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: Wednesdays from 11:30-1:30 pm (or by appointment)
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Class web site: D2Learn

Recommended Texts:
There is no required textbook for this course. However, much of the material for the course will drawn from the text below. Readings from the text are denoted as “Essays” in the course syllabus.


Copies are on reserve at Norlin Library E-reserves (see instructions on D2Learn). 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 will be posted on 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 24, 2012** and a final exam on **Monday December 17, 2012 from 1:30 – 4:00 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/](http://www.colorado.edu/policies/)
Tentative Course Outline:

Week 1: Overview: transportation markets, energy and the environment
   August 27. Lecture 1. Introduction - course goals, thinking like an economist
   August 29. Lecture 2. Market for driving
   August 31. Lecture 3. Computer Lab KTCH 117. Introduction to empirical analysis
   Reading: “What is econometrics”
   Problem Set 1 Distributed

Week 2: Aggregate demand for transportation
   September 3. Labor Day Holiday – No class
   September 5. Lecture 4. Gasoline demand
      Reading: *Hughes, Knittel and Sperling. “Evidence of a Shift in the Short-Run
   September 7. Lecture 5. Gas prices, fuel economy and vehicle choice
      Reading: *Busse, Knittel and Zettelmeyer. “Are Consumers Myopic? Evidence
   Problem Set 1 Due

Week 3: Environmental economics review
   September 12. Lecture 7. Externalities, marginal private and marginal social cost
   September 14. Lecture 8. Policies for addressing externalities
   Problem Set 2 Distributed

Week 4: Costs of driving
   September 17. Lecture 9. Driving-related externalities
      Reading: *Parry, Walls and Harrington. “Automobile Externalities and Policies”
      Reading: *Parry and Small. “Does Britain or the U.S. have the right gasoline
   September 21. Lecture 11. Air pollution
      Reading: “Essays” Chapter 7
   Problem Set 2 Due

Week 5: Costs of driving
      Reading: *Kellogg and Auffhammer. “Clearing the Air: Effect of Gasoline
      Reading: *Brown et. al. “Reformulating Competition” Journal of Environmental
      Reading: IPCC 4th AR Summary for Policymakers
   Problem Set 3 Distributed
Week 6: Costs of driving – continued
October 1. Lecture 15. Carbon trading
   Reading: TBD
October 3. Lecture 16. Low Carbon Fuel Standards
   Reading: *Holland et. al. “Some Inconvenient Truths About Climate Change
   Policy: The Distributional Impacts of Transportation Policies” National Bureau of
October 5. Lecture 17. Renewable fuel standards
   **Problem Set 3 Due**

Week 7: Costs of driving – continued
October 8. Lecture 18. Biofuels
   Reading: *Anderson. “The Demand for Ethanol as a Gasoline Substitute” Journal
October 10. Lecture 19. Fuel economy standards
   Influences of Vehicle Class and Driver Behavior” American Economic Journal: 
October 12. Lecture 20. **Computer Lab KTCH 117. Highway fatalities**
   Reading: *Grabowski and Morrisey. “Do higher gasoline taxes save lives?”
   **Problem Set 4 Distributed**

Week 8: Costs of driving – continued
October 15. Lecture 21. Highway fatalities revisited
   Reading: TBD
October 17. Lecture 22. Congestion and value of time
   Reading: “Essays” Chapter 6
October 19. Lecture 23. Congestion and value of time
   **Problem Set 4 Due**

Week 9: Costs of driving - continued
October 22. Lecture 24. Catch-up and review

**October 24. Mid-Term Exam**

   Reading: “Essays” Chapter 2 
   **Problem Set 5 Distributed**

Week 10: Disaggregate demand for transportation
October 29. Lecture 26. Mode choice
   Reading: “Essays” Chapter 2
October 31. Lecture 27. Vehicle choice
Reading: TBD
November 2. Lecture 28. Vehicle choice

Problem Set 5 Due

Week 12: Public transportation
November 5. Lecture 29. Public transportation
Reading: “Essays” Chapter 11
November 7. Lecture 30. Should transit be subsidized?
Reading: *Parry and Small. “Should Urban Transit Subsidies be Reduced?”

Week 13: The firm and market power review
November 12. Lecture 32. Monopoly (inc. price discrimination)
November 14. Lecture 33. Oligopoly and firm interaction
November 16. Lecture 34. Oligopoly and firm interaction

Fall Break November 19 – November 23

Week 14: Freight transport
November 26. Lecture 35. Economies of density and network size
Reading: “Essays” Chapter 3
November 28. Lecture 36.

Homework 6 Distributed

Week 15: Air travel
December 3. Lecture 38. Market power in air travel
December 5. Lecture 39. Entry and competition in air travel
December 7. Lecture 40. Price discrimination

Homework 6 Due

Week 16: Deregulation
December 10. Lecture 41. Trucking deregulation
December 12. Lecture 42. Railroad deregulation

December 14. Lecture 43. Catch-up and review

December 17. Final Exam 1:30 – 4:00