Catalog Description: (3) CDT. Development, operation, management, financing, evaluation and travel demand estimation for urban public transportation systems.

Course Objectives: Student should obtain an understanding of the planning, management, and operations of urban public transit systems. Students should understand the history of public transit in the US, and they should understand current management and economic challenges and opportunities. The student should understand characteristics of transit management, service planning, and operations. To assist in this understanding, students should be able to apply common methods to plan, design, and evaluate public transit services. Upon completion, students should be prepared to work and to conduct research in the area.

Instructor: Dr. Mark Hickman
Civil Engineering Building Room 214B, Phone 626-9420
E-mail: mhickman@email.arizona.edu
Office hours: Tuesday 1-3 pm, Thursday 3-5 pm; other times by appointment.

Class Hours: Tuesday and Thursday 9:30-10:45, Chavez 105

Textbook: Readings and other electronic materials will be available through D2L.

Grading System: A semester project will also be required of graduate students, accounting for 20% of the total grade. The percentages above will be adjusted proportionally for graduate students.
A = above 90%; B = 80 to 89%; C = 70 to 79%; D = 60 to 69%; E = below 60%.

Course Requirements: The course includes two examinations during the semester and a comprehensive final examination. About 8 homework assignments (combination of quantitative problems and essays) are also required during the semester. Homework and solutions will be posted on the D2L site. Each assignment will be graded out of 20 points. Late homework will have the following penalties: up to 1 class late: 5 points; up to 1 week late: 10 points; after 1 week: no credit.
Graduate students must complete a project or research paper during the semester. Selection of the project or research topic should be in consultation with the instructor; the instructor also will post possible projects for consideration.

Homework Policy: Copying another person’s work, without attribution, including copying of any part or the whole of computer files or material from the Internet, is considered plagiarism. It will be prosecuted as a violation of the University of Arizona Student Code of Conduct, in accordance with the Code of Academic Integrity. Both codes are published on-line at http://deanofstudents.arizona.edu/policiesandcodes. It is the student’s responsibility to be familiar with these policies.

D2L: Complementing the in-class lectures, course material will be published through the University’s D2L site, at http://d2l.arizona.edu. The D2L site will include readings, homework assignments and solutions, and other related materials. Students should check the site regularly for course information.
CE 462A / 562A Public Transit Planning and Operations  
(Cross-listed as PLG 462A / 562A)

Course Outline

1. History of public transit in the US and current conditions
2. Transit demand characteristics
3. Costs, economic considerations, and financing alternatives
4. Current management and planning issues

Exam 1, tentatively Tuesday, October 5

5. Operations characteristics
6. Transit modes, capacity and productivity
7. Performance measurement and data collection methods
8. Operations management, priority and control systems

Exam 2, tentatively Tuesday, November 9

9. Fixed-route and demand-responsive service design
10. Fixed-route frequency determination; timetabling
11. Vehicle and crew scheduling
12. Demand-responsive service planning

Final Exam, Tuesday, December 14, 8-10 am

References and General Readings


American Public Transportation Association (APTA), http://www.apta.com

Federal Transit Administration (FTA), http://www.fta.dot.gov