ECON 490: Economics of Coordination
Spring 2021: *Section F3/F4*:TR 2:00-3:20 pm; Room: online
Department of Economics • UIUC
Syllabus

Class Compass Site: *https://compass2g.illinois.edu/*

There will be no face-to-face lectures. The lectures will be presented synchronously via Zoom and will be recorded and posted on the course's Compass site.

Instructor: Ali Toossi
Office: 205 David Kinley Hall
Phone: 333-6777
E-mail: toossi@illinois.edu
Office hours: *Wednesdays 2:00 -3:00 pm*.
  (1) To set up an appointment during the office hours (or at other times if due to difference in time zone the office hour time is not appropriate for you), you must contact me in advance (by sending an email to toossi@illinois.edu). I will send you the Zoom link. In case there are more than one student we will have a group office hour.
  (2) In order to make it easier for you to ask questions I have created a discussion board in compass with the following forums:
      a. a forum for your feedbacks about the lectures and for answering questions regarding the lectures and the lecture notes. I welcome any suggestions about improving the lectures.
      b. a forum to answer question about assignment and exams.
  (3) The best way to contact me is to post a question in the discussion board. You can also send me an email at "toossi@illinois.edu". I will try to respond as soon as possible.

Objective: You can consider this course an extension of intermediate microeconomics. The main objective of this course is to explore the conditions under which the unintended consequences of interactions between many agents—each acting with their own free will and without any coercion—will result in desirable or undesirable aggregate outcomes. This course will help you understand how markets work and what the necessary institutional setups are to have a well-functioning market. It also illustrates how economists use models to answer specific questions and emphasizes the important role of relative prices, changes in opportunity costs, and increasing returns. Here are some of the topics we will consider: the role of competition, social preferences & incentives; information; externalities; increasing returns; the existence of multiple equilibrium; problem of collective action; and the role of government. We will employ the tools of optimization, game theory, and evolutionary game theory.

Prerequisites: I do not recommend you take this course unless you know:
1- **Microeconomics**: at the intermediate level
2- **Calculus**: differentiation, Constraint & unconstraint optimization

Textbook: There is no *required* textbook. I will provide lecture notes and copies of some additional readings as the course progress. However, some of the lectures will be based on the following texts.

- The Economy by the CORE project: http://core-econ.org/.
  For free registration go to: http://read.core-econ.org/register
- Campbell, Donald. *Incentives: Motivation and the Economics of Information*. Cambridge university press. 2006
- Acemoglu, Daron: *Political Economy lecture notes*. https://economics.mit.edu/files/8753
- Bowles, Samuel. *Microeconomics: Behavior, Institutions, and Evolution*. Princeton University Press. 2003
- Voigt, Stefan. *Institutional Economics: An Introduction.* Cambridge University Press.2019
- Chwe, Michael Suk-Young. *Rational Rituals: Culture, Coordination, and common knowledge.* Princeton University Press. 2013

Grades:
For students taking course for 3 credit hours grades will be based on homework assignments (30%) & two exams: midterm (30%), and a cumulative final exam (40%).
For students taking course for 4 credit hours grades will be based on homework assignments (25%), two exams: midterm (25%), a cumulative final exam (35%), and a paper (15%).

Grades Cutoffs: I use a +/- scale. The cut-offs for +/- are as follows (there will be adjustments based on the performance of the class):

A+	A	A-	B+	B	B-	C+	C	C-	D+	D	D-
≥97%	≥93%	≥89.5%	≥87%	≥83%	≥79.5%	≥77%	≥73%	≥69.5%	≥67%	≥63%	≥59.5%

Homework:
(1) The assignment with the lowest grade will be dropped.
(2) I will post the assignments in Compass in the PDF format.
(3) You can do your work in whatever program you are comfortable with (e.g., Word) but all solutions must be submitted in PDF format.
(4) You can also complete the assignments on paper, scan them, save them as a PDF file, and submit them. If you choose to do your assignments on paper, they must be completed neatly, professionally, and legibly.

(5) Assignments should contain the following information on the **right-hand corner** of the first page: **your name**, assignment number, and the date.

(6) Use the following format to name your solution file: FIRST NAME_ LAST NAME-ASSIGNMENT##(SP21). The symbols ## stand for assignment number.

(7) Email your solutions to the this email address: econ490atUIUC@gmail.com by the announced deadline.

Exams:

(1) Exams are tentatively scheduled for the following dates and during the class times. We can move the exam time to the evening if it is more convenient.
   Midterm: Thursday March 11, During class time
   Final Exam: *Wednesday May 12; 1:30 pm – 4:30 pm*

(2) Here is the procedure how we will conduct the exams:

a. I will post the exam on Compass 10 minutes before the exam starts.

b. You must email the PDF file of your solution to the exam to the email address econ490atUIUC@gmail.com at most by 10 minutes after the exam end time.

c. It is preferable you download the exam, print it and answer the questions in the blank spaces provided.

d. If you do not have a printer, answer the questions on paper and then scan them. Make sure you CLEARLY specify the question number and part you are answering and that you complete the questions in the order they appear on the exam. Make sure that your handwriting is clear and readable.

e. PRINT your name and Netid in the space provided at the top of the first page of the exam (or on the paper you answer the questions).

f. Save your solutions as a PDF file (The pictures of your solution IS NOT ACCEPTED UNLESS IT IS CLEAR AND READABLE). Use the following format to name your solution file: FIRST NAME_ LAST NAME-EXAM #(SP21). The symbols # stand for exam number.

(3) If you cannot take a test because of illness, you have to provide me with a formal statement from a **doctor**, in addition to the note from the Emergency dean. The doctor's statement should explain why your particular illness prevents you from taking the test on the date specified below.

Attendance:
Attendance is required. If, for any reason you cannot attend the live sessions, you need to contact me to get my approval for not attending the live sessions.

Academic Integrity:
The University's rules of academic honesty will apply to all examinations and written assignments in this class. See the Code on Campus Affairs at:
http://studentcode.illinois.edu/article1_part4_1-401.html

Disability Accommodations:
To obtain disability-related academic adjustments and/or auxiliary aids, students with disabilities must contact the course instructor and the Disability Resources and Educational Services (DRES) as soon as possible. To contact DRES you may visit 1207 S. Oak St., Champaign, call 333-4603 (V/TTY), or e-mail a message to disability@uiuc.edu."

Term Paper (*This is only required from students taking the course for four credit hours.*)
The goal of this assignment is for students to connect the concepts they learn in the class to real-world events and observations. Note that it is not enough to choose a general topic and write a summary of information about it. I expect you to pose a specific question. Your paper should explore the possible answers to that question using economic reasoning, evidence, and analysis. When I read your essay, I will be looking especially for appropriate use of the concepts and terms that we discussed in class - your explanations should provide sufficient background for a reader who has not taken the course.

- **Teamwork:** Students may work together on a single term paper that they submit as a group. These groups must not exceed two people.
- **Paper proposal**: due by **11:59 pm April 7.** Send it to econ490atUIUC@gmail.com
  In approximately one page, the proposal should:
  - ○ Clearly identify the question that you plan to address.
  - ○ Give some background on the question's context and explain why it is interesting.
  - ○ Indicate at least two specific of information that you will use to answer the question.
- **Term Paper:** due by **11:59 pm May 5.** Send it to econ490atUIUC@gmail.com
  The final paper should clearly state a well-defined question or questions related to the course material, explain the context and significance of those questions, and discuss their possible answers.
- **Paper length**: I am more interested in the quality of your output than the quantity. However, I expect the paper to be at least 15 pages long.

Course outline:
1) Growth & Economic Systems
   a. Long term growth: stagnation followed by exponential growth
   b. The technological & industrial revolution:
      i. Positive & negative consequences: productivity, a connected world, environmental impact, inequality (within and between countries)
   c. Economic Systems: feudalism, slave economy, central planning, capitalism
   d. capitalist system:

        i. Institutional set up: private property, markets & firms

        ii. comparative advantage, specialization & expansion of markets

  e. Did capitalist system cause the exponential growth? Natural experiment: West vs East Germany, South versus North Korea

  f. Capitalist countries and divergence in growth: not all capitalist economies are the same, economic & political conditions

2) Models:

  a. What is a model?

  b. importance of relative prices & change in opportunity cost in explaining historical changes

  c. Example: Why industrial revolution happened in England? One possible answer: change in relative prices ➔Model: technology & isocost

  d. Example: Why stagnation for a long term? Malthusian model

        i. Modeling relationship between per capita income, and population level & population growth

            1. Malthusian trap as an unintended consequence of human actions.

        ii. Is Malthus model correct? Natural experiment (the plague 1346-53)

        iii. Escape from Malthusian trap: Demographic transition & technological revolution

3) Problem of Social order

  a. Uncertainty & violence

  b. Conflict between individual goals & group goals

  c. Problem cooperation & coordination

  d. Human nature & social order

  e. Cooperation in humans compared with other animals

4) Social Order & Institutions

  a. What do we mean by institutions?

  b. Sanction mechanisms

  c. Spontaneous vs made order

  d. Big Questions: State (despotic versus shackled, weak versus strong), state vs market (substitute or complement?)

5) History of thought:

  a. Thomas Hobbes (1588-1679)

  b. John Locke (1632-1704)

  c. Adam Smith (1723-1790)

6) Information & incentives:

  a. Central planning: problems with information & incentive

  b. Market:

        i. Information: equilibrium price reflects marginal cost and marginal value.

        ii. Incentives: economic rents as a driving force, carrot & stick.

        iii. Example: Market dynamics (Lincoln blockade of Southern states and its effect on England, India & Egypt)

7) Equilibrium & efficiency:

  a. First welfare Theorem

  b. Example: Robinson Crouse economy

8) Market failures:

  a. Is competition always good? Positional goods & positional externality.

        b. Solution to inefficient equilibrium
- i. Coase theorem & privatization
- ii. State: ownership, Pigouvian taxes, regulation
- iii. Local communities: Elinor Ostrom

9) Game Theory:
- a. Static games: normal form, Nash Equilibrium
- b. Taxonomy of games

10) Problem of collective action & Prisoner's dilemma

11) Models with Multiple Equilibrium:
- a. Social action: complementarity, increasing return & positive feedback
- b. Self-fulfilling expectation: bank runs, joining a revolution,
- c. Network externality: increasing return on both supply and demand side
- d. Neighborhood Segregation: Thomas Schelling model
- e. Corruption & rent seeking: economy with multiple equilibrium

12) Human nature & solution to Prisoner's dilemma:
- a. Solution assuming own regrading preferences:
  - i. Dynamic Games: subgame perfect equilibrium,
  - ii. Repeated games
- b. social preferences: other regarding preferences
  - i. Existence: experimental games
  - ii. Incentives & Social preferences:
    1. separability assumption
    2. Interaction: substitute or complement?

13) How institutions develop?
- a. Efficient institution view
- b. Social conflict view
- c. The belief/ideology view
- d. The incidental institutional view
- e. Rituals & common knowledge