Master of Economics

Lecture Title:	**Search and Matching with Applications**		
Lecturer:	Melvyn Coles		
Lecture Code:	017919	**ECTS:**	3
Term:	Spring 2014	**Contact hours:**	20
Lecture Dates:	tba		
Final Exam:	tba	**Frequency of lecture**:	3 – 4 times a week
Prerequisites:			
Language of instruction:	English		
Contact information			
	Telephone:	**Email**:	
Office hours			
Course website			
Learning Objectives:(What are the intended learning outcomes? Which skillswill be acquired?)	This course will teach and use dynamic programming techniques to characterize equilibrium trade with search frictions. It provides fundamental insights on why markets may be inefficient, on why unemployment is so persistent and the efficacy or otherwise of government policy. It also provides a deep understanding of (wage) inequality and dynamics, labor turnover and sorting in dynamic economies.		
Content: (Which professional competence and which contents will be imparted?)	The course will teach 4 different equilibrium models of matching and show how each may be applied to different issues: (i) random matching (the flow approach to unemployment, marriage models and models of monetary exchange) (ii) directed search (two sided heterogeneity and sorting) (iii) on-the-job search without offer matching (wage dynamics and inequality) (iv) on-the-job search with offer matching (structural econometrics, dynamic sorting)		
Teaching Approach:(Description of the learning and teaching methods)	The course will be taught by lectures and classes. Students will be given problem sets and time will be set aside to go through those problems in detail.		
Workload: (Definition of workload (ECTS), divided in pre-modules (e.g. pre-readings), core-modules (contact hours), post-			

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modules (e.g. case studies)):	
Required literature: (scripts, books, articles, cases, papers)	There is no specially required reading as the lectures are self-contained. There is, however, a huge literature which the serious student should investigate.
Recommended literature: (books, articles, cases, papers)	**General References.** C.A. Pissarides (2000) Equilibrium Unemployment Theory, MIT press. D. T. Mortensen (2003) Wage Dispersion: Why are Similar People Paid Differently? Cambridge, MIT press. Rogerson, R., R. Shimer and R. Wright (2005) "Search-Theoretic Models of the Labour Market: A Survey" Journal of Economic Literature. **What do the data say?** [Macro-labor time series] Shimer, R. (2005) "The Cyclical Behavior of Equilibrium Unemployment and Vacancies." American Economic Review, 95(1). [Macro-labor time series] Elsby, M., R. Michaels and D. Ratner (2014) "The Beveridge Curve: A Survey" forthcoming Journal of Economic Literature. [Wages] Rubinstein, Y. and Y. Weiss (2007) "Post Schooling Wage Growth: Investment, Search and Learning", in Handbook of the Economics of Education [eds E. Hanushek and F. Welch], vol 1, 1-64 [Job turnover firm level] Haltiwanger, J., R. Jarmin and J. Miranda (2010): "Who Creates Jobs? Small vs Large vs Young?" NBER wp 16300. [Job turnover worker level] Topel, R. and M. Ward (1992) "Job Mobility and the Careers of Young Men" Quarterly Journal of Economics, 107, 2, 439-79. [Occupational Change] Kambourov, G. and I. Manovskii (2009) Occupational specificity of human capital" International Economic Review, 50, 1, pp 63--115. [Wage Dispersion] Hornstein, Andreas, Per Krusell, and Giovanni L. Violante. 2011. "Frictional Wage Dispersion in Search Models: A Quantitative Assessment." *American Economic Review*, 101(7): 2873-98. **Topics and Suggested Reading.** **A. Introduction to recursive techniques**: discrete and continuous time applications.

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	Burdett, K. (1978) "A Theory of Employee Job Search and Quit Rates" American Economic Review, 68,1,pp212-20. Diamond, P. (1982) "Aggregate Demand Management in Search Equilibrium" Journal of Political Economy, 909, 5, pp881-94. Burdett,K. and D.T. Mortensen (1998) "Wage Differentials, Employer Size and Unemployment" International Economic Review, 39, 2, pp257-73. **B. The Diamond/Mortensen/Pissarides flow approach to equilibrium unemployment.** Mortensen, D.T and C. A. Pissarides (1994) "Job Creation and Job Destruction in the Theory of Unemployment", Review of Economic Studies, 61, 3 , pp. 397-415. Pissarides, C.A. (2000) Equilibrium Unemployment Theory, Chapter 1; Shimer, R. (2005) "The Cyclical Behavior of Equilibrium Unemployment and Vacancies." American Economic Review, 95(1) Secondary readings: Andolfatto, D. (1996) "Business Cycles and Labor Market Search", American Economic Review, 86,1,112-132. Hagedorn, M, and I. Manovskii (2008) "The Cyclical Behavior of Equilibrium Unemployment and Vacancies Revisited." American Economic Review, 98(4): 1692-1706. Elsby, M., R. Michaels and D. Ratner (2014) "The Beveridge Curve: A Survey" forthcoming Journal of Economic Literature. **C. Directed Search and Competitive Search Equilibria.** Acemoglu, D. and R. Shimer (1999) "Hold-ups and Efficiency with Search Frictions" International Economic Review, 40, 4, pp 827--849. Moen, E. (1997) "Competitive Search Equilibrium", Journal of Political Economy, 105,2, 385-411. Hosios, A. (1990): "On the Efficiency of Matching and Related Models of Search and Unemployment", Review of Economic Studies, 57, 2, pp. 279-298. Menzio and Shi (2011) Efficient Search on the Job and the Business Cycle, Journal of Political Economy, 119, 3, 468-510. **D. On-the-job search with matching offers.** Postel-Vinay and Robin (2002) "The Distribution of Earnings in an Equilibrium Search Model with State-Dependent Offers and Counteroffers"

	International Economic Review, 43, 4, pp986-1016. Robin J-M. (2011) "On the Dynamics of Unemployment and Wage Distributions", Econometrica, 79, 5, pp 1327--1355. **E. Sorting and Mismatch.** (i) The frictionless assignment problem: stable matching and complementarities in production. (ii) with random matching Burdett, K. and M.G. Coles (1999) "Long-Term Partnership Formation: Marriage and Employment", Economic Journal, 109, 456, pp 307--334 Atakan, A. (2006) "Assortative Matching with Explicit Search Costs" Econometrica, 74, 3, 667-680. Eeckhout, J. and P. Kircher (2011) "Identifying Sorting -- In Theory" Review of Economic Studies, 78 (3), 872-906. (iii) with directed search. Eeckhout, J. and P. Kircher (2010) "Sorting and Decentralized Price Competition", Econometrica, 78(2), 539--574. Guerrieri, V., R. Shimer and R. Wright (2010) "Adverse Selection in Competitive Search Equilibrium", Econometrica, 78, 6, pp1823--1862. (iv) with matching offers Lise, J. and J-M Robin (2014) "The Macro-dynamics of Sorting between Workers and Firms (2014) available at https://sites.google.com/site/jeremylise/research. (v) in a Lucas/Prescott island economy Alvarez, F. and R. Shimer (2011) "Search and Rest Unemployment" Econometrica, 79, 1, 75--122. Other favourite models: Coles, M.G. and D.T. Mortensen (2014) : Equilibrium Labor Turnover, Firm Growth and Unemployment, mimeo. Burdett, K. and K.L. Judd (1983) "Equilibrium Price Dispersion" Econometrica, 51, 4, pp. 955-969. G. Kaplan and G. Menzio (2014) "Shopping Externalities and Self-Fulfilling Unemployment Fluctuations," NBER Working Paper 18777. Coles, M. G. and E. Smith (1998) "Marketplaces and Matching" International Economic Review. Lagos, R. and R. Wright (2005) "A Unified Framework for Monetary Theory and Policy Analysis", Journal of Political Economy, 113(3), pp 463-

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	484.
Special features: (e.g. excursion, guest speaker):	Great teacher.
Mode of examination: (Mode of examinations and tests (e.g. oral or written examination, lecture, homework, papers, class participation)):	Final written exam.
Grading:	Class participation, Practice Sessions: (%) Midterm Exam: (%), Final written exam: (100%) Others: (%)