

# CE 392T (#15950): TRANSPORT ECONOMICS

Fall 2007

Lectures: 2-3:30 pm Wed/Fri, 7.202 ECJ

## I. Office Hours for Dr. Kara Kockelman

Mondays 2:00-4:00 pm & Tuesday 3:30-5:00 pm, in 6.904 ECJ

Or, by appointment: 471-0210 (Office phone number) & kcockelm@mail.utexas.edu

## II. Prerequisites

There are no official prerequisites for this course, but students are expected to be very familiar with calculus and comfortable with many statistical concepts (*e.g.*, general regression).

## III. Add/Drop Dates

Adding and/or dropping a course after the fourth day of the semester (on ROSE or TEX) requires the approval of the Department Chairperson and usually the Dean. But graduate students can add or drop a class until the last class day with these permissions. Poor performance in the course is not an acceptable reason for dropping. Students are strongly urged to make changes in their course schedules the first four class days so that other students who need to add the course can be accommodated.

## IV. Evaluation Plan

The College of Engineering Course/Instructor Survey will be used as the basic evaluation tool. All students are encouraged to submit written comments during this survey.

## V. Grading

For purposes of grading, the performance of students enrolled in this course will be assessed using the following scoring system:

Homeworks* & Project(s)	50% of score/grade
In-Class Midterm	22.5%
Final Exam	27.5% (Note: This may be a take-home exam.)

\*The instructor reserves the right to consider Class Participation in the evaluation of a student's performance in the course. This item may contribute up to 15% of a student's grade, falling within the category of Homeworks.

## VI. Homework Assignments

Homework problems will be assigned approximately bi-weekly and must be handed in at the *beginning* of the period in which they are due. After this time, they will be considered late and given *no credit*. However, *all assigned problems must be completed* (within 3 weeks of their due date and at least one week before the final exam) or a grade of "Incomplete" ("X") will be assigned to the student for the course.

## VII. Course Project

The course project will involve a 10-page (approx.) research paper and an in-class presentation, motivated by a specific transportation economics topic to be decided mid-semester. All work towards this project will be due before the last class day.

## VIII. Examinations\*

The in-class midterm is *tentatively* scheduled & the final exam – if it is an in-class exam – are formally scheduled for the following dates:

Midterm: Friday, October 19

Final Exam: Tuesday, December 18, 9am-12noon

*As will be decided by the students early in the semester, the final exam may be a take-home exam.*

\* The instructor reserves the right to periodically administer, grade, and use in student evaluation “pop”/unannounced *quizzes*. Students should come to class prepared to contribute to each class’s lecture and discussion by staying up-to-date with homeworks and reading.

Make-up exams will *not* generally be given to any student. If a student is absent from a scheduled exam due to medical or other problems beyond her/his control and can plainly demonstrate this, the instructor can choose to give the student a completely different exam, additional assignments, and/or change the weighting of the student’s various graded contributions.

## **IX. Text and Reader/Notes**

Typically, the required textbook for this course is Hal Varian’s *Microeconomic Analysis, Third Edition* (Norton, 1992). In order to save book costs, students may choose to purchase a \*course packet\* of the required chapters for this semester, at Speedway Printers in Dobie Mall for approximately \$21. Students also will review and present chapters from Small and Verhoef’s new book, *The Economics of Urban Transportation*. Copies of the PowerPoint slides used by the instructor are available at

[http://www.ce.utexas.edu/prof/kockelman/public\\_html/ce392tlectures.pdf](http://www.ce.utexas.edu/prof/kockelman/public_html/ce392tlectures.pdf). Some additional, required materials will be made available via electronic mail.

Since the course textbook does not cover all subjects the instructor will be teaching, students may wish to consult other texts for further reading. Small and Verhoef’s 2007 text will soon be available, and offers a relatively rigorous discussion of transport economics. For a less technical audience, Kenneth J. Button’s *Transport Economics* (2<sup>nd</sup> Edition, Cambridge University Press 1993) offers an introduction to this topic. A. Deaton and J. Muellbauer’s *Economics and Consumer Behavior* (Cambridge, 1980) is highly recommended and sophisticated (yet accessible) treatment of more general consumer theory, and H. Varian’s *Intermediate Microeconomics – A Modern Approach, Fifth Edition* (Norton 1999) is a more accessible version of the course text. P.S. McCarthy’s *Transportation Economics* (Blackwell 2001) offers a case-study approach to many topics. Various on-line economics texts (at <http://www.oswego.edu/~economic/newbooks.htm>) may also be of interest.

## **X. Other Information**

1. U.T. Austin provides upon request appropriate academic adjustments for qualified students with disabilities. Any student with a documented disability (physical or cognitive) who requires academic accommodations should contact the Services for Students with Disabilities area of the Office of the Dean of Students at 471-6259 (or 471-4241, TDD) as soon as possible to request an official letter outlining authorized accommodations. The College of Engineering also has its own Director of Students with Disabilities, who can be reached at 471-4382. The instructor is available to privately discuss any special student needs, including disability accommodations.
2. According to *The General Information Catalog* “a student who is absent from a class or examination for the observance of a religious holy day may complete the work missed within a reasonable time after the absence, if

*proper notice* of the planned absence has been given”. The deadline for proper notification of such an absence is the fifteenth day of the semester.

3. Students in CE392T are encouraged and authorized to work on homework assignments together and prepare for exams together. However, all written work handed in by a student is considered to be his/her own work, prepared without *unauthorized* assistance. To ensure your actions never compromise your and our class’s integrity, please visit <http://www.utexas.edu/depts/dos/sjs/academicintegrity2.html>. Students who violate University rules on scholastic dishonesty (*e.g.*, anything which gives unfair academic advantage to a student) are subject to disciplinary penalties, including the possibility of failure in the course and/or dismissal from the University. Since such dishonesty harms the individual, all students, and the integrity of the University, policies on scholastic dishonesty will be strictly enforced. An “F” grade will be the recommended penalty in most cases of scholastic dishonesty. One should refer to the Student Judicial Services website at <http://www.utexas.edu/depts/dos/sjs/> to access the official University policies and procedures on scholastic dishonesty as well as further elaboration on what constitutes scholastic dishonesty.

## **XI. Course Objectives & (Tentative) Outline of Topics**

CE 392T offers students insight into consumer and firm behavior, largely from a microeconomic perspective. Economic theory and its applications enhance transport demand analysis, transport pricing, welfare considerations, and transport policy evaluation. By the end of the semester, each student should be able to (1) **optimize production** decisions subject to technology constraints, (2) **optimize consumption** decisions subject to budget constraints, (3) **evaluate economic policies** that govern complex transportation systems (including air and road networks), (4) **select pricing schedules** to enhance welfare and system operations, and (5) **apply basic econometric methods** for the analysis of transportation data. Most theory presented in the course will be directly linked to either airline or roadway applications. An approximate schedule of the course topics is shown here.

<b>Lesson #</b>	<b>TOPICS TO BE COVERED</b>	<b>Relevant Reading</b>
–	Introduction	–
Lesson 2	The Transport System: Operator Cost Structures	–
Lesson 3	Review of Optimization	Ch. 27
Lesson 4	Firm Behavior: Production & Technology	Ch. 1
Lesson 5	Firm Behavior: Profit Maximization & Prodxn. Economies	Ch. 2 & 3
Lesson 6	Firm Behavior: Cost Minimization	Ch. 4 & 5
Lesson 7	Firm Behavior: Monopolies & Price Discrimination	Ch. 14
Lesson 8	Consumer Behavior: Utility Maximization	Ch. 7 & 8
Lesson 9	Consumer Behavior: Demand Relationships	Ch. 9
–	Review for Midterm Exam	–
–	<b>Midterm Exam</b>	
Lesson 10	Welfare Theory: Consumer Surplus & Other Measures	Ch. 10 & 22
Lesson 11	Market Imperfections: Negative Externalities	Ch. 24
Lesson 12	Roadway Congestion & Pricing	TBA
Lesson 13	Value of Time	TBA
Lesson 14	Econometrics & Statistical Applications	Ch. 12
Nov 30 & Dec 5	Project Presentations	
Dec. 7	Last Class Day: Review for Final Exam	
Dec. 18	<b>Final Exam</b> (or take-home exam due), 9a-12noon	