Instructor: Professor Tse-min Lin
Office: BAT 4.144 (Phone: 232-7248; Email: tml@austin.utexas.edu)
Office Hours: MW 11:00-12:30 & By Appointment

Writing Flag

This course carries the Writing Flag. Writing Flag courses are designed to give students experience with writing in an academic discipline. In this class, you can expect to write regularly during the semester, complete substantial writing projects, and receive feedback from your instructor to help you improve your writing. You will also have the opportunity to revise one or more assignments and to discuss your peers' work.

Course Objectives and Overview:

The term “rational action” as used in the economic approach is generally equated with maximizing behavior. Individual human agents are assumed to have consistent and stable preferences over alternatives each of which is assigned some “utility.” Maximization entails choosing the course of action that yields the highest expected utility. One is rational to the extent one uses the best means to achieve one’s goals.

In this course we will learn a variety of social and political models based on such a notion of individual rationality and to investigate its collective consequences. In particular, we will find through the “Prisoner’s Dilemma,” the “Tragedy of the Commons,” and the “Free-Rider Problem” a contrast between rational man and irrational society. Self-serving behavior of individuals does not usually lead to collectively satisfactory results.

So this course is about the stories of the Prisoners, the Herdsmen, and the Free-Riders. As a matter of fact, we will show that the Dilemma, the Tragedy, and the Problem share essentially the same mathematical structure, and hence they are essentially the same story - a story about human destiny. We will then explore the ways by which we might be able to escape such a destiny.

The Prisoner’s Dilemma: To C, Or Not To C?

If you have not heard of the story of the Prisoners, the following is a version retold by Dennis Chong: Two apprehended suspects to a serious crime are detained incommunicado and faced with the following choice: each has been given the opportunity to turn state's witness for the purpose of convicting the other; if one prisoner agrees to confess while the other keeps silent, the confessor will get off scot-free while the other prisoner will be convicted and sentenced to ten years in prison. Finally - and herein lies the dilemma - if both prisoners elect to confess to the authorities, both will end up being convicted for the crime, although they will receive a slightly reduced sentence (e.g., five years) for having cooperated with the police.
<table>
<thead>
<tr>
<th>The Classical Prisoner’s Dilemma</th>
<th>Suspect 2</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Stay Mum</td>
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<tr>
<td>Suspect 1</td>
<td></td>
</tr>
<tr>
<td>Stay Mum</td>
<td>(1, 1)</td>
</tr>
<tr>
<td>Confess</td>
<td>(0, 10)</td>
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</tbody>
</table>

*The question is, of course, to C, or not to C?*

The Tragedy of the Commons: the Remorseless Working of Things

Here is the story as told by Garrett Hardin: Picture a pasture open to all. It is to be expected that each herdsman will try to keep as many cattle as possible on the commons. Such an arrangement may work reasonably satisfactorily for centuries because tribal wars, poaching, and disease keep the numbers of both man and beast well below the carrying capacity of the land. Finally, however, comes the day of reckoning, that is, the day when the long-desired goal of social stability becomes a reality. At this point, the inherent logic of the commons remorselessly generates tragedy.

**Required Textbooks:**


The readings include journal articles and book chapters that are not in the required texts but are available online. The following are the internet sites at which you can search for these readings:

* Blackboard [https://courses.utexas.edu/webapps/login/]
* JSTOR [http://www.jstor.org/]
* UT Online Journal [http://www.lib.utexas.edu/]
* UT Databases and Indexes to Articles [http://www.lib.utexas.edu/indexes/index.php]

**Course Requirements and Grading:**

*Warning: This course requires analytical skills, including mathematics, logical deduction, tabulating & diagraming, and mastery of abstract concepts.*

1. First Paper (6-8 pages): A case of the two-person, one-shot prisoner’s dilemma (25%).
2. Second Paper (7-9 pages): a case of the two-person, iterated prisoner’s dilemma (25%).
3. Third Paper (8-10 pages): a case of collective action or n-person prisoner’s dilemma (30%).
4. Presentation (6-10 min): one of your papers (10%).
5. Attendance (10%)

Detailed paper assignments will be posted on the “Assignment” section of Blackboard. The first paper is due on February 18, the second on March 25, and the third on May 6. Presentations will be held during Weeks 14-16.
Regular class attendance is required. If you miss a class without permission, one-fifth (1/5) of the 10% total grade allocated for attendance will be deducted. Penalty will be doubled during the presentation weeks. * Plus/minus grades will be assigned for the final grade.

**Students with Disabilities:**

Students with disabilities may request appropriate academic accommodations from the Division of Diversity and Community Engagement, Services for Students with Disabilities, 471-6259. For more information, visit [http://www.utexas.edu/diversity/ddce/ssd/](http://www.utexas.edu/diversity/ddce/ssd/).

**University Honor Code:**

The core values of the University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the University is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community.

Unauthorized collaboration and plagiarism are strictly prohibited. For definitions and examples of unauthorized collaboration and plagiarism, visit [http://deanofstudents.utexas.edu/sjs/acint_student.php](http://deanofstudents.utexas.edu/sjs/acint_student.php)

**Accommodations for Religious Holidays:**

By UT Austin policy, you must notify me of your pending absence at least fourteen days prior to the date of observance of a religious holy day. If you must miss a class, an examination, a work assignment, or a project in order to observe a religious holy day, you will be given an opportunity to complete the missed work within a reasonable time after the absence.

**Emergency Evacuation Policy:**

Occupants of buildings on The University of Texas at Austin campus are required to evacuate buildings when a fire alarm is activated. Alarm activation or announcement requires exiting and assembling outside.

Familiarize yourself with all exit doors of each classroom and building you may occupy. Remember that the nearest exit door may not be the one you used when entering the building.

Students requiring assistance in evacuation shall inform their instructor in writing during the first week of class.

In the event of an evacuation, follow the instruction of faculty or class instructors.

Do not re-enter a building unless given instructions by the following: Austin Fire Department, The University of Texas at Austin Police Department, or Fire Prevention Services office.

Behavior Concerns Advice Line (BCAL): 232-5050
Emergency Information Web Site: [http://www.utexas.edu/emergency](http://www.utexas.edu/emergency)
Course Outline and Assignments: (# indicates articles that are available online.)

Week 1: Introduction

# Anonymous, “Apartment Complex” (Sample First Paper) [Blackboard/Assignment]
# Elliott Ash, “The Ice Cream Man Dilemma” (Sample First Paper) [Blackboard/Assignment]
# Austin L. Wright, “Homeostasis at Risk: The Senkaku Islands Dispute as a Prisoner’s Dilemma” (Sample First Paper) [Blackboard/Assignment]

Week 2: Equilibrium Analysis and Social Science Models

Schelling, 1-6

Week 3: The 2-Person and N-Person Prisoner’s Dilemma

Schelling, 7

Week 4: The Evolution of Cooperation I

Axelrod, 1-4
No. 2, pp. 76-82. [Blackboard]
# (Optional) S. J. Brams, “The Paradox of Cooperation.” In his Paradoxes in Politics: An
Introduction to the Nonobvious in Political Science. Free Press, 1976, pp. 79-111. [Blackboard]

Week 5: The Evolution of Cooperation II

Axelrod, 5-9
# R. B. Parks, “What if ‘Fools Die’?: A Comment on Axelrod.” American Political Science
Review, December 1985, Vol. 79, No. 4, pp. 1173-1174. [JSTOR]
# R. Boyd and J. P. Lorberbaum, “No Pure Strategy is Evolutionary Stable in the Prisoner’s
# M. A. Nowak, R. M. May, and K. Sigmund, “The Arithmetics of Mutual Help.” Scientific
272, No. 6, pp. 110-115. [Blackboard]
# (Optional) J. Bendor and P. Swistak, “The Evolutionary Stability of Cooperation.” American

First Paper Due on Friday, February 18

Week 6: Reputational Concerns

2, No. 2, pp. 265-279. [JSTOR]
# D. M. Kreps, “Corporate Culture and Economic Theory.” In J. E. Alt & K. A. Shepsle, eds.,
2006. [Blackboard]

Week 7: The Problem of Collective Action I

Chong, 1-2.
# R. Hardin, “Collection Action and Prisoner’s Dilemma.” In his Collective Action, Baltimore,
Johns Hopkins University Press, 1982, pp. 16-37. [Blackboard]
# N. S. Glance and B. A. Huberman, “The Dynamics of Social Dilemmas.” Scientific American,

Week 8: The Problem of Collective Action II

Chong, 3-4 (Tuesday)
Chong, 5-6 (Thursday)

Week 9: Spring Break

Week 10: Institutional Approaches to the Prisoner’s Dilemma

# R. Hardin, “Collective Action as an Agreeable n-Prisoners’ Dilemma.” Behavioral Science,
Second Paper Due on Friday, March 25

Week 11: Governing the Commons I

Ostrom, 1-2 (Tuesday)
Ostrom, 3-5 (Thursday)

Week 12: Governing the Commons II

Ostrom, 6

Week 13: The Internet as a Virtual Commons

Howard Rheingold, entire book

Week 14-16: Student Presentations

Third Paper Due on Friday, May 6 (No Final Exam)