



# Behavioral Economics and Finance

## Eco 346

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**Office Hours:** Tuesdays and Thursdays 11:30 am to 12:30 pm or by appointment

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◆ **Course objectives:** This course will be an introduction to experimental and behavior economics and finance, its methods, and some of the major subject areas that have been addressed by laboratory experiments. Students will become familiar with the methodology used in experimental economics, and will participate in, as well as design and conduct experiments in bargaining, auction markets, asset markets, information asymmetry, behavioral game theory and other economic situations.

◆ **Student learning outcomes:** Students will

- understand basic methodologies used for experimental and behavioral economics and finance, apply their understanding to design an experiment, and analyze and interpret the experimental results.

- understand individual decision making models such as risk and decision making, probability matching, lottery choice anomalies, search models etc. and the underlying theories of these models as well as solve for theoretical predictions of behavior based on these underlying theories.

- calculate present values of an asset, understand market efficiency hypothesis and the general patterns of asset bubbles and crashes, and identify market clearing prices.

- understand, construct game theory payoff matrix (in single and multiple-stage games), and solve for Nash Equilibrium (and subgame perfect Nash Equilibrium) in basic game theory models such as Prisoner's Dilemma, Trust Games, Coordination Games, Traveler's Dilemma, Bargaining, Ultimatum, Reciprocity and Principal-Agent Games.

- recognize behavioral factors that lead to deviations from Nash Equilibrium results.

- understand market failure due to information asymmetry
- understand the structure of basic auction models such as private-value and common-value auctions, and calculate optimal bids for these models.

◆ **Lectures:** Tuesdays and Thursdays 10:00 am to 11:15 am at Campbell G15.

◆ **Credit and workload:** Eco 346 is a 4-credit course. In addition to in-class time, you will be spending a minimum of 3 hours per week in preparation for our class sessions, including viewing material posted on course website, completing reading assignments and taking assigned reading quizzes before coming to class. You should also plan to spend an additional 5-7 hours per week working on problem sets and experimental projects, and studying for quizzes and exams for this course.

◆ **Textbooks:** Markets, Games, and Strategic Behavior: Recipes for Interactive Learning, by Charles Holt.

◆ **Prerequisite:** Eco 104 and Eco 105; Knowledge of Eco 206 Microeconomics will be helpful but it is not required.

◆ **Homework assignments and homework policy:** The homework problems are designed to help you learn class material. Some of the problems assigned to your homework will be discussed in lecture.

- To get full credit for your homework, you must hand it in on time, that is, at the end of the class on the due date.
- Homework handed in after the end of class on the due date is considered late homework. The penalty for lateness is  $1/3$  of the assignment grade for every day late. For example, if your score is 90/100 but you are two-days late, then your homework score will be  $90 - (2/3)*100$ . After three days you will get no credit.

◆ **Optional exercise questions:** In addition to required homework assignments, I will post optional exercise questions for you to take at your own discretion. Solutions to these questions will also be provided.

◆ **Exams and exam policy:** There will be three exams. Only the best 2 out of 3 exams will count toward the final grade of this course. Check the exam dates below in the course outline.

• Since you are already given an exam that you can drop for the final course grade, **no make-up exams will be made.**

• Only in very exceptional cases, students may be excused from missing an exam. Enough written evidence of the calamity must be provided. I will give make-up exams only when the conditions just specified are met. If a student does miss a test, the make-up test

will be the 3rd exam at the end of the semester. If a student misses more than one exam without an extraordinary reason, her final grade will be reduced proportionately.

◆**Quizzes for extra credits:** The quizzes are available online and are open-book. They are due before the date we cover the corresponding chapter. 10 quizzes will be given during the semester (check the course outline to see the due date for each quiz). The on-line quiz allows only one attempt (it will not record any subsequent attempt). Students who take the quiz after the due date will not get any credit for that quiz. **There will be no makeup quizzes.** Students who complete at least 8 quizzes before the due dates by the end of the semester will have the option to add their quiz scores to either *one* of the three exams that will count toward the final course grade. The maximum extra credit can be added is 5 points to the chosen exam. The actual credit added will be corresponding to your performance on these quizzes. For example, each quiz's full score is 10 points, so the total full score for all 10 quizzes is 100. If you get 80 out of 100 points, then 4 points will be added to the exam of your choice. Students who fail to complete at least 8 quizzes before their due dates will not be allowed to add any extra credit for exams.

◆**Attendance:** Attendance and class participation are important (and fun!) for this course. For the experiments to be successful, we need everyone to show up on time. Therefore, attendance, preparation and promptness at all sessions are mandatory. If you cannot make to one of the classes, please inform the instructor as early as you can so that the group conducting the experiments can be prepared ahead of time. Attendance and participation for classroom experiments will be checked randomly and frequently.

If you do not attend at least **two-thirds of the classes**, you will fail the course.

You are allowed to drop **two** no-show records at the end of the semester, but you will lose the attendance and participation credit for this class by **10** per cent for each additional no-show record. Since you are given the chance to drop two no-show records, no additional excuses will be granted for missing classes. Only in very exceptional cases (such as severe illness or family emergencies), students may be allowed to drop additional no-show records. Enough written evidence of the calamity must be provided. Late attendance will count only if you arrive within **5** minutes of the class start time. If you arrive later, it will count as **one-third** of an absence.

A student on academic probation is permitted only one absence in each academic course that is not due to serious illness, death of an immediate family member, and religious observance.

◆**Experimental project:** Once class gets started and you have had some experience with economic experiments, you will be asked to work on a project of your choice.

The project consists of the following tasks:

- 1) You will be responsible for conducting one experiment. You will conduct the entire experiment. You will have to prepare instructions, prepare any materials needed for the experiment, explain the instructions to the subjects, run the experiment, keep records, etc. You will need to meet with me to obtain general

instructions and I will help you to set up the experiment preparation work. I expect you to meet with me at least 48 hours before your scheduled experiment to make sure that you are on track, read over your instructions, prepare materials and go over any problems you may have.

I will provide a survey/questionnaire sheet for each project for you to hand out to the subjects after the experiment is finished. Subjects will follow instructions on the survey to evaluate the implementation of the experiment. You can also add your own questions for your research purpose at the end of the standard survey/questionnaire.

2) After conducting the experiment and collecting the experimental records, you will write an experimental report and you should be ready to discuss the results in class when we cover topics related to your experiment. This presentation will include two parts: demonstrating the experimental results to the class and making a theoretical analysis based on the experimental results.

For the experimental report, you can write as many pages as you wish, but you must follow the following format: 8"x11" paper, double-spaced, margins of 1 inch on each side, maximum font of 12 pt., and minimum font of 11 pt. Do not forget to write your name. Please staple the pages you hand in.

3) Revise the analysis and report from 2), add an introduction section, a literature review section which must include at least one relevant published academic study, as well as a critique of your experiment (i.e., what went well, what went poorly, how would you change things if you had them to do over) in addition to the two elements in 2).

Follow the same format requirements in 2) and the length of your final report from 3) should be 8-10 pages.

The grading criteria for your final report will be posted on our course website. I will focus on these 5 areas: clear and thoughtful thesis, strength of argument, organization and transitions, quality of writing, introduction and conclusion. Specific grading criteria for each category are available on the course website.

4) Make a presentation of your final report from 3) in class at the end of the semester.

◆ **Grading:** The final grade will be a weighted average as follows:

Two best exams (total 70%)

Homework assignments (5%)

Project: conduct the experiment and presentation on preliminary report: (5%)

Project: final version (10%)

Attendance and participation (10%)

The course letter grades are determined as follows:

93 – 100	A
90 – 92.99	A –
87 – 89.99	B +
83 – 86.99	B
80 – 82.99	B –
77 – 79.99	C +
73 – 76.99	C
70 – 72.99	C –
67 – 69.99	D +
63 – 66.99	D
60 – 62.99	D –
< 60	F

◆ **Academic honesty** The Agnes Scott College honor code embodies an ideal of character, conduct, and citizenship, and is an important part of the College’s mission and core identity. This applies especially to academic honesty and integrity. Passing off someone else’s work as your own represents intellectual fraud and theft, and violates the core values of our academic community. To be honorable, you should understand not only what counts as academic dishonesty, but also how to avoid engaging in these practices. You should:

- review each course syllabus for the professor’s expectations regarding course work and class attendance.
- attribute all ideas taken from other sources; this shows respect for other scholars. Plagiarism can include portraying another’s work or ideas as your own, buying a paper online and turning it in as if it were your own work, or not citing or improperly citing references on a reference page or within the text of a paper.
- not falsify or create data and resources or alter a graded work without the prior consent of your professor. This includes making up a reference for a works cited page or making up statistics or facts for academic work.
- not allow another party to do your work/exam, or submit the same or similar work in more than one course without permission from the course instructors. Cheating also includes taking an exam for another person, looking on another person’s exam for answers, using exams from previous classes without permission, or bringing and using unauthorized notes or resources (i.e., electronic, written, or otherwise) during an exam.
- not facilitate cheating, which can happen when you help another student complete a take home exam, give answers to an exam, talk about an exam with a student who has not taken it, or collaborate with others on work that is supposed to be completed independently.
- be truthful about the submission of work, which includes the time of submission and the place of submission (e.g., e-mail, online, in a mailbox, to an office, etc.)

You should understand that penalties result from dishonest conduct, ranging from failure of the assignment to expulsion from the college.

### ◆ Policy on technology in the classroom

The use of electronic devices during class can be discourteous and disruptive. Any student who wishes to use a tablet or a computer for notetaking should be aware of three important considerations:

- (1) Research shows that people who take notes electronically end up with poorer-quality notes and poorer recall.
- (2) Classmates and instructors may be distracted or irritated by the sound of a clacking keyboard during class.
- (3) Computers and tablets create an often irresistible temptation to multi-task during class, which impedes concentration and causes students to miss out on valuable content.

For these reasons, the use of electronic devices is strongly discouraged in this course, unless a student has received accommodations from the Office of Academic Advising and Accessible Education that specify the use of a computer or tablet. Any student who has not received accommodations may earn the right to use a computer or tablet for notetaking by completing the optional extra writing assignment outlined below. All cellphones must be turned off and put away during class time.

### Electronics Exercise (optional)

Read the following two articles and write an essay of at least three paragraphs (500-600 words) in which you: (a) offer a thorough summary of each article; and (b) make a case for why you think that the use of a computer or tablet will enhance rather than impair your note-taking and your ability to participate responsibly in class.

- Maggy McGloin, “What You Miss When You Take Notes on Your Laptop,” *Harvard Business Review*, July 31, 2015. [ <https://hbr.org/2015/07/what-you-miss-when-you-take-notes-on-your-laptop> ]
- Susan M. Dynarski, “For Better Learning in College Lectures, Lay Down the Laptop and Pick up a Pen.” Report of the Brookings Institute, August 10, 2017. [ <https://www.brookings.edu/research/for-better-learning-in-college-lectures-lay-down-the-laptop-and-pick-up-a-pen/> ]

Submit via email to the Professor. If you successfully complete this assignment, the instructor will permit you to bring a computer or tablet to class *for note-taking purposes only*.

### ◆ Pocketpoints.com to reward you for staying off your cell phone during class (use code 48799)

◆ **Disabilities:** Agnes Scott College seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in this class, please contact Rashad Morgan in the Office of Academic Advising (X6174) to complete the

registration process. Once registered, please contact me so we can discuss the specific accommodations needed for this course.

◆**Course Evaluations:** Course evaluations are completed online. Near the end of the semester, you will receive an e-mail message that will provide a link to follow in order to complete the evaluation online, outside of class. Student evaluations provide feedback that is valuable to the instructor, and I hope that all members of the class will complete this form.

◆**Title IX:** Agnes Scott is here to help if you have experienced any form of sexual harassment or violence, dating or domestic violence, or stalking. Please talk to any faculty or staff member with whom you feel comfortable. Faculty and staff members want to support you and have been trained to help. They also will inform the Title IX office so that you can learn about the options available to you. If you do not want college administrators to know what you have experienced, you may talk to the chaplain, as well as nurses or counselors in the Wellness Center in complete confidentiality. They will not tell anyone what you share with them unless you give your express permission.

◆**Diversity and Inclusion:** This course adheres to the principles of diversity and inclusion integral to the Agnes Scott community. We respect people from all backgrounds and affirm people's decisions about gender expression and identity. Please feel free to correct me if your preferred name or gender pronoun are different from that listed on the class roster.

## Reading List and Course Outline (tentative)

Week #				<u>Topic</u>	Readings:	Problem Sets:	
					<u>Holt</u>	<u>Posted</u>	<u>Due</u>
<b>Introduction and Behavioral Issues</b>							
1	TUE	Jan 14	Course Introduction and Introduction to Experimental Economics	Chapter 1			
	THU	Jan 16	Introduction to Experimental Economics Chapter 3: Some Simple Games <a href="#">Guessing Game</a>	Chapters 1, 3	HW1		
2	TUE	Jan 21	Chapter 3: Some Simple Games <a href="#">Lottery Game</a>	Chapter 3			Quiz 1
	THU	Jan 23	Chapter 4: Risk and Decision Making <a href="#">Probability Matching Game</a>	Chapter 4	HW2		Quiz 2
3	TUE	Jan 28	Chapter 4: Risk and Decision Making Chapter 27: Probability Matching <a href="#">The lottery choice anomaly game</a>	Chapter 27	HW3		
	THU	Jan 30	Chapter 28: Lottery Choice Anomalies <a href="#">Search Cost Game</a>	Chapter 28	HW4		
4	TUE	Feb 4	Chapter 29: ISO (In Search Of...)	Chapter 29			Quiz 3
	THU	Feb 6	Project Design				
5	TUE	Feb 11	Review of Exam 1 Chapter 11: Behavioral Finance, Asset Markets and Price Bubbles	Chapter 11			
	THU	Feb 13	Chapter 11: Behavioral Finance, Asset Markets and Price Bubbles				
6	TUE	Feb 18	<b>Exam 1</b>	Chapters 1, 3, 4, 27, 28, 29			
<b>Behavioral Finance and Market Experiments</b>							
	THU	Feb 20	Chapter 11: Behavioral Finance, Asset Markets and Price Bubbles <a href="#">Asset market game</a>	Chapter 11	HW5		



7	TUE	Feb 25	Chapter 11: Behavioral Finance, Asset Markets and Price Bubbles	Chapter 11		
	THU	Feb 27	Chapter 10: Market Failure Due to Unraveling: Lemons and Matching Markets	Chapter 10	HW6	Quiz 4
8	TUE	Mar 3	Chapter 19: Private Value Auctions <a href="#">Take Over Game</a>	Chapter 19	HW7	Quiz 5
	THU	Mar 5	Chapter 20: Take Over Game <a href="#">Winner's Curse Game</a>	Chapter 20	HW8	Quiz 6
9		Mar 10	Journeys/Peak Week			
		Mar 12	Journeys/Peak Week			
10		Mar 17	Spring Break			
		Mar 19	Spring Break			
11	TUE	Mar 24	Chapter 21: Common-Value Auctions and the Winner's Curse	Chapter 21	HW9	Quiz 7
	THU	Mar 26	Review for Exam 2 <a href="#">Game of sequential moves (multi-stage games)</a> Chapter 23: Multi-Stage Games	Chapter 23	HW10	Quiz 8
<b>Behavioral Game Theory</b>						
12	TUE	Mar 31	<a href="#">Traveler's Dilemma Game</a> Chapter 25: The Traveler's Dilemma	Chapter 25		
12	THU	Apr 2	Chapter 12: Ultimatum Bargaining <a href="#">Principal-Agent Game</a>	Chapter 12		Quiz 9
13	TUE	Apr 7	<b>Exam 2</b>	Chapters 10, 11, 19, 20, and 21		
13	THU	Apr 9	Chapter 12: Ultimatum Bargaining Chapter 13: Trust, Reciprocity, and Principal-Agent Game	Chapter 13		Quiz 10
14	TUE	Apr 14	Experiments/ Chapter 13: Trust, Reciprocity, and Principal-Agent Game	Chapter 13		
<b>Behavioral Labor Economics</b>						

14	THU	Apr 16	Chapter 13: Trust, Reciprocity, and Principal-Agent Game	Chapter 13		
15	TUE	Apr 21	<a href="#">Play or Keep Game</a> Chapter 14: Voluntary Contributions /Presentations	Chapter 14		
15	THU	Apr 23	Presentations			
16	TUE	Apr. 28	<b>SPARC – No Classes</b>			
16	THU	Apr. 30	Presentations			
17	TUE	May 5	<b>Exam 3</b>	Chapters 12, 13, 14, 23 and 25		
17	THU	May 7	<b>Reading Day Report due at 5 pm</b>			