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 drawn from the text below. Readings from the text are denoted as “Essays” in the course syllabus.


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 \( \frac{1}{2} \) 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 28, 2015 and a final exam on Thursday December 17, 2015 from 4:30 – 7:00 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 24. Introduction - course goals, thinking like an economist
August 26. Market for driving
August 28. Gasoline demand

Week 2: Aggregate demand for transportation
August 31. Gas prices, fuel economy and vehicle choice

September 2. Introduction to empirical analysis
  Reading: “What is econometrics”

September 4. **Computer Lab DUAN G116.**
  Problem Set 1 Distributed

Week 3: Environmental economics review
September 7. **Labor Day – No Class**
September 9. Measures of value, measures of waste, efficiency
September 11. Externalities, marginal private and marginal social cost

Week 4: Costs of driving
September 14. Driving-related externalities
  **Problem Set 1 Due**
September 16. Finding the “Right Gasoline Tax”
 September 18. **Computer Lab DUAN G116.** Air pollution
  Reading: “Essays” Chapter 7
  **Problem Set 2 Distributed**

Week 5: Costs of driving
September 21. Air pollution cont.
September 23. Unintended consequences of clean fuel regulation
September 25. Climate change
  Reading: IPCC 4th AR Summary for Policymakers
  **Problem Set 2 Due**

Week 6: Costs of driving – continued
September 28. Carbon trading
  Reading: TBD
September 30. Low Carbon Fuel Standards
October 2. **Computer Lab DUAN G116.** Renewable fuel standards
  **Problem Set 3 Distributed**
Week 7: Costs of driving – continued
October 5. Biofuels
October 7. Fuel economy standards
October 9. Highway fatalities
Problem Set 3 Due

Week 8: Costs of driving – continued
October 12. Highway fatalities revisited
Reading: TBD
October 14. Congestion and value of time
Reading: “Essays” Chapter 6
Problem Set 4 Distributed

Week 9: Disaggregate demand for transportation
October 19. Mode choice
Reading: “Essays” Chapter 2
October 21. Vehicle choice
Reading: TBD
October 23. Vehicle choice
Problem Set 4 Due

Week 10: Disaggregate demand for transportation
October 26. Catch-up and review
October 28. Mid-Term Exam
Problem Set 5 Distributed

Week 11: Public transportation
November 2. Public transportation
Reading: “Essays” Chapter 11
November 4. Should transit be subsidized?
November 6. Public transportation cont.
Problem Set 5 Due
Week 12: The firm and market power review
   November 9. Monopoly (inc. price discrimination)
   November 11. Oligopoly and firm interaction
   November 13. Oligopoly and firm interaction
   **Problem Set 6 Distributed**

Week 13: Freight transport
   November 16. Economies of density and network size
   *Reading:* “Essays” Chapter 3
   November 18. Railroad deregulation
   **Problem Set 6 Due**

**Fall Break November 23 – November 27**

Week 14: Air travel
   November 31. Market power in air travel
   December 2. Entry and competition in air travel
   December 4. **Computer Lab DUAN G116.** Price discrimination.
   **Problem Set 7 Distributed**

Week 15: Deregulation
   December 7. Trucking deregulation
   December 9. Railroad deregulation
   December 11. Catch-up and review
   **Problem Set 7 Due**

**December 17. Final Exam 4:30pm – 7:00pm**