Course Change Request

New Course Proposal

Date Submitted: 01/29/26 4:18 pm

Viewing: GGS 356 : Transportation Geography

Last edit: 02/04/26 10:21 am

Changes proposed by: nburtch

Programs referencing this course

SC-BA-GEOG: Geography, BA

SC-BS-GEOG: Geography, BS

In Workflow

1. **GGS Chair**
2. **SC Curriculum Committee**
3. SC Assistant Dean
4. Assoc Provost-Undergraduate
5. Registrar-Courses
6. Banner

Approval Path

1. 02/05/26 10:50 am Nathan Burtch (nburtch): Approved for GGS Chair

Are you completing this form on someone else's behalf?

No

Effective Term: Fall 2026

Subject Code: GGS - Geography & Geoinformation Science

Course Number: 356

Bundled Courses:

Is this course replacing another course? No

Equivalent Courses:

Catalog Title: Transportation Geography

Banner Title: Transportation Geography

Will section titles vary by semester? No

Credits: 3

Schedule Type: Lecture

Hours of Lecture or Seminar per week: 3

Repeatable: May be only taken once for credit, limited to 3 attempts (N3)

Max Allowable Credits:

9

Default Grade Mode: Undergraduate Regular

Recommended Prerequisite(s):

30 credits

Recommended Corequisite(s):

Required Prerequisite(s) / Corequisite(s) (Updates only):

Registrar's Office Use Only - Required Prerequisite(s)/Corequisite(s):

And/Or	(	Course/Test Code	Min Grade/Score	Academic Level	)	Concurrency?

Registration Restrictions (Updates only):

Registrar's Office Use Only - Registration Restrictions:

Field(s) of Study:

Class(es):

Level(s):

Degree(s):

School(s):

Catalog Description:

An introductory class that gives an overview of transportation geography, with primary attention given to the role of transportation in moving people, goods, and ideas at international, national, regional, and urban levels.

Justification:

What: Creating a new undergraduate transportation geography course.

Why: We have offered this course for several Fall semesters as GGS 399 special topics, cross-level listing

with the permanent GGS 505 (Transportation Geography). This creates a permanent undergraduate course to allow better fit with course offerings. While not mentioned in this attached syllabus, as it deals with the undergraduate section, the graduate cross-level list will require additional graduate-level work that differs from this course being proposed.

Does this course cover material which crosses into another department? No

Learning Outcomes:

Will this course be scheduled as a cross-level cross listed section? Yes

Please use the Additional Attachments button to attach two syllabi for review, one undergraduate and one graduate, preferably as separate documents. These should be provided in order to demonstrate the difference in expectations and assessments for undergraduates and graduates taking the course.

Attach Syllabus

ggs356syllabus.pdf

ggs505syllabus.pdf

Additional Attachments

Staffing:

Dr. Alireza Ermagun has been teaching our transportation geography course, and is the most likely to continue. Other faculty have the ability to teach this; Drs. Pfoser, Burtch, and Kar

Relationship to Existing Programs:

We intend to put this new course into our Urban Planning and Urban Science concentrations.

Relationship to Existing Courses:

It is intended to cross-level list with GGS 505, as outlined above.

Have you reached out to the Libraries to determine whether there are adequate resources to support your course? If not, please email Meg Meiman, Associate University Librarian for Learning, Research, and Engagement at mmeiman2@gmu.edu.

No

Additional Comments:

Reviewer Comments

Key: 19229

GGS 356: Transportation Geography
Geography and Geoinformation Science
College of Science
George Mason University

Semester: Fall 2026	**Instructor:** Alireza Ermagun
Hours: Monday 1:30 PM - 4:10 PM	**Office Hours:** Monday 4:30 PM - 5:30 PM (By Appointment)
Location: Exploratory Hall 2312	**Office Location:** Exploratory Hall 2205
Credits: 3 Credit Hours	**Email:** aermagun@gmu.edu
Website: https://mymason.gmu.edu	**Phone:** (703) 993-1191

Course Description

Every day and increasing throughout the years, Americans take 1.1 billion trips, accounting for 11 billion miles, through the transportation system in the United States. This demonstrates how essential travel is to our communities. With the emergence of technologies, changes are expected in the why, when, where, and how of people movement. Our Transportation Geography course highlights the characteristics of mobility of people and the operation of transportation systems through the lens of spatial geography at international, national, regional, and urban levels. It gives an overview of transportation engineering, planning, theory, and practice, emphasizing current issues being discussed in the planning and transportation industries. This is an interactive and engaging course with real-world applications and activities, where the hypothetical nature of the lessons is used as a jumping-off point to discuss the transportation planning process and how planning occurs on actual transportation projects.

Catalog Description

(Prerequisite: 30 credits). Three-hours lecture. An introductory class that gives an overview of transportation geography, with primary attention given to the role of transportation in moving people, goods, and ideas at international, national, regional, and urban levels.

Learning Objectives

The goals and expectations of this course are ambitious, but the overarching goal is to give the class a taste of how to think and act as engineers, planners, and geographers. Over the course of the semester, students will gain a deeper knowledge of the complexities of what transportation engineers, planners, and geographers do, as well as begin to examine the possibilities and the limitations that they face. Specific learning goals of this course are to enable students to:

- Gain knowledge of problems, ideas, and concepts that have formed and developed transportation systems over time.
- Understand the theories behind the spatial structure and performance of transportation systems.
- Comprehend the nexus of socioeconomic and transportation systems.

- Describe travel forecasting models, including the 4-step process of generation, distribution, mode choice, and trip assignment.
- Understand travel behavior patterns and the planning process.
- Illustrate the link between transportation planning and land use planning.
- Develop the ability to use statistical analysis, including data exploration and hypothesis testing, to develop disaggregate models of individuals' travel choices.
- Apply critical analysis to define and measure the accessibility of different transportation modes in tandem and individually.
- Comprehend the national, state, and local policies in planning for the transportation system developments.
- Demonstrate written and oral analysis and communication skills.
- Prepare, present, and lead a case study discussion of a contemporary transportation system.

Class Participation

Classes are a combination of lectures and discussions. The students have to have something to say regarding the materials we cover in every session. Class participation will be balanced with both participating in class discussions, small group discussions, and in-class writing assignments about the topic of the day. As students of a major university in the U.S., you have to think of your own concepts based on what you read and hear in class discussions. Therefore, you should be ready to participate in group discussions, jigsaw, and think-pair-share to make the class a lot more interesting and facilitate your learning through engagement. To help determine your course grade, I will reflect on the quality and quantity of your participation in class discussions. The class starts at 1:30 PM sharp.

Course Materials

Transportation science is inherently propelled forward by the next cutting-edge technology. Using traditional textbooks, students typically read out-of-date materials as new editions are only released once every five or six years. Utilizing digital resources propels the learning of our "tech-savvy" students forward by offering contemporary information. These bolsters both the curriculum and coursework. My class activities, discussions, and homework are informed by digital resources to create a more dynamic, state-of-the-art, and collaborative learning environment.

- **Wikibooks:** The Wikimedia Foundation, a non-profit organization registered in the U.S., hosts several websites such as Wikipedia, Wikibooks, Wikinews, and Wikiversity. Wikibooks is an open-content textbooks collection including 3,038 books with 81,490 pages. The "**Fundamentals of Transportation**" book is known as a featured book by Wikibooks as it contains substantial content and is well-formatted. The content covers the syllabus of the Transportation Engineering course and can be used as a valuable open digital resource.

- **MIT OpenCourseWare:** MIT OpenCourseWare is a web-based publication of virtual course content, including 2,400 courses. This digital resource has rich materials regarding transportation engineering. The materials of two courses, namely "**Introduction to Transportation Systems**" and "**Urban Transportation Planning,**" are selected to enhance the basic knowledge gained from "Fundamentals of Transportation" Wikibooks.

- **The Geography of Transport Systems:** This is a web-based open-access book offering a comprehensive and accessible introduction to the field with a broad overview of its concepts, methods, and application areas. **The Geography of Transport Systems** by Jean-Paul Rodrigue is provided to practitioners, policymakers, educators, researchers, students, and individual learners and includes a wide variety of media elements such as maps, figures, and PowerPoint presentations. The full reference to the textbook is Rodrigue, J. P. (2013). The geography of transport systems. Routledge, 3rd Edition.

Additional readings will be drawn further from different sources. The readings, along with other course materials such as the syllabus, assignments, and lecture presentations, can be found on the course website.

Class Policies and Expectations

- Your attendance is expected at all scheduled class meetings.
- Cell phones and other communication devices should be turned off or set to silent during class time. I will appoint a few students to keep smartphones out to receive Mason Alert. You are expected to adhere to Mason's student code of conduct; disruptive behavior will result in classroom removal. Audio or video recording requires the consent of the instructor.
- You should be respectful of fellow classmates, guest speakers, and the instructor at all times.
- All the students are required to do the homework, assignments, case study, and term paper. This will, of course, help you obtain a more profound understanding of the subject.
- Late assignments are not accepted. If you miss a deadline, your grade is automatically 0. Students, however, are given three "green cards" that can be used to turn in assignments up to 24 hours late for any assignment throughout the semester.
- A student found to have engaged in plagiarism, or other scholastic dishonesty as defined by the George Mason University Honor System and Code may be assigned a penalty up to and including failure in the course. Please ask the course instructor directly if you have any questions regarding the expectations for a specific assignment.
- If you require special accommodations, please contact the course instructor as soon as possible to discuss your needs. Your request and any accommodations will remain strictly confidential.

Attendance Policy

Students are expected to attend every class meeting and are responsible for all material covered during class and any in-class announcements. The official code of class attendance for George Mason University is documented in the Academic Policies: AP.1 Registration and Attendance.

Class Assignments

This course will have six graded components consisting of participation, homework assignments, transportation news of the day, case study assignment, in-class exams, and a term paper. There is a strong link between these six graded components and the objectives of the course, and student learning will be measured toward the

objectives of the course through these graded components. For *undergraduate students*, the term paper assignment will be a group effort on an agreed-upon topic. For *graduate students*, the term paper assignment will be an individual effort on an agreed-upon topic. One homework assignment is a group effort, and seven are an individual effort. For individual homework assignments, students are given two options: (i) submit six individual homework assignments rather than seven individual homework assignments, or (ii) submit seven individual homework assignments and eliminate the one with the lowest grade from the final grade.

Activity	Grade	Individual	Group	Due
Participation	60	×		-
Homework Assignment 1	50	×		Aug 29
Homework Assignment 2	50	×		Sep 19
Homework Assignment 3	50	×		Sep 26
Homework Assignment 4	50	×		Oct 3
Homework Assignment 5	50	×		Oct 17
Homework Assignment 6	50		×	Oct 24
Homework Assignment 7	50	×		Nov 21
Homework Assignment 8	50	×		Dec 3
Transportation News of the Day	30	×		Aug 28-Nov 27
Case Study Assignment	150		×	Oct 30
In Class Exam 1	55	×		Oct 23
In Class Exam 2	55	×		Nov 27
Term Paper	300	×		TBA
Total Grade	1050			

Instructor Availability

If you have problems or concerns with an aspect of the course, please make an appointment to come and see me. I strive to make this class manageable for all my students, so if you are having difficulties, please let me know. Office hours are not just a time to address problems but also to talk with me about your areas of interest, brainstorm topics for your research, and seek career advice. If you have questions about course topics or assignments, I will answer all weekday emails within 24 hours and weekend emails within 48 hours. Should you not receive a response within that time frame, please send a gentle reminder via email. Try to avoid last-minute emails, as I may not have email accessible immediately before deadlines. It is generally a good practice to avoid sending an email at the first sign of trouble with an assignment; many times, you will find the proper solution by giving yourself an hour or two to problem-solve! Please also make use of the office hours listed at the top of this document. Generally, issues can be clarified quickly in person.

Common Policies Addendum

Please visit https://stearnscenter.gmu.edu/home/gmu-common-course-policies/ for the Common Policies Addendum. This addendum covers University policies about academic standards, accommodations for students with disabilities, FERPA, and Title IX.

Grading Scale

96-100	A^+	
93-95.9	A	Achievement that is outstanding relative to the level necessary to meet course requirements.
90-92.9	A^-	
86-89.9	B^+	
83-85.9	B	Achievement that is significantly above the level necessary to meet course requirements.
80-82.9	B^-	
76-79.9	C^+	
73-75.9	C	Represents achievement that meets the course requirements in every respect.
70-72.9	C^-	
60-69.9	D	Represents achievement that is worthy of credit even though it fails to meet full requirements.
< 60	F	Student fails to meet the course requirements.

Tentative Course Schedule

Session[1]	Date	Topic	Readings[2]
1	Aug 21	Transportation Problems	Chapter 6 (Concept 4)
2	Aug 28	What is Transportation Geography?	Chapter 1
3	Sep 4	Labor Day: no classes	
4	Sep 11	Transportation and the Spatial Structure	Chapter 2 + Chapter 3
5	Sep 18	Urban Transportation: Trip Generation	Chapter 6
6	Sep 25	Urban Transportation: Trip Distribution	Chapter 6 + Chapter 7
7	Oct 2	Urban Transportation: Travel Mode and Route Choices	Chapter 6
8	Oct 9	Fall Recess: no classes	
9	Oct 16	Transportation Board Games	Instruction
10	Oct 23	In Class Exam 1 (Closed-Book)	
11	Oct 30	Case Study Assignment Presentations	
12	Nov 6	Methods in Transportation Geography	Chapter 10 (Concept 5)
13	Nov 13	Public Transportation	Articles
14	Nov 20	Parking	Articles
15	Nov 27	Transportation Planning and Policy + In Class Exam 2 (Closed-Book)	Chapter 9

1 Dates and topics are subject to change at the discretion of the instructor.

2 Readings are drawn from The Geography of Transport Systems by Jean-Paul Rodrigue. When resources are not sufficient, additional readings will be drawn further from different sources and will be provided to students.