

GEO 491, Sustainable Transportation: Pedestrian and Bicycle Travel
Winter, 2014

Lecture/Lab: Tuesday and Thursday: 9:30-10:45 am

Room: MSB 507

Instructor: Dr. Greg Rybarczyk

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****Always include "GEO491" in subject line****

Office phone: (810) 762-3355

Office Hours: By appointment

Credit Hours: 3

COURSE OVERVIEW:

Current and historical transportation practices are being evaluated as we strive towards healthy, mobile, and sustainable cities and regions. Integration of pedestrian and bicycle planning into the transportation planning has become essential for reaching and creating a sustainable transportation system. The class will consist of a combination of teaching and learning approaches, including the use of lectures, guest lectures by practitioners, in-class exercises, and out-of-class hands-on assignments.

This course is designed to critically discuss the pedestrian and bicycle planning process. It is divided into several sections that will bring this comprehensive process together. The first part of the course will assess historical transportation design and associated land use patterns. These concepts will be reinforced as we move towards addressing the challenges towards successful bicycle and pedestrian planning. The forces at work include physical and mental health, social equity, environmental sustainability, budgetary concerns, and political economies. The course will then discuss user needs including facility design fundamentals, land use and network connectivity, safety, access, and mobility in a university setting.

As an upper level undergraduate course, you will be involved in critiquing current best practices in the context of how effectively they are addressing the social, environmental, economic, and health related transportation impacts pedestrian and bicycle planning is supposed to improve. While this course is focused on the US, it will also highlight successful international efforts to offer alternatives to current U.S. planning practices.

Important Note: This is your capstone course, and as such, you will be required to be active learners. What this means - the best way for you to learn and be assessed is to make yourself engage in the readings, lectures, and assignments. This will allow you to become critical thinkers, a useful life skill, and develop your own conclusions. As a result, I will be a facilitator in this learning arena and you will be the director. That is, you should not regurgitate facts and figures to me, but use them to make informed decisions in this class. The best way to do this is to come to class and interact with me and your fellow students.

GOALS AND OBJECTIVES:

1. To introduce students to historical and current issues in transportation, pedestrian, and bicycle planning.
2. To teach students methods of measuring and researching pedestrian and bicycle activity and how to use these to secure funding to implement such a plan
3. To learn about local examples of pedestrian and bicycle planning from real-life practitioners.
4. To discuss and learn from best practices locally, nationally, and internationally.
5. To visit local examples of pedestrian and bicycle facilities.

COURSE TEXT:

Toor, W. and Havlick, S.W. (2004). *Transportation & Sustainable Campus Communities, Issues and Examples*, Washington: Island Press. ISBN: 1-55963-656-4

Additional Readings:

Assigned weekly readings available via Blackboard

GRADING CRITERIA AND ASSIGNMENTS:

Assign#	Points	Due	Active Learning Strategy	Learning Outcome	Measurement Strategies
1	48	1/30	Student panel discussion of assigned group topical readings	Comprehension of subject area readings and concepts	Graded 6 page report
2	50	2/25	Critique a university Bicycle and Pedestrian Master Plan	Learn the major components of a bike/ped plan	Written report will illustrate level of critical thinking and analysis of a planning document
3	50	3/25	Memo summarizing public pedestrian or bicycle meeting	Understand the importance of public input	2 page written summary of the goals and outcomes from the meeting
4	50	4/8	Walking Audit	Learn a common transportation field data collection method	Written report (with maps and pics) will illustrate quality of walking amenities
5	50	4/17	Bicycling Audit	Learn a common transportation field data collection method	Bicycle field data collection report (including maps and pics), synthesizing infrastructure environment
6	52	n/a	Class Participation/Guest Speaker Evaluation	Increased assimilation of course topics	Participation Points
7	100 (Presentation - 50 Paper – 50)	4/23	Group final paper on the topic of your choice, building on previous assignments or concepts covered in the course (individual)	In-depth comprehension of a bicycle or pedestrian related topic	Final White paper/presentation grade
Total	400				

CLASS PARTICIPATION:

This class relies on active participation from students. You will be graded on class participation during guest lectures **and** during each class meeting. You will be assessed based on your attendance and participation during these events. One point will be given for attendance and 1 point will be given for participation. Reading the assigned readings before class will ensure your class participation. **You will not receive any points if the following are witnessed: computer activity, texting, talking out of turn, using your cell phone, arriving to class late, etc. You will receive points for: active engagement during class, aka, asking questions and attentive behavior.**

CLASS ASSIGNMENTS:

The **five** assignments are designed to provide you practical experience with elements needed to properly assess bicycle and pedestrian environments. Detailed assignment tasks will be discussed in class, but will involve literature reviews, attendance at public meetings, presentation skills, field data collection methods, evaluation of current bicycling and pedestrian levels, and review of bicycle and pedestrian master plans. Some assignments will involve group work.

WHITE PAPER:

A final paper on a bicycle or pedestrian related topic is required. The intended audience is practicing planners, engineers, and/or advocates working in the U.S. The objective is to provide an overview of the state of research on a certain topic, draw conclusions that are useful to practitioners, and indicate needs for future research or changes in practice. The paper should be 10-12 pages, double-spaced. You should be using academic, peer-reviewed literature (5 minimum), complemented with public agency reports and other media. You may summarize previous assignment results.

POLICIES:

Assignments are due in class or via Blackboard as noted in the syllabus. I will accept late assignments but I immediately take off **10%** of the grade for each day that it is late in addition to points taken off from errors. Assignments more than a week late will receive a **50%** reduction. Assignments handed in greater than two weeks past the deadline will **not** be accepted.

Plagiarism or any other form of academic misconduct (such as misbehaving in the classroom, disrupting the learning process of other students, and disrupting the teacher) will not be tolerated. Please refer to page 38 of the current UM-Flint catalog for an overview of the University's plagiarism policy. For questions or concerns regarding course work and your performance, I encourage you to make an appointment with me to discuss this.

Subject	Week	Class	Topic	Reading	Assign.
Non-motorized transportation Issues	1 (1/9)	1	History of Non-Motorized Transportation in the U.S.	Handout	Assignment #3
	2 (1/14, 1/16)	2	Transportation Sustainability on College Campuses	Ch. 1 and 2	Assignment #1
		3	Campus Transit Sustainability (Guest Speaker: Jennifer Skutt, MTA Transportation Planner)	Ch. 4	Guest Speaker Evaluation
	3 (1/21, 1/23)	4	Measuring the Benefits of Non-Motorized Transportation	Handout	None
		5	Land Use, Connectivity	Handout	None
	4 (1/28, 1/30)	6	Bicycling and Society	Handout-Furness	None
		7	Student Presentations	None	Assignment 1 Due
Bicycle and Pedestrian Planning Basics	5 (2/4, 2/6)	8	Statewide Bicycle Planning (Guest Speaker: Josh DeBruyn, Bicycle and Pedestrian Coordinator, MDOT)*	Website	Guest Speaker Evaluation/ Assign 2
		9	Pedestrian and Bicycle Facility Planning Fundamentals, the 5 E's	Ch. 5	None
	6 (2/11, 2/13)	10	Pedestrian and Bicycle Safety: Crash Analysis	Blackboard Reading	None
		11	Trail Planning in Flint (Guest Speaker: Jack Minore - Friends of the Flint River Trail, Flint River Watershed Coalition)*	Blackboard Reading (TC trail)	Guest Speaker Evaluation
	7 (2/18, 2/20)	12	Bicycle Planning/Design	Blackboard	None
		13	Pedestrian Planning/Design	Blackboard	None

	8 (2/25)	14	Public Participation, Coalition Building, and Partner Buy-in	Blackboard	Assignment 2 DUE
Education and Encouragement	8 (2/27)	15	Education and Encouragement (Guest Speaker: Ali Harris, Crim Fitness Foundation)*	Handout	Guest Speaker Evaluation
	9 (3/4, 3/6)	Spring Break, No Class			
	10 (3/11)	16	UM-Flint Bicycle Safety (Guest Speaker: Russell UM-Flint Dept. of Safety)	None	Guest Speaker Evaluation
Pedestrian /Bicycle Data Collection and Analysis	10 (3/13)	17	Data Collection Needs, Sources, Methods, and Measures	Handout	None
	11 (3/18, 3/20)	18	Field Trip: Grand Traverse Greenway Public meeting*	Blackboard	None
		19	Travel Demand Estimation	Blackboard	None
	12 (3/25, 3/27)	20	Field Work: Walking Audit*	Handout	Assign #3 DUE. Assignment #4
		21	Transportation GIS	Blackboard	None
	13 (4/1)	22	Field Work: Bicycle Audit*	Hand-out	Assignment #5
Bicycle and Pedestrian Planning Solutions	13 (4/3)	23	Transportation Systems-International Approaches	Ch. 7, Frank/BB	Assignment #4 DUE
	14 (4/8, 4/10)	24	Bike Sharing	Blackboard, City Cycling Ch. 9	
		No Class – Work on Assignment #5			
	15 (4/15, 4/17,	25	Bicycle Technology (Guest Speaker: Dr. Farmer, Eng. Dept.)	Blackboard Ch. 5 City Cycling	
		26	Student Presentations		
Final White Paper Due April 23rd, 5:00 pm					

*Class contents can be changed according to the instructor during the semester