

# PHIL 444: Groups and Choices

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Winter 2023

## Course Description

This course has three parts.

1. **Game Theory** - We will review the basics of game theory, with a special focus on the philosophical assumptions that game theorists make, and the ways in which game theory can model the development of cooperative activity. This will be the longest unit, taking up the first half of the course.
2. **The Origins of Inequality** - We will look at recent work using game theoretic techniques to model how inequality, and in particular gender inequality, could have arisen out of an equal society. This will take up the third quarter of the course.
3. **Group Attitudes** - We will look at what it could mean for groups to have beliefs, desires, plans, intentions and knowledge. This will take up the last quarter of the course.

## Canvas

There is a Canvas site for this course, which can be accessed from <https://canvas.umich.edu>. Course documents (syllabus, lecture notes, assignments) will be available from this site. Please make sure that you can access this site. Consult the site regularly for announcements, including changes to the course schedule. And there are many tools on the site to communicate with each other, and with me.

## Required Materials

There are two textbooks for the course. The first is open access, but the second has to be purchased.

- Game Theory by Giacomo Bonanno, available at [http://faculty.econ.ucdavis.edu/faculty/bonanno/GT\\_Book.html](http://faculty.econ.ucdavis.edu/faculty/bonanno/GT_Book.html).
- The Origins of Unfairness by Cailin O'Connor. (Oxford University Press, 2019)

For the O'Connor book, you can either get an electronic or a paper version of the book, it shouldn't matter which. (I'll be teaching off of the Kindle version, but I will refer to page numbers not Kindle locations.)

The other readings will all be available through the university library, and will be linked on Canvas.

## Course Requirements

1. Do the readings! Nothing I say in class will be more important than the reading.
2. Come to lectures, and ask questions. For the past few years this class has been run largely remotely, with me recording lectures and people watching in their own time. That's not a terrible model, but it really missed the interactiveness of classes. I will **not** have 80 minutes of material to deliver in front of a screen each class; the aim is to talk about this stuff, and you're not interrupting to ask questions.
3. Participate in the discussion sections. It is really important that you interact with the discussion section leader, especially in the early part of the course. Some of this material is hard, and you can only grasp it by talking it through in small groups.
4. Complete 5 of the 6 weekly assignments from part 1 of the course. (You should complete all six, but only the best five will count for credit - this is to allow you to drop one if there is some emergency one week. If the future resembles the recent past.)
5. Write short papers (5-6 pages, or about 1500 words) for both the second and third parts of the course. The topics for these will be distributed in advance. The first is due on **March 31** and the second is due on **April 26**.

Both of the papers may be co-written with one other student in the class. But you may not co-author both papers with the same other student.

## Summary of Grading System

1. Weekly assignments - 10% each, 5 assignments, 50% total.
2. Two papers - 25% each, 2 papers, 50% total.

## Plagiarism

Although team-work, and even co-authorship, is encouraged, plagiarism is strictly prohibited. You are responsible for making sure that none of your work is plagiarized. Be sure to cite work that you use, both direct quotations and paraphrased ideas. Any citation method that is tolerably clear is permitted, but if you'd like a good description of a citation scheme that works well in philosophy, look at <http://bit.ly/VDhRJ4>.

You are encouraged to discuss the course material, including assignments, with your classmates, but all written work that you hand in under your own name must be your own. If work is handed in as the work of two people, you are affirming that each person did a fair share of the work. (Note that when you're submitting work on Canvas, you have to each submit the paper, even if it is co-authored. That way Canvas knows that everyone has turned in work.)

You should also be familiar with the academic integrity policies of the College of Literature, Science & the Arts at the University of Michigan, which are available here: <http://www.lsa.umich.edu/academicintegrity/>. Violations of these policies will be reported to the Office of the Assistant Dean for Student Academic Affairs, and sanctioned with a course grade of F.

## Disability

The University of Michigan abides by the Americans with Disabilities Act of 1990, Section 504 of the Rehabilitation Act of 1973, and other applicable federal and state laws that prohibit discrimination on the basis of disability, which mandate that reasonable accommodations be provided for qualified students with disabilities.

If you have a disability, and may require some type of instructional and/or examination accommodation, please contact me early in the semester. If you have not already done so, you will also need to register with the Office of Services for Students with Disabilities. The office is located at G664 Haven Hall.

For more information on disability services at the University of Michigan, go to <http://ssd.umich.edu>.

## Class Schedule

Most of the readings are from the two textbooks. The other readings are all in the UM library or online. You might have to be logged in to UM to get them though. The names of the papers are links to a source where you can get a copy of the paper.

The video lectures will have a number of the form  $x.y$ , where  $x$  is the week they are for, and the  $y$  is their order in the week. You should watch these **before** class, and we can discuss the material in class.

I'm away January 27 which complicates the schedule for a while, especially since the classes are meant to go in pairs. For a couple of weeks the units will start on Thursday and end on the following Tuesday, until we'll have a short unit on Probability to catch back up.

### Week 1: Introduction

**Tuesday, January 03**

No class, classes start on Wednesday

**Thursday, January 05**

**Topic** Introduction

**Reading** Bonanno, Chapter 1

### Week 2: What are Games

**Tuesday, January 10**

**Topic** Games, Payouts and Utilities

**Reading** Bonanno, Sections 2.1 and 2.2.

**Thursday, January 12**

**Topic** Dominant Strategies and Equilibria

**Reading** Bonanno, Sections 2.5 and 2.6.

- Weekly assignment 1 due on Friday, January 13 at 5pm.

### Week 3: Games and Time

**Tuesday, January 17**

**Topic** Dynamic Games

**Reading** Bonanno, Sections 3.1–3.3.

**Thursday, January 19**

**Topic** Backward Induction

**Reading** Bonanno, Sections 3.4 and 3.5.

- Weekly assignment 2 due on Friday, January 20 at 5pm.

## Unit 4: Information and Utility

**Tuesday, January 24**

**Topic** Games with Imperfect Information

**Reading** Bonanno, Sections 4.1-4.4.

**Thursday, January 26**

No class - Professor away at conference

**Tuesday, January 31**

**Topic** Utility

**Reading** Bonanno, Sections 5.1-5.3.

- Weekly assignment 3 due on Friday, February 03 at 5pm.

## Unit 5: Games with Cardinal Payoffs

**Thursday, February 02**

**Topic** Nash Equilibria

**Reading** Bonanno, Sections 6.1-6.3

**Tuesday, February 07**

**Topic** Rationalizable Strategies

**Reading** Bonanno, Section 6.4.

## Unit 6: Probability

**Thursday, February 09**

**Topic** Probability

**Reading** No new reading

- Weekly assignment 4 due on Friday, February 10 at 5pm.

## Week 7: Games with Time and Uncertainty

**Tuesday, February 14**

**Topic** Extensive Form Games

**Reading** Bonanno, Chapter 7

**Thursday, February 16**

**Topic** Signaling Games

**Reading** Bonanno and Spence papers below.

- Weekly assignment 5 due on Friday, February 17 at 5pm.
- Giacomo Bonanno, Spence's model of Signaling in the job market (available on Canvas)
- Michael Spence, Job Market Signaling

## **Week 8: Famous Cooperation Games**

**Tuesday, February 21**

**Topic** Prisoners Dilemma

**Reading** Axelrod and Hamilton paper below

**Thursday, February 23**

**Topic** Stag Hunt

**Reading** Skyrms paper below

- Weekly assignment 6 due on Friday, February 24 at 5pm.
- Robert Axelrod and William Hamilton, The Evolution of Cooperation
- Brian Skyrms, The Stag Hunt

## **Week 9: Games with Types**

**Tuesday, March 07**

**Topic** Gender and Coordination

**Reading** O'Connor, Intro and Chapter 1

**Thursday, March 09**

**Topic** Equilibria Involving Types

**Reading** O'Connor, Chapters 2 and 3

## **Week 10: The Evolution of Gender**

**Tuesday, March 14**

**Topic** Gender and Convention

**Reading** O'Connor, Chapter 4

**Thursday, March 16**

**Topic** Convention and Power

**Reading** O'Connor, Chapter 5

## **Week 11: The Evolution of Gender**

**Tuesday, March 21**

**Topic** First Mover Advantage and Disadvantage

**Reading** O'Connor, Chapter 6

**Thursday, March 23**

**Topic** Discrimination

**Reading** O'Connor, Chapters 7-10

## **Week 12: Group Intention**

**Tuesday, March 28**

**Topic** Gilbert's Theory

**Reading** Gilbert Paper and First Bratman paper

- Margaret Gilbert, Walking Together: A Paradigmatic Social Phenomenon
- Michael Bratman, Shared Intention
- Michael Bratman, Shared Cooperative Activity

**Thursday, March 30**

**Topic** Bratman's Theory

**Reading** Second Bratman paper

## **Week 13: Group Knowledge**

**Tuesday, April 04**

**Topic** Group Knowledge and Individual Knowledge

**Reading** Lackey paper and Bird paper

- Jennifer Lackey, Socially Extended Knowledge
- Alexander Bird, Social knowing: The social sense of 'scientific knowledge'
- Neil Levy and Mark Alfano, Knowledge From Vice: Deeply Social Epistemology

**Thursday, April 06**

**Topic** Public Virtue and Private Vice

**Reading** Levy and Alfano paper

## **Week 14: Group Belief**

**Tuesday, April 11**

**Topic** Group probability aggregation

**Reading** Russell et al paper

- Jeffrey Sanford Russell, John Hawthorne and Lara Buchak, Groupthink
- Emily Sullivan et al, Can Real Social Epistemic Networks Deliver the Wisdom of Crowds?

**Thursday, April 13**

**Topic** Social Wisdom

**Reading** Sullivan et al paper

## **Week 15: Revision**

No new material - we'll just discuss anything that people felt went by too quickly, or that they would like to revise for essays.

### Full List of Papers

- Robert Axelrod and William Hamilton, The Evolution of Cooperation
- Alexander Bird, Social knowing: The social sense of 'scientific knowledge'
- Michael Bratman, Shared Intention
- Michael Bratman, Shared Cooperative Activity
- Giacomo Bonanno, Spence's model of Signaling in the job market
- Margaret Gilbert, Walking Together: A Paradigmatic Social Phenomenon
- Jennifer Lackey, Socially Extended Knowledge
- Neil Levy and Mark Alfano, Knowledge From Vice: Deeply Social Epistemology
- Jeffrey Sanford Russell, John Hawthorne and Lara Buchak, Groupthink
- Brian Skyrms, The Stag Hunt
- Michael Spence, Job Market Signaling
- Emily Sullivan et al, Can Real Social Epistemic Networks Deliver the Wisdom of Crowds?