

# ECON9310B – Topics in Macroeconomics

This course is based on Professor Kyle Herkenhoff's macro-labor course. Below you will find the full Syllabus for his course, but for this course he will cover the following topics:

1. Monopsony I, II, III
3. Week 4 competitive search
4. Week 5 block recursive equilibria
5. Estimation and applications of block recursive techniques via Labor and Credit I, II

# Econ 8186: Macro Structural Labor and Search Theory & Computation

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This course is designed to bring hard-working students to the frontier of the macro labor/search and matching literature, both theoretically and computationally (in fact, the two aspects are becoming less separable over time). We will work through the various generations of search models, from exogenous meetings, to random meetings, and finally to directed meetings. Along the way we will look at the major questions these models have been used to assess, and discuss potential avenues for future research in each of these setups. **We will simultaneously work through recent theoretical advances on the topics of labor market power, minimum wages, markdowns, income processes, and how these interact with the theory of the household.**

The course will not have a final. Grades will be entirely based on 6 homeworks, equally weighted (16% of your grade), one per week, due at the start of class in the following week, where the final homework will be due on the last day of class.

Lectures i-vi will occur during weeks 1 through 6. Lectures vii and on will be selectively combined in the last week.

Week 1 **Tools:** Mathematical Preliminaries & McCall Models of Search

- (a) We will cover models in which agents draw wages from an exogenous distribution: [Ljungqvist and Sargent \[1998\]](#), [Rogerson, Shimer, and Wright \[2004\]](#), and [Hornstein, Krusell, and Violante \[2007\]](#).
- (b) Homework 1: Characterizing and computing McCall Models of Search.
- (c) Recent Applications: [Athreya and Simpson \[2006\]](#), [Jolivet, Postel-Vinay, and Robin \[2006\]](#), [Chetty \[2008\]](#), [Herkenhoff and Ohanian \[2011\]](#), [Krueger and Mueller \[2011\]](#), [Herkenhoff and Ohanian \[2012\]](#), [Lise \[2012\]](#), [Chen \[2012\]](#), [Jung and Kuhn \[2012\]](#), [Krolkowski \[2013\]](#), [Schmieder, Von Wachter, and Bender \[2013\]](#), [Saporta-Eksten \[2013\]](#), [Athreya, Sánchez, Tam, and Young \[2014\]](#), [Jarosch \[2014\]](#), [Ji \[2018\]](#), [Luo and Mongey \[2019\]](#), [Larkin \[2019\]](#), [Kuhn and Ploj \[2020\]](#).

- **Advanced topics:** Monopsony I

- (a) We will cover models in which firms behave strategically in the labor market. We will discuss the theoretic underpinnings of such models.
- (b) The tools covered build up to [Berger, Herkenhoff, and Mongey \[2022a\]](#). Neoclassical theories (e.g. [Robinson \[1933\]](#) and [Lamadon, Mogstad, and Setzler \[2019\]](#)) as well as theories with finite numbers of firms – oligopsony – ([Bhaskar and To \[1999\]](#) [Bhaskar, Manning, and To \[2002\]](#)) in frictionless environments will be covered.

Week 2 Random Search, Theory Essentials:

- (a) We will cover Ch. 1 and Ch. 2 of [Pissarides \[1990\]](#) and [Petrongolo and Pissarides \[2001\]](#).
- (b) Homework 2: Heterogeneity and efficiency in random search models.
- (c) Recent Debate: [Hall and Milgrom \[2005\]](#), [Hall \[2005\]](#), [Costain and Reiter \[2008\]](#), [Pissarides \[2009\]](#), [Kennan \[2010\]](#), [Fujita and Ramey \[2012\]](#) (See [Shimer \[2005b\]](#) for more on job finding v. job destruction), [Ahn and Hamilton \[2016\]](#).
- (d) Other Recent Applications: Wage Inequality- [Postel-Vinay and Robin \[2002\]](#), Optimal UI- [Nakajima \[2012a\]](#), Health – [See \[2019\]](#).

- **Advanced topics:** Monopsony II

- (a) We will cover policy responses to oligopoly including the minimum wage and antitrust policy.
- (b) The tools will include theories of the minimum wage in strategic markets ([Berger, Herkenhoff, and Mongey \[2022c\]](#)) as well as neoclassical markets ([Ehrenberg and Smith \[1994\]](#), [Ahlfeldt, Roth, and Seidel \[2022\]](#)) as well as antitrust policy ([Nocke and Whinston \[2022\]](#), [Berger, Herkenhoff, Hasenzagl, Mongey, and Posner \[2022b\]](#))

Week 3 Random Search, Unemployment Volatility Puzzle:

- (a) We will cover [Shimer \[2005a\]](#) (see [Cole and Rogerson \[1999\]](#) for an early version) and [Hagedorn and Manovskii \[2008\]](#).
- (b) Homework 2: Computing [Shimer \[2005a\]](#) and [Hagedorn and Manovskii \[2008\]](#).
- (c) Recent Applications: [Krusell, Mukoyama, and Şahin \[2010\]](#), [Nakajima \[2012a\]](#), [Nakajima \[2012b\]](#), [Gornemann, Kuester, and Nakajima \[2012\]](#), [Mitman and Rabinovich \[2011\]](#), [Hagedorn, Karahan, Manovskii, and Mitman \[2013\]](#), [Chodorow-Reich and Karabarbounis \[2013\]](#), [Garin and Lester \[2016\]](#), [Kekre \[2015\]](#), [Den Haan, Rendahl, and Riegler \[2015\]](#).

- **Advanced topics:** Monopsony III

- (a) We will cover frictional theories with finite firms.
- (b) The tools will include theories of finite firms in random search environments, e.g. [Berger, Herkenhoff, Kostol, and Mongey \[2023\]](#) (in class), [Jarosch, Nimcsik, and Sorkin \[2019\]](#), [Bagga \[2022\]](#), and [Zhu \[2012\]](#). We will discuss machine learning methods for clustering markets and other techniques related to estimating models of oligopsony in frictional settings.

Week 4 Directed (Competitive) Search, Theory

- (a) We will cover [Moen \[1997\]](#) and [Burdett, Shi, and Wright \[2001\]](#).

(b) Homework 4: Efficiency in directed search models with capital.

- **Advanced topics:** Spatial theories of the labor market

(a) Recent progress on the theory and measurement: [Herkenhoff, Ohanian, and Prescott \[2018b\]](#) (in class), [Babalievsky, Herkenhoff, Ohanian, and Prescott \[2021\]](#) (in class), [Ahlfeldt, Roth, and Seidel \[2022\]](#), [Bilal and Lhuillier \[2021\]](#), [Lindenlaub, Oh, and Peters \[2022\]](#).

Week 5 Block Recursive Equilibria:

(a) We will cover [Menzio and Shi \[2011\]](#) and [Menzio, Telyukova, and Visschers \[2012\]](#).

(b) Homework 5: Computing a simplified version of [Menzio and Shi \[2011\]](#).

(c) Recent Applications: [Menzio and Shi \[2009\]](#), [Menzio and Shi \[2010\]](#), [Karahan and Rhee \[2011\]](#), [Menzio, Telyukova, and Visschers \[2012\]](#), [Schaal \[2012\]](#), [Herkenhoff \[2013\]](#), [Wiczer \[2013\]](#), [Huckfeldt \[2014\]](#), [Herkenhoff, Phillips, and Cohen-Cole \[2015\]](#), [Griffy \[2017\]](#), [Chaumont and Shi \[2017\]](#), and [Birinci and See \[2018\]](#).

- **Advanced topics:** Labor and credit I

(a) We will cover block recursive Bewley models in which job loss drives bankruptcies and defaults (e.g. [Bethune \[2017\]](#), [Herkenhoff \[2019\]](#) (in class)). Theories of defaultable consumer credit, [Chatterjee, Corbae, Nakajima, and Ríos-Rull \[2007\]](#), [Livshits, MacGee, and Tertilt \[2007\]](#) and [Livshits, MacGee, and Tertilt \[2016\]](#) will be covered.

Week 6 Price Posting, and Estimation:

(a) We will cover [Burdett and Judd \[1983\]](#) (BJ), and discuss the estimation of search models.

(b) Homework 6: Estimating a simplified version of [Menzio and Shi \[2011\]](#).

(c) Recent applications: BJ- [Head, Liu, Menzio, and Wright \[2010\]](#), [Burdett and Menzio \[2013\]](#), [Kaplan and Menzio \[2013\]](#), [Menzio and Trachter \[2014\]](#), Estimation - [Postel-Vinay and Robin \[2002\]](#), [Jung and Kuhn \[2012\]](#), [Saporta-Eksten \[2013\]](#), [Lamadon \[2014\]](#), [Jarosch \[2014\]](#), [Engbom and Moser \[2022\]](#).

- **Advanced topics:** Labor and credit II

(a) We will cover theories of job loss, credit lines, and optimal unemployment insurance (e.g. [Chetty \[2008\]](#), [Mitman and Rabinovich \[2015\]](#), [Birinci and See \[2017\]](#), and [Braxton, Herkenhoff, and Phillips \[2018\]](#) (in class)).

Week 7 Two Sided Heterogeneity (Sorting)

- (a) We will cover the frontier of sorting in [Marimon and Zilibotti \[1999\]](#), [Shimer and Smith \[2000\]](#), [Shi \[2001\]](#), [Barlevy \[2002\]](#), [Eeckhout and Kircher \[2011\]](#), [Hagedorn, Law, and Manovskii \[2012\]](#), [Lise and Robin \[2013\]](#), [Eeckhout and Sepahsalari \[2014\]](#), [Lentz, Bagger, et al. \[2015\]](#), [Herkenhoff, Phillips, and Cohen-Cole \[2015\]](#), and [Lindenlaub and Postel-Vinay \[2016\]](#).
- (b) Two-Sided Dynamic types (peer effects, coworker learning, human capital formation): [Herkenhoff, Lise, Menzio, and Phillips \[2018a\]](#).

- **Advanced topics:** Knowledge diffusion

- (a) We will cover knowledge diffusion models in the labor market, e.g. [Herkenhoff, Lise, Menzio, and Phillips \[2018a\]](#) (in class) and [Jarosch, Oberfield, and Rossi-Hansberg \[2021\]](#).

Optional: Capital, production, and business cycles with directed search:

- (a) We will cover the basics and touch on new work: [Merz \[1995\]](#), [Andolfatto \[1996\]](#), [Petrosky-Nadeau \[2009\]](#), [Petrosky-Nadeau and Wasmer \[2013\]](#), and [Ottonello et al. \[2014\]](#).

Optional: Adverse Selection with directed search (no existence problems!)

- (a) Recent progress on the theory and measurement: [Guerrieri, Shimer, and Wright \[2010\]](#) (directed), [Chang \[2017\]](#).

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