

ECON 712-008: Econometrics of Networks, Fall 2021

University of Pennsylvania

Syllabus

(Tentative: August 16, 2021)

Instructor: Wayne Gao

- Email: waynegao@upenn.edu
- Office: PCPSE 630
- Office Hours: By Appointment
- Lecture Time: Tuesday & Thursday, 10:15am-11:45am, Oct. 19 to Dec. 9, 2021.

Course Description:

The topic of this course is the econometrics of social and economic networks. It will begin with an introduction of the basic concepts related to networks, and surveys important papers as well as recent work in this relatively young but fast-growing literature. The first part of the course will focus on models of network effects (i.e., how a given network structure affects certain outcome variables of interest), while the second part will cover models of network formation (i.e., how network structures are formed).

The course features a combination of lectures and student presentations. The lectures introduce the topics, the main problems and ideas, and some technical results. The students' presentations complement the lectures by discussing related papers, empirical applications, and/or original research ideas.

Prerequisite:

- Econ 705

Weekly Plan (Tentative)

- Week 1 (10/19): introduction
- Week 2 (10/26): social interaction
- Week 3 (11/02): social interaction with network endogeneity
- Week 4 (11/09): treatment and diffusion in networks

- Week 5 (11/16): dyadic network formation
- Week 6 (11/23): dyadic/strategic network formation
- Week 7 (11/30): strategic network formation
- Week 8 (12/07): student presentations

Requirements (Tentative):

1. Assigned presentations from week 2 to week 7. Every week we will have one or two students, each giving a 15-minute presentation based on my assigned papers.
2. Presentation in week 8. Students can choose any topic related to the course upon approval. I am also happy to provide some ideas on potential topics. The length of the presentations will be determined based on the course enrollment.