Department of Civil and
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CIE 424 URBAN TRANSPORTATION PLANNING SPRING 2010

Instructor: Per Gårder, contact me by First Class or e-mail Garder@Maine.edu or, if important, cell phone 852-8268. Open door office policy

Text: Urban Transportation Planning, Second Edition by Michael D. Meyer & Eric J. Miller. Publisher: McGraw-Hill, Inc. ©: 2001

Objectives: To teach students basic concepts and practices in the field of transportation planning, including the process and policy surrounding urban transportation planning.

Catalog Description: Basic concepts and practices in the field of transportation planning, including the process and policy surrounding urban transportation planning, characteristics of urban travel, air quality, noise, energy, land use, the elements of decision making, data management and diagnosis, demand and supply analysis, project evaluation and implementation. A transportation demand management study constitutes a major part of the course. (2.0 ED/1.0 ES) Lec. 3. Prerequisites & Notes: CIE 225. Credits: 3

Expected Course-Specific Outcomes:

The student will:

1. understand basic terminology used by transportation planners
2. have a basic understanding of some of the history behind today's transportation planning
3. understand how automobile traffic influences safety, mobility, environment, and financing
4. understand how trips are generated, distributed and assigned to modes and routes
5. acquire an understanding of professional and ethical responsibility
6. acquire a knowledge of contemporary transportation-planning issues
7. acquire an understanding of the impact of engineering solutions in a global and societal context
8. acquire an ability to identify, formulate, and solve transportation planning problems
9. acquire an ability to design and conduct experiments, as well as to analyze and interpret data
10. acquire an ability to design a system, component, or process to meet desired needs, such as maximum allowed noise levels.

General Information:

1. Good attendance is encouraged since the tests will include questions not only on the textbook but also additional material covered during the lectures. Quizzes may appear without any notice!

2 A project will be completed. The project will be worked on in groups of 2 - 4 students. The objective of the project will be decided on together with the students. It is recommended that this year, the projects should deal with issues relating to the City of Bangor's next comprehensive plan (due during 2010). Should Bangor's transportation systems be 'nudged' in a specific direction or should market-forces rule? What about bicycling? Public transportation? Connections to other regions, etc. But the project could also be to do a Travel Demand Management Study for a smaller urbanized area; or to look at noise concerns in…. or…. The work should typically include detailed structuring and scheduling of the study, formulation of hypotheses to be tested, observational field studies, making up and administering interviews and questionnaires, the writing of a report, and presentations of the findings to the class and possibly to invited professionals. ***Survey forms must be discussed in class before they are administered.*** If a project includes a survey, or other direct interaction with people, make sure that:

a) You approach people over the age of 18 only
b) You identify the project to participants as a class assignment, not as university research
c) You inform participants that data will be destroyed after their assignment or class project is completed

d) The data does not contain any personal, identifying information whenever possible

e) The project includes informed consent language. For an on-line survey, this would be the first page of the survey or in the email post. Make sure the participant is told:
   - about the identity of the investigating student(s) (introduce yourself)
   - that this is a class project. (Give a little information, e.g., This is for my … class, I am trying to study…)
   - what they will be asked to do ("I would like to ask you some questions about why you …. If there are any questions you don't want to answer, it is fine to skip them.")
   - how long the interview, survey, etc., may take to complete
   - what will happen to the information collected ("The information will be used to write my paper for the class, and I may give a presentation in class. All of my notes, surveys, etc., will be destroyed …")
   - if they will be identified. Examples: "I will not write your name on my notes"; "Do not write your name on the survey;" "I will not use your name in my paper."
   - the student's and instructor's contact information if they have any questions (provide phone number/email).

f) Protected Populations. Do not approach these groups. Examples include, but are not limited to: Children/Minors (under the age of 18), prisoners (now includes non-publicly available secondary data), pregnant women, fetuses and products of labor and delivery, people with diminished capacity to give consent, mentally or physically challenged individuals.

g) Sensitive Information that you cannot include – Examples include, but are not limited to: Information relating to an individual's psychological well being or mental health; information relating to sexual attitudes, preferences, or practices; information relating to the use of alcohol or drugs; information relating to illegal behavior, information that if released could reasonably place the individual at risk of criminal or civil liability or be damaging to the individual's financial standing, employability, or reputation; information that would normally be recorded in a patient's medical record and the disclosure could reasonably lead to discrimination, stigmatization, etc.

3. Homework problems will be assigned but not collected or graded. Test questions will sometimes be similar to assigned homework.

4. Students are expected to be present during times assigned to the project and for all tests. Make-up tests will be given only for authorized medical reasons.

5. All computations and steps should be shown for all exams, whenever requested. Some tests may be of multiple-choice type.

6. Civil Engineering students must adhere to the University of Maine Conduct Code. Each student is expected to work independently on all exams, including take home exams. Students may neither give nor receive assistance on examinations. All written material, including term papers, reports, etc., must be the student's original work. The bounds of original work and the degree of collaboration that will be allowed in this class will be established by the professor. The work(s) of others may only be used with proper reference or acknowledgement. Failure to adhere to this policy can result in the receipt of a failing grade, suspension or dismissal from the University. Group interaction is generally necessary for laboratory data gathering and is encouraged but not necessary for data reduction.

7 Accommodations for students with disabilities: If you have a disability for which you may be requesting an accommodation, please contact either me or Ann Smith, Coordinator of Services for Students with Disabilities (Onward Building, 581-2319), as early as possible in the term.

8. No tuition refund will be allowed if course dropped later than second week of classes-unless very extraordinarily extenuating circumstances exist.

9. Examinations:

Test 1	15%	Quizzes	2% each	Main Project	20%
Test 2	15%	Mini-project 1/2	5%	Final exam	20%
Test 3	15%	Newspaper	3%		

10. Grades:

90% and above	A	70-74.99%	C
87.5-89.99%	A-	67.5-69.99%	C-
85-87.49%	B+	65-67.49%	D+
80-84.99%	B	60-64.99%	D
77.5-79.99%	B-	Below 60%	E
75-77.49%	C+		

11. SCHEDULE CIE 424: Tuesdays and Thursdays 8:00-9:15 in 130 Barrows Hall

Jan. 12 Introduction and consensus exercise
14 Rethinking Urban Sprawl. Andres Duane, video.
19 Chapter 1 & notes. Mini-project: Travel Diary Mini-project 1 and 2 assigned
21 Continued Chapter 1 and notes
26 Transportation Planning and Decision-Making, Question 7 (page 83) assigned + Mini-project assignment: Review BDN for two weeks 'environment' and 'transportation'
28 Transportation Systems, Chapter 3. Project. Finalizing overall objectives and group belongings.

Feb 2 Air Quality
4 Noise (Chapters 3, 7). Assignment
9 Energy-Land use (Chapters 3, 7)
11 Characteristics of Urban Travel
16 Safety, Travel costs, Chapter 3
18 Test 1
23 Data Management and Use, Chapter 4. Question 4 (page 239) assigned
25 Demand Analysis, Chapter 5 and Project-presentation of group objectives, draft outlines and discussion on surveying techniques

Mar 16 Trend analysis, Elasticity models Homework. Chapter 5.
18 Minimum path—equilibrium Assignment.
23 Gravity model, Chapter 5, Modified Question 6 (page 322) take-home quiz assignment
25 Logit model, Chapter 5. Questions 8 & 9 (page 324) assigned
30 Test 2

Apr 1 Urban Activity Systems. Chapter 6. Question 5 (page 377) assigned
6 continued Chapter 6
8 Supply Analysis (fundamental eq.), Chapter 7 Time-distance diagrams, queuing theory. Questions 1, 2, and 3 (page 474) assigned Transit/walking, Question 5 (page 476) assigned
13 Cost models, Chapter 7
15 Transportation System and Project Evaluation, Chapter 8. Question 4 & 6 (page 558) assigned
20 Program and Project Implementation, Chapter 9
22 Test 3
27 Project presentations
29 Traffic calming or SL. Class evaluation

May 3-7 Final Exam (open book)

Note: The above schedule and procedures in this course are subject to change in the event of extenuating circumstances. In the event of disruption of normal classroom activities due to an H1N1 swine flu outbreak, the format for this course may be modified to enable completion of the course. In that event, you will be provided an addendum to this syllabus that will supersede this version.