

# ECON 8300: Econometrics of Networks, Spring 2025

University of Pennsylvania

## Syllabus

(Tentative: January 15, 2025)

### Instructor: Wayne Gao

- Email: waynegao@upenn.edu
- Office: PCPSE 630

### Lectures:

- Time: 1:45-3:15pm, Tue & Thu, March 18 to April 29
- Location: WILL 317

### Course Description:

The course introduces you to *the econometrics of social and economic networks*, covering topics such as peer effects, causal inference under network interference, diffusion in networks, homophily effects, dyadic network formation, strategic network formation, and multiplex network formation.

Along the way as necessitated by the topics under discussion, the course will also cover advanced econometric methods for identification, estimation and inference under nonparametric/semiparametric, point-identified/set-identified and additive/non-additive settings.

The course will not only cover classical approaches and important papers on the selected topics, but will also discuss recent work, ongoing research, as well as open questions. Students will be thus expected to present selected working papers and/or original research proposals. The exact format of the presentations will be determined based on enrollment in the course.

## **Course Requirements:**

In terms of course requirements, students can choose between:

- (1) A final project by “critically and creatively” replicating an empirical paper, using (some of) the methods covered in this course;
- (2) An original research proposal on a related topic (which can be preliminary).

Each student will be asked to make a final presentation about (1) or (2) towards the end of the semester. The exact format and length of the presentations will be determined based on enrollment in the course.