

SECURITY ANALYSIS

B8368-01

SPRING 2016

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COLUMBIA CORE CULTURE

This course adheres to Columbia Core Culture. Students are expected to be:

Present:

- On time and present for every session
- Attendance tracked

Prepared:

- Complete pre-work needed, expect cold calling
- Bring nameplates and clickers

Participating:

- Constructive participation expected and part of grade
- No electronic devices unless explicitly called for by the instructor

REQUIRED COURSE MATERIAL

Arthur, W. Brian, "Complexity in Economic and Financial Markets" *Complexity*, 1995.

——— , "Increasing Returns and the New World of Business," *Harvard Business Review*, July/August 1996.

Bernstein, Peter L., "Are Financial Markets the Solution or the Problem?" *Financial Analysts Journal*, November/December 1991.

Crist, Steven, "Crist on Value," *Bet with the Best*, 2001.

Ellis, Charles D., "The Loser's Game," *Financial Analysts Journal*, July/August 1975.

Heuer, Richards, Chapters 4-12, *Psychology of Intelligence Analysis*, 1999.

Keynes, John Maynard, "The State of Long-Term Expectation," *The General Theory of Employment, Interest, and Money*, 1936.

Klarman, Seth A., "The Timeless Wisdom of Graham and Dodd," *Security Analysis*, 6th edition, 2009.

Malkiel, Burton G., "Firm Foundations and Castles in the Air," *A Random Walk Down Wall Street*, 1996.

Mauboussin, Michael J., Alexander Schay, Patrick McCarthy, "Competitive Advantage Period 'CAP' – At the Intersection of Finance and Competitive Strategy," *Credit Suisse First Boston*, October 4, 2001.

Mauboussin, Michael J., and Dan Callahan, "Measuring the Moat: Assessing the Magnitude and Sustainability of Value Creation," *Credit Suisse*, July 16, 2013.

——— , "Capital Allocation--Updated," *Credit Suisse*, June 2, 2015.

Mauboussin, Michael J., "Revisiting Market Efficiency: The Stock Market as a Complex Adaptive System," *Journal of Applied Corporate Finance*, Winter 2002.

——— , "Decision Making for Investors," *Legg Mason Capital Management*, May 2004.

——— , "Common Errors in DCF Models," *Legg Mason Capital Management*, March 2006.

Munger, Charles, "A Lesson on Elementary, Worldly Wisdom as it Relates to Investment Management and Business," *USC Business School*, 1994.

Porter, Michael E., "What is Strategy?" *Harvard Business Review*, November/December 1996.

Rappaport, Alfred, and Michael J. Mauboussin, "The Case for Expectations Investing," Chapters 2-3 and 5-8, *Expectations Investing*, 2001.

Siegel, Jeremy J., "Chapter 1," *Stocks for the Long Run*, 4th Edition, 2007.

Treynor, Jack L., "Market Efficiency and the Bean Jar Experiment," *Financial Analysts Journal*, May/June 1987.

Tversky, Amos, and Daniel Kahneman, "Judgment under Uncertainty: Heuristics and Biases," *Science*, September 1974.

Williams, John Burr, Preface, Chapter 1-2, 15, *The Theory of Investment Value*, 1938.

RECOMMENDED READING

Bernstein, Peter L., *Capital Ideas* (New York: Free Press, 1992).

———, *Against the Gods: The Remarkable Story of Risk* (New York: John Wiley & Sons, 1996).

Besanko, David, David Dranove, Mark Shanley, and Scott Schaefer, *Economics of Strategy*, 7th Edition (New York: John Wiley & Sons, 2015).

Ghemewat, Pankaj, *Strategy and the Business Landscape*, 3rd Edition (Upper Saddle River, NJ: Pearson Prentice Hall, 2009).

Greenwald, Bruce, Judd Kahn, Paul Sonkin and Michael Van Biema, *Value Investing: From Graham to Buffett and Beyond* (New York: John Wiley & Sons, 2001).

Greenwald, Bruce and Judd Kahn, *Competition Demystified: A Radically Simplified Approach to Business Strategy* (New York: Portfolio Books, 2005).

Kahneman, Daniel, *Thinking, Fast and Slow* (New York: Farrar, Straus and Giroux, 2011).

Kaufman, Peter D., ed. *Poor Charlie's Almanack, Expanded Third Edition*. (Marceline, MO: Walsworth Publishing Company, 2008).

Koller, Tim, Marc Goedhart, and David Wessels, *Measuring and Managing the Value of Companies*, 6th Edition (New York: John Wiley & Sons, 2015).

Malkiel, Burton G., *A Random Walk Down Wall Street: The Time-Tested Strategy for Successful Investing, Completely Revised and Updated* (New York: W.W. Norton & Company, 2015).

Rappaport, Alfred, *Creating Shareholder Value: A Guide for Shareholders and Investors* (New York: Free Press, 1998).

Siegel, Jeremy J., *Stocks for the Long Run*, 5th Edition (New York: McGraw Hill, 2014).

Stewart, III, G. Bennett, *The Quest for Value* (New York: HarperCollins, 1991).

Surowiecki, James, *The Wisdom of Crowds* (New York: Doubleday, 2004).

And if you want to make the professor really happy:

Mauboussin, Michael J., *More Than You Know: Finding Financial Wisdom in Unconventional Places, Updated and Expanded* (New York: Columbia Business School Publishing, 2008).

———, *Think Twice: Harnessing the Power of Counterintuition* (Boston, MA: Harvard Business Press, 2009).

———, *The Success Equation: Untangling Skill and Luck in Business, Sports, and Investing* (Boston, MA: Harvard Business Review Press, 2012).

Here are some websites you might find useful:

<http://pages.stern.nyu.edu/~adamodar/>

www.expectationsinvesting.com

www.michaelmauboussin.com

PREREQUISITES AND CONNECTION TO THE CORE

The learning in this course will utilize, build on, and extend concepts covered in the following core courses:

Core Course	Connection with Core
Corporate Finance	<ol style="list-style-type: none"> 1. Cost of capital 2. Valuation 3. Financing options 4. Time value of money 5. The capital asset pricing model (CAPM) 6. Real options 7. Firm valuation model
Financial Accounting	<ol style="list-style-type: none"> 1. The “accounting equation” 2. Revenue and expense recognition 3. Resources and obligations – measurement and disclosure
Global Economic Environment	<ol style="list-style-type: none"> 1. Risk management 2. What is Gross Domestic Product and how is it measured? 3. What causes inflation? 4. What causes changes in exchange rates? 5. What are the causes of business cycles? 6. What are the effects of monetary policy? 7. What are the effects of fiscal policy? 8. What is the role of financial markets in the economy?
Managerial Economics	<ol style="list-style-type: none"> 1. Barriers to entry 2. Moats 3. Maximization and thinking on the margin 4. Analyzing complex decision making under uncertainty 5. Decision-based cost analysis 6. Pricing with market power 7. Market segmentation and other advanced pricing strategies 8. Understanding market competition and equilibrium thinking (in the short run) 9. Market equilibrium thinking (in the long run) and barriers to entry 10. Strategic interaction among firms and Nash equilibrium
Strategy Formulation	<ol style="list-style-type: none"> 1. Trade-offs, value-added, efficiencies 2. Creation of value vs. value capture 3. Competing firms 4. Co-opetition and complementors 5. Strategic interaction analysis 6. Diversification and scope 7. Ethics & IBS 8. Behavioral and evidence-based strategy 9. Management

Students will be expected to have mastered these concepts and be able to apply them in the course.

COURSE DESCRIPTION

55% lecture

35% student presentations

10% company/student interaction

The course has two parts. The first part (14 to 16 lectures) develops the essential tools that a security analyst needs, including basic capital market concepts, competitive analysis, valuation methods, and techniques for proper decision making. The second part (8 sessions) allows the students to apply the lessons they have learned by presenting a thorough analysis of a company and an investment conclusion regarding the shares of the company.

A representative of a major corporation will join the class near the end of the first section. This session will give students the opportunity to question a management team directly on all facets of corporate strategy. Further, accomplished portfolio managers will be invited to attend student presentations to provide constructive feedback, share their insights into the security analysis process, and answer questions.

A key skill for an analyst is to be able to clearly and persuasively make a case for the purchase or the sale of a particular security based on well-reasoned analysis. To make all class presentations more realistic, the class will participate by acting as portfolio managers. Further, following each presentation, each student will elect whether or not to follow the investment recommendation of the presenting group.

The course prerequisite is (B6302) *Capital Markets*. Early in the semester, some of the material will overlap with finance courses. You can view this material as the opposite side of the same coin, and it is intended to firmly establish a foundation for the course's key tenets. While an understanding of basic finance is important, the course is designed to develop concepts in a way that is intuitive, practical, and operational.

Columbia Business School has a terrific tradition of teaching security analysis. This course, at its best, is both practically oriented and intellectually stimulating. Two quotes sum up the proper attitude going into this course. The first is *nullius in verba*, which means "take nobody's word for it; see for yourself." Security analysis is not a science (although a few of the tenets are reasonably well established) and we have a lot to learn. You must always actively seek to better understand the process, and you can be assured no one is going to offer you the answers. The second quote is *non notationes, sed notiones*, which translates to "not notations, but notions." Corporate finance is too often taught by laying out formulas, without enough consideration of what those formulas mean (or were meant to explain). We should all do our best to perpetuate the fine tradition of security analysis at CBS.

COURSE OBJECTIVES

The goal of this course is to develop a thought process for equity security analysis based on four building blocks:

(1) Capital markets

- What factors drive market value and how do we understand and analyze them?
- Are markets efficient? If so, why? If not, why not?
- Does modern portfolio theory best explain markets?
- Does intrinsic value or market psychology determine stock prices?
- Can study of complex systems provide useful insight into markets?

(2) Valuation

- How do you value a business?
- Which of the common analytical tools tells you the most about value?
- What does the stock market say about corporate performance?
- How do you incorporate risk into the value calculation?
- How do you capture competitive advantage in your valuation?
- Is there a legitimate distinction between value and growth investing?

(3) Competitive Strategy

- What is the definition of a good business?
- How do you evaluate industry factors?
- How do you isolate company-specific sources of value creation?
- What is role of firm interaction?
- Does the shift from physical to knowledge assets require new strategy models?
- How do we assess capital allocation?

(4) Decision Making

- What do successful players in probabilistic fields have in common?
- How do we misspecify probabilities and outcomes?
- What methods can we employ to improve our decisions?

We will consider answers to these questions in the context of a highly competitive market, and will combine practical tools and theoretical approaches.

ASSIGNMENTS

Class	Date	Materials We Will Cover and Your Assignment
1 and 2	27-January	<ul style="list-style-type: none"> · Introduction and Overview · Illuminating Exercises · Groundwork <p><i>Core readings:</i></p> <p>Klarman, The Timeless Wisdom of Graham and Dodd Crist, Crist on Value Keynes, The State of Long-Term Expectation</p>
3 and 4	3-February	<ul style="list-style-type: none"> · Market Myths and Realities · Market Efficiency · Market as a Complex Adaptive System · Selection of Groups for Final Reports <p><i>Core readings:</i></p> <p>Siegel, Stock and Bond Returns Rappaport and Mauboussin, Chapter 1 Treynor, Market Efficiency and the Bean Jar Experiment Ellis, The Loser's Game Bernstein, Are the Markets the Solution or the Problem? Graham, The Investor and Market Fluctuations Mauboussin, Revisiting Market Efficiency Arthur, Complexity in Economic and Financial Markets</p> <p><i>Additional readings:</i></p> <p>Mauboussin, Capital Ideas Revisited Parts I and II</p>
5 and 6	10-February	<ul style="list-style-type: none"> · Valuation Concepts · Review of Techniques · Selection of Stocks for Final Reports <p><i>Core readings:</i></p> <p>Williams, Theory of Investment Value Rappaport and Mauboussin, Chapters 2, 3, 5, 6, 7, 8 Mauboussin et al., Competitive Advantage Period (CAP)</p>
7 and 8	17-February	<ul style="list-style-type: none"> · Valuation Concepts · Competitive Advantage and Valuation · Expectations Investing

- Case Study

Additional readings:

Mauboussin, Common Errors in DCF Models
Mauboussin and Callahan, How to Model Reversion to the Mean
Mauboussin and Callahan, Estimating the Cost of Capital

9 and 10	24-February	<ul style="list-style-type: none">· Competitive Strategy Framework· Capital Allocation Decisions· Valuation Papers Due· Preparation for Management
		<p><i>Core readings:</i></p> <p>Mauboussin, Measuring the Moat Porter, What is Strategy? Rappaport and Mauboussin, Chapters 4 and 9 Mauboussin and Callahan, Capital Allocation</p>
11 and 12	2-March	<p>Company Presentation John Martin Chairman and Chief Executive Officer Turner Broadcasting System, Inc.</p>
	9-March	NO CLASS
	16-March	NO CLASS
13 and 14	23-March	<ul style="list-style-type: none">· Decision Making· Strategy Papers Due
		<p><i>Core readings:</i></p> <p>Tversky and Kahneman, Judgment Under Uncertainty Heuer, Psychology of Intelligence Analysis Mauboussin, Decision Making for Investors Mauboussin and Callahan, Methods to Improve Decisions Munger, A Lesson on Elementary, Worldly Wisdom</p>
15 and 16	30-March	<ul style="list-style-type: none">· Other Analytical Tools (M&A, real options, TAM, customer economics)· Open ended Q&A· Presentation tips

17 and 18	6-April	· Presentations Guest: Bill Miller <i>LMM Opportunity Trust</i>
19 and 20	13-April	· Presentations Guest: Dave Zorub and Kate Peachway <i>BlueMountain Capital</i>
21 and 22	20-April	· Presentations Guest: Ian McKinnon <i>Sandia Holdings</i>
23 and 24	27-April	· Presentations Guest: Roberto Mignone <i>Bridger Capital</i>
	6-May	· FINAL PAPERS DUE

METHOD OF EVALUATION

Company basic report	30%
Presentation of basic reports	20%
Valuation exercise	15%
Strategic assessment	15%
Three one-page reports	10%
Class participation	10%

Grades for the course will be based on 6 factors, as follows:

1. Company basic report. The maximum length of the report is 10 pages, excluding exhibits. We will discuss the format and content of the report in more detail in class. These reports are done on a group basis (Type A), although a mechanism will be in place to assure that contributions are equal among members. This report is due one week after our last class meeting. **(30%)**
2. Presentation of basic reports. Everyone will be required to participate in the presentation. **(20%)**
3. Valuation exercise. Students will be required to complete a valuation exercise (details in class). This project is to be completed individually (Type C). Due one week after assigned. **(15%)**
4. Strategic assessment of the company based on our corporate presentation. The paper should be approximately five (5) pages with 1.5 spacing, and does *not* require valuation work. This project is to be completed individually (Type C). Due one week after assigned. **(15%)**
5. Three one-page reports on companies presented in class. These papers are due one week after the presentation in class. Two copies of the report should be handed in, so that a copy can go to the presenting group for feedback. This is to be completed individually (Type C). **(10%)**
6. Class participation. All aspects of the course—including the initial lectures—are intended to be interactive. Students are encouraged to challenge, disagree, and pose alternate views. Further, attendance will be taken every class, with the cumulative attendance record contributing to a class participation grade. **(10%)**
 - (1) Basic reports. Students will work in groups of four on the basic reports. The professor will provide a list of companies that the groups will analyze—one group per company. Students will make a presentation to the class and hand in the full report on or before **May 6, 2016**. The order of the presentations will be determined within the first few weeks of the course, and will depend in part on the schedules of the professional guests critiquing the presentations. Portfolio manager comments will not be considered in the grading process, and are for student edification only.
 - (2) Valuation project. This exercise is intended to give all students an opportunity to explore the key thought processes and mechanics behind valuation.
 - (3) Write-up of company presentation. Students are expected to assess the competitive position, key value drivers, central strategies (both operating and financial), and management of the presenting

company. Well thought-out conclusions, appropriate prioritization of key issues, and rigorous and consistent analysis are the central objectives of this paper.

(4) One-page reports. The one-page reports will be done individually and will be due at the start of the class following the week of the presentation. The write-ups should focus on an evaluation of the information and should present an independent recommendation for the company's shares (with an explanation). Do not recap what was said in class. Each student must select three presentations to write up.

(5) Presentation of reports. Consistent with the theme of practical skill development, you will be graded on the verbal presentation as well as the written report. Emphasis should be placed on the clear conveyance of well thought-out conclusions. Other students are expected to actively participate in the Q&A period following each presentation, and will be graded on their questions and comments.

Grade Rubrics:
Valuation

This project is to be completed on an individual basis.

H	HP	≤P
* Correct answers	* Partially correct answers	* Incorrect answers
* Work is shown	* Work is shown	* Work is not shown
* Answers are organized	* Answers are organized	* Answers are disorganized

Competitive strategy

This project is to be completed on an individual basis.

H	HP	≤P
* Does not regurgitate known facts	* Some discussion of known facts	* Substantial recap of known facts
* Effective use of strategy frameworks	* Competent use of frameworks	* Little/poor use of frameworks
* Clear summary with conclusion stated	* Summary does not state conclusion	* Conclusion poorly articulated
* Well organized	* Decently organized	* Poorly organized
* Stays within specified length	* Stays close to specified length	* Deviates from specified length
* Free of typos	* Some typos	* Lots of typos

Presentation to portfolio manager

This presentation is to be completed as a group, although you will be assessed both individually and as a group.

H	HP	≤P
Group Level		
* Strong intro/company description	* Average intro	* Weak intro/company description
* Prioritized operating assessment	* Solid operating assessment	* Poorly prioritized or no operating assessment
* Relevant financial assessment	* Average financial assessment	* Weak or lacking financial assessment
* Thorough valuation	* Solid valuation	* Sloppy or incomplete valuation
* Analysis strongly supports conclusion	* Analysis backs conclusion	* Analysis doesn't support conclusion
* Within time limit (12 minutes)	* Near time limit	* Over time limit
Individual Level		
* Looks and acts highly professional	* Looks and acts professional	* Does not appear professional
* Highly organized	* Well organized	* Disorganized
* Conveys ideas very clearly	* Conveys ideas well	* Poorly conveys ideas
* Comments are well substantiated	* Comments are supported	* Comments are unsubstantiated
* Contribution is equal	* Contribution is close to equal	* Unequal contribution

One page summaries of other group presentations

These are to be completed on an individual basis.

V+	V
* Does not simply recap presentation	* Presentation recap
* Clearly explains basis for agreement or disagreement	* No clear view explained
* Highlights key facts behind reviewer decision	* Does not prioritize salient issues
* Articulates presentation's strengths/weaknesses	* Fails to explore presentation effectiveness

Final paper

The final paper is a group effort.

H	HP	≤P
* Clear summary and recommendation	* Solid summary	* Poor summary
* Effective company description	* Acceptable company description	* Poor company description
* Discussion of relevant recent activity	* Recent activity discussed	* Recent developments ignored
* Well-structured operating discussion	* Solid operating discussion	* Poor operating assessment
* Effective financial assessment	* Partial discussion of financials	* Weak financial assessment
* Proper discussion of management	* Some management discussion	* Managerial assessment overlooked
* Valuation, incl. multiple approaches	* Some valuation work	* Weak valuation
* Includes all recommended tables	* Includes some recommended tables	* Includes few recommended tables
* Well-presented and edited	* Average presentation and editing	* Poor presentation and editing
* Effective use of graphics	* Good use of graphics	* Weak use of graphics

CLASSROOM NORMS AND EXPECTATIONS

You must hand in all papers on the assigned due date (unless you make arrangements ahead of time). Any student who hands work in late will not receive a top grade.

Attendance will be taken every class, with the cumulative attendance record contributing to a class participation grade.

Please inform professor or TA of any anticipated or unanticipated absence.