RUTGERS
School of Business | Camden

Financial Modeling
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Spring 2018

Instructor: Professor Vadim Balashov, Ph.D.

E-mail: vadim.balashov@rutgers.edu

Office: BSB-217 (2nd floor)

Office Phone: (856) 225-6706

Office Hours:
Friday – 12:00PM-12:30PM
or by appointment

Sakai Site: http://sakai.rutgers.edu

Class Meeting Day & Time:
Friday – 12:30PM-3:20PM

Class Location: BSB-335

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 or Later 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.

Bloomberg Workshops include:

- Getting Started
- Economic Indicators
- Currencies
- Fixed Income I & II
- Equities I & II

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.

Meeting #	*Date*	*Day*	*Chapter*	*Topic*
1	Jan 19	Friday	Notes	Course Introduction
2	Jan 19	Friday	Chapter 1, 35	Basic Calculations in Excel
3	Jan 26	Friday	Chapter 2	The WACC Model
4	Jan 26	Friday	Chapter 2	The WACC Model
5	Feb 02	Friday	Chapters 3, 4	Financial Statement Modeling
6	Feb 02	Friday	Chapters 3, 4	Financial Statement Modeling
7	Feb 09	Friday	Chapters 5, 6	Financial Statement Modeling
8	Feb 09	Friday	Chapter 6	Leasing
9	Feb 16	Friday	Chapters 31, 34	Matrices
10	Feb 16	Friday	Chapter 25	The Bond Model: Bond Basics
11	Feb 23	Friday	Chapters 25, 27	[The Bond Model: Duration, Convexity]
12	Feb 23	Friday	Part IV	The Bond Model: The Yield Curve
13	Mar 02	Friday	Chapter 27	The Bond Model: The Term Structure
14	Mar 02	Friday	Part IV	The Bond Model: Option Adjusted Spread Pricing
15	Mar 09	Friday	Part IV	The Bond Model: Callable Bonds
16	Mar 09	Friday	Chapter 28	The Bond Model: Default Risk Modeling
	Mar 16	**Friday**	**No Class**	**SPRING BREAK**
	Mar 16	**Friday**	**No Class**	**SPRING BREAK**
17	Mar 23	Friday	Notes	The Portfolio Model: The Basics
18	Mar 23	Friday	Chapter 10	The Portfolio Model: Variance-Covariance Matrix
19	Mar 30	Friday	Chapter 9	The Portfolio Model: Efficient Portfolios
20	Mar 30	Friday	Chapter 9	The Portfolio Model: Efficient Portfolios
21	Apr 06	Friday	Chapter 9	The Portfolio Model: Efficient Portfolios
22	Apr 06	Friday	Chapter 12	The Portfolio Model: Short-Sale Restrictions
23	Apr 13	Friday	Chapters 16, 19	The Option Model: Black-Scholes
24	Apr 13	Friday	Chapter 17	The Option Model: Binomial Pricing
25	Apr 20	Friday	Chapters 17, 22, 23	The Option Model: Binomial Pricing, Simulations
26	Apr 20	Friday	Chapters 22, 23	The Option Model: Simulations
27	Apr 27	Friday	Notes	[Forwards]
28	Apr 27	Friday	Notes	[Swaps, Mortgage-Backed Securities]