

Geography of Transportation (GEOG 351, Course Code 4781)

Instructor: Lindsay Matthews, lindsay.matthews@uwaterloo.ca

Teaching Assistant: TBD

Lectures: Mondays and Wednesdays 2:30-3:50 EV3 3412

Office Hours: Mondays and Wednesdays 12:00-1:00 EV1-352

Course Materials: See LEARN for course notes/slides and required readings (.pdfs or web sites)

Course Description: This course explores transportation geography through the lens of sustainable development and highlights the local and global implications of transportation decisions that can only be addressed through multi-disciplinary approaches. With a focus on Canadian transportation systems and issues, this course is organized into two modules. The first module explores the evolution in technologies and factors that have affected the development of Canadian transportation infrastructure. This module will focus on the evolution from the ‘friction of distance’ to the ‘death of distance’. The second module will explore sustainable and unsustainable transportation with a focus on the following topics: sustainable transportation planning, active transportation, climate change impacts, climate change mitigation strategies, transportation equity and health, road safety, automobile dependence, and innovative transportation solutions. Throughout the term there will be an overarching focus on the role of entrepreneurship for empowering sustainable transportation solutions. Approximately one-quarter of the course focuses on analytic techniques including safety analysis, regression analysis and category analysis.

Learning Outcomes: By the end of this course you will be able to:

1. **Identify** and **describe** transportation trends and regional differences, contributing to your knowledge of Canada and the world,
2. **Explain** influences on transportation systems, especially the importance of spatial separation (changing friction of distance and urban land use patterns),
3. **Calculate** and **interpret** metrics and models that summarize transportation activities and impacts,
4. **Compare** transportation trends and innovations with sustainability criteria,
5. **Combine** what you have learned about transportation systems, data and methods to **imagine** more sustainable transportation futures, and
6. **Reflect** critically on sustainability debates and engage in more informed ways in discussions on transportation planning and decision making.

Student Evaluation: Students' marks in the course are based on their performance on the following course components:

Course Component	Due Date	Weight
Assignment #1 - Trip generation analysis	May 23	15%
Midterm Quiz	June 6	20%
Assignment #2 - Scavenger hunt	June 25	25%
Assignment #3 - Measuring road safety	July 11	15%
Final exam	July 25	25%

Course Lecture Outline:

DATE		TOPIC	ASSIGNMENTS
UNIT ONE – From the friction of distance to the death of distance			
Week 1	May 2	<ul style="list-style-type: none"> Course introduction 	
Week 2	May 7, 9	<ul style="list-style-type: none"> Historical perspective of transportation in Canada Core principles of transport geography 	
Week 3	May 14, 16	<ul style="list-style-type: none"> Land use-transportation interactions Walking tour of UpTown Waterloo 	
Week 4	May 22, 23	<ul style="list-style-type: none"> Linkages between transportation and economic development (Guest lecture) Transportation and entrepreneurship 	Assignment #1 due May 23
Week 5	May 28, 30	<ul style="list-style-type: none"> Transportation governance Paying for transportation infrastructure, maintenance, and services 	
UNIT TWO – Sustainable and unsustainable transportation			
Week 6	June 4, 6	<ul style="list-style-type: none"> Introduction to sustainable transportation Automobile dependence - congestion causes and cures 	Midterm June 6
Week 7	June 11, 13	<ul style="list-style-type: none"> Emissions and climate change mitigation The End of Suburbia 	
Week 8	June 18, 20	<ul style="list-style-type: none"> Transportation, social equity, and health 	
Week 9	June 25, 27	<ul style="list-style-type: none"> Road safety (Guest lecture) 	Assignment #2 due July 25
Week 10	July 4	<ul style="list-style-type: none"> Active transportation 	
Week 11	July 9, 11	<ul style="list-style-type: none"> Climate change impacts and adaptation in the transportation sector 	Assignment #3 due July 11
Week 12	July 16, 18	<ul style="list-style-type: none"> The future of transportation 	
Week 13	July 23, 25	<ul style="list-style-type: none"> Final exam review Final exam 	Final exam July 25

Regulations:

Academic Integrity: In order to maintain a culture of academic integrity, members of the University of Waterloo community are expected to promote honesty, trust, fairness, respect and responsibility. www.uwaterloo.ca/academicintegrity/

Students who are unsure what constitutes an academic offence are requested to visit the on-line tutorial at <http://www.lib.uwaterloo.ca/ait/>

Consequences of Academic Offences:

A student is expected to know what constitutes academic integrity, to avoid committing academic offenses, and to take responsibility for his/her actions. A student who is unsure whether an action constitutes an offense, or who needs help in learning how to avoid offenses (e.g., plagiarism, cheating) or about “rules” for group work/collaboration should seek guidance from the course professor, academic advisor, or the Undergraduate Associate Dean. When misconduct has been found to have occurred, disciplinary penalties will be imposed under Policy 71 – Student Discipline. For information on categories of offenses and types of penalties, students should refer to Policy 71 - Student Discipline, <http://www.adm.uwaterloo.ca/infosec/Policies/policy71.htm>

Within ENV, those committing academic offences (e.g. cheating, plagiarism) will be placed on disciplinary probation and will be subject to penalties which may include a grade of 0 on affected course elements, 0 on the course, suspension, and expulsion.

Students who believe that they have been wrongfully or unjustly penalized have the right to grieve; refer to Policy #70, Student Grievance,

<http://www.adm.uwaterloo.ca/infosec/Policies/policy70.htm>

Research Ethics: Please also note that the ‘University of Waterloo requires all research conducted by its students, staff, and faculty which involves humans as participants to undergo prior ethics review and clearance through the Director, Office of Human Research and Animal Care (Office). The ethics review and clearance processes are intended to ensure that projects comply with the Office’s Guidelines for Research with Human Participants (Guidelines) as well as those of provincial and federal agencies, and that the safety, rights and welfare of participants are adequately protected. The Guidelines inform researchers about ethical issues and procedures which are of concern when conducting research with humans (e.g. confidentiality, risks and benefits, informed consent process, etc.). If the development of your research proposal consists of research that involves humans as participants, the please contact the course instructor for guidance and see

<https://uwaterloo.ca/research/office-research-ethics>

Note for students with disabilities: The AccessAbility Office located in Needles Hall, Room 1132, collaborates with all academic departments to arrange appropriate accommodations for students with disabilities without compromising the academic integrity of the curriculum. If you require academic accommodations to lessen the impact of your disability, please register with the AccessAbility Office at the beginning of each academic term.

Mental Health: The University of Waterloo, the Faculty of Environment and our Departments consider students' well-being to be extremely important. We recognize that throughout the term students may face health challenges - physical and / or emotional. **Please note that help is**

available. Mental health is a serious issue for everyone and can affect your ability to do your best work. Counselling Services <http://www.uwaterloo.ca/counselling-services> is an inclusive, non-judgmental, and confidential space for anyone to seek support. They offer confidential counselling for a variety of areas including anxiety, stress management, depression, grief, substance use, sexuality, relationship issues, and much more.

Religious Observances: Student needs to inform the instructor at the beginning of term if special accommodation needs to be made for religious observances that are not otherwise accounted for in the scheduling of classes and assignments.

Grievance: A student who believes that a decision affecting some aspect of his/her university life has been unfair or unreasonable may have grounds for initiating a grievance. Read Policy 70 - Student Petitions and Grievances, Section 4, www.adm.uwaterloo.ca/infosec/Policies/policy70.htm When in doubt please contact your Undergraduate Advisor for details.

Appeals: A decision made or penalty imposed under Policy 70 - Student Petitions and Grievances (other than a petition) or Policy 71 – (Student Discipline) may be appealed if there is a ground. A student who believes he/she has a ground for an appeal should refer to Policy 72 (Student Appeals) www.adm.uwaterloo.ca/infosec/Policies/policy72.htm

LEARN: Users can login to LEARN via:<http://learn.uwaterloo.ca/> use your WatIAM/Quest username and password

Turnitin.com: Text matching software (Turnitin®) may be used to screen assignments in this course. Turnitin® is used to verify that all materials and sources in assignments are documented. Students' submissions are stored on a U.S. server, therefore students must be given an alternative (e.g., scaffolded assignment or annotated bibliography), if they are concerned about their privacy and/or security. Students will be given due notice, in the first week of the term and/or at the time assignment details are provided, about arrangements and alternatives for the use of Turnitin® in this course. It is the responsibility of the student to notify the instructor if they, in the first week of term or at the time assignment details are provided, wish to submit the alternate assignment.

Missed and late assignments: Assignments that are late are accepted with a 10% per day late penalty, weekends included.