

**CME 494 – Public Transit Operations and Technology
Spring, 2008**

Call Number:24971 **Time and Day:** 4:30-5:45pm TR **Classroom:** 207 TH
Instructor: Professor J. Lin, ERF 2089; janelin@uic.edu; Tel: 996-3068 **Obs:** TBA
Guest instructor: Michael Haynes, Chicago Transit Authority,
michael.haynes@transitchicago.com

Textbook: V.R. Vuchic (2007) *Urban Transit Systems and Technology*. John Wiley & Sons, Inc.

Blackboard website: a Blackboard website (<https://blackboard.uic.edu/>) is set up for the course. Lecture notes and other class materials will be available before noon of the lecture day. To log in, use your UIC netid and password.

Objectives:

1. Provide a broad overview of the role of public transportation in the economy and in society
2. Introduce basic planning and operations concepts of public transportation
3. Introduce performance measures of public transportation service
4. Introduce applications of intelligent transportation technology (ITS) in public transportation planning and management.

What will students gain from this class?

1. Gain an understanding of public transit operations and performance measures;
2. Become articulate in the terminology and principles of public transportation

Prerequisites: CME 302

Topics: Fundamentals of traffic engineering, operation and transportation demand and planning.

- History and role of public transportation
- Urban transit modes
- Transit performance monitoring and measures
- Transit planning
- ITS in public transit
- Operations and scheduling
- Highway and Rail transit facilities
- Unconventional transit modes
- Case studies: CTA and international
- Class project presentations

Course Points: homework (15%), field trips (5%) and class project (25%), class discussion and presentation (10%), midterm examination (20%), and final examination (25%)

Homework assignment (15%): a total of eight assignments. Due dates will be posted when HW

is assigned. *No late submission is allowed.*

Class project (30%): TBA.

Field trip (5%):

Examinations: one mid-term exam (25%) in week 8 and one final exam (25%), time TBA.

Week	Date	Topic	Assignment
1	1/15 1/17	Role of public transportation and ITS architecture (MH) ITS in public transit (MH)	
2	1/22 1/24	History of public transit and urban transit modes (JL) Transit performance monitoring (MH)	International transit surveys
3	1/29, 31	Transit performance measures (MH)	
4	2/5 2/7	Transit operations (MH) Class project discussion I – topic (MH, JL)	Class project
5	2/12, 14	Transit planning I – Procedure and Methodology (JL)	HW#1
6	2/19, 21	Transit planning II – Review and Evaluation (JL)	
7	2/26 2/28	Field trip I – CTA control center RTA multimodal system (Guest speaker from RTA)	
8	3/4 3/6	Mid-term exam Transit scheduling – Basic operating elements (JL)	HW#2
9	3/11 3/13	Transit scheduling – Route scheduling I (JL) Transit scheduling – Route scheduling II and others (JL)	
10	3/18 3/20	Class project discussion II – data (MH, JL) Field trip II – CTA bus terminal	
11	3/25-27	Spring break	
12	4/1 4/3	Rail planning and operations (Graham Garfield, CTA) Rail planning and operations (Graham Garfield, CTA)	
13	4/8 4/10	Transit modeling and optimization (JL) CMAP regional transportation planning (Guest speaker from CMAP)	HW#3
14	4/15 4/17	Student led discussion: international experiences I Student led discussion: international experience II	
15	4/22 4/24	Unconventional transit modes I – BRT (JL) Unconventional transit modes II - Paratransit (Guest speaker from Pace)	
16	4/29 5/1	Class project presentation Class project presentation	
17	TBD	Final exam	