

CE 392T: TRANSPORT ECONOMICS
Spring 2020 (#15660 & for Econ MA students: #34568 & 34569)
Lectures: 12:30-2 pm Mon/Wed, 3.110 ECJ

I. Office Hours for Instructor, Dr. Kara Kockelman

Mondays & Tuesdays 2-3:30 pm, in office 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 several statistical concepts (*e.g.*, t-statistics & ordinary least squares regression).

III. Grading

For purposes of grading (with pluses & minuses used), 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 10% of a student's grade, falling within the category of Homeworks.

IV. 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.

V. Examinations

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

| | |
|-------------|--|
| Midterm: | Wednesday, March 25 (tentative) |
| Final Exam: | Wednesday, May 13, 9-noon (tentative*) |

**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.

VI. 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. Almost all work towards this project will be due before the last class day.

VII. 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 Canopy Course Notes, 510 West MLK, 512-497-6662 via Jerome Kubala, for \$15). Students may also review and present chapters from Kockelman and Chen's [*The Economics of Transportation Systems: A Reference for Practitioners \(2013\)*](#), Small and Verhoef's *Economics of Urban Transportation* (2007), and/or Sergio Jara-Díaz's *Transport Economic Theory* (2005). Copies of the PowerPoint slides used by the instructor will be made available via Canvas. Some additional, required materials will be made available via electronic mail.

Since the course textbook does not cover all details explored in this class, students may wish to consult other texts for further reading. Small and Verhoef's 2007 text offers a rather in-depth and academic discussion of various topics in transport economics. For a less technical audience, Kenneth J. Button's *Transport Economics 3rd edition* (Edward Elgar 2010) offers an introduction to this topic. A. Deaton and J. Muellbauer's *Economics and Consumer Behavior* is highly recommended and sophisticated (yet accessible) treatment of more general consumer theory, and H. Varian's *Intermediate Microeconomics – A Modern Approach, Fifth Edition* is a more accessible version of the course text. P.S. McCarthy's *Transportation Economics* offers a case-study approach to many topics. Various on-line economics texts and topical summaries (freely available at places like via <http://www.oswego.edu/~economic/newbooks.htm>, <http://www.economicnetwork.ac.uk/teaching/text/advancedmicroeconomics.htm>, & UT's online library) may also be of interest.

VIII. Add/Drop Dates

From the 1st through the 4th class day, an undergraduate or graduate student can drop or add a course via the web. From the 5th through the 12th class day, a student can drop via the web; adds must be done in the department offering the course. For any drops beginning with the 13th class day, a student must initiate the drop process in the office of the Dean (ECJ 2.200). Departmental advisor and instructor approval may be required; poor course performance is insufficient reason for such approval.

IX. Evaluation Plan

An evaluation of the course and instructor will be conducted at the end of the semester using the approved UT Course/Instructor evaluation forms. All students are encouraged to submit written comments during this survey. Other formal assessment opportunities are likely to arise mid-semester; and students are strongly encouraged to provide feedback at any time during the course, in person, via other students or anonymously, to the TA and/or the instructor.

X. Other Information

1. The University of Texas at Austin provides, upon request, appropriate academic accommodations for qualified students with disabilities. For more information, contact the Division of Diversity and Community Engagement, Services for Students with Disabilities, 471-6259 (voice) or 232-2937 (video phone) or <http://www.utexas.edu/diversity/ddce/ssd>.

2. A student who misses classes or other required activities, including examinations, for the observance of a religious holy day should inform the instructor as far in advance of the absence as possible, so that arrangements can be made to complete an assignment within a reasonable time after the absence.

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://deanofstudents.utexas.edu/sjs/acint_student.php. 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, Academic/Learning Goals, Questions, Content, & Schedule

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 personal travel applications. An approximate schedule of the course topics is shown here.

| Lesson # | TOPICS TO BE COVERED | Relevant Reading |
|-----------------|---|-------------------------|
| Lesson 1 | 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 | – |
| – | Midterm Exam | |
| 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 (multi-week) | Ch. 12 |
| May 4 & 6 | Project Presentations (tentative) | |
| May 6 | Last Class Day: Review for Final Exam | |
| May 13 | Final Exam (or take-home exam due before/by this time), 9-noon | |