

THE ECONOMICS OF ONLINE DATING
ECON 341
FALL 2017

Course Info

Time: 12:30 - 1:50 p.m.; Tuesday and Thursday; McIntyre Hall 309.

Course Description

This course develops the connections between economic theory and the online dating market. Economic techniques are used to examine unique features of the online dating market, such as the significance of market thickness, the prevalence of cheap talk, and search theory. Features of the online dating market are explored to simultaneously provide insight on more broadly applied economic principles including adverse selection, network externalities, and matching markets. The course emphasizes microeconomic theoretical techniques to model these phenomena.

Instructor Info

Name: Andrew Monaco

E-mail: amonaco@pugetsound.edu

Moodle: <https://moodle.pugetsound.edu/>

Faculty webpage: <http://www.pugetsound.edu/faculty-pages/amonaco>

Sound Economics: <http://blogs.pugetsound.edu/econ/>

I will respond to the typical e-mail between Monday-Friday in 24 hours at the latest. I will **not** respond to e-mails with exam questions in the 24 hours leading up to an exam, emergencies notwithstanding.

Office Location: McIntyre Hall 213H

Office Hours: TO BE DETERMINED

By appointment

*I will be glad to schedule an appointment with any student who has a scheduling conflict with the times listed above.

Coffee Break: Every Thursday from 2:00 - 4:00 p.m. at Diversions Café. This is a time I have dedicated to reading, blogging, and catching up with students. Please come by to introduce yourself, have a cup of coffee or tea, and talk about whatever interests you.

Primary Reading

•*Everything I Ever Needed to Know About Economics I Learned from Online Dating*. Paul Oyer. Harvard Business Review Press.

This book will form the foundation for in-class discussion and motivate our analysis of economic theory.

•*Economics Rules: The Rights and Wrongs of the Dismal Science*. Dani Rodrik. Norton Publishing.

This book will contribute to our discussions of the role of economic theory in the field more broadly.

Economic Theory

As the semester progresses, I will provide formal course notes. Additional theoretical sources include:

Al Roth and Marilda Sotomayor: *Two-Sided Matching: A Study in Game-Theoretic Modeling and Analysis*

Hal Varian: *Intermediate Microeconomics*

Joel Watson: *Strategy: An Introduction to Game Theory*

Don Waldman and Elizabeth Jensen: *Industrial Organization: Theory and Practice*

Jeffrey Perloff: *Microeconomics*

Course Coverage

All chapters reference the Oyer book. Each chapter will be accompanied by a theoretical section. The coverage in each section is **tentative** and subject to change as the semester progresses. We may incorporate additional material, or exclude some material given time restrictions.

-Chapter 1: Search Theory

- Theory:
- Utility and expected utility
 - Model: Search theory
 - Applications: Job search, dating search, search and price markup

-Chapter 2: Cheap Talk

- Theory:
- Game theory and dating games
 - Model: Static games and Nash equilibrium
 - Model: Dynamic games and subgame perfect equilibrium
 - Application: Imperfect information in dynamic dating games
 - Application: Incomplete information in static dating games

-Chapter 3: Network Externalities

- Theory:
- Demand
 - Network externalities
 - Model and Application: Match.com
 - First-mover advantage
 - Application: Dynamic dating games
 - Congestion games

-Chapter 4: Signaling & Chapter 5: Statistical Discrimination

- Theory:
- Model: The Spence model of signaling, separating versus pooling equilibria
 - Application: The Virtual Rose
 - Dynamic games with strategic uncertainty
 - Application: The Courtship Game
 - Model: Cheap Talk
 - Application: Investment advice, medical advice

-Chapter 6: Thick Versus Thin Markets

- Theory:
- Labor markets; specialization; spatial models; matching models

-Chapter 7: Adverse Selection

- Theory:
- Akerlof's market for lemons; insurance markets; moral hazard

-Chapter 8: Positive Assortative Matching

- Theory:
- Matching models revisited

-Chapter 9: The Returns to Skills

Theory: •Technological change, returns to education, network theory

-Chapter 10: The Family

Theory: •Economies of scale, bargaining theory, game theory and credible threats

Analysis of each chapter will follow the same sequence. (1) First, we will have in-class discussion on the reading of the Oyer book. On discussion days, students should be prepared with that chapter's reading, as well as an additional article relevant to the reading. (2) After the discussion, there will be an economic theory lesson where we develop the tools needed to model what was discussed in the chapter. You are strongly encouraged to take notes and study this economic theory closely. (3) Using these tools, each student will construct a simple model or choice problem. The problem can be economic in nature, relate to online dating, or can relate to another area. We will often have time in class to workshop these models, provide feedback, and gain experience in model building.

Grading

Discussion: 20% (Participation points = 10%; Share points = 10%)

Class discussion plays a critical role in this course. As we explore Oyer, we will engage in one class discussion per chapter.

The points for a given chapter can be earned for up to one week after the date of our in-class discussion of that chapter. So, no sandbagging discussion points!

Share points are earned by sharing an article or outside source with the class. The article should be relevant to either the online dating or economic side of that chapter's topic. You can share your article with the class by incorporating it into the in-class discussion, or equivalently by posting your article (with link) to the online discussion forum on Moodle. If an article is shared for a given chapter, one point is earned. If not, zero points are earned.

Participation points are earned by contributing at least one comment to our discussion. There will also be an online discussion forum on Moodle; discussion points can equivalently be earned by contributing a comment or post to the discussion thread online. This includes comments on classmates' shared articles, but does not include sharing your own article. Successfully commenting for a given chapter earns one point.

Pro Tip: Over the course of the semester, you will be asked to build on and model economic and online dating ideas. The in-class and online discussions are excellent sources of ideas. The more you engage in the discussion, and the more you read online (on your own and from the discussion board), the more prepared you'll be for these assignments.

Economic Models and Portfolio: 20%

As part of our study of economic theory, each chapter will introduce a new theoretical concept. Each concept roughly corresponds to its chapter in the Oyer book.

For each chapter, you will be assigned to construct a simple model. The model can be based on your own experience, or reference an article or other information you have encountered. The model can also be an extension or application of a model directly used in the course lecture. You will **submit the model to the Professor** for a simple grade (check, check plus, check minus) and feedback. (10% of total grade)

At the end of the semester, you will be asked to compile your collection of models in a **portfolio** (10%) This will showcase your body of modeling work over the course of the term. Your grade for the portfolio will depend not just on the assignments themselves, but also on how you incorporate feedback from individual assignments.

As the course progresses, we will keep an updated list of the required assignments or “chapters” in the portfolio. This list will always be available. Please keep in mind that if you are putting in the work over the course of the semester, the compilation of the portfolio should not require an excessive amount of work.

What should be included in a model? You should be able to answer these questions with your submission:

- What is the real world phenomenon you are representing?
- What assumptions are you making in the model? How general is it?
- Who are the participants / decision maker (s) in the model? What are they choosing?
- What does the model predict?
- Can you show any and all necessary mathematical work to back up this prediction?

A successful (full credit) model submission should clearly address each of these questions. We will often workshop these models in class, so be sure to include all relevant information such that a classmate could read and follow along with the model.

Pro Tip: I will use some of these models as review questions for the rest of the class. They will be compiled and posted online as the semester progresses. Use your classmates for feedback and advice on model building.

Paper: 20%

The research paper is the student’s opportunity to write on a topic of his or her interest. The topic should touch on an intersection of the online dating market and economics. While the topic can be more online-dating-market-oriented or more economics-oriented, it must be proposed to and approved by the instructor. Additionally, the paper *must include a model and follow the guidelines above for a sufficiently complete model*. Students can work individually or in pairs. The project will proceed in three steps:

1. An *initial proposal* must be submitted by the end of the fourth week of the semester. You can begin work once the topic proposed is approved by the instructor. (5%)
2. A *first draft of the paper* must be submitted by the end of the ninth week of the semester. Each draft will be peer reviewed by a classmate. To receive full credit for the first draft, you must meet the submission deadline, and complete one peer review. (5%)
3. The *final draft of the paper* must be submitted by the date of the final exam. The grade for the final draft will depend half on the completeness and accuracy of your model and half on the supporting/remaining composition of the paper. (10%)

Take Home Midterm : 20%

Take Home Final Exam : 20%

The midterm and final exam will evaluate your ability to work with theoretical economic models. You will be required to solve problems similar to - but extensions of - models we have previously encountered. Extension questions target areas which may seem unfamiliar at first glance. However, with a sufficient understanding of the techniques you will learn in the course, you will be fully

equipped to tackle these extensions. The exam may additionally ask you to construct models based on real world scenarios.

You will have one week to complete each exam. Solutions must be submitted independently.

Course Competencies

The goal of this course in The Economics of Online Dating is to use economic reasoning to explore parallels between online dating markets and decision making, and other real-world markets and decision making contexts. To do so, students will develop an economic theoretical toolkit to analyze a wide range of scenarios. By the end of the course, you should be able to:

- Recognize parallels between economic concepts, including search theory, game theory, incomplete information, and matching markets, and the world of online dating;
- Identify broader real-world implications of these economic concepts;
- Cultivate a theoretical economic toolkit for modeling optimal individual decision making, and strategic decision making; incomplete information; and equilibrium in both non-cooperative and cooperative (matching) scenarios;
- Apply these tools to formally model a broad range of interactions: from online dating to markets for insurance, education, social media, and more;
- Dissect the methodological strengths and limitations of economic models;
- Express confidence in independently modeling and analyzing real world phenomena using this theoretical economic toolkit.

John Maynard Keynes once famously said that “Economics is the science of thinking in terms of models joined to the art of choosing models which are relevant to the contemporary world.” The overarching learning objective in this course is to improve students’ ability to navigate this connection of the **science** and the **art** of economics. In other words, through this course, the objective is to improve students’ ability to think like economists.

Scheduling Conflict Policy

If any due date conflicts with a job or university activity, please let me know *as soon as you know of the conflict* so that we may arrange alternative plans. *Any scheduling conflict with a due date, such as a conflict with a commitment in athletics, must be brought to my attention ahead of time for appropriate arrangements to be made.* No extensions will be given unless 1) there is a medical emergency; or, 2) we have made prior arrangements to resolve a scheduling conflict.

Attendance Policy

Attendance is not taken. Students are individually responsible for any missed course material or passed due dates which result from class absences.

Emergency Preparedness

Classroom Emergency Response Guidance

Please review university emergency preparedness, response procedures and a training video posted at www.pugetsound.edu/emergency/. There is a link on the university home page. Familiarize yourself with hall exit doors and the designated gathering area for your class and laboratory buildings.

If building evacuation becomes necessary (e.g. earthquake), meet your instructor at the designated gathering area so she/he can account for your presence. Then wait for further instructions. Do not return to the building or classroom until advised by a university emergency response representative.

If confronted by an act of violence, be prepared to make quick decisions to protect your safety. Flee the area by running away from the source of danger if you can safely do so. If this is not possible, shelter in place by securing classroom or lab doors and windows, closing blinds, and turning off room lights. Lie on the floor out of sight and away from windows and doors. Place cell phones or pagers on vibrate so that you can receive messages quietly. Wait for further instructions.

Office of Accessibility and Accommodations

If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Peggy Perno, Director of the Office of Accessibility and Accommodations, 105 Howarth, 253.879.3395. She will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential.

Copyright and Fair Use

Course materials are for educational purposes only and limited to students enrolled in the course. They are protected by copyright law and may not be copied, downloaded, stored, transmitted, shared or changed in any way outside of the course.

Student Bereavement Policy

Upon approval from the Dean of Students' Office, students who experience a death in the family, including parent, grandparent, sibling, or persons living in the same household, are allowed three consecutive weekdays of excused absences, as negotiated with the Dean of Students'. For more information, please see the Academic Handbook.

Cheating and Plagiarism

Graphing calculators are permitted during exams provided memory is cleared immediately prior to the exam. Cell phones are prohibited during exams. All exams (including take home exams) should be completed independently.

Plagiarism and cheating will not be tolerated. Please consult the Academic Integrity section of the Academic Handbook: <http://www.pugetsound.edu/student-life/student-handbook/academic-handbook/>.

Study Tips

1. Be sure to engage in our discussions, whether it is in class, or online. Conversation can often reveal new perspectives and insights you haven't considered.
2. Success in this course requires both strong communication skills and a certain level of mathematical proficiency. If you feel you need to improve in either area, I encourage you to work with the Center for Writing, Learning, and Teaching. Additionally, I'm happy to work one-on-one with any student who feels they need some tips. Don't neglect either component of the course!

3. On theory days, in-class lectures are essential. If you miss a class, be sure to obtain lecture notes from a classmate. The lectures will build your theoretical foundation in economics, provide necessary tools for model building exercises, and help develop your expectations for the midterm and final exam.
4. A helpful approach to studying class notes is to read through your notes not long after class. Be sure you understand what you wrote down - and fill in the blanks if there is something you don't. Often in-class notes turn out to be messy. Re-writing your notes can be a valuable exercise in confirming your knowledge of the lecture AND simultaneously producing an organized study guide.
5. These notes will inform the models you build. Use the models to practice and confirm your understand of the in-class material.
6. Many important due dates occur near the end of the semester. Plan your time accordingly and wisely.
7. Exam preparation should take place throughout the semester. Working with your class notes and on homework problems **continuously** and **consistently** each week is the best way to build a foundation as an exam nears. Start thinking about the exam much earlier than from 48 hours prior. Although review questions are not formally assigned, there is a strong positive correlation between completion of review questions and performance on exams. I am always available to provide graded and detailed feedback on these problems if you bring them to me.
8. Visit my office hours. Work with classmates. Discuss the lectures. Be sure to take advantage of the resources you have available.
9. Constructing economic models will be a new experience for many of you. It can be challenging, but a few extra tips for tackling them are:
 - Pay close attention to the models we build in class. How do these models follow the same guidelines you are asked to follow?
 - Don't be afraid to ask questions when constructing models in class. It's important to understand why the model is the way it is, why it isn't some other way, and what makes it tick.
 - Along the same lines: challenge assumptions! All models make some assumptions, so be sure you know what assumptions are made, why they are made, and the role they play.
 - Models can be very general (leaving some values open as variables) or very specific (using exclusively numerical values). A general model is more widely applicable, but more mathematically challenging. If you are working on a general model, gain some intuition by trying out numerical values to test the model. If you are working on a specific model, be careful to not overstate your conclusion. If a prediction holds for one set of numbers, it may not hold for another.