

ECON 4225
Macroeconomics of Inequality: Data and Implications
Fall 2025

PRELIMINARY SYLLABUS, FINAL VERSION POSTED AT THE START OF TERM

Instructor: Lukas Nord (lksnord@sas.upenn.edu, PCPE 531)

Lecture Times: TR 10:15AM-11:45AM. (TENTATIVE, CONFIRM WITH COURSE CATALOGUE)

Office Hours: TBA

Teaching Assistant: TBA

TA Office Hours: TBA

Course Description: Inequality among economic agents is a defining feature of modern economies: Households at the top of the wealth distribution own billions of dollars, while the bottom half of the population has almost no wealth and lives paycheck to paycheck. Some firms have thousands of employees while others operate only with a handful of workers. And inequality among both households and firms has been on the rise. Which forces shape the distribution of income and wealth across households? Why do some firms hire more employees than others? Are all households and firms exposed to Macroeconomic trends in the same way? And how do differences across households and firms affect aggregate outcomes in the economy?

The objective of the course is to introduce students to micro-data evidence on the rich heterogeneity among economic agents and to provide them with simple theories to understand and analyze this heterogeneity and its interaction with Macroeconomic outcomes. The course is structured in two parts, the first focussing on economic differences across households and the second focussing on differences across firms. Topics covered in the first half include the distribution of income and wealth across households, spending and cost of living, as well as the role of inequality over the business cycle. Topics covered in the second half of the course include the distribution of employment and output across firms, the misallocation of resources and aggregate productivity, as well as trends in market power, industry concentration and corporate profits.

Course Outline: This is a suggestive outline of the course. The list of topics and the time allocated to each topic may be revised during the course, depending on students' progress and interests.

PART 1: Households

1. Introduction (2 weeks)

- Households' decision problem
- The budget constraint and its relation to national accounts
- Data sources and measurement
- Introduction to data analysis with R

2. Income Distribution (3 weeks)
 - Components of income and their distribution
 - Labor earnings: Employment and wages
 - Macro trends and labor earnings: Automation and international trade
 - Redistribution: Taxes and transfers
3. Wealth Distribution (2 weeks)
 - Wealth inequality and portfolio composition
 - Drivers of wealth inequality: Returns, savings rates, asset prices
4. Spending, Prices, and Consumption (2 weeks)
 - The consumption bundle, prices and cost of living indices
 - Marginal propensities to consume out of income
5. Inequality and Business Cycles (1 week)
 - Unequal effects of business cycles
 - The role of inequality for business cycles

PART 2: Firms

1. Introduction (1 week)
 - The production function and firms' decision problem
 - Data sources and measurement
2. The Distribution of Employment and Output (2 week)
 - The firm size distribution
 - Misallocation and aggregate productivity
 - The role of firms for labor income inequality
3. Market Power (1 week)
 - Firms decision problem with market power
 - Trends in market power: Superstar firms, markups, and the labor share

Prerequisites: Students must be familiar with the mathematical concepts of functions, derivatives, optimization, and other material covered in one year of calculus, as well as some basic knowledge of statistics and regression analysis. Strict prerequisites are ECON 2100, 2200, 2300.

Course Materials: There is no required textbook for the course. The main materials are the lecture slides, which will be provided through Canvas. Attendance to the lectures is the best way to study for the course. Selected additional readings will be provided during the course. Some of the material in the first part is treated in *Edward N. Wolff: Poverty and Income Distribution (2nd Edition)*. Students who decide to complete homework assignments in R can find a comprehensive introduction to all necessary tools in *Garrett Grolemund and Hadley Wickham: R for Data Science* (digital version available free of charge here: <https://r4ds.hadley.nz>).

Course Policies: The Department of Economics maintains a common set of policies for all courses. All students taking this class must read the policies carefully and agree to adhere to them at all times. All listed policies apply even if not explicitly stated in this syllabus. The policies can be found at: <https://economics.sas.upenn.edu/undergraduate/course-information/course-policies>

Grading: Three midterm exams will each count for 20% of the final grade. Midterms are generally in person, closed book, and not cumulative. Two homework assignments will each account for 15% of the final grade and will require students to work with data to reproduce some of the results discussed in class. Students may work in groups, but every student must hand in an individual solution. Throughout the term, I will assign short readings (newspaper articles, blog posts, non-technical research summaries) which we will discuss in the beginning of the following lecture. Active participation in these discussions and the course in general will account for 10% of the final grade. Scores on individual assignments and midterms will be aggregated at the end of the semester and converted into a letter grade, I will not assign intermediate letter grades.

A valid excuse needs to be provided if a student misses one of the midterms or the submission deadline for a homework assignment. The missed examination will be made up in one of two ways, to be decided on a case-by-case basis at the discretion of the instructor: (1) A make up midterm or the extension of a homework deadline. (2) The student will be excused for the missed examination and its weight in the final grade will be reassigned to the completed midterms or homeworks.

To request a **re-grading** of a midterm or homework, a student has to return the graded piece within one week after the grade was received together with a short written statement explaining the complaint (i.e. which question was graded wrongly and why it was graded wrongly). I will then re-grade the entire midterm / homework. Note that there is no guarantee that after re-grading the grade will be higher than before and it may be lower. A week after the midterm / homework has been returned the scores cannot be changed anymore and no further complaints will be accepted.

Exam Dates: Dates for midterms and homework deadlines are posted below, taking into account Penn's academic calendar and observed holidays. Completed homework assignments must be submitted through Canvas before class starts on the day of the deadline. Students should review the dates carefully. If a student has a conflict with one of these dates (including additional religious observance), the student should notify me by email before the second lecture. After this date I cannot accommodate personal requests in scheduling examinations.

Assignment	Date
Midterm 1	TBA
Homework 1	TBA
Midterm 2	TBA
Homework 2	TBA
Midterm 3	TBA