

INVEST BANKING/PRIVATE EQUITY

FIN-UY 4903 - A

NYU TANDON SCHOOL OF ENGINEERING

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FALL TERM – SEPTEMBER – DECEMBER 2020

INVEST BANKING/PRIVATE EQUITY

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The course focuses on students gaining an in-depth understanding of investment banking and private equity. Students will build financial models in each class with the Professor. Students will also conduct financial statement analysis of companies. The financial models built using Excel in class will include integrated cash flow, valuation, real estate, leveraged buyouts, restructuring and M&A modeling used by investment bankers and private equity professionals in their work. This course is ideal for students who are going into finance as well as non-finance careers and are interested to know more about investment banking, private equity, real estate, equity research, sales and trading, asset management and consulting. The professor will also give hard copies of two books to each student *Accounting for Wall Street* and *Interviewing for Wall Street and Beyond*.

At the end of the course, students will have built models similar to those used by investment bankers and private equity professionals and would have learnt about the different types of private equity and investment banking roles and what these professionals do in their current jobs.

Learning Goals

- Build a three statement model including revolver and debt schedules
- Step-by-step details on how to build an accretion dilution M&A model
- Build a leveraged buy-out financial model including i) determining the purchase price; ii) the amount of debt and equity required; iii) creating a table of sources and uses; iv) building a proforma balance sheet and income statement projection model; v) calculating exit strategy and internal rate of returns; and vi) evaluating credit ratios
- Value companies using four different valuation methodologies including comparable company analysis, precedent transaction analysis, Discounted cash flow analysis and leveraged buyout analysis
- Prepare students for finance interviews in investment banking, asset management, equity research, private equity, corporate finance positions in companies, wealth management as well as other finance and accounting roles in corporations

Effective Oral and Written Communication: Effective oral communication is a key component of this class. Each student has to communicate verbally in an organized, clear, and persuasive manner, and be a responsive listener to the thoughts of other students.

Assessment: Group Work and Final Exam

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Critical and Integrative Thinking: Each student shall be able to identify key issues in a business setting, develop a perspective that is supported with relevant information and integrative thinking, to draw and assess conclusions.

Assessment: Quiz, Group work, and Final Exam

Awareness of Global Issues Affecting Business: Each student shall be able to identify key relevant global factors, and be able to analyze the impact of the global environment on business issues in U.S. We will be studying products used globally (M&A, LBO)

Assessment: Quiz, Group Work and Final Exam

Interpersonal Awareness and Working in Teams:

Each student shall demonstrate an ability to work effectively in a team, exhibiting behavior that reflects an understanding of the importance of individual roles and tasks, and the ability to manage conflict and compromise, so that team goals are achieved.

Assessment: Group work

Course Syllabus: This syllabus is designed for 13 classes plus a final exam, each of which will have a duration of two hours and forty minutes. Each class will center on building a financial model with the Professor in class in excel. Students are expected to bring their computers to class to build the financial models.

CLASS 1 – INTRODUCTION TO INVESTMENT BANKING, PRIVATE EQUITY AND OTHER CAREERS IN FINANCE, ACCOUNTING FOR INVESTMENT BANKING AND PRIVATE EQUITY MODELING AND READING AN ANNUAL AND QUARTERLY REPORT

- 1) Careers in Finance Focusing on Investment Banking and Private Equity
 - Discussion of the relevance of the course to students pursuing a career in or interested in learning more about investment banking and private equity
 - Briefly discuss other careers including management and strategy consulting, real estate, entrepreneurship, hedge funds, equity and credit research and sales & trading, asset management including private wealth management, finance careers within corporations, careers in fields other than finance that require practical accounting, financial modeling and valuation skills as well as retail investing in the stock and debt markets
- 2) Review Accounting 101
 - Understanding the income statement, balance sheet and cash flow statement and how these three financial statements are related to each other
 - Noncontrolling interest, non-recurring charges, goodwill and deferred taxes

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- 3) Documents for Financial Analysis
 - Overview of the documents used for financial analysis and modeling, including annual and quarterly filings, with an emphasis on financial statements and notes to the financial statements
- 4) Ratio Analysis and its importance for analyzing financial statements
- 5) Normalizing financial statements and calculation of Last Twelve Months (LTM) numbers
- 6) Key elements of the annual report and quarterly report including shares outstanding, risk factors, management discussion and analysis, financial statements and notes to the financial statements
- 7) Financial Models for the Class
 - Heinz basic financial model
- 8) Group Homework for Submission
 - Group work and submission dates will be sent via email by Class 2
- 9) Post Class Reading Materials for Class 1
 - Introduction, Financial Statement Overview and Analysis Presentation
 - Accounting Questions from Book
 - Careers in Finance Presentation (at least a quick overview of what the jobs are and who are the major companies, for example, what does an investment banker do and names of leading investment banks)
- 10) Follow Indexes, Commodity Prices and Key Indicators
 - Dow Jones Industrial Average, S&P 500 Index, NASDAQ Composite Index
 - Dollar/Euro, Dollar/Yuan, Dollar/Pound and Dollar/Yen Exchange Rate
 - Gold, Oil, 10-Year U.S. Treasury Rate
 - Review the FTSE 100, Shanghai Stock Exchange Composite Index, Hang Seng Index, Nikkei and Sao Paulo Bovespa at least once every three months and track how they have gone up or down in the last 3 years

CLASS 2 – READING AN ANNUAL REPORT CONTINUED, OVERVIEW OF VALUATION AND COMPARABLE COMPANY ANALYSIS VALUATION METHOD

- 1) Reasons for Valuing Companies
- 2) Understanding Equity Value and Total Enterprise Value (TEV)
- 3) Introduction to Valuation Methodologies
 - TEV, Comparable Company Analysis, Precedent Transaction Analysis, Discounted Cash Flow Analysis, Leveraged Buyout Analysis

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- 4) Comparable Company Analysis
 - Selecting appropriate comparable companies, spreading comparable companies, benchmarking and determining valuation
- 5) Financial Model for the Class
 - Heinz Model in Class
 - Heinz Comparable Company Analysis
- 6) Follow at least one U.S. stock and see how it is valued relative to its comparable companies
- 7) Pre Class Reading Materials for Class 2
 - Overview of Valuation and Comparable Company Analysis Valuation Method Presentation
- 8) Post Class Reading Materials for Class 2
 - Total Enterprise Value and Comparable Company Valuation Questions from Book

CLASS 3 – COMPARABLE COMPANY VALUATION METHOD

- 1) Convertible Debt
- 2) Treasury Stock Method to Calculate Fully Diluted Shares
- 3) Comparable Company Analysis
 - Selecting appropriate comparable companies, spreading comparable companies, benchmarking and determining valuation
- 4) Analyze and Check Comparable Company Valuation Multiples
- 5) Financial Model for the Class
 - Heinz Comparable Company Analysis
- 6) Follow at least one U.S. stock and see how it is valued relative to its comparable companies
- 7) Pre Class Reading Materials for Class 3
 - LinkedIn Case Study by Ashish Kohli
- 8) Post Class Reading Materials for Class 3
 - Google and Facebook Equity Research Report

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CLASS 4 – BUILDING A FULLY INTEGRATED CASH FLOW FINANCIAL MODEL – INCOME STATEMENT, BALANCE SHEET AND CASH FLOW STATEMENT

- 1) Introduction to Financial Modeling
 - Assumptions worksheet, income statement, balance sheet, cash flow statement
 - How the three financial statements are linked with each other
- 2) Checking the Historical Data
 - Net income should match the net income of the company filing unless you have made some adjustments and made a footnote for non-recurring charges
- 3) Complete the Assumptions Worksheet
 - Projection of revenues, COGS and other income statement and balance sheet items
 - Discuss how to make assumptions and homework will focus on students making relevant assumptions for the company given to model in homework
 - Select model drivers and assumptions and complete the assumptions part of the financial model
- 4) Building Debt and Interest Schedules
 - Revolver, term loan and unsecured loans
- 5) Modeling and Projecting the Financial Statements
 - Income statement, balance sheet and cash flow statement
- 6) Financial Model for the Class
 - Integrated financial model
- 7) Pre Class Reading Materials for Class 4
 - Financial Modeling Presentation
- 8) Post Class Reading Materials for Class 4
 - Financial Modeling Questions from Book

CLASS 5 – FINANCIAL MODEL CONTINUED AND DISCOUNTED CASH FLOW ANALYSIS

- 1) Modeling and Projecting the Financial Statements
 - Income statement, balance sheet and cash flow statement
- 2) Analyzing the model and check for errors
- 3) Overview of Discounted Cash Flow Analysis

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- 4) Unlevered Free Cash Flow and Forecasting Free Cash Flow
 - Increase/(decrease) in working capital and taxes
- 5) Terminal Value
 - Gordon growth method and terminal EBITDA multiple method
- 6) Sensitivity Analysis
 - Creating a data table and checking data table results
- 7) Financial Models for the Class
 - Discounted Cash Flow analysis model
- 8) Pre Class Reading Materials for Class 5
 - Discounted Cash Flow Analysis Presentation
- 9) Post Class Reading Material
 - Discounted Cash Flow Questions from Book

CLASS 6 – DCF CONTINUED, REAL ESTATE MODELING AND HOW TO BUY AN APARTMENT IN INDIA

- 1) Weighted Average Cost of Capital (WACC)
 - Using the CAPM to estimate the cost of equity
 - Estimating the cost of debt and preferred stock
- 2) Real Estate Modeling
 - Overview of buying a property in the U.S. including case study
- 3) Real Estate Modeling
 - Valuation including cap rates, comparable transactions and DCF analysis
- 4) Pre Class Reading Materials for Class 6
 - Real Estate – How to Buy an Apartment in U.S. Presentation
- 5) Post Class Reading Material
 - Google DCF in Credit Suisse Initiating Research Report

CLASS 7 – OVERVIEW OF MERGERS AND ACQUISITIONS

- 1) Overview of Mergers and Acquisitions
 - Walking through of a public M&A Deal
- 2) Precedent Transaction Analysis
 - How to select precedent transactions, spread the precedent transactions, benchmark and determine valuation

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- 3) Financial Models for the Class
 - Mars Wrigley transaction in precedent transaction model
- 4) Pre Class Reading Material for Class 7
 - Overview of Mergers and Acquisitions and Precedent Transaction Valuation Analysis Presentation
- 5) Post Class Reading Material for Class 7
 - Mergers and Acquisitions Questions from Book

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CLASS 8 – MERGER MODELING, PROXY STATEMENT AND M&A SALE PROCESS

- 1) Accretion/Dilution Model
 - Uses of an accretion dilution model
 - Explanation of consideration used in purchases, i.e. stock and cash
 - Discussion of goodwill and other accounting treatment issues
 - Adjustments made to the pro forma net income
 - Revenue and cost synergies
- 2) M&A Sale Process
 - Types of sale process – auction vs. negotiated sale
 - Strategic vs. financial buyers
 - Key steps in the auction sale process
- 3) Proxy Statement
 - Fairness opinion including valuation methods used
 - Treatment of options, break up fees, other material things to consider
- 4) Financial Model for the Class
 - Accretion/dilution financial model
- 5) Pre Class Reading Material for Class 8
 - M&A Accretion/Dilution and Sale Process Presentation
- 6) Post Class Reading Material for Class 8
 - Mergers and Acquisitions Questions from Book

CLASS 9 – INTERNATIONAL M&A, PRIVATE EQUITY OVERVIEW AND LEVERAGED BUYOUT MODELING

- 1) Key Elements and Concepts of Public Company M&A including break up fees, valuation and transaction structure
- 2) Process and Regulatory Aspects of public company M&A abroad
- 3) Venture Capital, Growth Equity and Leveraged Buyouts (LBOs)
 - Major players in the international markets
- 4) Uses of an LBO Model
 - IRR, credit statistics and valuation methodology
- 5) Building an LBO Model

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- Determine purchase price, sources and uses table, pro forma balance sheet, changing the three statement model to reflect LBO, sale of company, IRR and credit statistics
- 6) Accounting Treatment of M&A and Financing Fees and Goodwill
 - 7) Uses of an LBO Model
 - IRR, credit statistics and valuation methodology
 - 8) Financial Model for the Class
 - Leveraged buyout model
 - 9) Pre Class Reading Materials for Class 9
 - Overview of Private Equity and Leveraged Buyouts presentation
 - 10) Post Class Reading Materials for Class 9
 - Leveraged Buyout Questions from the Book

CLASS 10 – LEVERAGED BUYOUT MODELING AND STRUCTURING A PRIVATE EQUITY TRANSACTION

- 1) Building an LBO Model
 - Determine purchase price, sources and uses table, pro forma balance sheet, changing the three statement model to reflect LBO, sale of company, IRR and credit statistics
- 2) Payment of Kind Interest, Warrants and Other Key Features of an LBO
- 3) Uses of an LBO Model
 - IRR, credit statistics and valuation methodology
- 4) Financial Model for the Class
 - Leveraged buyout model
- 5) Pre Class Reading Materials for Class 10
 - Overview of Private Equity and Leveraged Buyouts presentation
- 6) Post Class Reading Materials for Class 10
 - Leveraged Buyout Questions from the Book

CLASS 11 – LEVERAGED BUYOUT MODELING AND STRUCTURING A PRIVATE EQUITY TRANSACTION

- 1) Payment of Kind Interest, Warrants and Other Key Features of an LBO

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- 2) Blackstone Purchase of Hilton Hotels and Burger King Case Study
- 3) Uses of an LBO Model
 - IRR, credit statistics and valuation methodology
- 4) Financial Model for the Class
 - Leveraged buyout model
- 5) Pre Class Reading Materials for Class 11
 - Overview of Private Equity and Leveraged Buyouts presentation
- 6) Post Class Reading Materials for Class 11
 - Leveraged Buyout Questions from the Book
 - Blackstone Purchase of Hilton Case Study

CLASS 12 – LBO CONTINUED, VENTURE CAPITAL, INITIAL PUBLIC OFFERINGS

- 1) LBO Model, Cases and Questions
 - Determine purchase price, sources and uses table, pro forma balance sheet, changing the three statement model to reflect LBO, sale of company, IRR and credit statistics
- 2) Venture Capital and Start up Valuation
 - Valuation metrics used in different industries including technology, retail and banks
- 3) Initial Public Offerings
 - Steps prior to, during and after an IPO
 - Valuation of the company
- 4) Financial Model for the Class
 - Leveraged buyout model
- 5) Pre Class Reading Materials for Class 12
 - Overview of Private Equity and Leveraged Buyouts presentation
 - Valuation of Start Up Companies and Initial Public Offerings presentation
- 6) Post Class Reading Materials for Class 12
 - Valuation of companies in different industries from the Book

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CLASS 13 – SUMMARY OF VALUATION AND COURSE SUMMARY

- 1) Sale of a Company Case Study in Class
- 2) Course Summary and Review
 - Valuation methodologies and other data in a football field including 52 week high/low, analyst estimates, TEV, comparable company analysis, comparable transaction analysis, discounted cash flow analysis and leveraged buyout analysis
- 3) Valuation for sale of company, equity research and initial public offering
- 4) Financial Model for the Class
 - Homework Case Study Football field model
- 5) Pre Class Reading Materials for Class 13
 - Summary of Valuation and Football Field Presentation
- 6) Post Class Reading Materials for Class 13
 - Summary of the Class Presentation

FINAL EXAM DECEMBER 2020 (DATE TO BE DETERMINED)

ASSIGNMENTS

The class will be divided into groups of two to three students. These groups will prepare and submit 2 group/individual assignments which includes a short group presentation. Work load for the class is moderate.

Homework 1: Equity Research Cover Page and Financial Model: The students will submit an initiating coverage report cover page including a financial model. The report will be 1 page with a three statement financial model.

Homework 2: M&A Homework on Amazon Acquisition of Whole Foods – Students will work on an M&A and Private Equity model and transaction and prepare a presentation that includes valuation and structuring of the transaction. We have broken down the homework in parts and exact dates will be given in class.

The assignment given to students is expected to be completed as described in the assignment which will be handed out to you in class / sent by email by Class 2. Assignment should be done in groups and all students should contribute to the work.

Since we will be building a financial model in class, most of the work will be done in class. No advanced knowledge of Excel or prior knowledge of finance and accounting is required for this course. The coursework for this class will be moderate.

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Grading

5% Quiz

Quiz: 5 points will be given for quiz in class starting from class 3 and then in class 5, 8, 10 and 11. Detailed guidelines on what to study prior to the quiz and when the quiz will take place have been provided in the syllabus and table of contents so you can plan ahead.

40% Group Assignments

Students are required to work in groups of two or three to prepare for assignments for the class. Clear instructions will be handed for the group work. For additional details see the Assignment Section above.

20% Multiple Choice Midterm Exam

The midterm exam will be multiple choice, and will consist of numerical questions and will be 1.5 hours in length and given in class. Students will be allowed to create their own “crib sheet” for the exam. The “crib sheet” will consist of one page (8 ½” x 11”) of personalized notes and can be handwritten or typed. The notes can be on BOTH SIDES of one piece of paper. This sheet will be collected at the end of the exam. Please bring a regular calculator to class. Sample questions will be given prior to the midterm exam.

If the student scores a higher percentage of marks in the final exam, the score of the final exam will be taken in lieu of the midterm exam score. For example, if the student scored 16 out of 20 or 80% marks in the mid term but scored 90% in the finals, the student will be deemed to have scored 90% marks in the midterm exam. If the student scored 90% in the midterm and 80% marks in the final exam, then the midterm exam marks of 90% and final exam marks of 80% will be taken. If the student missed the midterm exam, a score of 0 will be given and the final exam marks will be counted as the mid-term marks. For example, if final exam marks were 80% then mid-term marks will be 80% also.

35% Final Exam

The final exam will be completed during Exam Week, and will consist mostly of short-answer numerical and word questions, multiple choice and true and false questions and answers. It will be two hours in length. Students will be allowed to create their own “crib sheet” for the exam. The “crib sheet” will consist of one page (8 ½” x 11”) of personalized notes and can be handwritten or typed. The notes can be on BOTH SIDES of one piece of paper. This sheet will be collected at the end of the exam. Please bring a financial or regular calculator to class where you can do present value calculations and other basic math calculations. Sample questions will be given prior to the final exam.

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Attendance Policy

You should try to be present in all the classes. The faculty will keep track of your attendance.

Late arrival is disruptive to the learning environment; so you have to be in class before the scheduled time. If you find it necessary to miss a class or make a late submission, you must seek permission from the professor in advance.

Computer Requirement

For every class listed above, please bring a computer with power access and Microsoft Excel installed. No advanced knowledge of Excel is required.

Office Hours

Students can approach the Professor at any time to discuss problems or course materials by sending an email to the Professor.

Course Materials

Course Pack: Syllabus, LinkedIn Case, *Accounting for Wall Street* by Ashish Kohli, *Interviewing for Wall Street* Book by Ashish Kohli, Pre and Post Class Reading Materials, Presentations for the class

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