Course Description:
This course makes the connection between textbook finance and solving real-world business problems. The course builds on material covered in FINE301 and other introductory business classes. This course translates textbook finance into a practical set of tools for solving real-world business problems. The course provides a patterned map for solving common financial models with spreadsheets. Each model will be examined and the student will be guided step-by-step through the model, showing how it can be solved in MS Excel. Areas covered include corporate finance problems, standard portfolio problems, fixed income models, and option pricing. Students must have a good grasp of Excel before taking this class.

Course Goals
This course is designed to teach students the elements of:
- Data Analysis; Spreadsheet models
- Corporate financial models
- Fixed income models
- Portfolio theory models; Optimization
- Derivatives models
- Simulation analysis

Student Learning Objectives
As the result of this course students should be able to:
1. Execute the 7-step modeling process in any relevant business problem
2. Improve on their quantitative skills
3. Become proficient spreadsheet users – Excel in particular
4. Get familiar with major types of models in finance
Course Materials
Text: Simon Benninga
   Financial Modeling
   The MIT Press, Third Edition

Class notes: Most of the teaching material including lecture notes will be available on Sakai (http://sakai.rutgers.edu). I will not bring extra lecture notes to class, so please, download the lecture notes and review them before coming to class.

Try to do the readings before class and you will find it easier to understand the lectures in class.

Excel: The class extensively uses Microsoft Office Excel. Computer labs and classrooms have Microsoft Office Excel version 2013. The textbook uses Microsoft Office Excel 2010. It is fine if you have Microsoft Office Excel 2007, 2010, 2013, 2016, or Mac versions installed, or will use Citrix for assignments. There shouldn’t be any problems with using either version. The only difference between different versions for the purpose of this class is where you find things.

Grading
Practice Problems: Practice problems are aimed to help you grasp the main concepts of the course and study for exams. Practice problems are graded based on the student’s effort. Either full credit or zero credit will be assigned for each practice problem. Practice problems that are not of satisfactory quality (no effort shown) will receive no credit; Practice problems that are of satisfactory quality (good effort shown) will receive full credit.

Exams: You will be given four take-home exams. All exams will consist of specific problems that you will have to solve using Excel. You will be required to turn in an electronic file containing your solutions via Sakai. Exams are due on time.

Grading weights:

Practice Problems: 20%
Take-Home Exam 1: 20%
Take-Home Exam 2: 20%
Take-Home Exam 3: 20%
Take-Home Exam 4: 20%

Bloomberg Workshops: You are given a unique chance to learn Bloomberg terminals for free. Students are required to attend Bloomberg Workshops administered by the School. Students are required to attend a minimum of five workshops: four core topics and any one market sector topic of student’s choice.

Four Required Bloomberg Workshops include:
   • Getting Started
   • Bloomberg News
   • Market Monitors & Launchpad
   • API Bloomberg Data in Excel (pay special attention here!)

One Required Bloomberg Workshop from the following list:
   • Equity Essentials
   • Fixed Income Essentials
FX Essentials
Commodity Essentials

The schedule of Workshops for each topic will be posted on Sakai and the Finance Lab website: http://fmlab.rutgers.edu/. The Workshops are administered in BSB-106. Each Workshop is usually no longer than an hour. For each Workshop attended, you are required to submit to me a sheet with your name, Workshop topic, and signed by the Lab Coordinator Ralph Giraud.

Workshops themselves are not graded; however, there are penalties for missing them:

Missing 1 workshop – 5% of the final grade penalty
Missing 2 workshops – 10% of the final grade penalty
Missing 3 workshops – 15% of the final grade penalty
Missing 4 workshops – 20% of the final grade penalty
Missing 5 workshops – 25% of the final grade penalty

Obtaining the Bloomberg Certification or passing any of the Bloomberg Exams is not a requirement for this class. However, after workshops you will have all the information to do so and could add a nice line to your resume. If you already have Bloomberg Certification, you do not have to attend any of the workshops, just show me the proof.

For more information, please, contact the Lab Coordinator, Ralph Giraud rg701@camden.rutgers.edu or the Finance Lab website: http://fmlab.rutgers.edu/.

Extra Credit: 1 extra credit point will be awarded for students who bring proof of completed class evaluations on the Student Instructional Rating Survey (SIRS) at the end of the semester.

Final Grades: The class’s raw scores may be adjusted up until the class average G.P.A. is consistent with the school policy on grade standard.

All assignments are due on the date specified unless written authorization is received from the instructor before the time the assignment is due. Only excuses officially recognized by the university will be accepted. Late assignments will not be accepted without prior approval.

All assignments are individual. The School's Honor Code applies. Examples of the violations of the Rutgers Honor Code include, but are not limited to:

1. Handing in someone else’s work as your own. This constitutes plagiarism.
2. Providing your work for someone else to hand in as their own. This includes e-mailing your file to someone.
3. Explicitly telling another student how to do the assignment in a way that hinders their learning of the material.

All assignments are strictly individual. The statement about Academic Integrity is below.

90-100% .............................. A
85-89% .............................. B+
80-84% .............................. B
75-79% .............................. C+
70-74% .................................... C
65-69% .................................... D
Less than 65% ......................... F

Class Attendance
Financial Modeling is an applied course. Therefore, regular class attendance is essential and expected. Class attendance will be recorded during each lecture. Each lecture is considered to be 1 hour 20 minutes. There are TWO lectures each Friday, so attendance will be taken twice on each Friday. I usually record attendance at the beginning of the lecture, so, please, be on time. Please, use your name placard for attendance.

If you are absent while I am taking the attendance because you are late for class, no attendance will be awarded later for that lecture even if you show up before the end of the lecture.

There are rewards/penalties for attendance:
Missing 0 lectures or missing lectures with valid excuses only – +1% extra credit to the final grade
Missing 1-2 lectures (with no valid excuse) – no penalty
Missing 3-4 lectures (with no valid excuse) – 1% deduction off the final grade
Missing 5-6 lectures (with no valid excuse) – 2% deduction off the final grade
Missing 7-8 lectures (with no valid excuse) – 3% deduction off the final grade
Missing 9-10 lectures (with no valid excuse) – 4% deduction off the final grade
Missing 11-12 lectures (with no valid excuse) – 5% deduction off the final grade
Missing 13-14 lectures (with no valid excuse) – 6% deduction off the final grade
Missing 15 lectures or more (with no valid excuse) results in receiving an F.
Valid excuses are doctor notes and family emergencies (funerals and marriages).

You are welcome to interrupt me at any time with questions and comments. Active class participation is welcome.

Statement about Academic Integrity
This class will be conducted in full accordance with Rutgers’ policies about academic integrity including, but not limited to, the Code of Academic Integrity and the Student Code of Conduct. These can be found at: http://academicintegrity.rutgers.edu/policy-on-academic-integrity, http://studentconduct.rutgers.edu/files/documents/UCSCJuly2011.pdf, and http://studentconduct.rutgers.edu/files/documents/PolicyAgainstVerbalAssault.pdf.

“Academic integrity requires that all academic work be wholly the product of an identified individual or individuals. Joint efforts are only legitimate when the assistance of others is explicitly acknowledged…The principles of academic integrity entail simple standards of honesty and truth. Each member of the university has a responsibility to uphold the standards of the community and to take action when others violate them…Students are responsible for knowing what the standards are and for adhering to them. Students should also bring any violations of which they are aware to the attention of their instructors.”

Learning Disabilities
Under the Americans with Disability Act and the Section 504 of the Rehabilitation Act, if you have a disability, you may have the right to an accommodation; however, the right is contingent upon you taking certain steps. Students who are seeking accommodation because of a disability are directed to the website
http://learn.camden.rutgers.edu/disability-services or they can contact the Camden campus Disability Coordinator Tim Pure at tpure@camden.rutgers.edu or by phone at (856) 225-6442.

At the beginning of the semester, please provide me with a copy of your approved ODS accommodation form. I am committed to working with the Camden campus Disability Coordinator to ensure that I provide you with all approved accommodations.

**PLEASE NOTE:** For students with any type of accommodation, please, provide me with the signed notice from Tim Pure at least three days before the exam.

**Specific Course Policies**

1. Please be on time.
2. Please turn off cell phones and other distracting devices during class.
3. Please do not use your laptop in class unless instructed otherwise.
4. The class will have no other extra credit assignments.

Finally, I welcome your suggestions at all times and hope you enjoy the course.

**Class Schedule**

The following class schedule reflects my best estimate of the time required to cover each topic. However, I reserve the right to make any necessary changes to the schedule as the semester progresses. All chapter references are to the textbook by Simon Benninga, Financial Modeling, 3rd edition. Topics in square brackets will be covered only if time permits.
<table>
<thead>
<tr>
<th>Meeting #</th>
<th>Date</th>
<th>Day</th>
<th>Chapter</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Jan 22</td>
<td>Friday</td>
<td>Notes</td>
<td>Course Introduction</td>
</tr>
<tr>
<td>2</td>
<td>Jan 22</td>
<td>Friday</td>
<td>Chapter 1, 35</td>
<td>Basic Calculations in Excel</td>
</tr>
<tr>
<td>3</td>
<td>Jan 29</td>
<td>Friday</td>
<td>Chapter 2</td>
<td>The WACC Model</td>
</tr>
<tr>
<td>4</td>
<td>Jan 29</td>
<td>Friday</td>
<td>Chapter 2</td>
<td>The WACC Model</td>
</tr>
<tr>
<td>5</td>
<td>Feb 05</td>
<td>Friday</td>
<td>Chapters 3, 4</td>
<td>Financial Statement Modeling</td>
</tr>
<tr>
<td>6</td>
<td>Feb 05</td>
<td>Friday</td>
<td>Chapters 3, 4</td>
<td>Financial Statement Modeling</td>
</tr>
<tr>
<td>7</td>
<td>Feb 12</td>
<td>Friday</td>
<td>Chapters 5, 6</td>
<td>Financial Statement Modeling</td>
</tr>
<tr>
<td>8</td>
<td>Feb 12</td>
<td>Friday</td>
<td>Chapter 6</td>
<td>Leasing</td>
</tr>
<tr>
<td>9</td>
<td>Feb 19</td>
<td>Friday</td>
<td>Chapters 31, 34</td>
<td>Matrices</td>
</tr>
<tr>
<td>10</td>
<td>Feb 19</td>
<td>Friday</td>
<td>Chapter 25</td>
<td>The Bond Model: Bond Basics</td>
</tr>
<tr>
<td>11</td>
<td>Feb 26</td>
<td>Friday</td>
<td>Chapters 25, 27</td>
<td>[The Bond Model: Duration, Convexity]</td>
</tr>
<tr>
<td>12</td>
<td>Feb 26</td>
<td>Friday</td>
<td>Part IV</td>
<td>The Bond Model: The Yield Curve</td>
</tr>
<tr>
<td>13</td>
<td>Mar 04</td>
<td>Friday</td>
<td>Chapter 27</td>
<td>The Bond Model: The Term Structure</td>
</tr>
<tr>
<td>14</td>
<td>Mar 04</td>
<td>Friday</td>
<td>Part IV</td>
<td>The Bond Model: Option Adjusted Spread Pricing</td>
</tr>
<tr>
<td>15</td>
<td>Mar 11</td>
<td>Friday</td>
<td>Part IV</td>
<td>The Bond Model: Callable Bonds</td>
</tr>
<tr>
<td>16</td>
<td>Mar 11</td>
<td>Friday</td>
<td>Chapter 28</td>
<td>The Bond Model: Default Risk Modeling</td>
</tr>
<tr>
<td>Mar 18</td>
<td>Friday</td>
<td>No Class</td>
<td>SPRING BREAK</td>
<td></td>
</tr>
<tr>
<td>Mar 18</td>
<td>Friday</td>
<td>No Class</td>
<td>SPRING BREAK</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>Mar 25</td>
<td>Friday</td>
<td>Notes</td>
<td>The Portfolio Model: The Basics</td>
</tr>
<tr>
<td>18</td>
<td>Mar 25</td>
<td>Friday</td>
<td>Chapter 10</td>
<td>The Portfolio Model: Variance-Covariance Matrix</td>
</tr>
<tr>
<td>19</td>
<td>Apr 01</td>
<td>Friday</td>
<td>Chapter 9</td>
<td>The Portfolio Model: Efficient Portfolios</td>
</tr>
<tr>
<td>20</td>
<td>Apr 01</td>
<td>Friday</td>
<td>Chapter 9</td>
<td>The Portfolio Model: Efficient Portfolios</td>
</tr>
<tr>
<td>21</td>
<td>Apr 08</td>
<td>Friday</td>
<td>Chapter 9</td>
<td>The Portfolio Model: Efficient Portfolios</td>
</tr>
<tr>
<td>22</td>
<td>Apr 08</td>
<td>Friday</td>
<td>Chapter 12</td>
<td>The Portfolio Model: Short-Sale Restrictions</td>
</tr>
<tr>
<td>23</td>
<td>Apr 15</td>
<td>Friday</td>
<td>Chapters 16, 19</td>
<td>The Option Model: Black-Scholes</td>
</tr>
<tr>
<td>24</td>
<td>Apr 15</td>
<td>Friday</td>
<td>Chapter 17</td>
<td>The Option Model: Binomial Pricing</td>
</tr>
<tr>
<td>25</td>
<td>Apr 22</td>
<td>Friday</td>
<td>Chapters 17, 22, 23</td>
<td>The Option Model: Binomial Pricing, Simulations</td>
</tr>
<tr>
<td>26</td>
<td>Apr 22</td>
<td>Friday</td>
<td>Chapters 22, 23</td>
<td>The Option Model: Simulations</td>
</tr>
<tr>
<td>27</td>
<td>Apr 29</td>
<td>Friday</td>
<td>Notes</td>
<td>[Forwards]</td>
</tr>
<tr>
<td>28</td>
<td>Apr 29</td>
<td>Friday</td>
<td>Notes</td>
<td>[Swaps, Mortgage-Backed Securities]</td>
</tr>
</tbody>
</table>