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

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**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 pro2 ( a ) 0.2Tj ET Q .2Tj ET (CAeA-0.2 ( i ) 0.2 (s) -0.2 ( 0.2 ( e ) 0.2 (m) cm BT 39ET (

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

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

Week 2: Aggregate demand for transportation  
August 29. Introduction to empirical analysis

August 31. Introduction to empirical analysis - continued

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

Busse, Knittel and Zettelmeyer. "Are Consumers Myopic? Evidence from New and Used Car Purchases" (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

: \*Parry, Walls and Harrington. "Automobile Externalities and Policies" (2007).

*Problem Set 1 Due*

October 3. Biofuels  
: \*Anderson. “The Demand for Ethanol as a Gasoline Substitute”  
(2011).

October 5. Fuel economy standards  
“Essays” Chapter 8, \*Jacobson. “Fuel Economy and Safety: The  
Influences of Vehicle Class and Driver Behavior”  
(2012).

October 7. Highway fatalities  
Grabowski and Morrissey. “Do higher gasoline taxes save lives?”  
(2006).

***Problem Set 3 Due***

Week 8: Costs of driving – continued

October 10. Highway fatalities revisited  
: TBD

October 12. Congestion and value of time  
“Essays” Chapter 6

October 14. **Computer Lab BESC 385.** Congestion and value of time  
Parry. “Pricing Urban Congestion”

***Problem Set 4 Distributed***

Week 9: Disaggregate demand for transportation

October 17. Mode choice  
“Essays” Chapter 2

October 19. Vehicle choice

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  
“Essays” Chapter 11

November 2. Should transit be subsidized?  
\*Parry and Small. “Should Urban Transit Subsidies be Reduced?”  
(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  
“Essays” Chapter 3

November 16. Railroad deregulation  
Bitzen and Keeler. “Economies of Density and Regulatory  
Change in the U.S. Railroad Freight Industry”  
(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  
\*Borenstein. “Hubs and High Fares”  
(1989).

November 30. Entry and competition in air travel  
Goalsbee and Syverson. “Do Incumbents Respond to Threat of  
Entry?” (2008).

December 2. **Computer Lab BESC 385.** Price discrimination.  
: \*Stavins. “Price Discrimination in the Airline Market”  
(2001).

***Problem Set 7 Distributed***

Week 15: Deregulation

December 5. Trucking deregulation  
\*Rose “The Incidence of Regulatory Rents in the Motor Carrier  
Industry” (1985).

December 7. Railroad deregulation  
Wilson. “Market-Specific Effects of Rail Deregulation”  
(1994).

December 9. Catch-up and review

**Problem Set 7 Due**

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