

**SYLLABUS (preliminary – subject to change)**  
**CORPORATE TRANSACTIONS AND FINANCIAL MODELLING**  
**B 8018-001**

**5-day Block Week: 03/08/2015 – 03/12/2015**  
**416 Warren Hall, Sun-Thu: 9am – 5pm**

## **I. CONTACT DETAILS**

Prof. Anne Heinrichs, CFA  
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212-854-0261  
Office hours (613 Uris): Monday 3pm-5pm and by appt

## **II. COURSE OVERVIEW**

The main objective of “Corporate Transactions and Financial Modelling” is for you to acquire a lasting ability to successfully understand, analyze, model, value and creatively think about LBO, M&A, IPO/SEO and restructuring activities. Towards this end, we will (1) explore structural, accounting, regulatory, taxation, institutional and process-related aspects of different transaction types, (2) develop advanced valuation and financial statements analysis skills, and (3) prepare full-blown operating and financial models using Excel 2010. We use these models to investigate the impact of different deal structures, accounting choices, operating assumptions and financing decisions, e.g. on firm value, liquidity, profitability, returns, and other financial statement ratios. The course draws on basic valuation concepts and financial statement analysis skills taught in your core classes. We advance them in various ways. First, we integrate institutional and process-related details into our study of corporate transactions. Second, we extend accounting, taxation and regulatory knowledge to equip you for deal-specific analysis. Third, using Excel 2010 we develop full-blown M&A, LBO and bankruptcy models (with integrated B/S, I/S and CFS) to study the feasibility of deals. Throughout the course, we use databases that are commonly used by practitioners and place special emphasis on real-world applications. For example, you receive your own FactSet Desktop license including Excel add-in and we incorporate FactSet applications into the course. The course’s overarching goal is for you to obtain an advanced toolbox that helps to succeed in a role in IB, PE, consulting, investment management, corporate management or entrepreneurship with required transaction skills and knowledge.

## **III. COURSE PREREQUISITES**

Academic prerequisites are good fundamental backgrounds in financial accounting (e.g. B5001 or B6001) and corporate finance (e.g. B5300 or B6300), taken here or elsewhere. Technical prerequisites are basic Windows Excel skills and the availability of a laptop PC that runs under Windows. Add-ins, shortcuts and F-keys that we use in our models do not work properly on a Mac (even if bootable into Windows) therefore Macs cannot replace PCs for our purposes. All model-specific Excel content will be covered in class expecting that you are familiar with basic Excel functions listed in the ‘Excel pre-assessment’ form at the end of this syllabus. If you like to refresh your Excel skills before the start of the first class, please contact me for training suggestions that are geared towards this course.

#### IV. COURSE MATERIAL

No textbook is required for this course. Required readings are provided in your course packet (hardcopy and CANVAS) which contains teaching notes, classroom slides, extracts from textbooks, journal and newspaper articles, documents from corporate transactions and excel cheat-sheets. All Excel files and any additional resources are available on CANVAS. Additional resources elaborate upon course topics and provide deeper insights into classroom discussions. They will not be directly tested in graded work in this course.

#### V. GRADING

Your performance is evaluated based on five types of deliverables:

Deliverables		% grade
5 Online Quizzes (10 MCQ each)	5 x 7% =	35%
1 Take-home Final		30%
1 Homework Assignment		15%
Class Participation	5 x 3% =	15%
1 Pre-Assignment		5%
<b>TOTAL</b>		<b>100%</b>

Your final class grade is determined relative to the performance of other students in the course. I will use the following distribution to assign letter grades and reserve the right to make upward adjustments if the class performs exceptionally well.

Letter Grade	GPA	% of students
H+	11	2%
H, H-	10, 9	48%
HP+, HP, HP-	8, 7, 6	45%
P1+ or below	5 or below	5%

Any regrading requests have to be submitted in writing within 7 days after points for your graded work were posted on CANVAS. Your request needs to explain why you think you deserve more points. I then regrade your full submission and your points can go up or down. This course cannot be audited or taken pass-fail.

#### VI. GRADED WORK

**5 Online Quizzes** (designation type C: individual/individual)

Five online quizzes account for 35% of your course grade. Each online quiz has the same weight (7%), consists of 10 equally-weighted multiple-choice questions (MCQs), can be started on CANVAS within the below mentioned periods and has a 35 minutes time limit during which you need to select your ten answers.

- Online quiz 1: Feb 9 (8am) – Mar 7 (10pm)
- Online quiz 2: Mar 8 (6pm) – Mar 9 (7am)
- Online quiz 3: Mar 9 (6pm) – Mar 10 (7am)
- Online quiz 4: Mar 10 (6pm) – Mar 11 (7am)
- Online quiz 5: Mar 11 (6pm) – Mar 12 (7am)

Online quiz 1 contains conceptual questions about pre-assigned course readings that should take you circa 4 hours to complete. Each of the remaining four quizzes contain 7 MCQs that

build upon material that we covered in class and 3 MCQs that relate to required readings for the next class. These assigned readings for the next day of class should take you circa 1 hour to complete.

**Take-home final** (designation type C: individual/individual)

The take-home final accounts for 30% of your course grade, needs to be individually prepared and completed and I expect you to spend circa 6 hours on it. Similar to the homework assignment, the final exam can be a mix of short answer questions, modelling tasks, brief case scenarios and database research exercises. It will be a comprehensive exam that covers material from days 1 – 5. At the start of class on **Mar 10 (day 3 of class)** I will ask each student to provide me with 2 consecutive days between **Mar 18 – Apr 24** when (s)he would like to work on the final. On your chosen start day, your exam will be emailed to you at 10am and your completed submission is electronically due 48 hours later on CANVAS (latest submission possible is **Apr 24** at 10am). The exam is designated type C and you cannot talk with anyone (except myself) about the exam, before and after your submission.

**1 Homework Assignment** (designation type B: group/individual)

One homework assignment accounts for 15% of your course grade and should take you circa **2-3 hours** to complete. This homework assignment is available on CANVAS starting **Mar 10** (5pm) and is electronically due on **Mar 12** (7am). You may talk to max. 4 other students in preparing your answers, but you must create and electronically submit on CANVAS an individual write up/model (i.e. use own words/logic in this write up). The assignment comprises short answer questions, database research exercises, modelling tasks and case scenarios. It builds upon material that we covered on days 1 – 3.

**Class Participation**

Participation during the 5 days of class accounts for  $5 \times 3\% = 15\%$  of your course grade. *You start the course with a full participation credit of 15%*. I only reduce this credit if you are unprepared or inattentive in class, do not contribute to group exercises during breakout sessions, miss class or disrupt class. *Without* grading the quality or quantity of contributions, I seek and encourage active classroom debate and rely on your participation.

**1 Pre-Assignment** (designation type C: individual/individual)

The following pre-assignment accounts for 5% of your course grade. Before **Mar 8**, please:

- (1) Install FactSet's desktop version including Excel add-in on your laptop
- (2) Work on 6 FactSet exercises and bring your answers (max. 1 page) to our first class
- (3) Optionally, install the TTS Turbo Macro or BOOST add-in on your laptop

FactSet will send out an email with your individual FactSet license number between January 6 - 9. I will send out an email on January 5 that includes installation instructions for FactSet, the TTS Turbo Macro, the BOOST add-in and information about the FactSet exercises. I will also upload this information on CANVAS, but your individual FactSet license number will not be saved online. Please keep the FactSet email in case you need to reinstall FactSet at a later day.

## VII. HONOR CODE

All students are expected to abide to Columbia's Honor Code stating: "As a lifelong member of the Columbia Business School community, I adhere to the principles of truth, integrity and respect. I will not lie, cheat, steal or tolerate those who do". Violations of the Honor Code cannot be tolerated. To support compliance with the Honor Code, I ask that the following pledge is signed when you submit your final take home exam. "I pledge my honor that I have

not violated the Honor Code during the pre-assignment, homework assignment, quizzes and the final exam submitted for this course.”

### VIII. LAPTOPS, PHONES, PDAs, TABLETS, CLICKERS

Laptops: You need your laptop PC (with Windows Excel 2010) for group exercises and to follow Excel and database demonstrations during selected lectures. Please bring your laptop to class every day but use it for these designated purposes only. Lectures without computer demonstrations have a ‘no laptop’ policy.

Phones/PDAs/Tablets: This course has a ‘no phone/PDA/tablet’ policy. In respect of your fellow classmates and myself, please have your phone’s volume and vibration turned off during class and keep your phone in your bag/pocket. We will have frequent breaks during which you can make quick calls or send text messages. If you need to be reachable immediately during class (e.g. your wife is going into labor any minute), please let me know ahead of time.

Clickers: We will use clickers in this class. Please bring them each day. At the start of class we run a quick check that everyone’s clicker is properly connected to the classroom receiver.

### IX. CORE OVERLAP

<u>Core Class</u>	<u>Content Link</u>	
	<b>Core</b>	<b>Elective: B 8018</b>
Corporate Finance (B5300 or B6300)	valuation of firms/stocks/bonds, risk-return concepts, capital raising, DCF	full-blown operating and financing models for valuation and analysis of LBO, M&A, IPO and restructuring activities.
Financial Accounting (B5001 or B6001)	financial statement analysis, ratio analysis, inter-company investments	purchase/equity method of accounting, consolidation, recap accounting, deal taxation, push-down accounting, pensions, ESOPs
Managerial Economics (B5200 or B6200)	supply-demand theory, market settings: monopoly vs. competitive models	antitrust for LBOs and M&As, revenue forecasting
Managerial Statistics (B5100 or B6100)	regression analysis and descriptive statistics	forecasting techniques, valuation concepts, economic overview of transactions
Strategy Formulation (B5502 or B6502)	cost leadership, differentiation, diversification, competitive advantage	rationale for corporate transactions, IPO equity story, M&A synergies, LBO bidding process

## X. COURSE SYNOPSIS

On day 1, “Corporate Transactions and Financial Modelling” begins with an overview of different transaction types and we develop fundamental skills to analyze and structure transactions. During the subsequent 4 days, we focus on the analysis and modelling aspects of specific transaction types: day 2 = LBOs; day 3 = M&As; day 4 = IPOs; day 5 = restructuring activities, latest research.

	Sun, March 08	Mon, March 09	Tue, March 10	Wed, March 11	Thu, March 12
9:00 - 10:30 AM	Market&Deal Types	Modelling Essentials	M&A Essentials	IPO Essentials & Filings	Restructuring Essentials
10:30 - 11:15 AM	Group Exercise	Group Exercise	Group Exercise	Group Exercise	Group Exercise
11:15 - 12:30 AM	Taxation	LBO Essentials & Model	M&A Model	IPO Marketing, Underwriting	Bankruptcy (V/A/T/R)
12:30 - 1:30 PM	Lunch	Lunch	Lunch	Lunch	Lunch
1:30 - 3:00 PM	Accounting	LBO Model (adv)	M&A Model (adv)	IPO Pricing, Trading, Closing	Bankruptcy Model
3:00 - 3:45 PM	Group Exercise	Group Exercise	Group Exercise	Group Exercise	Group Exercise
3:45 - 5:00 PM	Regulation	LBO Analysis (V/A/T/R)	M&A Analysis (V/A/T/R)	Special IPO & post-IPO issues	Research & Wrap Up

V/A/T/R = Valuation/Accounting/Taxation/Regulatory Filings

Group Exercise = pre-assigned groups of 4-5 students discuss questions to train content from the prior lecture and to prepare the next lecture

## XI. COURSE OUTLINE

6-Jan	Pre-assigned readings and online quiz 1 are made available on CANVAS
6-9 Jan	You receive: FactSet license #, TTS Macro, installation instructions, pre-assignment
7-Mar	Online quiz 1 due on CANVAS by 10pm
8-Mar	<p><b>DAY 1 (pre-assignment due in class at 9am)</b></p> <ul style="list-style-type: none"> <li>▪ <u>Overview and Transaction Types</u> Explore economic rationales for transaction types, learn deal vocabulary, study deal characteristics, discuss why transactions occur in waves, identify deal participants, documents, processes, conflicts of interest, investigate economic trends and conditions relevant for corporate transactions</li> <li>▪ <u>Taxation</u> Analyze how deal structure impacts federal taxation and consequently feasibility of deals. Discuss e.g. Sec. 338, Sec. 368, C vs. S corporations, tax-free exits, TRAs, CODs, NOLs, asset step-ups, type “A”-“D” reorganization, ESOPs</li> <li>▪ <u>Accounting</u> Study how accounting rules affect transactions and post-transaction reporting. Discuss e.g. intercompany-investments, purchase method, recapitalization, asset step-ups, consolidation, push-down accounting, non-controlling interests, accounting for deal costs, mandatory quiet periods and pensions</li> <li>▪ <u>Regulation</u> Discuss how regulations shape the transaction environment, e.g. Dodd-Frank, JOBS Act, Antitrust, Security Laws, Environmental/Benefits Laws</li> </ul>

<b>9-Mar</b>	<p><b>DAY 2 (online quiz 2 due on CANVAS by 7am)</b></p> <ul style="list-style-type: none"> <li>▪ <u>Modelling Essentials</u> Introduce FactSet's Excel add-in, TTS Macros and adjust excel settings, study layouts of financial/operating models and discuss their purpose/limitations, build a mini valuation model with integrated B/S, I/S and CFS</li> <li>▪ <u>LBO</u> <ul style="list-style-type: none"> <li>➤ Build and analyze full-blown LBO models in Excel 2010 with integrated B/S, I/S and CFS; input and output sheets; scenario toggle; working schedules for debt/interest, equity, depreciation and working capital; cash sweep; sensitivity analysis; data tables; error checking, auditing and troubleshooting techniques</li> <li>➤ Apply and extend accounting and taxation concepts</li> <li>➤ Valuation under different deal structures, study forecasting methods</li> <li>➤ Discuss required regulatory filings</li> </ul> </li> </ul>
<b>10-Mar</b>	<p><b>DAY 3 (online quiz 3 due on CANVAS by 7am)</b></p> <ul style="list-style-type: none"> <li>▪ <u>M&amp;A</u> <ul style="list-style-type: none"> <li>➤ Build and analyze full-blown M&amp;A models in Excel 2010 with integrated B/S, I/S and CFS; input and output sheets; EPS accretion/dilution; scenario toggle; working schedules; cash sweep, sensitivity analysis</li> <li>➤ Apply and extend accounting and taxation concepts</li> <li>➤ Valuation under different deal structures, study forecasting methods</li> <li>➤ Discuss required regulatory filings</li> </ul> </li> </ul>
<b>11-Mar</b>	<p><b>DAY 4 (online quiz 4 due on CANVAS by 7am)</b></p> <ul style="list-style-type: none"> <li>▪ <u>IPO</u> Demystify the IPO process, discuss regulatory filings, marketing/roadshow, underwriting, pricing, trading, closing, greenshoe option, lockout periods, TRAs, taxation, quiet periods, PE/VC-backed, dual track, investor relations and SEOs</li> </ul>
<b>12-Mar</b>	<p><b>DAY 5 (online quiz 5 and HW due on CANVAS by 7am)</b></p> <ul style="list-style-type: none"> <li>▪ <u>Restructuring</u> Discuss alternative exit restructuring strategies such as divestiture, spin-off, equity carve-out, (cash rich) split off and tracking stock; study valuation, taxation and accounting of distressed firms (e.g. NOLs, COLs)</li> <li>▪ <u>Bankruptcies</u> <ul style="list-style-type: none"> <li>➤ Discuss bankruptcy process</li> <li>➤ Prepare a bankruptcy model</li> </ul> </li> <li>▪ <u>Latest research findings</u></li> </ul>
<b>Early May, optional</b>	<p><b>Panel Discussion</b></p> <ul style="list-style-type: none"> <li>▪ <u>Deal creativity: A necessary good or an utopian idea?</u></li> </ul>

## **XII. EXCEL PRE-ASSESSMENT**

This course is taught using Windows Excel 2010. All model-specific Excel content will be covered in class expecting that you are familiar with the basic Excel functions listed here. If you like to refresh your Excel skills before the start of the fourth class, please contact me for training suggestions that are geared towards this course.

Basic Excel functions *not* taught in class:

- Change options and settings
- Enter formulas, text, and numbers
- Reference and anchor cells, rows, columns
- Paste special (e.g. formulas, formats, values)
- Insert, edit, copy, hide, (un)group, delete, move and name: worksheets, rows, columns
- Format cells (font, fills, borders, alignment)
- Use custom number formats
- Conditional formatting
- Header, footer, grid lines, freezing columns/rows
- Lookup functions, e.g. VLOOKUP and HLOOKUP
- Logical operators, e.g. IF, OR, AND, etc.
- Scenario functions e.g. CHOOSE, OFFSET, and Excel's built-in scenario manager
- Error-checking formulas, e.g. IFERROR and ISERROR
- Goal seek
- Data tables
- Format graphs/charts (change colors, axes, data labels, tickers, chart titles, legends)
- Set print areas, view page breaks, show print previews