FINC 684-81 Financial Marketing

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FINC 684-81: Financial Modeling  
First Summer Session 2011 (5/9 – 6/18/12)

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Office:    Stephen and Dolores Smith Hall - 221  
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Office Hours: By appointment  
Class Meets:    Monday, Wednesday, 6:00-9:15 pm, Smith G28

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

Course Description  
This course is designed to develop the students' ability to integrate spreadsheets into the identification, analysis and solution stages of financial problems. Through this course, students will gain a conceptual as well as practical understanding of financial models and will be equipped with the spreadsheet skills needed to engage in financial modeling.

Learning Outcomes:  
Upon successful completion of this class, you will be able to  
• Apply a financial spreadsheet to a wide variety of financial models;  
• Generate using excel a set of pro forma financial statements for a business;  
• Use simple excel database commands such as vlookup, hlookup, offset, index, and match;  
• Use excel finance functions including pv, fv, NPV, IRR, yield, and price; and  
• Apply various excel add-ins to financial problems, including solver, goal seek and @RISK.

Course Prerequisites  
Prerequisite: FINC 600 and a working knowledge of Microsoft Excel

Method  
This class meets twice a week on a Monday - Wednesday schedule. Some time will be spent reviewing or learning the financial or statistical technique that will be modeled using a financial spreadsheet. Some days you will have time to work in class on models and assignments. Do not expect to be able to complete all the assignments during the class period. You are expected to come to class prepared, having read all relevant materials and having at least attempted the day’s spreadsheet assignment. It is important that you come to class. Time in each class will be spent introducing a new excel tip, technique, or some new excel function.

Course Materials  
Supplement: Any managerial finance text (to be used as a reference).  
Blackboard: We will use the electronic blackboard extensively throughout the semester. Assignments, practices sets and exams will be posted here. Please check it regularly.
Exams and Grades

Your course grade will be determined by your class attendance and participation, performance on homework assignments, and performance on two examinations. The weights will be assigned as follows:

<table>
<thead>
<tr>
<th>Activity</th>
<th>Date</th>
<th>Weight (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework Assignments</td>
<td>(see below)</td>
<td>30</td>
</tr>
<tr>
<td>Mid-term Exam</td>
<td>Wednesday May 30\textsuperscript{th}</td>
<td>30</td>
</tr>
<tr>
<td>Final Exam</td>
<td>Monday June 18\textsuperscript{th}</td>
<td>40</td>
</tr>
</tbody>
</table>

**Homework Assignment Policies:**

Late homework assignments will receive partial credit up to one week late.

It is a requirement that you complete all of the homework assignments before the last day of regular class.

Homework assignments are to be submitted via Blackboard.

You can work on homework assignments in **groups of two or three** if you’d like. All group member names should be included in the filename and your working e-mails should be on the first tab of each workbook.

File Naming Convention – The spreadsheets that you submit must be named appropriately to receive credit. The file naming convention is **A#LastnameLastnameLastnameContent** where A refers to the assignment, # is the actual number (i.e. 1) followed by the last names of all of the group members and Content helps you remember what the assignment covered. For example if you are submitting assignment #1, name it:

*A1SmithJonesGonzales Hockey Assignment.xls*

If you do not name the file this way you will not receive credit.

**EXAMS**

The two exams will be individual exams. Each may have a take-home portion. During each exam, you will be asked to demonstrate your knowledge of financial applications as well as your spreadsheet skills.

**Make-up Exams:**

Make-up exams will be given only to students who receive permission from me in advance of the test date. Students will be required to provide documentation regarding excused absences.

**Self-Direction Aspect of the Class**

Some of you have strong finance skills. Some have strong Excel skills. Some have taken most of the Finance courses offered at Xavier while others have not. I will cover a wide variety of finance problems in a computing setting but will not always go into a lot of detail while covering the material. You are responsible for figuring out what you need to work on. It may be that you need to spend more time reading finance textbooks and supplemental readings or you may need to spend more time with the Excel handbook and Excel help menu or you may need to ask me more questions. Due to the wide variety of skills in the class I rely on you to determine what you need help on and will be glad to deliver it.
Software
The spreadsheet package we will be using this semester is Microsoft Excel which is available on the machines in the computer labs. We will also use @RISK, a spreadsheet simulation package which will also be available in the computer labs and can be downloaded to your personal computer.

Academic Misconduct
Xavier’s policy is detailed at:

http://www.xu.edu/registrar/ugrd_policies.html#Academic honesty

Miscellaneous Notes:

There will be no class on Memorial Day May 28th.

Although the only finance prerequisite for this course in FINC 600, the more finance, accounting, and information systems courses you’ve had, the more you will get out of the class. If you have had additional courses, I ask that you share your expertise with your classmates by assisting them with concepts and problems.

The recommended study/working time for this course is six (6) hours per week outside of class. Simply completing the course assignments will not guarantee you a good grade. You will have to demonstrate your knowledge on exams. That means reviewing, trying the techniques in other settings, brushing up on your finance knowledge and working through suggested exercises and practice sets. If you are unable or unwilling to make this sort of time commitment to this course, I recommend that you withdraw and take the class another time. Computer skills cannot be acquired by reading through assignments, watching someone else do them, or by cramming the night before an exam. You will learn by doing and that will take time.

One of your goals for this class should be to improve your finance and spreadsheet skills beyond your current abilities. Some of you are very familiar with spreadsheets while others are not as familiar. Regardless of your current level of skill use this course as an opportunity to get better at using spreadsheets.

You will be expected to ask questions during class. An absence of questions will be taken as a sign of complete understanding. Take an active role in your education. If you do not understand how to do something, it’s up to you to take steps to remedy the situation.

Course Outline – The outline below is a rough outline of the semester. Because we will spend a lot of time in class working through practice sets and assignments, the outline is only an approximation and is subject to change.
## TENTATIVE CLASS SCHEDULE

<table>
<thead>
<tr>
<th>CLASS #</th>
<th>Date</th>
<th>Assignment Due</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>W 5/9</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>M 5/14</td>
<td>Assignment 1 Generating Descriptive Statistics</td>
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<td>3</td>
<td>W 5/16</td>
<td>Assignment 4 Modeling Financial Statements</td>
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<td>4</td>
<td>M 5/21</td>
<td>Assignment 5 Valuing a Happy Meal (MCD)</td>
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<td>5</td>
<td>W 5/23</td>
<td>Assignment 2 Loan Amortization</td>
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<td>6</td>
<td>W 5/30</td>
<td><strong>Midterm</strong> Exam &amp; Assignment 9 Regression Analysis</td>
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<td>7</td>
<td>M 6/4</td>
<td></td>
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<tr>
<td>8</td>
<td>W 6/6</td>
<td>Assignment 6 Time Series Analysis and Assignment 10 Capital Budgeting</td>
</tr>
<tr>
<td>9</td>
<td>M 6/11</td>
<td>Assignment 8 Displaying Financial Information and Assignment 7 Valuing Bonds</td>
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<td>10</td>
<td>W 6/13</td>
<td>Assignment 11 Monte Carlo Simulation</td>
</tr>
<tr>
<td>11</td>
<td>M 6/18</td>
<td><strong>Final Exam</strong> &amp; Assignment 12 Derivatives</td>
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</tbody>
</table>
Finance Topic List

• Review of / introduction to Finance and Logical Functions in Excel
• Generating descriptive statistics
  o Built-in statistics functions
  o Data Analysis Toolpak
  o Autofilter and the Subtotal Function
• A Basic Financial Model – Loan Amortization
  o Spreadsheet structure
  o Building a general model
  o Blocking input errors with Data Validation
• Modeling Financial Statements
  o Preparing *Pro Forma* Financial Statements
  o Making a balance sheet “balance.”
  o How excel resolves circularity
• Valuing a Business
  o Forecasting free cash flow (FCFF vs. FCFE)
  o Estimating the horizon/terminal value
  o Determining *enterprise value*
  o Estimating the value of equity
• Time Series Analysis
  o Modeling a mean reverting process - the case of crude oil prices
  o Moving averages
  o Autoregressive processes
• Bond Analysis
  o Introduction to the Price and Yield Function
  o XIRR and XNPV v. IRR and NPV
• Charting
  o Displaying financial information through graphs
  o Choosing the right chart
• Regression Analysis
  o Simple and multiple regression
  o Determining significance
  o Regression models in forecasting.
• Capital Budgeting
  o Building a flexible model
  o Sensitivity analysis using Data Tables
• Markowitz Portfolio Selection
• Derivatives
  o Valuing puts and calls
  o Profit-loss graphs for option trading strategies
• Monte Carlo Simulation using @RISK
  o Types of simulation models
  o Modeling risk
  o Simulation in a capital budgeting setting
  o Simulating financial statements
• Miscellaneous topics (time permitting)
Excel Topics

Here are some of the topics/functions that will be woven into the class during the course of the semester.

- Logical functions (IF, AND, OR)
- Lookup functions (VLOOKUP, HLOOKUP, OFFSET, INDEX, MATCH)
- Conditional functions (COUNTIF, COUNTIFS, SUMIF, SUMIFS, etc.)
- Finance functions (various as needed)
- Subtotal function
- Array formulas
- Sorting
- Auto Filter
- Charting
- Data Tables
- Statistics functions
- Optimization
- Macros
- Date functions
- Static and dynamic ranges
- Data validation
- Ranking and ordering
- Naming conventions
- Spreadsheet protection and safety