



Financial Modeling
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Spring 2025
ASYNCHRONOUS ONLINE INSTRUCTION

Instructor: Professor Vadim Balashov, Ph.D.

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Office Phone: (856) 225-6706

Office Hours:

Mondays, Wednesdays – 3:30 PM

or by appointment

Please, let me know if you are coming

Canvas Site: <https://canvas.rutgers.edu/>

Class Meeting Day & Time:

Class Location: online asynchronous instructions

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 Canvas (<https://canvas.rutgers.edu/>).

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 2016. 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 Canvas. 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%

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.

If, for a university approved reason, you cannot take an exam at the scheduled time you must give the professor written notice at least one week in advance so that other arrangements can be made. If the situation does not allow for advance notification (for example, emergency hospitalization), contact the professor as soon as possible after a missed exam. Make-up exams for non-university approved reasons are not guaranteed. The professor reserves the right to request written documentation to support your absence (such as a doctor's note, an obituary, or military orders).

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

Communication

All communications to students will be done using the Rutgers email address provided to you. Please forward your Rutgers email to your personal email if necessary. Not checking your Rutgers email is not an excuse for missing any communications.

Canvas

Canvas is the learning management system used for this course. Posted will be the syllabus, resources, Power Point slides, announcements, guides, etc. To access this system, go to <http://canvas.rutgers.edu> log in, and click on the course in the dashboard. For technical support 833-648-4357 or help@camden.rutgers.edu.

Artificial Intelligence Use

You are welcome/expected to use generative AI tools (e.g. ChatGPT, Dall-e, etc.) in this class as doing so aligns with the course learning goals. You are responsible for the information you submit based on an AI query (for instance, that it does not violate intellectual property laws, or contain misinformation or unethical content). Your use of AI tools must be properly documented and cited in order to stay within university policies on academic honesty.

Class Attendance

The course is taught in an online setting. Each week, I will offer online review sessions via Zoom/Webex to go over covered material, summarize the chapter(s), and answer any questions. Please, request a session in advance via e-mail if you need one! Attending such sessions is optional but is highly recommended if you are struggling in the class or have questions/concerns.

Statement About Academic Integrity

The Academic Integrity policy can be found at <http://studentconduct.rutgers.edu/student-conduct-processes/academic-integrity/>.

Students are responsible for understanding the principles of academic integrity and abiding by them in all aspects of their work at the University. Students are also encouraged to help educate fellow students about

academic integrity and to bring all alleged violations of academic integrity they encounter to the attention of the appropriate authorities.

Academic Integrity means that you (the student) must:

- properly acknowledge and cite all use of the ideas, results, or words of others,
- properly acknowledge all contributors to a given piece of work,
- make sure that all work submitted as your own in a course activity is your own and not from someone else
- obtain all data or results by ethical means and report them accurately
- treat all other students fairly with no encouragement of academic dishonesty

Adherence to these principles is necessary in order to ensure that:

- everyone is given proper credit for his or her ideas, words, results, and other scholarly accomplishments
- all student work is fairly evaluated, and no student has an inappropriate advantage over others
- the academic and ethical development of all students is fostered
- the reputation of the University for integrity is maintained and enhanced.

Failure to uphold these principles of academic integrity threatens both the reputation of the University and the value of the degrees awarded to its students.

Student Code of Conduct

Rutgers University-Camden seeks a community that is free from violence, threats, and intimidation; is respectful of the rights, opportunities, and welfare of students, faculty, staff, and guests of the University; and does not threaten the physical or mental health or safety of members of the University community, including in classroom space. As a student at the University, you are expected adhere to the Code of Student Conduct. To review the code, go to the Office of Community Standards: <https://deanofstudents.camden.rutgers.edu/student-conduct>.

Note that the conduct code specifically addresses disruptive classroom conduct, which means "engaging in behavior that substantially or repeatedly interrupts either the instructor's ability to teach or student learning. The classroom extends to any setting where a student is engaged in work toward academic credit or satisfaction of program-based requirements or related activities."

Violations of the Student Code of Conduct should be reported to the Dean of Students office deanofstudents@camden.rutgers.edu or 856-225-6050.

If the violation is immediate and a potential threat is a concern, call the Rutgers-Camden police at 856-225-6111

Learning Disabilities

The University is committed to supporting the learning of all students and faculty will provide accommodations as indicated in a Letter of Accommodation issued by the Office of Disability Services (ODS). If you have already registered with ODS and have your letter of accommodations, please share this with me early in the course. If you have or think you have a disability (learning, sensory, physical, chronic health, mental health or attentional), please contact <https://success.camden.rutgers.edu/disability-services>.

Accommodations will be provided only for students with a letter of accommodation from ODS. Their services are free and confidential. Letters only provide information about the accommodation, not about the disability or diagnosis.

Erin G. Leuthold, MS Ed
(856) 225-2717
Rutgers-Camden Disability Services:
311 North Fifth Street, Camden, NJ 08102-1405
Web page: <https://ods.rutgers.edu/contact-ods/rutgers-university-camden>
E-mail: disability-services@camden.rutgers.edu

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.

<i>Meeting #</i>	<i>Week</i>	<i>Chapter</i>	<i>Topic</i>
1	Week 01	Notes	Course Introduction
2	Week 01	Chapter 1, 35	Basic Calculations in Excel
3	Week 02	Chapter 2	The WACC Model
4	Week 02	Chapter 2	The WACC Model
5	Week 03	Chapters 3, 4	Financial Statement Modeling
6	Week 03	Chapters 3, 4	Financial Statement Modeling
7	Week 04	Chapters 5, 6	Financial Statement Modeling
8	Week 04	Chapter 6	[Leasing]
9	Week 05	Chapters 31, 34	Matrices
10	Week 05	Chapter 25	The Bond Model: Bond Basics
11	Week 06	Chapters 25, 27	[The Bond Model: Duration, Convexity]
12	Week 06	Part IV	The Bond Model: The Yield Curve
13	Week 07	Chapter 27	The Bond Model: The Term Structure
14	Week 07	Part IV	The Bond Model: Option Adjusted Spread Pricing
15	Week 08	Part IV	The Bond Model: Callable Bonds
16	Week 08	Chapter 28	The Bond Model: Default Risk Modeling
	Week 09	NO CLASS	SPRING BREAK
17	Week 10	Notes	The Portfolio Model: The Basics
18	Week 10	Chapter 10	The Portfolio Model: Variance-Covariance Matrix
19	Week 11	Chapter 9	The Portfolio Model: Efficient Portfolios
20	Week 11	Chapter 9	The Portfolio Model: Efficient Portfolios
21	Week 12	Chapter 9	The Portfolio Model: Efficient Portfolios
22	Week 12	Chapter 12	The Portfolio Model: Short-Sale Restrictions
23	Week 13	Chapters 16, 19	The Option Model: Black-Scholes
24	Week 13	Chapter 17	The Option Model: Binomial Pricing
25	Week 14	Chapters 17, 22, 23	The Option Model: Binomial Pricing, Simulations
26	Week 14	Chapters 22, 23	The Option Model: Simulations
27	Week 15	Notes	[Forwards]
28	Week 15	Notes	[Swaps, Mortgage-Backed Securities]

