390-02 Firm Valuation

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Mission of the Williams College of Business: We educate students of business, enabling them to improve organizations and society, consistent with the Jesuit tradition.

Course Description: The course is designed to develop the students' ability to value business enterprises using a variety of valuation techniques.

Learning Outcomes: Upon successful completion of this class, you will be able to:
- Generate a set of *pro forma* financial statements for a business using Excel;
- Determine an enterprise value using discounted cash flow and relative valuation techniques;
- Determine the intrinsic value of equity in publicly- and privately-held companies.

The Williams College of Business has chosen to emphasize the following learning goals in its undergraduate business curriculum.

1. **Critical Thinking**: WCB graduates will be able to think logically, reason quantitatively, and utilize appropriate analytical techniques and technology when evaluating and making decisions.

2. **Ethics and Social Responsibility**: WCB graduates will be able to recognize ethical issues, discern moral implications of decision making, and be prepared, and willing, to serve as responsible and professional members of society.

3. **Effective Written and Oral Communication**: WCB graduates will be able to organize, support and communicate ideas clearly and effectively, employ multiple mediums of communication (e.g., written, oral and visual), and adapt communication to audience, context or purpose.

4. **Global Perspective and Cultural Diversity**: WCB graduates will appreciate the historical and cultural contexts of the world in which they live, demonstrate the competencies required for engaging in global business activities, and respect and value diverse peoples and perspectives.

5. **Understanding and Application of Knowledge Across Business Disciplines**: WCB graduates will be able to evaluate business from an integrative and holistic point of view, leverage the synergies between functional business areas, and demonstrate college-level mastery of their chosen discipline.

6. **Personal and Professional Development**: WCB graduates will be well-prepared for their future careers and appreciate the importance of continuous professional development and life-long learning.

Course Materials: Valuation: The Art and Science of Corporate Investment Decisions by Titman and Martin. Note: this book covers aspects of both advanced capital budgeting and corporate valuation. Many of the topics covered in the advanced capital budgeting chapters are also covered in Finance 401. I will post additional materials on Canvas. All outside announcement will be made through Canvas.
Prerequisite for FINC 490 Portfolio Management I: Achieving a grade of B- or better in this class is a prerequisite for FINC 490 Portfolio Management I. Firm Valuation serves as the foundation for Portfolio Management I, giving you the tools necessary to value stocks.

Classes: Each class will be a mix of lecture/presentation, discussion, and group problem solving. You are encouraged to participate through questions and comments. Bring your calculator to each class meeting to ensure active learning.

Attendance is not mandatory, however, it is strongly recommended. Students are responsible for all in-class announcements (which will be in the first few minutes of class – be on time) and schedule changes. Also, we will begin most classes with a short discussion of issues raised in the news.

Calculators: It is the student’s responsibility to obtain a usable calculator before the first exam – no smart phones are allowed during exams NOR may they be visible in any way.

Xavier University policies regarding privacy rights, incomplete work and attendance, and academic honesty will be strictly enforced. If an incident of academic dishonesty occurs, the most severe disciplinary action will be taken. Please see the current University catalog.

Students with disabilities: It is my goal that this class be an accessible and welcoming experience for all students. If you are a student with a disability who may have trouble participating or effectively demonstrating learning in this course, contact me to arrange an appointment to share your Accommodation Letters from Disability Services and to discuss your needs. Disability related information is confidential. If you have not contacted Disability Services (located in the Learning Assistance Center) to arrange accommodations, I encourage you to do so by contacting Cassandra Jones, by phone at 513-745-3280, in person on the Fifth Floor of the Conaton Learning Commons, Room 514, or via e-mail at jonesc20@xavier.edu as soon as possible as accommodations are not retroactive.
**Office of Student Success:** 514 Conaton Learning Commons
Phone: 513-745-3036   Email: studentretention@xavier.edu
The Staff in the Office of Student Success is available to assist students to make the most of their Xavier experience. Personal staff consultations, success coaching, referrals to on-campus Solution Centers, and guiding students to effectively navigate their college experience are central to our work.

**Grading:** I occasionally will provide theoretical grade distributions to help you gauge where you stand. I intend to follow the standard 90/80/70/60 distribution with the top/bottom 2 or 3 people in each range earning +/- of that grade.

<table>
<thead>
<tr>
<th>Component</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Homeworks</td>
<td>20%</td>
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<tr>
<td>Valuation Reports</td>
<td>30%</td>
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<tr>
<td>Tests (each test is 25%)</td>
<td>50%</td>
</tr>
<tr>
<td>Adjustment for texting, etc. in class</td>
<td>up to -10%</td>
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**Homework:** There will be homework assignments following several topics, especially the more quantitative materials. You can work the assignments on your own or in your groups. I encourage students having difficulty with the problems to see me. All assignments are due at the start of class. NO late assignments will be accepted under any circumstances. I will distribute the questions one week before they are due.

**Valuation Report:** The preparation of the Valuation Report, described below, is semester-long activity in which you will be asked to value the equity in two publicly-traded companies. This group report will be due before the end of the semester and various stages of the report are to be presented in class. I will assign the groups early in the semester.

Project grades will depend on teamwork, the quality of the analysis, the ending recommendation, the quality of the writing in the report, and the final presentation. I will ask all of you to provide feedback on group members at the end of the semester.

**Tests:** will be a mixture of short essay questions, True/False questions, and problems. Partial credit is given and all work must be shown on the problems. Any questions regarding grading of assignments or exams must be addressed within one week of return of the graded assignment or exam to the student.

**Make-Up Exams:** All exams must be taken on the date specified in the course calendar unless I grant approval of a make-up exam PRIOR to that date. Without prior approval, make-up opportunities are limited to documented emergencies, the determination of which is up to my discretion. The sooner you contact me about any problems, the better your chances of working something out. It will be the student’s responsibility to schedule a time for a makeup exam before the next class meets – no exceptions. Do NOT ask for a make-up exam without formal documentation of your absence.
Technology in the classroom:
Scientific evidence indicates (1) your IQ falls whenever your phone is visible (even if the screen is not on) & (2) students taking notes with pencil and paper outperform those that type their notes into a computer.

Computers, phones, and tablets make you look like zombies when you have your screens on during class. As such, they are not permitted during lectures because they are distracting to you, to your fellow students, and to me. The temptation to watch cat videos and use Snapchat to set up your parties is too strong. I can’t compete with cat videos or parties with your friends.

If I have to ask you to put your phone away more than once over the course of the semester, you decidedly will receive the lower grade if you are on the bubble. However, I do understand life sometimes intervenes. If you have a job interview to set or something equally serious, please let me know beforehand and I will make exceptions.

Extra credit: To ensure fairness, no individual extra credit work is available. However, there probably will be a few instances where I give the entire class a chance to earn some extra points.

Valuation Report: The Valuation Report is a group project, to be prepared by groups of three to five students. Each group will be valuing two to four publicly-traded companies, preparing a written report (see report guidelines) and presenting various stages of your analysis to the class. This project is designed to apply the valuation techniques that we learn in class to real companies. Specific details and format of the report are to follow. You will be assigned by me to a group early in the semester. The group will be responsible for achieving certain milestones on a timely basis during the semester.

I expect group members to act professionally and treat the task at hand seriously. Project grades are determined by the quality of the analysis, the recommendation, and the presentations. However, at the end of the semester, each team member will be asked to evaluate the other members of the group. I will take group member evaluations of individual behavior into account when I assign points for the project and for participation.

Important Dates
February 27 (Tuesday) – test 1
March 7 & 9 – Spring break – No class
April 13 (Thursday) – Easter break – No class
April 24 & 26 – valuation presentations
May 4 (Tuesday of Finals week) – test 2 – 10:30 a.m. to 12:20 p.m.
Topics Covered

1. Introduction to Valuation
   - General Ideas, Valuation methods
   - Review of the time value of money
   - Valuation process, company analysis, communicating the results (i.e., valuation reports)

2. Classifying companies and evaluating their financial performance (Two chapters from a book by Higgins, which will be posted to Canvas)
   - Dividing up the analysis universe
   - Basic financial statements, sources and uses of cash
   - Some ratio analysis

3. Estimating company costs of capital – Chapter 4
   - Cost of Equity, cost of debt, and the weighted average cost of capital
   - Estimation issues

4. Dividend discount model - review

5. Forecasting Cash Flows – Chapter 6
   - Pro Forma financial statements, forecasting cash flows to the firm and to equity, estimating growth rates

6. Enterprise valuation (putting it all together) – Chapter 9

7. Comparables/Market based valuation/Relative Valuation - Chapter 8
   - First principles
   - Equity Multiples (e.g., P/E ratio)
   - Total Value Multiples (e.g., Enterprise Value to EBITDA multiples)
   - Application/strengths and weaknesses

8. Valuation in a private equity setting – chapter 10
Group Project Milestones (I may periodically ask you to present some of your findings in class):

Step 1: Pick your companies
   o The companies are to be publicly traded
   o At least one firm is to be a manufacturing firm
   o At least one firm is to be a service firm
   o Avoid companies that have had losses for more than five consecutive years
   o Avoid financial services firms
   o Companies are to be approved by me
   o Provide a one page overview of your company

Step 2: Industry Analysis
   o Provide an overview of current trends in your industry

Step 3: Ratio Analysis
   o Conduct a ratio analysis of your companies

Step 4: Required Rate of Return
   o Select a group of companies similar to yours
   o Compute the costs of debt and equity for your companies
   o Compute the weighted-average cost of capital for your companies
   o Prepare a summary of the steps taken in your WACC calculation

Step 5: Free Cash Flow to the Firm Valuation Model
   o Compute the Free Cash Flows to the Firm for your companies
   o Determine the drivers of value for each company
   o Perform a sensitivity analysis to determine how sensitive the values are to your input assumptions

Step 6: Free Cash Flow to Equity Valuation Model
   o Compute the Free Cash Flows to Equity for your companies
   o Determine the drivers of value for each company
   o Perform a sensitivity analysis to determine how sensitive the values are to your input assumptions
   o Perform a sensitivity analysis to determine how sensitive the values are to your input assumptions

Step 7: Comparables/Relative Valuation
   o Evaluate your companies against a list of comparable companies (“comps”)
   o Your list of comparable companies is to be approved by me.
   o Choose at least two multiple approaches you believe to be the most appropriate

Step 8: Final Value Estimation
   o Synthesize the information from steps 1 to 3
   o Reconcile the values from Steps 4 through 6
   o Determine a range of values
   o Make a specific Buy, Sell or Hold recommendation for your stocks.