from the Black-Scholes model using Excel. The importance of the Greeks in trading strategies is shown with numerous examples.

**Learning Objectives:**

- Excel - Understand how to implement several key mathematical and statistical Excel functions, such as variance, standard deviation, covariance, correlation, the normal probability distribution and the cumulative normal probability distribution.
- Visual Basic for Applications (VBA) - learn how to extend the capabilities of Excel with the VBA programming language. Understand the basic programming structures of VBA, such as arrays, objects, properties, methods, and branching and looping statements. Learn how to write user-defined functions and macros.
- Options – review basic options terminology and understand how options are priced with the Black-Scholes model. Understand the statistical foundations of the Black-Scholes option pricing model and how to implement the Black-Scholes model in Excel. Learn how the put-call parity condition enables Black-Scholes to price puts and calls.
- Option trading strategies - understand the basic types of trading strategies, including spreads and combinations. Understand the payoff profile and the break-even point of each strategy. Understand which strategies are appropriate when the market outlook is bullish, bearish or neutral. Learn the potential rewards and risk associated with each strategy. Understand how changes in volatility affect each strategy, and how the passage of time affects the profitability of each strategy. Learn how to synthetically reproduce various payoff profiles with the use of options.
- Black-Scholes – learn how European options may be priced with the Black-Scholes model. Understand the statistical foundations of the Black-Scholes option pricing model and the concept of risk-neutral pricing. Be able to implement the Black-Scholes model in Excel and VBA. Learn how to extend the Black-Scholes model to price European puts with the put-call parity condition. Learn how the Greeks may be calculated with the Black-Scholes model. Understand how the assumptions underlying the Black-Scholes model may be violated in practice.
- Option Volatility – Understand how to calculate implied volatility and the implications volatility has in pricing options. Connect the “smile” of volatility to implied volatility and strike price and validate / negate the assumptions of Black-Scholes. Internalize the impact of volatility skew on in-the-money calls and out-of-the-money puts which all relate to the term structure of volatility and how mispricing arises.
- The Greeks - understand five of the most important Greeks: delta, gamma, theta, vega and rho. Understand how delta and gamma can be used to measure the sensitivity of an option's price to changes in the price of the underlying variable. Learn how theta measures the impact of the passage of time on an option's price. Understand the relationship between option prices and volatility, as measured by vega. Gain insight into how interest rates impact option prices, as measured by rho. Learn how to compute these measures in Excel and understand their role in measuring and managing risk. Understand the role of the Greeks in trading strategies.

**PORTFOLIO & RISK MANAGEMENT (PRODUCTS)****Complex and Exotic Option Pricing Models & Simulation in Excel & VBA****Course Goals & Overview:**

This course introduces the Monte Carlo simulation approach to pricing derivative securities. Several different techniques for simulating random numbers are described; the risk-neutral framework for pricing derivative securities is covered in detail. The properties of Brownian Motion and Geometric Brownian Motion are explored, along with alternative stochastic processes that may be used to price derivatives. The simulation of European option prices and the Greeks is implemented in the VBA programming language. The Longstaff-Schwartz approach to pricing American options is covered in depth. The properties of several types of exotic derivatives are explained in detail. The prices of these derivatives are obtained from Monte Carlo simulation and compared with the results obtained from closed-form models. Several techniques for reducing the computational time of Monte Carlo simulation are explored, such as low-discrepancy sequences, control variates and antithetic variables.

**Learning Objectives:**

- Excel - understand how to use Excel's add-in tools to implement advanced statistical techniques, such as regression analysis and random number generation.
- Visual Basic for Applications (VBA) - learn how to extend the capabilities of Excel with the VBA programming language. Understand the basic programming structures of VBA, such as arrays, objects, properties, methods, and branching and looping statements. Learn how to write user-defined functions and macros.
- Risk-neutral pricing - understand how derivative securities are priced with the risk-neutral framework of Black and Scholes. Learn the statistical properties of Brownian Motion. Understand how a stochastic process such as Geometric Brownian Motion can be used to model the behavior of financial assets.
- Monte Carlo simulation - understand how the statistical properties of traded assets can be used to generate simulated prices, and how option prices can be derived from these results. Learn several techniques for simulating random numbers from a probability distribution, and be able to evaluate their relative strengths and weaknesses. Learn how to implement a Monte Carlo simulation in VBA.
- The Longstaff-Schwartz model - understand how American options may be priced using the Longstaff-Schwartz approach, which combines regression analysis and Monte Carlo simulation.
- Variance reduction techniques - understand several techniques that may be used to reduce the computational time required for a Monte Carlo simulation. Learn how random number sequences are generated and how deterministic sequences may be used to speed up the convergence of a Monte Carlo simulation. Understand how the use of control variates and antithetic variables can reduce the standard error associated with a Monte Carlo simulation.
- VIX options - understand how the Chicago Board Option Exchange Volatility Index (VIX) is constructed. Learn how VIX options are priced, and how they may be used to implement volatility trading strategies.
- Exotic options - understand the properties of these highly complex options and how they may be priced with Monte Carlo simulation. Understand the concept of path-dependence. Learn how exotic options may be used to hedge market risk. The options to be covered include:
  - Barrier options - understand the properties of the different types of barrier options: up-and-in, up-and-out, down-and-in, down-and-out. Learn how these options may be used to hedge risk at a lower cost than plain vanilla options.
  - Binary (digital) options - understand the properties of the two basic types of binary options: cash-or-nothing and asset-or-nothing. Understand how the behavior of the Greeks for a binary option differs from plain vanilla options, and how this affects hedging strategies.
  - Lookback options - understand the path-dependent behavior of lookback options. Understand how lookback options are priced and why they are a more expensive alternative to plain vanilla options.
  - Asian options - learn the properties of the different types of Asian options: average price and average strike. Understand the path-dependent nature of Asian options, and the types of situations that can be successfully hedged with Asian options. Understand why Asian options are cheaper than the corresponding plain vanilla options.

**PORTFOLIO & RISK MANAGEMENT (PRODUCTS)****Complex and Exotic Option Pricing Models & Simulation in Excel & VBA (cont.)**

- Rainbow options – understand the features of the different types of rainbow options: maximum options, minimum options, better-of options, worst-of options, two-asset correlation options and spread options. Learn how these options may be used for hedging strategies and how they can be priced with Monte Carlo simulation. Understand how Monte Carlo simulation can be extended to price options written on two or more assets through the use of Cholesky Decomposition.

**Course Sections:**

- Learn the properties of several types of exotic derivatives and the concept of path-dependence; then model and price the exotics
- Specific options strategies covered include: barrier options, binary (digital) options, Peroni options, rainbow options, lookback options, Asian options, multiple-asset options and others
- Understand how the Chicago Board Option Exchange Volatility Index (VIX) is constructed, how VIX options are priced, and how they may be used to implement volatility trading strategies
- Utilize Monte Carlo simulation approach to pricing derivative securities, from the risk-neutral framework to Brownian Motion to Longstaff-Schwartz and alternative stochastic processes
- Simulate and model European option prices and implement the Greeks in Excel & VBA
- Utilize VBA for arrays, objects, properties, methods, branching & looping statements and user-defined functions and macros

**BANKER'S LAW: LEGAL ASPECTS OF TRANSACTIONS****Nondisclosure Agreements, Due Diligence and Purchase Agreements****Course Goals & Overview:**

The nondisclosure agreement (NDA) and purchase agreement are two of the most important legal documents that bankers and other finance professionals need to be proficient with during a transaction. The NDA is one of the first agreements to be signed during the negotiation phase. This document lays out the boundaries surrounding what information is confidential. In the NDA portion of this course, you will learn what major components to expect in an NDA. The purchase agreement is also a vital document outlining the legal details of an M&A transaction. The goal is to translate the financial terms of the deal into proper legal protections for both parties. We will walk you through the various sections found in almost all M&A purchase agreements, with detailed explanations of what they mean and how they are all pieced together.

One of the most, if not the most, important parts of an M&A deal is the due diligence process. You may have heard about “kicking the tires” and putting boots on the ground to see what really goes on in a business, but that is just a portion of the legwork required. Comprehensive paperwork, rigorous cross-referencing, and in-depth research are all key to understanding what exactly is being offered for sale. In this course, explore the rationale behind what the respective buyers and sellers are looking for, including the qualitative and quantitative risks associated with the potential transaction. A substantial set of checklists has developed throughout the storied history of the M&A industry, and it is the banker’s job to competently meet the long list of information requests that clients make.

**Learning Objectives:**

- Review the various sections of a standard NDA and understand how seller/target tries to protect itself
- Know what to expect in a purchase agreement, and what changes hands when one is executed
- Understand the purpose of the due diligence process, and who conducts it
- Step into the shoes of an acquiror or investor investigating all aspects of a business, from operational to regulatory and everything in between in validating the assumptions behind transactions

**Course Sections:****The Nondisclosure Agreement**

- At which point of a deal does the NDA come into play?
- What form does an M&A transaction NDA take, and who are the parties involved?
- Who is supposed to initially send out the NDA?
- Does this benefit the buyer or the seller in the transaction more?
- Which key items should be considered by the buyer, by seller, and by both parties?
- How is “confidential information” and the use thereof defined?
- What information may and may not be disclosed? What exceptions should be carved out?
- What are the rules governing destruction of confidential materials?
- Are there industry-wide standards for items such as term and remedies?
- What is a standstill agreement, and when should one be included/negotiated?
- What is a “no-shop” clause, and how does it relate to a deal’s term sheet?

**Due Diligence for Dummies**

- What does due diligence entail? In what cases is financial due diligence required?
- When and where does this process typically take place?
- Which parts of due diligence are supposed to be quantitative vs. qualitative?
- Besides financial due diligence, what other types (tax, legal, operational, etc.) are there?

**Nondisclosure Agreements, Due Diligence and Purchase Agreements (cont.)****The Due Diligence Process**

- What are all the steps involved in the due diligence process?
- Who are the parties responsible for compiling and organizing the initial due diligence information? Who performs the actual due diligence?
- What is a "data room" and what belongs inside of it? How might it change throughout the course of a deal?

**Corporate Due Diligence**

- What documents should be reviewed to verify the validity, scope, and reach of the business's incorporation?
- What are the relevant pieces of a company's history, such as its product lines and management team?
- How many subsidiaries of this business exist? Where do they operate, and how are they structured?
- Are there any synergies available? If so, what are their potential revenue increases and cost reductions?
- What are all the contracts between the parties involved, such as license agreements, purchase agreements, insurance contracts, and equipment leases/loans?

**Marketing/Sales Due Diligence**

- What can you find out about the market in which the target operates? Have there been external studies?
- Which trends can people working closely in this industry identify and support?
- What are the key relevant facts regarding branding, customer relationships, distribution, and sales?
- Is there a cohesive product development pipeline? What makes their products/services profitable or unique?

**Human Resources Due Diligence**

- How will the deal account for compensation and benefit plans?
- Are there plans for cultural and logistical transitioning programs?
- How can you smooth out the various employee-related issues that will arise, such as personnel costs, executive compensation, dismissal costs, and more?

**Operational/IT Due Diligence**

- When is it possible to increase operational efficiency in the wake of a merger or acquisition?
- Why is operational transparency vital to enhancing the value of the enterprise?
- Which costs and capacities associated with the production/manufacturing process should be determined?
- Are the information technology and business technology solutions currently in place secure and efficient?

**Financial Due Diligence**

- Which sections of the balance sheet need to be accounted for and assessed?
- How do you challenge both a target's historic and projected financial data?
- What are the critical factors behind working capital, insurance, and debt forecasts?
- What records are commonly requested? Why might supplier lists, customer lists, inventory lists and financial statements be of interest to buyers/investors?

**PP&E Due Diligence**

- How can you value all equipment and fixed assets currently owned or leased by the business?
- What are all of the required official documents regarding the target's real property?
- Are there any plans to relocate or expand? If so, what will be the resulting financial and legal impacts?

**Legal and Environmental Due Diligence**

- Which legal documents must be secured and verified?
- Is there any current or potential litigation? What about past claims and lawsuits, threatened or otherwise?
- What intellectual property considerations are required? How have past IP lawsuits affected the business?
- How is the current state of research and development, and what are the documentation policies?
- What complications arise from cross-jurisdictional transactions?
- Which regulatory bodies will govern legal and environmental matters?

**Nondisclosure Agreements, Due Diligence and Purchase Agreements (cont.)****Purchase Agreements: Overview**

- What are the primary sections of a purchase agreement, and how do they vary across deals?
- At which point of a deal is a purchase agreement drafted?
- What is the difference between a letter of intent (LOI) and an indication of interest (IOI)?
- Traditionally, who provides the first draft of a purchase agreement?

**Purchase Agreements: Purchase Price Adjustments**

- How are post-closing adjustments to the final purchase price handled?
- What are earnouts and milestone payments?
- What is the rationale behind Net Working Capital Adjustments, and which specific provisions apply?
- What other types of purchase price adjustments are typically available?

**Purchase Agreements: Legal Deal Structure**

- In a business combination, what will the corporate structure of the surviving entity be?
- How do stock purchases, asset purchases, tender offers, and mergers all differ?
- Which structures are preferable to buyers and to sellers?
- For stock purchases and asset purchases, what exactly changes hands between the parties, and how?
- How is the acquisition or transfer of intellectual property handled?
- Assess the pros and cons of the various deal structures, including tax, liability, and other implications in the following structures: stock / asset deal for cash and/or stock; basic & triangular mergers; spin-off / split-offs & reverse mergers

**Purchase Agreements: Merger Consideration**

- What is the valuation methodology behind the acquiring party's shares?
- What mechanisms are in place to address floors and caps for the value and price of issued shares?
- How do seller-financed notes, contingent & installment payments affect the deal structure?
- If stock is involved, how are ownership rights and the conversion of fractional shares determined?

**Purchase Agreements: Representations and Warranties**

- How are representations and warranties outlined? Who will own what?
- Which aspects of the business being sold are accounted for in a purchase agreement?
- How do these relate to the due diligence process?

**Purchase Agreements: Covenants**

- What are some examples of covenants that are agreed upon in between the signing and closing phases?
- How are regulatory- and financing-related covenants structured?
- What are the differences between "best efforts" and "reasonable efforts" to close the deal?
- Which post-merger covenants are most typical, such as employee considerations?

**Purchase Agreements: Indemnification**

- What do exclusive remedy provisions entail, and which exceptions are often covered?
- What limitations on liability are commonly found in purchase agreements?
- What is sandbagging? What contractual approaches may be taken to handle indemnification?
- For how long are acquirers usually indemnified? What affects the duration of this period?
- What are baskets and caps? What is the general trend in the M&A universe?

**Purchase Agreements: Completion and Complications**

- What is the seller obligated to deliver upon closing the transaction?
- How might an M&A deal face complications? How does the purchase agreement handle these, if at all?
- What are the standard conditions precedent that govern the buyer's and seller's obligations before the deal can successfully go through?

**SOFT SKILLS: EXECUTIVE PRESENCE****Executive Presence****Course Goals & Overview:**

When you walk into a room, do the people around you notice? To be a successful leader, you will want to command attention and establish executive presence. Not only is it enough to make a powerful first impression—you need to follow up with substance. Are you a visionary decision maker but too passive when giving presentations? Or a talented public speaker who could use some wardrobe changes? From the tangibles of how you look and sound to the intangibles of how you come off during conversation, developing executive presence is an essential step in taking leadership to the next level. While your local Toastmasters club can help you get over your public speaking jitters, this workshop will teach you the characteristics of a strong executive presence and help identify what you can do to enhance yours in a corporate setting.

**Learning Objectives:**

- Understand what executive presence entails
- Identify the aspects of an individual with highly effective executive presence
- Determine the ways a high-powered leader establishes confidence, tact, and influence
- Develop an action-oriented plan for improvement in all categories

**Course Sections:****Introduction**

- What are the key elements of executive presence?
- What is special about executive presence that extends beyond simply having good posture and charisma?
- Why is a baseline level of self-confidence a prerequisite to developing executive presence?
- What do you need to have before forming a plan to strengthen it?

**Self-Expression in the Boardroom**

- How do you quickly gauge your audience in both professional and social settings?
- How can consulting a speech coach result in an improvement of your executive voice?
- What are the different expressive tools you can use to be perceived as an executive?
- Why is the Q&A section of a presentation so vital?
- What are universal communication cues, and how can they be used most effectively?

**The “Executive” in “Executive Presence”**

- How do you maintain focus and a level head during adversities or otherwise unfamiliar situations?
- What are the key indicators of somebody who can remain calm and collected under pressure?
- How do you maintain a sense of authenticity in a variety of social and professional interactions?
- How do you increase your leadership visibility over time?

**The “Presence” in “Executive Presence”**

- Vocal: Volume, projection, pitch, stability, nasality, breathiness, over- and under-enunciation
- Speech: Duration, inflection, “speaking human” vs. “businessese,” filler words, hedges, authoritativeness
- Body Language: Gestures, posture, energy, handshakes, eye contact, table manners
- Appearance: Fit, formality, hair, consistency, scent, jewelry, transportation

**Personal Branding**

- How can personal branding supplement your executive presence?
- How should you reconcile your individual reputation with your executive behavior?
- How can you become more self-aware of your personal branding and reputation in and out of the office?

**Plan of Action**

- What techniques can you use to evaluate yourself on your current level of executive presence?
- Who should you enlist in order to help you improve your performance?

**SOFT SKILLS: RESEARCH REPORT WRITING****Research Report Writing: Securities Research and Information Memorandums****Course Goals & Overview:**

Performing in-depth research of an industry or company is no small feat. Writing a concise yet detailed summary of your findings is sometimes even more difficult. While you may already be familiar with the basic contents of an equity research report, it is equally important to perfect your writing style. Carefully craft your overall thesis, organize your argument into clear and concise segments, and choose your words wisely. Although there is currently no governing body dictating the proper way to format your report, you should strive to develop proficiency with both the form and function of your analysis. This is not simply a grammar class—we will cover many elements of strong, effective writing, including the use of proper syntax, diction, and argument structures.

**Learning Objectives:**

- Understand the purpose, goals, and audience of an equity research report
- Become familiar with the essential elements of a research report
- Learn editing and proofreading exercises that can be used to hone overall writing skills
- Establish a foundation for concise articulation with appropriate grammar and style

**Course Sections:****Equity Research Overview**

- What is the aim of an equity research report, and who is the intended audience?
- What are the key differences between industry vs. company analysis and sell-side vs. buy-side research?
- Why is it insufficient to proofread for only spelling, grammar, and punctuation?

**Anatomy of a Report**

- What information needs to be included in an equity research report?
- How do you employ appropriate logical argument structures to succinctly drive your thesis?
- In which sequences should the different segments of equity analysis be arranged?
- How do the length and style of the report's individual parts affect reader comprehension?
- Why is structure relevant to the quality of your argument – how can you use this knowledge to enhance your thesis?

**Content Decisions**

- How do you tailor the content of the report to your specific audience?
- Which assumptions or determinations are acceptable for an analyst to make?
- How do you elegantly balance the wide spectrum of facts and opinions in the world of financial research?

**Writing Mechanics**

- What are the different types of sentence formations commonly found in research reports?
- How can you assess the degree to which a report's vocabulary choices are appropriate?
- How can you determine whether certain words are unnecessary or redundant?
- Is there a maximum sentence length for business writing?
- How should you use qualifiers and hedges to reduce or strengthen your message?
- When should you use nominal form vs. verbal form? Active voice vs. passive voice?
- What are some well-known word/phrase usage issues pertinent to both general and equity research writing?

**Learn By Doing**

- What are some writing exercises that can strengthen concise communication and argumentation skills?
- What resources are available as a reference regarding best practices in grammar and style?
- How should you conduct the editing and rewriting process, especially among a team of multiple analysts?

**TOPICAL SUBJECTS****Pension & OPEB Accounting, Analysis & Financial Implications****Course Goals & Overview:**

Pension and Other Post-Employment Benefits has had an increasing spotlight on a company's reported results and financial statements, especially given the dramatic impact on the airline and car manufacturing industries. Understand how different employer paid benefit programs, such as defined benefit pensions, manifest in and impact the firm's financial statements. Learn how and where to find benefit plan liabilities, their implications on valuation and profitability and how to analyze the information provided. This program begins with a primer on accounting and financial statements, the 10K SEC filing, a thorough review of pension accounting and terminology, the associated footnotes in a 10K filing and how to synthesize the information into a coherent analysis. Incorporate new Pension Protection Act of 2006 and SFAS 158: Accounting for Defined Benefit Plans.

**Learning Objectives:**

- Accounting & Financial Statement Overview: IS/BS/CF, relationships and ratios
- Analyze a 10K: MD&A Overview, selected relevant benefit plan footnotes
- Pension Accounting Review: Overview from financial analysis perspective and implications
- Hands-On Exercise: Accounting ratios/implications & Pension footnote analysis

**Accounting & Financial Statement Overview:**

- Comprehensive financial statement review of Income Statement, Balance Sheet & Cash Flow Statement
- Understand how financial statements are inter-related to each other and the intricate relationships
- Overview and explanation of major financial ratios, including: liquidity, asset management, debt management, profitability, and market value ratios

**10K SEC Filing and Benefit Footnotes:**

- Brief discussion of 10K SEC filing and the importance of benefits footnotes disclosed
- Understand MD&A and risk factors and how they are tied to profitability and benefits expenditures
- Detailed analysis of various Pension and Other Postretirement Benefit footnotes & their implications

**Pension Terminology & Accounting:**

- Learn pension-specific accounting terminology in the context of financial analysis
- Thorough review of pension expense factors and assumptions as well as impact to profitability
- Assess projected benefit obligation, change in retirement plan assets, funded status of plan
- Brief overview, discussion and implications of SFAS 158: Accounting for Defined Benefit Plans
- Brief overview, discussion and implications of Pension Protection Act of 2006
- Summary impact of pension disclosures on valuation and total enterprise value

**Hands-On Exercise / Case Study:**

- Interactive, hands-on group project break-out to analyze financial statements selected company
- Analyze and interpret actual 10K SEC filing footnotes on pensions and OPEB. incorporate into financials of selected company and compare and contrast financial implications

## TOPICAL SUBJECTS

### Overview of the Financial Markets

#### Part I: Sell-Side (Investment Banking, Research)

- **Overview of the Sell-Side Process:** Investment banking (including financial sponsors), equity research, commercial banking, sales & trading (prime brokerage, proprietary trading), role of law firms and other related areas
- **Investment Banking:** Description, revenue sources, products / services, deal process, role of professional, industry trends, buzzwords, bulge bracket vs. boutique middle market, debt capital markets, distressed / restructuring players
- **Equity Research:** Description, revenue sources, products / services, deal process, role of professional, industry trends, buzzwords

#### Part II: Buy-Side (Asset Management, Private Equity, Hedge Funds)

- **Overview of the Buy-Side Process:** Asset management, hedge funds, hedge fund of funds, private equity, private equity fund of funds, real estate
- **Asset Management:** Description, revenue sources, products / services, role of professional, industry trends, buzzwords, private client services, private wealth management, portfolio management
- **Private Equity:** Description, revenue sources, products / services, deal process, role of professional, industry trends, buzzwords, leveraged buyouts (LBOs), private equity securities, return targets
- **Hedge Funds:** Description, revenue sources, products / services, deal process, role of professional, industry trends, buzzwords, hedge fund strategies

#### Part III: Capital Markets (Role of Institutional Players)

- **Overview of the Capital Markets:** Entities / institutions in the capital markets, overview of markets and exchanges, efficient market hypothesis, technical analysis
- **Role of Institutional Players:** Depository institutions, securities firms, government sponsored enterprises, investment companies, insurance companies, institutional investors, financial advisors
- **Markets and Orders:** Securities markets and exchanges, types of trade orders (market, limit, stop, stop limit, etc.), buying on margin
- **Efficient Market Hypothesis:** Weak form, semi-strong form, strong form
- **Technical Analysis:** Difference between fundamental analysis and technical trading strategies, which players use which and why

#### Part IV: Securities Market and Finance 101

- **Overview of Securities Markets:** Types of securities, and basic approaches to valuation (Finance 101)
- **Types of Securities:** Cash, stock, bonds, mutual funds, exchange traded funds (ETFs), REITs, ADRs, securitizations, derivatives, stock market indexes
- **Finance 101:** Time value of money, compound annual growth rate (CAGR), risk & return, diversification, basic valuation (value of any asset and company valuation: using multiples) and cost of capital

**TOPICAL SUBJECTS****Introduction to Economics (Macro, Micro and Global)**

Learn basic economic theory from macroeconomics, microeconomics and international economics. Economics packed into short condensed modules that mirror the CFA curriculum.

**Learning Objectives:**

- Macro: demand and supply, GDP analysis, unemployment, inflation, fiscal policy
- Micro: elasticity, economic profits, cost curves, marginal returns, market structures
- Global: international trade and comparative advantage, balance of payments, foreign exchange

**MACRO ECON**

- GDP vs. GNP and the expenditures approach and income approach
- Nominal vs. real and deflators
- Aggregate demand and supply curves
- Business cycles, unemployment, inflation
- Fiscal Policy (Keynesian, New Classical, Supply Side Models: compare and contrast)

**MICRO ECON**

- Forces of supply and demand; elasticity of supply and demand
- Price ceilings and floors
- Accounting vs. economic profits, opportunity costs
- Cost curves (fixed costs, variable costs, marginal costs, total costs, average costs)
- Diminishing marginal returns
- Market Structures (price takers, price searchers, monopolies, oligopolies, etc.) and profit maximization
- Supply and Demand for Productive Resources
- Marginal Revenue product
- Supply and demand for capital

**GLOBAL ECON**

- International trade and theory of comparative advantage
- Restrictive trade policies
- Balance of Payments and Exchange Rate Systems
- Fiscal Policy and Monetary Policy
- Foreign Exchange Market (spot vs. forward)
- Currency conversion and triangular exchange and cross rates
- Bid/Ask quotations and spreads
- Foreign Exchange Parity Relationships
- Forward premiums and discounts
- Interest rate parity and arbitrage
- Covered interest arbitrage
- Purchasing power parity

**OVERVIEW OF FINANCIAL MARKETS + EXHIBITS****Overview of Financial Markets (Condensed Version)****Course Goals & Overview:**

Introduction to the major jargon and finance terminology in finance. What exactly is the sell-side and the buy-side and do they affect the capital markets and why do they have a symbiotic relationship? What exactly is investment banking, sales & trading and research? How is it that asset management is the flip opposite and yet very similar at the same time? Put those questions to rest with this Overview of Financial Markets overview.

**Course Sections:**

- Overview of the Sell-Side Process: Investment banking (products / services, deal process, role of professional, industry trends, buzzwords, bulge bracket vs. boutique middle market), equity research, commercial banking, sales & trading (prime brokerage, proprietary trading)
- Overview of the Buy-Side Process: Asset management (products / services, role of professional, industry trends, buzzwords, private client services, private wealth management, portfolio management), alternatives (hedge funds, private equity, fund of funds)

**Prerequisites:**

- Desire to learn finance terminology, general business smarts and common sense

**Supplementary Video Exhibits****Treasury Options:**

- Explanation of how to account for diluted shares outstanding using the treasury method of adjustment

**D&A and Working Capital:**

- Full tutorial on the concepts of depreciation vs. capital expenditures in the long run
- Full explanation on the concepts working capital and importance of

**Share Repurchase:**

- Step-by-step walk-through of whether or not share repurchases add value

**Circular Reference:**

- Explanation of how and why circular references are created in a financial model
- Our various financial modeling courses explain how to avoid circular references

**Excel Iterations:**

- Detailed explanation of how Excel's iterations function works when you cannot avoid circular reference

**Gray Background:**

- Tutorial of how to change your background to gray when using white cells and white shading

**WST Excel Add-in Instructions:**

- How to properly install WST's Excel add-in macros and toolbars

**Increase / Decrease Decimal Instructions:**

- How to automate increase & decrease decimals without the mouse & really customize Excel to next level