



BUSFIN 8200: Asset Pricing Foundations

Fall 2023

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Instructor Website: <http://andreigoncalves.com>

Lectures: Mo/We 2:00-3:30pm (800 Fisher Hall)

Instructor Office Hours: By Appointment (846 Fisher Hall)

1 Course Description and Prerequisites

This course is designed to teach PhD students the rigorous foundations necessary for asset pricing research. The tentative course schedule provides details on the content covered (see Section 5).

2 Readings & Other Material

The course draws on materials from multiple sources, including textbooks, book chapters, and academic papers. A separate document with a detailed description of all readings for each lecture will be provide in a timely manner.

3 Class Format & Grading

7 Problem Sets = 70% of grade (10% each)

Cumulative Final Exam = 30% of grade

Total = 100%

Class Format

The course has a total of eight modules and each module is subdivided into specific topics. Each lecture covers one topic and the lecture slides are all you need to follow the lectures. The lecture

slides will be sent to you over email together with information on any required reading for each lecture. I create two versions of the slides (labeled “print version” and “slide version”). They have the same content except that the slide version (which I use as lecture slides) shows the progress of each page “by click” to facilitate the content presentation.

A tentative course schedule is available in Section 5. The tentative class schedule is for illustration purpose and subject to changes based on how the course progresses. The instructor will inform students about significant changes to the course schedule in a timely manner.

Attendance

Regular (in-person) class attendance and participation is expected from all students. Consistent with the business school’s position on in-person classes, I will not provide a regular Zoom attendance option or class recordings. This approach is intended to maximize in-class participation, which is beneficial to the learning environment. Whenever possible, I will provide a Zoom option to students with a formal letter from Student Life Disability Services (SLDS) that justifies their absence from a lecture.

Problem Sets

After each of the first seven modules a problem set is release.¹ Each of these seven problem sets has a one to two week deadline and is worth 10 points (so problem sets are worth 70 points on total). Students can rely on any course material or alternative resources while working on problem sets (except for problem set solutions from previous students). Moreover, students are allowed (and encouraged) to work together on problem sets. However, students cannot copy solutions from each other and each student must submit his/her own problem set solution. The solution must be typed (not handwritten) and delivered in a pdf. Given that the problem sets require you to type equations, I recommend using a LaTeX editor or a document processor like LyX (which has a WYSIWYG interface but generates LaTeX code in the background).

See the tentative course schedule in Section 5 for the dates in which problem sets will be released and their respective deadlines.

¹After the 8th module, a problem set is also be released. However, it serves only as a device to study for the final exam since it is not graded.

Final Exam

There is a cumulative Final Exam (worth 30 points). While working on their final exam, students can rely on the course slides, the notes they have taken during the course, and any finance textbook. However, they cannot use other resources.

See the tentative class schedule in Section 5 for the dates of the final review session and Final Exam.

Letter Grade

Your letter grade will be based on your total score (total points received during the class) and the overall class performance. The letter grade assigned is an informed and final evaluation and not the beginning offer in a bargaining process. If an error occurs in the calculation of your grade, please notify me ASAP. However, please do NOT contact me to “lobby” for a higher grade. Any lobbying efforts (i.e. asking for a higher grade simply because you want one or need one) will not be tolerated.

Make-up or extra work to improve your grade on an individual basis is not possible. Your general academic situation (for example, “I need a ‘C’ in this course to graduate.”) and/or personal problems (beyond documented health-related issues) cannot be considered. The final grade in the course, once assigned, will not be changed except in the event of a recording error.

You should view my grading policy as a clear indication that I strive to give all students in the class the exact same opportunities.

4 Other Important Topics

Communication with Instructor

The quickest way to contact me is by email. I will usually respond within one business day. Alternatively, always feel free to stop by my office unannounced or to schedule an appointment if you prefer.

I do not answer content related questions over e-mail since this is a very inefficient way to deal with questions you might have. As such, if you send me an e-mail asking a content related question I will simply ask you to schedule an appointment.

Class Information

Class-related information will be communicated to students through email (and supersedes this Syllabus).

Academic Integrity

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the University's Code of Student Conduct, and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the University's Code of Student Conduct and this syllabus may constitute Academic Misconduct.

The Ohio State University's Code of Student Conduct (Section 3335-23-04) defines academic misconduct as: Any activity that tends to compromise the academic integrity of the University, or subvert the educational process. Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University's Code of Student Conduct is never considered an excuse for academic misconduct, so I recommend that you review the Code of Student Conduct and, specifically, the sections dealing with academic misconduct.

If I suspect that a student has committed academic misconduct in this course, I am obligated by University Rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the University's Code of Student Conduct (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

Student health-related Accommodation Process

Continuous engagement with this course is essential to learning the material. Students are expected to attend class and engage with assignments and discussion prompts for every scheduled meeting. Students who need to miss class due to illness (COVID-19 or other illnesses) are expected to contact the instructor as soon as possible with proper written documentation of the health-related situation (and when appropriate the instructor will arrange for accommodation). Students in special situations or those requiring specific, long-term or other accommodation should seek support from appropriate university offices.

Disability Services

The university strives to make all learning experiences as accessible as possible. In light of the current pandemic, students seeking to request COVID-related accommodations may do so through the university's request process (slds.osu.edu/covid-19-info/covid-related-accommodation-requests/), managed by Student Life Disability Services. If you anticipate or experience academic barriers based on your disability (including mental health, chronic, or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. SLDS contact information: slds@osu.edu; 614-292-3307; slds.osu.edu; 098 Baker Hall, 113 W. 12th Avenue.

Harassment, Discrimination, and Sexual Misconduct

The Ohio State University is committed to building and maintaining a community to improve opportunities for all. All Buckeyes have the right to be free from harassment, discrimination, and sexual misconduct. Ohio State does not discriminate on the basis of age, ancestry, color, disability, ethnicity, gender, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, pregnancy (childbirth, false pregnancy, termination of pregnancy, or recovery therefrom), race, religion, sex, sexual orientation, or protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment. Members of the university community also have the right to be free from all forms of sexual misconduct: sexual

harassment, sexual assault, relationship violence, stalking, and sexual exploitation.

To report harassment, discrimination, sexual misconduct, or retaliation and/or seek confidential and non-confidential resources and supportive measures, contact the Office of Institutional Equity:

Online reporting form at equity.osu.edu, Call 614-247-5838 or TTY 614-688-8605, Or Email equity@osu.edu The university is committed to stopping sexual misconduct, preventing its recurrence, eliminating any hostile environment, and remedying its discriminatory effects. All university employees have reporting responsibilities to the Office of Institutional Equity to ensure the university can take appropriate action:

All university employees, except those exempted by legal privilege of confidentiality or expressly identified as a confidential reporter, have an obligation to report incidents of sexual assault immediately. The following employees have an obligation to report all other forms of sexual misconduct as soon as practicable but at most within five workdays of becoming aware of such information:

1. Any human resource professional (HRP);
2. Anyone who supervises faculty, staff, students, or volunteers;
3. Chair/director; and
4. Faculty member.

Counseling and Consultation Services

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life Counseling and Consultation Services (CCS) by visiting ccs.osu.edu or calling (614) 292- 5766. CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on-call counselor when CCS is closed at (614) 292-5766 and 24 hour emergency help is also available through the 24/7 National Suicide Prevention Hotline at 1-(800)-273-TALK or at suicidepreventionlifeline.org.

5 Tentative Course Schedule

The following schedule (including deadlines) is tentative and subject to changes based on how the class progresses.

Date	Module	Lecture	Problem Sets
Aug-23 (We)	<u>Module 1</u>	Variation in Equity Prices	
Aug-28 (Mo)	Variation in Asset Prices & Expected Returns	Equity $\mathbb{E}[R]$ (Time Series)	
Aug-30 (We)		Equity $\mathbb{E}[R]$ (Cross Section)	
Sep-04 (Mo)		No Class (Labor Day)	
Sept-06 (We)		Equity $\mathbb{E}[R]$ (Term Structure)	
Sept-11 (Mo)		Bond Prices and $\mathbb{E}[R]$	PS1 Available
Sept-13 (We)	<u>Module 2</u>	The SDF	
Sept-18 (Mo)	The Stochastic Discount Factor	General SDF Estimation	
Sept-20 (We)		Linear & Log-Linear SDF Estimation	PS2 Available
Sept-25 (Mo)	<u>Module 3</u>	Arbitrage Pricing Theory	
Sept-27 (We)	No-Arbitrage Models	No-Arbitrage Factor Models (1)	PS1 Deadline
Oct-02 (Mo)		No-Arbitrage Factor Models (2)	
Oct-04 (We)		No-Arbitrage Term Structure Models	PS2 Deadline & PS3 Available
Oct-09 (Mo)	<u>Module 4</u>	Static Portfolio Theory	
Oct-11 (We)	The CAPM and ICAPM	The CAPM	
Oct-16 (Mo)		Dynamic Portfolio Theory	
Oct-18 (We)		The ICAPM	PS3 Deadline & PS4 Available
Oct-23 (Mo)	<u>Module 5</u>	The Canonical CCAPM	
Oct-25 (We)	The Consumption CAPM	Consumption Habits	
Oct-30 (Mo)		Long Run Risks	
Nov-01 (We)		Disaster Risks	PS4 Deadline & PS5 Available
Nov-06 (Mo)	<u>Module 6</u>	Preference & Belief Heterogeneity	
Nov-08 (We)	Asset Pricing with Heterogeneous Investors	Market Participation & Wealth Heterogeneity	
Nov-13 (Mo)		Intermediary-Based Asset Pricing	
Nov-15 (We)		Asset Pricing Demand Systems	PS5 Deadline & PS6 Available
Nov-20 (Mo)		No Class	
Nov-22 (We)		No Class (Thanksgiving)	
Nov-27 (Mo)	<u>Module 7</u>	The Kalman Filter	
Nov-29 (We)	Filtered Beliefs in Asset Pricing	GARCH Models	PS6 Deadline & PS7 Available
Dec-04 (Mo)		Beliefs Implied from Option Prices	
Dec-06 (We)	Subjective Beliefs in Asset Pricing	Beliefs Implied from Surveys/Forecasts	PS7 Deadline & PS8 Available (Not Graded)
FINAL EXAM			