

Geo 310: Transportation Geography (Fall 2018)

Dept. of Geography and Earth Science, University of Wisconsin-La Crosse

GENERAL INFORMATION

Lecture: Tuesday and Thursday 2:15 PM – 3:40 PM

Instructor: Dr. Gargi Chaudhuri

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Office Hours: Mondays & Wednesdays: 1 – 3PM or by appointment

COURSE DESCRIPTION

Transportation geography is the study of the movement of people and commodities across the earth's surface. It deals with the spatial interactions between people and places. This course is designed to introduce you to the study of transportation systems from a geographic perspective. One can think of transportation as a service that the transportation industry (i.e. road builders, vehicle manufactures, transit operators, traffic managers, etc.) offers travelers to insure mobility. The relation between the supply for transportation and the demand for moving people and goods characterize the performance of the transportation system. Such performance is extremely important for our sustainability as it relates to the well being of our economy, society and environment. Studying a transportation system and its performance entails the analysis of various aspects that relate to infrastructure (e.g. roads, railways, seaways, airports, bus stations, seaports, etc.), vehicles (e.g. automobiles, trucks, trains, buses, aircrafts, etc.) and operations (i.e. regulations and procedures) by which vehicles are operated using the available infrastructure. The effective management of transportation systems requires an understanding of various concepts and analytical methods that are often used by transportation professionals to make informed decisions about transportation policy. While Transport geographers study a wide range of topics, the focus of this introductory course is on:

- 1) Introduction to theoretical and practical concepts of transport geography
- 2) Current transportation issues and problems
- 3) Analytical methods for describing, analyzing and modeling transportation systems

This course is not meant to teach GIS but the GIS software and other analytical tools will be used to solve transportation related analysis and problems.

LEARNING OBJECTIVES:

1. Upon successful completion of this course, you will:
2. Understand concepts central to the study of transportation systems.
3. Understand issues that impact the performance of transportation systems.
4. Be able to solve various transportation problems using analytical methods discussed in class and applied in labs.
5. Understand how GIS and computing technologies facilitate transportation practice.

EXPECTATIONS FROM THE STUDENT:

1. Students must do their reading assignment for the upcoming lecture before the class.
2. Listen to lectures carefully and take notes over written materials.
3. Go through your lectures and tally your notes after class every day.
4. Attend lectures and labs regularly.
5. Submit completed labs within due dates.
6. Class participation. Ask questions and discuss topics within the lecture session.
7. No use of phone in class.

REQUIRED READING MATERIALS:

Required reading materials will be uploaded in D2L. You are responsible for completing all the readings as listed on the course schedule and assigned in class. Readings are due on the date they are listed in the syllabus and will be discussed in class on the day they are due. Additional readings and labs will be posted on D2L course site and in the class folder in the lab. Class lectures will be also posted on D2L after their correspondent lecture sessions. There will also be information that is only presented in class and therefore if you miss class you must obtain the notes from someone else in the course.

ASSESSMENTS:

Assignments: All exercises will be due on a date given during class. It is very important that you do all assignments. Late submission of any assignment is strongly discouraged. You will not receive full points for late assignment turn-ins, but turning **it late (only until last day of classes)** is encouraged over not doing it at all. Assignments not submitted on time will lose 25% of their value if turned in within a week, and 50% of their value if more than one week late. In case of sickness or emergency, appropriate proof should be provided during late submission otherwise points will be deducted. You will have enough time to complete each assignment within assigned time with help from me. If you choose not to complete your work within time, it's your responsibility to finish on time by yourself.

Exams: Two exams will be given on the dates listed in the syllabus and are designed to assess your comprehension of presented materials. The two exams will consist of true/false and multiple choice questions, short essays, and analytical problems based on material from class presentations and readings. You are expected to take the exams at the scheduled time. Make-up exams will be given ONLY for exceptional circumstances, such as illness or university-approved event, and proof will be required. In cases where you have a scheduling conflict for a university-approved event, it is YOUR responsibility to notify the instructor at least two weeks before the exam. In the case of emergencies, it is YOUR responsibility to notify the instructor that you will be unable to attend, preferably before the exam or within 24 hours after the exam.

Final Project: The final project is a research project visualizing and analyzing a topic in the context of the knowledge gained during the semester. You are responsible for coming up with a research question, finding data/literature needed to answer that question, and conducting analysis. To formulate a research question, think back to other classes you've taken for inspiration, browse for ideas online, and talk to faculty for ideas. Each student will be required to submit a project proposal and oral presentation on a topic of their choice. You will have three class periods to work on your final projects in the end of the semester. Completing the project will also require substantial time outside of scheduled labs, so plan ahead!

EXPECTATIONS FOR GRADED WORK

I provide students feedback and/or scores on assignments that require individualized grading before a further assignment of a similar format is due. Grading will be done electronically, and the grades and feedback will be posted within 21 days from the date the work was due. I will notify you if I am unable to grade the work within the 21-day timeframe, and will identify a revised return date. If you submit work after the due date, it may not be returned within 21 days. Your graded coursework will be returned in compliance with FERPA regulations, such as in class, during my office hours, or via the course management system through which only you will have access to your grades. After you have completed the course, any copies or records of your graded material that I retain will be accessible up to 7 weeks into the next academic term (either Spring after Fall or J-term; or Fall after Spring or Summer).

ATTENDANCE:

Attendance is compulsory and is critical to your success. Students are required to sign in the attendance sheet. Lecture attendance will count for 1 point each, which will be added to your final grades. Material will be covered in lecture sessions, including lecture topics, concepts, readings, software demonstrations, internet material, and additional tips, all of which are not in the book. You should enter the lecture on exact time. In case of late entrance/absence to the lecture, you are solely responsible to take care of the missing part of the lecture or lab. Portions missed by you due to your late entrance/ absence will not be repeated. In cases where you have a scheduling conflict for a university-approved event, and you need to miss a class, it is YOUR responsibility to notify the instructor at least a week before that day. In the case of emergencies, it is YOUR responsibility to notify the instructor that you will be unable to attend, preferably before the exam or within 24 hours after the exam. In case of sudden sickness or emergency please provide a proof for your absence on the next day you attend the lecture. In case of unavoidable personal matter, you need to inform the instructor at least 24 hours before the class. For missing classes in any circumstances, you will receive 0 points for attendance, and for missing classes without notification 1 point will be deducted for each lecture session. Topics and materials discussed in the lectures missed by you will not be repeated.

GRADES:

Grade Distribution: Class Activities and Participation - 60%; Final Project (+Paper for writing emphasis) - 20%; Exams - 20%

Grade Scheme: A: 93 – 100; AB: 88 – 92; B: 83 – 87; BC: 78 – 82; C: 70 – 77; D: 60 – 69; F: 59 & below

TENTATIVE LECTURE SCHEDULE

Date	#	Topic	Reading	Assignment
9/4	1	Introduction to the course		
9/6	2	Transport & Spatial Organization	H&G– Chap3	Network measurements Reading: Rodrigue (2017) Graph Theory Due: 9/16 @ 5PM
9/11	3	Transport & Spatial Structure	Rodrigue (2017) Chap 2	
9/13	4	Transportation and Land Use	Chaudhuri and Clarke (2015)	
9/18	5	Sustainable Transportation	Black Chap 20	
9/20	6	Transportation Modes and Choices	Black Chap 11	Mode Choice Survey: 9/18: Online survey distributed 10/1: Get the surveys back. Process and clean up data. 10/9: Discussion of analysis 10/16 @ 5PM: Write up due.
9/25	7	Travel Behavior	Paper Review: Schneider 2013	
9/27		Discuss the papers	Boschmann and Brady 2013 Schneider and Stefanich 2015 Rodriguez and Choo 2004	
10/2		Work on paper presentation		
10/4		Paper Review Presentation		
10/9		Video: Nation on the move. Take Quiz		
10/11		Mid-term Review		
10/16		Mid-term Exam (Lecture 2-5, and associated reading)		
10/18	8	Spatial Interaction and Gravity Models	Taaffe Chap 7	Huff Model Due: 10/28 @ 5PM
10/23	9	Transportation and GIS	Rodrigue (2017) GIS and Cart	
10/25	10	Methods in Transport Geography	Rodrigue (2017) Chap 10	
10/30	11	Accessibility	El-Geneidy (2016)	Accessibility measurement Due: 11/18 @ 5PM
11/1	12	Societal Trends and their impact on transportation	Black Chap 18	
11/6	13	Transportation, Energy, & Environment	Rodrigue (2017) Chap 8	
11/8	14	Urban Corridors & Megaregions <i>Discussion on Final Project</i>	Ross and Woo (2011)	
11/13		Review papers for student debate on current trends in transportation	TBD	
11/15		Work on debate		
11/20		Student debate. Proposal Due @ 5PM		
11/22		Thanksgiving Holidays		
11/27	15	Transportation Policy, Planning & Congestion	Rodrigue (2017) Chap 9 Black Chap 19	
11/29		Work on final project		
12/4		Work on final project		
12/6		Work on final project. Final Exam Review		
12/7		GIS and Mapping Poster event *		
12/11		Final Project Presentations. Paper due for writing emphasis		
12/17		Final Exam		

***Note:** If you are doing GIS based final project then you can present your final project as a poster at this event. In that case, you do not need to do oral presentation on 12/11