

**Economics 328: Investment Finance**  
**Fall 2018**  
**Tuesdays and Thursdays 10:20-11:40am in PAC 107**

**Professor:** Abigail Hornstein  
**Office:** 309 PAC  
**Email:** [ahornstein@wesleyan.edu](mailto:ahornstein@wesleyan.edu)<sup>1</sup>  
**Phone:** 860-685-3049  
**Office Hours:** Tuesdays and Wednesdays 2-3:30pm<sup>2</sup>  
**Course Assistant:** Maya Harlan and Mikey Yablong; optional CA sessions scheduled for weeks when problem sets are assigned (Mondays, 8-9pm, PAC 125)

---

**General Course Information**

**Purpose:** This course investigates theoretical and empirical aspects of investment finance. The primary topics covered in the course are the following: portfolio and arbitrage pricing theory, capital asset pricing model (CAPM), term structure of interest rates, bond management, and pricing of derivative securities. Students will explore the potential and limitations of financial theory in dealing with real-world problems.

**Assignments and Credit:**

Class participation	5%
Problem Sets (7 of 8)	10%
Group reports (3)	10%
Exam 1	25%
Exam 2	25%
Research project	
- topic selection	1%
- final paper	24%

**Readings:** The required text is Bodie, Kane, and Marcus, *Investments*, 11<sup>th</sup> Edition, ISBN 978-1-259-27717-7.<sup>3</sup> Chapters 1-3 and 17 are available through the course moodle. A hard copy of the textbook (9th edition) is available at the Olin reserve desk. Chapter numbers in the course schedule refer to the current edition of the text (11<sup>th</sup>).

*Advance notice: exam questions, especially qualitative questions, will be heavily skewed towards current issues.* I therefore expect you to read a business-oriented newspaper such as the *Wall Street Journal* or to seek out related articles in a more mainstream newspaper such as *The New York Times*. Additional short items may be handed out in class and/or made available on the course moodle.

**Grading Policy:** I will use the “Dear Abby” scale for grading: 0, 1, 2 (the “hurdle” level), 3, 4 (minor problems), or 5. To find your letter grade equivalent, divide by the number of questions to get your average score on the 0-5 scale. Then convert according to: 4.5=A, 4.0=A-, 3.7=B+, 3.3=B, 3.0=B-, 2.7=C+.

---

<sup>1</sup> Emails received before 7pm on weekdays should receive a same day response.

<sup>2</sup> Exception: no office hours on Wednesday, September 19 (Yom Kippur).

<sup>3</sup> If students purchase international editions of our textbook, please note that the international editions of finance textbooks often have different examples and different questions (and this is not a problem).

2.3=C, 2.0=C-, 1.7=D+, 1.3=D, 1.0=D-.

Problem sets will receive a check minus, check, or check plus. The 0-5 scale equivalents are: check plus, 4.5, check 3.4, and check minus 2.3. Late problem sets will receive a grade of 1.0 irrespective of the quality of the work shown.

**Class Participation:** Class attendance is expected. You are expected to complete all assigned readings before class. I will use our class-time to focus on the most important or complex topics.

If you know that you will have to be late and/or leave early, please let me know in advance. For every absence in excess of 3 not excused by a class dean (i.e., due to a health or family emergency), your class participation grade will be lowered by a full letter (i.e., if you miss four class sessions and would otherwise have received an A for class participation, it will be recorded instead as a B, etc.).

Please adhere to the following policies as your participation grade depends also on these:

- Be on time for class.
- Not leave class early.
- Avoid getting up during class sessions unless absolutely necessary. This is not only very disruptive to all people in the classroom but shows a lack of respect for all present.
- Please switch your phones to “airplane mode” and turn off the ringer volume.

Students who meet the above expectations will receive a *B* for class participation. To earn a higher grade a student will need to ask insightful questions as well as answer questions posed by me or others. I will give a *C* or lower for class participation to students who never participate in class or who are often not able to answer questions.

**Problem Sets:** Problem sets are assigned regularly (nearly every week). They have several purposes: to review and extend concepts from lecture or the textbook; to introduce related topics not covered in lecture; and to provide feedback on your comprehension of the material to date. *Note: problem sets will occasionally cover material before it is covered in class.* There will be eight problem sets and your seven best problem set grades will be counted towards your course grade.

There will be no TA sessions to help with assignments. Your TAs are not allowed to answer any questions prior to your submitting problem sets or group reports.

Problem sets will be due at 4:15 pm on Thursdays, and should be submitted via the Econ 328 slot in the departmental locked box. Late assignments will only get a check-minus irrespective of quality as solutions will be available online as soon as the deadline for submission passes.

Grading will be on a check-plus, check, check-minus scale. Quick guide to problem set grades:

- Check-plus: all questions answered correctly or all questions answered using right strategies (but with possible computational errors).
- Check-minus: some questions skipped or many questions answered incorrectly.
- Check: almost everything in between.

Up to three people may cooperate on each problem set; when students submit joint problem sets all students will get the same grade. Please do *not* list any students' name on the problem sets; instead, please put students' WesIDs. Assignments will be returned in class.

**Optional case studies:** In the weeks when there is a problem set due, the TAs will hold an optional session on Mondays 8-9pm in PAC 125 to cover a related case study or set of short, related questions. The case studies or sets of questions are designed to greatly complement the problem sets, with the degree of overlap varying substantially across weeks. Case studies or questions will be posted to the moodle ahead of time; skeletal solutions will be posted to moodle after the sessions; full solutions will be available only at the sessions. These case studies or sets of questions are all questions that could have been included in problem sets but they will not be assigned for credit.

**Group portfolio project:** Please work in groups of roughly 4 people.<sup>4</sup> Your team will manage a \$1 million portfolio, which can include long and/or short positions on stocks, bonds, and options subject to the following caveats:

- 1) This semester we will all maintain portfolios in EquitySim's platform within the 'competition' that is set up for this class. If you don't record a transaction in the portfolio, the transaction does not exist.
- 2) All registered students will be invited to join the competition. The competition url will be sent to registered students by email, and posted to moodle.
- 3) Please note that when you register with the EquitySim platform you can choose whether to share your profile with potential employers. EquitySim says that students have complete control over what information, if any, is available to recruiters, and that you can easily change settings at any time. *This is your personal decision and will have no effect whatsoever on classwork.*
- 4) EquitySim's platform will allow you to form groups within our competition. "The group feature allows students to manage the same portfolio while being individually accountable for their trades." Please use this group function.
- 5) Your portfolio must always contain at least five (5) assets.
- 6) Every transaction, purchase or sale, must include a written one line justification. *Please note that you will draw on these justifications in preparation of your final report in December. It may therefore be helpful to record longer notes so that you have less work at the end of the semester.*
- 7) It would be best if any firm in which you invest has equity that sells for a minimum of \$10 per share at time of initial purchase (or the foreign currency equivalent of \$10).<sup>5</sup> (Note: I don't know how to set this rule in the EquitySim platform. This rule is designed to prevent you from investing in firms that are flirting aggressively with bankruptcy.)
- 8) All assets must be traded on public exchanges.
- 9) If EquitySim will not allow you to take on a position, then you are not allowed to do so. No exceptions.
- 10) You can consult any resource (loosely defined) to make investment decisions.
- 11) You can trade as often as you wish but trading cannot begin until September 21<sup>st</sup>, and after you have committed to a group identity. In your reports you have to provide concise information only on the most recent composition and value of your portfolio and compare that to your last report (when applicable).

Each team will work together all semester to complete three group reports; all students on a team will receive the same grade. The assets held in your portfolio, and the allocation of funds to each asset, may

---

<sup>4</sup> While I prefer that you self-select into teams, I will assist individuals if necessary. Also "roughly 4 people" should correspond to group sizes of 3-5.

<sup>5</sup> Thus, if you invest in ABC Inc. and their price dips to below \$10, you can invest more in it. However, if DEF Inc. is already selling for less than \$10, then that stock is off limits unless the price rises to \$10.01 or higher.

change at any time in the semester. However, whatever you do must be consistent with the identity you have chosen for your group although your understanding of your group's identity may change over the time. You should expect that your investments may not always perform in a manner that is fully consistent with the theories we study; this real-world deviation is important and non-trivial.

All assignments must be submitted to the appropriate folder in the course moodle in doc or docx format so that they can be edited in tracking mode. [Google docs and pdfs will not be acceptable.] All assignments should be titled using this convention "Group Name Assignment" (e.g., "Hornstein 1" for the Hornstein group's first report). The documents will be edited and graded and then returned via email with "AH" added to the title.

**Exams:** I have posted to the course moodle the exams from the last offering of this course. Please note that these should be viewed as guides to the types and quantities of questions I might consider fair to ask on exams. However, please note that I do not feel any obligation to structure exams similarly year after year as course time is allocated slightly differently in each offering of a course. While you can use either a calculator or Excel to complete the problem sets, you will need a calculator for the exams.<sup>6</sup>

*Exams will be given at the scheduled times only.* Please do not enroll for this course if you cannot attend the scheduled exams. Optional review sessions will be held prior to exams.

**Research project:** You will have a choice of one of three formats:

1. A literature review
2. A case study
3. An empirical project

No matter which format you choose, your project will be an in-depth exploration of a topic in investment finance. If you choose the

1. literature review, your topic will be defined as a broad issue affecting multiple firms or investors.
2. case study your topic can be defined as a broad profile of an issue or a company.
3. empirical project, you will select an issue that can be examined using data from an industry.

The commonalities that all three formats will use are:

1. **Resources:** reference at least 3-4 academic journal articles.
  - a. Literature reviews: will likely need at least 8-10 articles.
  - b. Case study: will likely need 5-7 articles plus a greater quantity of materials from non-academic sources (e.g., WSJ, finance blogs, etc.) about the issue and/or company.
  - c. Empirical project: will likely need 4-6 articles plus draw on methodological materials from Econ 300 and/or Econ 385. (Most likely: GARCH/ARCH and ARMA from 385, or 'time series' (however loosely covered) from 300 or as covered in detail in 385.)
2. **Length guidelines:** The project should be about 10 pages long (not including references, appendices or exhibits), double-spaced, 12 point font, with one-inch margins. Excessive length is generally detrimental to the quality of your work. Papers cannot be longer than 13 pages; at the low end: 8 pages is probably the minimum.
3. **Deadlines:**
  - a. **Proposal:** A 1-2 paragraph email should be sent to me no later than 4:15pm on Monday, November 12<sup>th</sup>.<sup>7</sup> Do not attach it in a document; it must be in the body of your email.

---

<sup>6</sup> If you do not already have a calculator, it is not necessary for you to buy a financial calculator.

<sup>7</sup> Feedback should be sent to students prior to the start of the Thanksgiving break.

- If you choose the
    - literature review, you must identify the topic.
    - case study, you must identify the topic and/or company.
    - empirical paper, you must indicate what your empirical research background is so that I know how to help you with hands-on empirical work (i.e., 300 a zillion semesters ago vs. 385 last term), the topic, and likely dataset (or a good sense of which industry you might analyze).
  - If possible, please include a tentative bibliography of works that you have already consulted or plan to consult in the course of your research. Bibliographic references are not expected at this rather early date but may be useful for getting more substantive feedback and guidance.
  - In the event that multiple students propose similar topics, I'll help them find ways to differentiate their topics.
- b. Final project: The paper is due no later than Wednesday, December 12<sup>th</sup>, 12 noon (our registrar assigned exam time).
4. Evaluation: Grading is based primarily on the quality of your analysis. However, I expect your papers to be well-written and free of any grammatical, logical, or spelling errors. You are encouraged to take advantage of the writing workshop on campus. If appropriate, please also take advantage of QAC tutors.
5. Late submissions: Late submissions are penalized at the rate of one letter grade per day late.
6. Turnitin: In addition to submitting your papers directly to me, the final paper must also be submitted by you to the class folder on turnitin.com by midnight on the appropriate due date. I have already set up a folder for these papers. (Obviously, if you have non-computer-readable attachments, you will not need to upload those into the system.)
- a. Directions on how to use turnitin can be found on [www.turnitin.com](http://www.turnitin.com). Once you have set up your account, "enroll" in this course – the class ID number is 18546114 and the password is "econ328".

**Honor Code:** In accordance with the Honor Code, submitting another person's work as your own constitutes plagiarism and will not be tolerated. *To put this in colloquial terms, unless you personally came up with the solutions and words that you are attaching your name to, it is not your work.* If you have any questions about the application of the honor code, please contact me.

**Students with Disabilities:** Wesleyan University is committed to ensuring that all qualified students with disabilities are afforded an equal opportunity to participate in and benefit from its programs and services. To receive accommodations, a student must have a documented disability as defined by Section 504 of the Rehabilitation Act of 1973 and the ADA Amendments Act of 2008, and provide documentation of the disability. Since accommodations may require early planning and generally are not provided retroactively, please contact Disability Resources as soon as possible. If you believe that you need accommodations for a disability, please contact Dean Patey in Disability Resources, located in North College, Room 021, or call 860-685-5581 for an appointment to discuss your needs and the process for requesting accommodations. Information can be found at <http://www.wesleyan.edu/studentaffairs/disabilities/>.

### Approximate Course Schedule

In the readings column: numbers with no letters mean chapters in our textbook; all other readings are available on moodle. The midterm exams will be given during class; assignments will be posted to moodle. All deliverables are due by 4:15 pm on the date indicated.

Lesson#	Date	Topic	Readings	Assignment
<i>Unit 1: Overview</i>				
1	Tues. Sep. 4	Investment environment	1	
2	Thurs. Sep. 6	Asset classes; financial instruments	2.1-2.4, 3.1	
3	Tues. Sep. 11	Securities trading	3.2, 3.4, 3.7-3.9, 4.6	
4	Thurs. Sep. 13	Macroeconomy and industry	17*	PS1 (9/13)
<i>Unit 2: Portfolio theory</i>				
5	Tues. Sep. 18	Interest rates and risk premiums	5.1-5.6	
6	Thurs. Sep. 20	Capital allocation to risky assets	6.1-6.4	PS2 (9/20)
7	Tues. Sep. 25	Risk, risk aversion, risky portfolios	6.5-6.6, 7.1-7.2	
8	Thurs. Sep. 27	Portfolio math; optimal risky portfolios	7 Appendix B, 7.3-7.4	Group 1 (9/27)
9	Tues. Oct. 2	Portfolio optimization; single factor model	7.4-7.5, 8.1	
10	Thurs. Oct. 4	Index models	8.2-8.4	PS3 (10/4)
11	Tues. Oct. 9	Portfolio issues; Capital asset pricing model (CAPM)	8.5, 9.1-9.2	
<i>Unit 3: Asset pricing</i>				
12	Thurs. Oct. 11	CAPM	9.2-9.4, 13.1, 13.4	PS4 (10/11)
13	Tues. Oct. 16	Multifactor models, arbitrage pricing theory (APT)	10, 13.2, 13.3	
	Wed. Oct. 17	<i>Optional exam review 6-7:30pm in PAC 107</i>		
	Thurs. Oct. 18	<b>Exam 1</b> (through L13)		
14	Thurs. Oct. 25	Multifactor models; Efficient market hypothesis (EMH)	10.4, 11.1	Group 2 (10/25)
15	Tues. Oct. 30	EMH	11.2-11.5	
16	Thurs. Nov. 1	Behavioral finance; technical analysis	12	PS5 (11/1)
17	Tues. Nov. 6	Bond pricing	14.1-14.2	
18	Thurs. Nov. 8	Bond yields and pricing	14.3-14.5	PS6 (11/8)
19	Tues. Nov. 13	Interest rates	15.1-15.4	Project proposal (11/12)
20	Thurs. Nov. 15	Bonds	15.5-15.6, 16.1-16.2	PS7 (11/15)

\* Note that 17.1-17.5 are a review of Econ 110 material.

21	Tues. Nov. 20	Equity valuation models; financial statement analysis**	18.1, 18.2, 18.4-18.5, 19	
22	Tues. Nov. 27	Options	20.1-20.4	
23	Thurs. Nov. 29	Options	20.4, 21.1-21.2, 21.4	PS8 (11/30)
	<i>Mon. Dec. 3</i>	<i>Optional exam review 7:30-9pm in PAC 107</i>		
	Tues. Dec. 4	<b>Exam 2</b> (all material since first exam)		
	<i>Unit 4: Current issues</i>			
24	Thurs. Dec. 6	Market microstructure	3.3, 3.5	Group 3 (12/7)
	Wed. Dec. 12, 12 noon	<b>Capstone projects due (at registrar assigned exam time)</b>		

---

\*\* This entire lesson may be omitted due to time constraints.