

ECON 4555
Transportation Economics
FALL 2016
MWF 11:00-11:50, HLMS 267

COURSE SYLLABUS

Overview:

This is a course in transportation economics and policy for undergraduates. Students will learn how to use economic theory and empirical tools to analyze transportation markets and policies. The course combines topics from environmental economics and industrial organization including: aggregate demand for transportation; disaggregate demand and mode choice; externalities and the costs of driving; and policy instruments such as fuel taxes, the corporate average fuel economy program (CAFE), low carbon fuel standards and congestion pricing. Instruction will emphasize the current literature and examples from recent policies.

Office Hours and Contact Information:

Professor: Jonathan Hughes
Office location: Economics 4B
Office hours: Mondays and Wednesdays from 2:00-3:30 pm (or by appointment)
Phone: (303) 735-0220
Email: jonathan.e.hughes@colorado.edu
Class web site: D2Learn

Recommended Texts:

There is no required textbook for this course. However, much of the material for the course will be drawn from the text below. Readings from the text are denoted as "Essays" in the course syllabus.

Essays in Transportation Economics and Policy: A Handbook in Honor of John R. Meyer, by Gomez-Ibanez, Tye, and Winston, 1999, The Brookings Institution.

Copies are on reserve at Norlin Library. The text is also available as an ebook from the CU NetLibrary (see Chinook catalog) and for purchase online.

Reading/Class Participation:

Throughout the course I will assign readings to supplement the lecture material. Readings noted in the syllabus can be found on the web. Those not on the web will be posted to the course web site several days in advance. Please come to class each day ready to discuss the assigned reading. Please **prepare a ½ page executive summary** of each paper that discusses: the key

findings of the paper; major assumptions or limitations of the analysis; issues of relevance for policymaking. I will randomly select several of these summaries during the semester to evaluate as part of your class participation grade.

*** Denote readings in the course schedule for which you are to turn in an executive summary.**

Grading:

15% Class participation

25% Problem sets

30% Midterm exam

30% Final exam

Problem Sets and Empirical Exercises:

Throughout the course students will be assigned problem sets that represent a mix of theory and empirical work. For empirical exercises, we will be using data from recent studies and published government reports. The class will meet in a campus computer cluster to begin these exercises, though students may be expected to complete these assignments outside of class. An important goal of this course is to expose students to the data sources used to analyze transportation markets and policies. Due dates are listed on the course syllabus.

Examinations:

There will be an in class mid-term exam on **Wednesday October 26, 2016** and a final exam on **Wednesday December 14, 2016 from 7:30 – 10:00 pm.**

Late Assignments and Missed Examinations:

Problem sets and other assignments are due before the start of class on the date due. No late assignments will be accepted except in the case of documented medical or family emergency. No make-up exams will be given. If you foresee a conflict, contact me as soon as possible in order to make alternate arrangements for you to complete the requirements of this course.

Lecture Notes: My lectures will make use of both the chalkboard and Powerpoint. The lecture slides and graphs can be downloaded from the class web site, available through D2Learn. Please visit this class website often.

Campus Policies: I will adhere to all campus policies with respect to disabilities, religious observances, appropriate behavior, discrimination and harassment, and academic conduct. See <http://www.colorado.edu/policies/>

Tentative Course Outline:

Week 1: Overview: transportation markets, energy and the environment

August 22. Introduction - course goals, thinking like an economist

August 24. Market for driving

August 26. Gasoline demand

Reading: *Hughes, Knittel and Sperling. "Evidence of a Shift in the Short-Run Price Elasticity of Gasoline Demand." *Energy Journal* (2008).

Week 2: Aggregate demand for transportation

August 29. Introduction to empirical analysis

Reading: "What is econometrics"

August 31. Introduction to empirical analysis - continued

September 2. **Computer Lab BESC 385.**

*Reading: *Busse, Knittel and Zettelmeyer. "Are Consumers Myopic? Evidence from New and Used Car Purchases" American Economic Review (2012).*

Problem Set 1 Distributed

Week 3: Environmental economics review

September 5. **Labor Day – No Class**

September 7. Measures of value, measures of waste, efficiency

September 9. Externalities, marginal private and marginal social cost

Week 4: Costs of driving

September 12. Driving-related externalities

*Reading: *Parry, Walls and Harrington. "Automobile Externalities and Policies"*

Resources for the Future (2007).

Problem Set 1 Due

September 14. Finding the "Right" Gasoline Tax

September 16. **Computer Lab BESC 385.** Air pollution

Reading: "Essays" Chapter 7

Problem Set 2 Distributed

Week 5: Costs of driving

September 19. Air pollution cont.

*Reading: *Kellogg and Auffhammer. "Clearing the Air: Effect of Gasoline Content Regulations on Air Quality" American Economic Review (2011).*

September 21. Unintended consequences of clean fuel regulation

*Reading: *Brown et. al. "Reformulating Competition" Journal of Environmental Economics and Management (2008).*

September 23. Climate change

Reading: IPCC 4th AR Summary for Policymakers

Problem Set 2 Due

Week 6: Costs of driving – continued

September 26. Carbon trading

Reading: TBD

September 28. Low Carbon Fuel Standards

*Reading: *Holland et. al. "Some Inconvenient Truths About Climate Change Policy: The Distributional Impacts of Transportation Policies" National Bureau of Economic Research (2011).*

September 30. **Computer Lab BESC 385.** Renewable fuel standards

Problem Set 3 Distributed

Week 7: Costs of driving – continued

October 3. Biofuels

Reading: *Anderson. "The Demand for Ethanol as a Gasoline Substitute" *Journal of Environmental Economics and Management* (2011).

October 5. Fuel economy standards

Reading: "Essays" Chapter 8, *Jacobson. "Fuel Economy and Safety: The Influences of Vehicle Class and Driver Behavior" *American Economic Journal: Applied Economics* (2012).

October 7. Highway fatalities

Reading: *Grabowski and Morrissey. "Do higher gasoline taxes save lives?" *Economics Letters* (2006).

Problem Set 3 Due

Week 8: Costs of driving – continued

October 10. Highway fatalities revisited

Reading: TBD

October 12. Congestion and value of time

Reading: "Essays" Chapter 6

October 14. **Computer Lab BESC 385.** Congestion and value of time

Reading: *Parry. "Pricing Urban Congestion" *Resources for the Future* (2008).

Problem Set 4 Distributed

Week 9: Disaggregate demand for transportation

October 17. Mode choice

Reading: "Essays" Chapter 2

October 19. Vehicle choice

Reading: TBD

October 21. Vehicle choice

Problem Set 4 Due

Week 10: Disaggregate demand for transportation

October 24. Catch-up and review

October 26. Mid-Term Exam

October 28. **Computer Lab BESC 385.** Congestion.

Problem Set 5 Distributed

Week 11: Public transportation

October 31. Public transportation

Reading: "Essays" Chapter 11

November 2. Should transit be subsidized?

Reading: *Parry and Small. "Should Urban Transit Subsidies be Reduced?" *American Economic Review* (2009).

November 4. Public transportation cont.

Problem Set 5 Due

Week 12: The firm and market power review

November 7. Monopoly (inc. price discrimination)

November 9. Oligopoly and firm interaction

November 11. Oligopoly and firm interaction
Problem Set 6 Distributed

Week 13: Freight transport

November 14. Economies of density and network size
Reading: "Essays" Chapter 3

November 16. Railroad deregulation
*Reading: *Bitzen and Keeler. "Economies of Density and Regulatory Change in the U.S. Railroad Freight Industry" *Journal of Law and Economics* (2007).*

November 18. Network industries.
Problem Set 6 Due

Fall Break November 21 – November 25

Week 14: Air travel

November 28. Market power in air travel
*Reading: *Borenstein. "Hubs and High Fares" *RAND Journal of Economics* (1989).*

November 30. Entry and competition in air travel
*Reading: *Goolsbee and Syverson. "Do Incumbents Respond to Threat of Entry?" *Quarterly Journal of Economics* (2008).*

December 2. **Computer Lab BESC 385.** Price discrimination.
*Reading: *Stavins. "Price Discrimination in the Airline Market" *The Review of Economics and Statistics* (2001).*
Problem Set 7 Distributed

Week 15: Deregulation

December 5. Trucking deregulation
*Reading: *Rose "The Incidence of Regulatory Rents in the Motor Carrier Industry" *RAND Journal of Economics* (1985).*

December 7. Railroad deregulation
*Reading: *Wilson. "Market-Specific Effects of Rail Deregulation" *Journal of Industrial Economics* (1994).*

December 9. Catch-up and review
Problem Set 7 Due

December 14. Final Exam 7:30pm – 10:00pm