



北京大學  
汇丰商学院

Peking University HSBC Business School

# FIN-524

## Asset Valuation Theory

### Module 1, Spring Semester, 2016

#### Course Information

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**Instructor: Fritz Koger, CFA, PhD**

Office: PHBS Building, Room 752

Phone: Best to reach me via email

Email: fritzkoger@phbs.pku.edu.cn

Office Hour: 08:00 – 09:00, Monday

**Teaching Assistants:**

Daisy Tang Jinping 1401213452 (2014 Finance) 1401213452@sz.pku.edu.cn

Eve Li Yixi 1401213415 (2014 Quantitative Finance) 1401213415@sz.pku.edu.cn

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**Classes:**

Lectures: Monday and Thursday: **Section 1:** Finance (F1) 10:30 – 12:20.

**Section 2:** Quantitative Finance (F2) 13:30 – 15:20.

Venue: PHBS Building, Room 403

**Course Website: None**

## 1. Course Description

### 1.1 Context

Course overview: This course is intended for students who wish to learn and analyze the concepts and theories of Asset Valuation. The course is broad in nature as opposed to deep. It introduces the student to a wide range of topics, hoping to inspire deeper pursuit of various topics covered in this course. The pace is ***extremely fast!*** As the name of the course implies, this is a course on ***THEORY***; it is not an applications-oriented course. While you are expected to know how to apply the relevant principles and formulas to calculate numerical answers, the focus in lectures and in TA Review sessions will be on the theory and on how to analyze situations in finance. You are encouraged to pursue applying the theories learned in this course in other finance courses and on your own. We will push ourselves hard to cover as many topics in asset valuation theory as possible in the allotted time.

The purpose of the course is two-fold. You will learn principles of how to analyze problems, and you will learn methods and key results in asset valuation theory. We will use ***comparative statics*** analysis from calculus extensively. It is my goal that you have the tools to analyze problems that you face the rest of your life! This course is ***not*** about sticking numbers into formulas.

Tests will be based primarily on problem solving. This is a course in finance, not English. Students have occasionally complained about the ***quantitative nature*** of the course in general, and of the tests in particular. If you are uncomfortable with such tests, you should not choose this course as an elective. If this course is required for you, plan accordingly and adapt.

I will water down the math as much as is possible (e.g., discrete random variables versus continuous random variables, no matrices or linear algebra, etc...). However, the course is still quite quantitative in nature, so plan accordingly.

There are ***many formulas in this course***. You are *not* allowed a formula sheet on the tests. Thus, I recommend that you keep a running tab of formulas, and each weekend, I would review it and make sure that you know all formulas. This is a great way to review the principles each weekend, and will deepen your understanding of how the entire course fits together. You will see overarching themes that will allow you to better retain the material.

Your goal should be to keep *sufficiently prepared* such that you are always prepared to take a cumulative exam. This will require *3-4 hours of studying for each single lecture hour*, or about 6-8 hours per 2-hour lecture.

***Topics include:*** basics in both accounting (financial accounting statements and various cash flow definitions) and in finance; factors influencing rates of return, measures of return performance, security market indexes, capital market (information) efficiency, risky asset portfolio efficient frontier without and with a risk-free asset, asset pricing models, financial statement analysis and ratio valuation techniques, top-down and bottom-up valuation techniques, fundamental analysis and technical analysis, bond analysis, and derivative analysis including options. (We will cover forwards, futures and swaps as time permits.)

Learning Goals:

(1) Emphasis is placed on problem-solving and critical thinking. The student will improve their understanding of finance principles and more importantly, learn how to apply them to problems beyond those studied in this course.

**Course Prerequisites:** Financial Economics or equivalent background. Comfortable in working with ***derivatives (calculus)***. ***The teacher reserves the right to exclude students who are not adequately prepared for this course.***

## ***1.2 Textbooks and Reading Materials***

Brown and Reilly, "Analysis of Investment and Management of Portfolios", 9<sup>th</sup> Ed., South-Western Cengage Learning.

**Textbook and SUPPLEMENTAL Notes:** TESTS WILL COME PRIMARILY FROM THE LECTURES. Supplemental notes will also be distributed. These are a supplement to the lectures and to the text book, going deeper into concepts, intuition and mathematical derivations to give you a more profound understanding of the material. The supplemental notes include the important notions from the lectures and from the text. The professor understands that they are atypically dense; hence, as such they are NOT intended to be lecture notes. NOR ARE THEY INTENDED TO REPLACE THE TEXTBOOK. They are supplemental. THEIR USE IS OPTIONAL. HENCE, IF YOU DO NOT FIND THEM USEFUL, DO NOT USE THEM. Again, the bible for the course is the lectures and the course text.

### ***Supplemental Textbooks, which includes plenty of practice problems:***

Damodaran, "Investment Valuation", 3<sup>rd</sup> Ed., ISBN-13: 978-1118011522

Pinto, Henry, Robinson and Stowe, "Equity Asset Valuation", CFA Institute, Investment Series, Wiley; 2<sup>nd</sup> Ed., ISBN-10: 0470571438, ISBN-13: 978-0470571439

Larrabee and Voss, "Valuation Techniques: Discounted Cash Flow, Earnings Quality, Measures of Value Added, and Real Options", CFA Institute, Investment Perspectives, Wiley, 1<sup>st</sup> Ed., ISBN-10: 1118397436, ISBN-13: 978-1118397435

McKinsey & Company, Inc., Koller, Goedhart and Wessels, “Valuation: Measuring and Managing the Value of Companies”, Wiley, 5th Ed., ISBN-10: 0470424656, ISBN-13: 978-0470424650

**McKinsey & Company, Inc., “Valuation Workbook: Step-by-Step Exercises and Tests to Help You Master Valuation Paperback”, Wiley, 5th Ed., ISBN-10: 0470424648, ISBN-13: 978-0470424643**

Fabozzi and Markowitz, “The Theory and Practice of Investment Management: Asset Allocation, Valuation, Portfolio Construction, and Strategies”, Wiley, 2<sup>nd</sup> Ed., ISBN-13: 978-0470929902

Bodie, Kane and Marcus, “Investments”, 10<sup>th</sup> Ed., ISBN-13: 978-0077861674

Ross, Westerfield and Jaffe, “Corporate Finance”, 10<sup>th</sup> Ed., ISBN-10: 0078034779

## 2. Learning Outcomes

### 2.1 Intended Learning Outcomes

Learning Goals	Objectives	Assessment
1. Our graduates will be effective communicators.	1.1. Our students will produce quality business and research-oriented documents.	
	1.2. Students are able to professionally present their ideas and also logically explain and defend their argument.	
2. Our graduates will be skilled in team work and leadership.	2.1. Students will be able to lead and participate in group for projects, discussion, and presentation.	
	2.2. Students will be able to apply leadership theories and related skills.	
3. Our graduates will be trained in ethics.	3.1. In a case setting, students will use appropriate techniques to analyze business problems and identify the ethical aspects, provide a solution and defend it.	
	3.2. Our students will practice ethics in the duration of the program.	
4. Our graduates will have a global perspective.	4.1. Students will have an international exposure.	
5. Our graduates will be skilled in problem-solving and critical thinking.	5.1. Our students will have a good understanding of fundamental theories in their fields.	
	5.2. Our students will be prepared to face problems in various business settings and find solutions.	
	5.3. Our students will demonstrate competency in critical thinking.	

### 2.2 Assessment/Grading Details

**Guidelines:** There are two overarching themes: the professor’s aims are **(1) to be as fair as possible to everyone**, and **(2) create the optimal learning environment for everyone!** The professor firmly believes that

treating individuals differently is inherently unfair. Thus, everyone will be treated identically the same, per the guidelines outlined here. **There are no exceptions.**

**Grading:** THERE WILL BE NO MAKE-UP EXAMS. IF YOU MISS AN EXAM, YOU WILL RECEIVE A 0 FOR IT. There are 3 exams. Scores on all three exams will be adjusted as needed to ensure that the school's guidelines are satisfied. Your lowest adjusted exam score will count for 20% of your final grade. Your highest adjusted exam score will count for 40% of your final grade. The other adjusted exam score will count for 30% of your final grade.

Anything discussed in a lecture is fair game on an exam. All exams will be cumulative, though the most recently covered material may be emphasized more. In fairness to all students, I will **NOT** discuss in private with any student before an exam any details regarding the *nature* of the exam (e.g., what I plan to emphasize, etc...), but of course, I will answer all specific questions regarding any material covered in the lectures. Information relevant to the *nature* of the exams will only be discussed in class lectures where all students have a fair chance to hear the same information.

**Subjective Evaluation:** 10% of your final score will be a subjective evaluation, based in part, on your punctuality, attendance, classroom behavior, attitude, preparedness, etc... If you miss a class for any reason, you will be counted as absent for that class. Being tardy and being absent both equivalently negatively impact your grade. If you arrive 5 seconds late, you are late! There is no need to explain your tardiness. You are allowed only 1 tardiness/absence per semester. After that, your subjective evaluation is negatively impacted *20% each occurrence*. So if you are tardy/absent 6 times, your subjective evaluation will be 0%. Additionally, if you are *tardy/absent 6 times or more, then you will get a 0 for the course* (and will not be allowed to take the Final Exam). Your professor appreciates you letting him know *in advance* if you will be tardy or absent. However, this does *not* excuse the tardiness/absence. You will be permitted one tardiness/absence. After that, your subjective evaluation will be negatively impacted. *A tardiness and an absence have identical negative impacts upon your subjective evaluation*. If you *sleep in class* or if you are *not attentive to the lecture (reading a text or other class notes, open your computer, etc...)*, I will request that you leave, and you will be considered absent that day.

**Please note that your number of absence are independent of whether or not they are approved by the University or HSBC Business School.** I do not distinguish between approved or unapproved absences. If you feel as though you must miss more than one class, I advise you not take this course.

Finally, disturbing the class lectures will negatively impact your subjective evaluation. Talking during class, having a cell phone ring, etc... are disturbances that will not be tolerated. These rules are designed to optimize the learning environment for all students.

Your final grade will be

$$\mathbf{10\% \text{ (Subjective Evaluation)} + 30\% \text{ (middle exam score)} \\ + 20\% \text{ (lowest exam score)} + 40\% \text{ (highest exam score).}$$

A passing grade is *70.0%*. Anything less than 70% is a failing grade. If you have already taken this course once and failed it, or if you have already dropped this course, then the highest grade that you can earn is a 70%. So if you have already either failed this course or dropped it, and if you currently earn at least 70%, then your final score will be 70%. If you earn less than 70%, your final score will be the grade that you earn. You should not take this course if this is not acceptable to you.

All exams will be cumulative, though the most recently covered material may be emphasized more.

**Calculator Policy:** The professor will advise before each exam whether or not calculators are allowed on the upcoming exam.

There is NO sharing of calculators! If your battery dies, you cannot borrow one from another student. Truthfully, the final answer of a problem is worth little. The vast majority of credit is due to setting up the problem correctly and inserting numbers correctly. Little credit is given for the correct answer.

If you do ***NOT show your work***, you receive no credit. For example, if I give you regression data and ask you to calculate the slope coefficient, you ***cannot*** simply give the correct answer and say that you entered the data into your calculator to get the answer. You must write down the correct formula and insert the numbers correctly.

There is no scratch paper allowed on exams.

There are no pencil pouches allowed on exams.

Simply carry pens/pencils to class, but not in a pouch.

**No formula sheet is allowed during tests .** If I were you, I would make sure that I am comfortable with all formulas and their intuitions that have been covered at any point during the semester. Each weekend, I would review the material from that week, and also refresh my memory of all formulas from previous weeks. If you understand the relevant concepts, then knowing the formulas should be relatively trivial. Waiting until just before an exam to try to “memorize” formulas is a recipe for disaster!

## ***2.3 Academic Honesty and Plagiarism***

It is important for a student’s effort and credit to be recognized through class assessment. Credits earned for a student work due to efforts done by others are clearly unfair. Deliberate dishonesty is considered academic misconducts, which include plagiarism; cheating on assignments or examinations; engaging in unauthorized collaboration on academic work; taking, acquiring, or using test materials without faculty permission; submitting false or incomplete records of academic achievement; acting alone or in cooperation with another to falsify records or to obtain dishonestly grades, honors, awards, or professional endorsement; or altering, forging, or misusing a University academic record; or fabricating or falsifying of data, research procedures, or data analysis.

All assessments are subject to academic misconduct check. Misconduct check may include reproducing the assessment, providing a copy to another member of faculty, and/or communicate a copy of this assignment to the PHBS Discipline Committee. A suspected plagiarized document/assignment submitted to a plagiarism checking service may be kept in its database for future reference purpose.

Where violation is suspected, penalties will be implemented. The penalties for academic misconduct may include: deduction of honour points, a mark of zero on the assessment, a fail grade for the whole course, and reference of the matter to the Peking University Registrar.

For more information of plagiarism, please refer to *PHBS Student Handbook*.

**Statement about Academic Integrity:** This class will be conducted in full accordance with PKU’s policies about academic integrity. Anyone caught cheating will be punished as severely as the school permits.

**You will be given guidelines for each test.** *Violation of these guidelines will result in severe penalty.* The tests are designed to be a challenge to finish; the professor wants to see who knows the material best, and believes that one’s speed through a test is directly correlated with one’s preparedness. So anyone who begins early or refuses to turn in the test when the professor requests it gains an unfair advantage over the rest of the class and will be penalized for such behavior. Again, policies are designed with fairness in mind.

### 3. Topics, Teaching and Assessment Schedule

**Course Topics** (Text Chapters): Accounting basics and introduction to finance (professor's own lecture notes), basics of investments (1), capital market efficiency (6), risk and return & asset pricing models (7 - 9), introduction to valuation models (DCF, Ratios, Contingent Claims, etc...)(10, 11), common stock valuation (12 – 14), preferred stock valuation, bond valuation (18), options, forwards/futures, and embedded derivatives (20 – 23). (Forwards, futures and swaps are as time permits.)

### 4. Miscellaneous

**Educational Norms and Expectations:** You are responsible for material covered in any class that you miss. The professor will not tutor individually such material, nor will he provide copies of missed materials. If you miss a class, you must retrieve lecture notes from a classmate.

If you miss a class or are late, the professor appreciates knowing about it in advance. However, notifying the professor in advance never excuses an absence or tardiness.

**There are three (3) rules.** (1) You must attend class. (2) You must be punctual. (3) You are not to disturb others. This includes no talking in class, other than addressing the professor. All cell phones, computers and electronic equipment are to be turned off. You are to sit quietly and attentively. The rules are designed to optimize the learning environment for all students. Violation of these rules will negatively impact your subjective evaluation. Your professor appreciates you letting him know in advance if you will be tardy or absent. However, this does not excuse the tardiness/absence.

**Expectations regarding study habits:** You are expected to study 3-4 hours per lecture hour. If we meet 4 hours per week, you should be studying **14 hours per week**, or 2 hours each day, 7 days a week. I do not assign homework, projects, cases, etc... in order that you may optimize your study time, studying in whatever is the most efficient mode for you. This way, you decide how to spend your study time. Read the supplemental notes that I give you, read the book multiple times, read your lecture notes, read other books, read case studies, work numerical problems, work in Excel, etc...; do whatever works best for you!

Again, there is no "event" (i.e., test, homework, etc...) in half the weeks during the semester. This does NOT mean that you should not spend time during these weeks learning this material. You should be spending roughly 14 hours studying outside of class EVERY week, regardless of whether or not we have a test that week.

A student will occasionally request that I supply problem sets, or other supplemental material. This course is about learning principles and applying them to analyzing financial issues. My supplemental notes are designed for this purpose. I believe that it will take 14 hours a week to master the material in the book, in your lecture notes, and in my supplemental notes. Thus, I believe that working numerical problems is not the most efficient use of your time. I am giving students an extremely heavy work-load by mastering the book, lecture notes, and supplemental notes. I am thus not comfortable overwhelming students by suggesting even more work (e.g., numerical problems.) I don't believe that it is fair of me to expect students to study more than 2 hours a day for this course. Thus, **I will not suggest additional study materials**.

You are expected to **read the relevant chapter in the book BEFORE the lecture**. That way, the lecture period will be much more productive.

**Teaching Assistant (TA) Review Sessions:** I will assume that these are productive and helpful unless I hear differently from you. The only way that I will know that they are not satisfactory is if you inform me. Please let me know immediately if you have suggestions for improvement.

**Suggestions for improving the course:** I am committed to making this course as good as possible. If you have suggestion to improve the course, please inform me, **IN PRIVATE**. During a lecture is **not** the appropriate time for such feedback, as we do not have time. Please understand that some policies I am

committed to (e.g., the fast pace of the course), so please take no offense if your suggestion is not implemented. However, the course is obviously for your benefit, not mine. So any feedback is greatly appreciated and is seriously considered.

**Add/Drop the Course:** You are not allowed to add or drop this course after the first week.

Only students in F1 (Quantitative Finance) and F2 (Finance) programs for whom this course is a requirement will take these two sessions of AVT. No one for whom this course is an elective will be allowed to take either of these two sessions.

Any issue not specifically addressed here will be handled at the discretion of the professor.

Week	Topic(s)	Tests
1	Accounting basics; Introduction to finance	
2	Basics of investments; Risk and Return; Begin Markowitz	
3	Finish Markowitz Risky Portfolio Theory; SML: CAPM (1 day);	Exam #1 end 3 <sup>rd</sup> week
4	Capital market efficiency; Arbitrage Pricing Theory	
5	Common Stock Valuation Models (DCF and Ratio Analysis)	
6	Common Stock Valuation Models (Finish Ratio Analysis: 1 day)	Exam #2 end 6 <sup>th</sup> week
7	Fixed Income (Bonds) Valuation	
8	Continue Fixed Income valuation; Begin Options	
9	Options AS TIME PERMITS: Forwards/Futures, and Embedded Derivatives	
<b>Final Exam</b>	Final Exam (Cumulative)	Exam #3 / Final Exam

**Course Schedule:**

Week	Days and Dates	Text Book Chapter	Test Date
1	Mon (Feb 22) and Thurs (Feb 25)	Professor's notes and Ch. 1, 6	
2	Mon (Feb 29) and Thursday (Mar 3)	Ch. 6, 7	
3	Mon (Mar 7) NO CLASS Thurs (Mar 10)	Ch. 7, 8	Exam #1 <u>Saturday, March 12, 13:00</u> -
4	Mon (Mar 14) and Thurs (Mar 17)	Ch. 9, 10	
5	Mon (Mar 21) and Thurs (Mar 24)	Ch. 11 (and 12-14)	
6	Mon (Mar 28) NO CLASS Thurs (Mar 31)	Continue Ch. 11 (and 12-14)	Exam #2 <u>Saturday, April 2, 13:00</u> -
7	<u>(NO class: Mon Apr 4)</u> <u>WED (Apr 6)</u> and Thurs (Apr 7)	Ch. 18	
8	Mon (Apr 11) and Thurs (Apr 14)	Continue Ch. 18, Ch. 20	
9	Mon (Apr 18) and Thurs (Apr 21)	Ch. 20	
<b>Final Exam</b>	<b>SUNDAY</b> (April 24) <b>Time: 13:00 Rooms 501 and 523</b>	CUMULATIVE	Exam #3 or Final Exam <u>April 24, 13:00 – 16:00</u>

**Teaching Assistant (TA) Review SCHEDULE: Fridays, 20:00 – 21:00**

Week	Days and Dates	Text Book Chapter	TA
1	Sunday, March 08, 2015	Professor's notes and Ch. 1	A
2	Sunday, March 15, 2015	Ch. 1, 6, 7	B
3	Sunday, March 22, 2015	Ch. 7, 8	C
4	Sunday, March 29, 2015	Ch. 9, 10	A
5	Sunday, April 05, 2015	Ch. 11 (and 12-14)	B
6	Sunday, April 12, 2015	Continue Ch. 11 (and 12-14)	C
7	Sunday, April 19, 2015	Ch. 18	A
8	Sunday, April 26, 2015	Continue Ch. 18, and Begin Ch. 20	B
9	Sunday, May 03, 2015	Ch. 20	C

Chapters in my edition of the course text.

Part	Chapter	Title
<b>1</b>		<b>The Investment Background</b>
	<b>1</b>	The Investment Setting
<b>2</b>		<b>Developments in Investment Theory</b>
	<b>6</b>	Efficient Capital Markets
	<b>7</b>	An Introduction to Portfolio Management
	<b>8</b>	An Introduction to Asset Pricing Models
	<b>9</b>	Multifactor Models of Risk and Return
<b>3</b>		<b>Valuation Principles and Practices</b>
	<b>10</b>	Analysis of Financial Statements
	<b>11</b>	An Introduction to Security Valuation
<b>4</b>		<b>Analysis and Management of Common Stocks</b>
	<b>12</b>	Macroanalysis and Microvaluation of the Stock Market
	<b>13</b>	Industry Analysis
	<b>14</b>	Company Analysis and Stock Valuation
<b>5</b>		<b>Analysis and Management of Bonds</b>
	<b>18</b>	The Analysis and Valuation of Bonds
<b>6</b>		<b>Derivative Security Analysis</b>
	<b>20</b>	An Introduction to Derivative Markets and Securities



## **FIRST DAY “HANDOUTS”, and Confirmation of Course Expectations**

- (1) Ch. 10 (Brown Reilly) List of Ratios.docx; (2) Ch I Lecture Supplement.docx  
(3) Debt Supplement.ppt; (4) Regression Primer.docx  
(5) Regression Primer Supplement.pdf; (6) ROR Gross Returns Lognormal Risk Neutral Valuation, etc.docx  
(7) Test Front Page and Guidelines.docx; (8) Fin’l Acctg Overview Lecture 1 Supplement.pptx;  
(9) FINE 301 Review; (10) Chinese GaoKao incidents; (11) REC Balance Sheet 2009 2010.pdf  
(12) REC Income Statement 2009 2010.pdf; (13) REC Stmtnt of CFs 2009 2010.pdf; (14) REC Statement of Owners Equity 2009 2010.pdf; (15) Documents regarding Student Absences;  
(16) Syllabus (including this sheet to be signed and returned at beginning of lecture #3.

This is the final page of the syllabus for Asset Valuation Theory.

I received a copy of the *entire syllabus* (total number of pages is shown below).

I acknowledge receipt of all of the above *sixteen (16) files*, all of which are *handouts*. I acknowledge that several *additional references* are listed in this syllabus, including *supplemental textbooks*.

I also acknowledge that these supplement textbooks have plenty of *practice problems* that I may use.

I acknowledge that the first page of this syllabus contains a detailed *course description*. I understand that the course is *difficult*, and this description allows me to fully perform a *proper course assessment*, and accordingly, I choose to take this course as part of my requirements for the degree which I have chosen.

Also on the first page, the professor’s *office hours, office location, and email address* are clearly stated.

This syllabus also contains a *detailed calendar of lectures, including content* (via Textbook chapter titles) for each lecture. Per the course description, this course examines a *wide range of knowledge*.

I have completed the *course pre-requisites*.

I understand that the final exam will be timed, and will be written, in class

I understand that the course is *FAST-paced* and will require a lot of work.

I understand that I will be *treated fairly*, i.e., exactly the same as all other students per the guidelines described in this syllabus. I do not require special treatment, and *I will not request special treatment*, i.e., as part of selecting to take this course as part of my degree requirements; I accept this syllabus’ guidelines.

I understand exactly *how my course grade will be determined* per the guidelines in the syllabus.

I understand that *disturbing lectures* (e.g., talking) *negatively impacts* my subjective evaluation and may result in my *expulsion from lecture*. I understand that *arriving late* (and of course, *missing lectures*) (1) negatively impacts my course grade, and (2) is unacceptable, as professor *locks doors* when lecture begins.

I understand that if I miss a lecture, the *professor is not responsible for my securing information* covered during said lecture. (I will secure such information from a fellow student; not professor.)

I understand that *requesting professor to make any exceptions* in this syllabus is not only inherently *unfair* to all the rest of my classmates, but will *not be honored*. It will send professor a negative signal, *negatively impacting my final score*.

I have read the syllabus *carefully*, and agree to abide by all guidelines.

**Date, Student’s Signature and Student ID Number:** \_\_\_\_\_

\_\_\_\_\_