

**Request for Graduate Course Addition**

1. Prepare one paper copy with all signatures and supporting material and forward to the Graduate Council Chair.
2. E-mail one identical PDF copy to the Graduate Council Chair. If attachments included, please merge into a single file.
3. **The Graduate Council cannot process this application until it has received both the PDF copy and the signed hard copy.**

College: COLA

Dept/Division: GEOGRAPHY

Alpha Designator/Number: GEO 524

 Graded  CR/NC

Contact Person: Hilton Cordoba

Phone: (304) 696-4627

**NEW COURSE DATA:**

New Course Title: Transportation Geography

Alpha Designator/Number:

G E O 5 2 4

Title Abbreviation:

T R A N S P O R T A T I O N G E O G R A P H Y

(Limit of 25 characters and spaces)

Course Catalog Description:  
(Limit of 30 words)

A geographic analysis of transportation and its spatial organization. Concepts, models, and analytical methods related to traffic demand, network configuration, and allocation of transport facilities are covered.

Co-requisite(s): NONE

First Term to be Offered: FALL 2019

Prerequisite(s): NONE

Credit Hours: 3

Course(s) being deleted in place of this addition (must submit course deletion form): NONE

Signatures: if disapproved at any level, do not sign. Return to previous signer with recommendation attached.

Dept. Chair/Division Head

Date

2/8/19

Registrar

Date

2-11-19

College Curriculum Chair

Date

2/20/19

Graduate Council Chair

Date

## Request for Graduate Course Addition - Page 2

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College: COLA

Department/Division: GEOGRAPHY

Alpha Designator/Number: GEO 524

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Provide complete information regarding the new course addition for each topic listed below. Before routing this form, a complete syllabus also must be attached addressing the items listed on the first page of this form.

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1. FACULTY: Identify by name the faculty in your department/division who may teach this course.

Hilton Cordoba, Jonathan Kozar, James Leonard

2. DUPLICATION: If a question of possible duplication occurs, attach a copy of the correspondence sent to the appropriate department(s) describing the proposal. Enter "**Not Applicable**" if not applicable.

Not Applicable

3. REQUIRED COURSE: If this course will be required by another department(s), identify it/them by name. Enter "**Not Applicable**" if not applicable.

Not Applicable

4. AGREEMENTS: If there are any agreements required to provide clinical experiences, attach the details and the signed agreement. Enter "**Not Applicable**" if not applicable.

Not Applicable

5. ADDITIONAL RESOURCE REQUIREMENTS: If your department requires additional faculty, equipment, or specialized materials to teach this course, attach an estimate of the time and money required to secure these items. (Note: Approval of this form does not imply approval for additional resources.) Enter "**Not Applicable**" if not applicable.

Class can be taught with current faculty members and resources.

6. COURSE OBJECTIVES: (May be submitted as a separate document)

- Discuss spatial organization concepts such as linkage, node, hierarchy, and hinterland.
- Discuss the evolution of transport modes: trains, ships, airplanes, auto.
- Apply network analysis techniques.
- Apply spatial interaction and location-allocation models.
- Analyze urban transport systems.
- Discuss the impact of transportation and current issues.

7. COURSE OUTLINE (May be submitted as a separate document)

See attached syllabus

8. SAMPLE TEXT(S) WITH AUTHOR(S) AND PUBLICATION DATES (May be submitted as a separate document)

J.P. Rodrigue, C. Comtois, B. Slack, The Geography of Transport Systems. (2017). 4th Edition.

9. EXAMPLE OF INSTRUCTIONAL METHODS (Lecture, lab, internship)

Attached

## Request for Graduate Course Addition - Page 4

### 10. EXAMPLE EVALUATION METHODS (CHAPTER, MIDTERM, FINAL, PROJECTS, ETC.)

Attached

### 11. ADDITIONAL GRADUATE REQUIREMENTS IF LISTED AS AN UNDERGRADUATE/GRADUATE COURSE

- Students will submit three reviews of research articles.
- Student will select one of the techniques or model covered in class and use it to assess a local transport facility or system.

### 12. PROVIDE COMPLETE BIBLIOGRAPHY (May be submitted as a separate document)

Attached

## Request for Graduate Course Addition - Page 5

Please insert in the text box below your course summary information for the Graduate Council agenda. Please enter the information exactly in this way (including headings):

Department:

Course Number and Title:

Catalog Description:

Prerequisites:

First Term Offered:

Credit Hours:

Department: Geography

Course Number and Title: GEO 524 Transportation Geography

Catalog Description: A geographic analysis of transportation and its spatial organization. Concepts, models, and analytical methods related to traffic demand, network configuration, and allocation of transport facilities are covered.

Prerequisites: None

First Term Offered: Fall 2019

Credit Hours: 3

## Bibliography

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**Geography Department  
College of Liberal Arts  
Marshall University**

**Course Information**

**Course Title:** Transportation Geography  
**Course #:** GEO 524  
**Sect #:** 201  
**CRN:** 3362  
**Credit Hours:** 3  
**Pre-requisites:** None  
**Co-requisites:** None  
**Term:** Fall 2019

**Meeting Information**

**Campus:** Huntington  
**Classroom:** HH 236  
**Days:** Tuesday  
**Time:** 4:00PM to 6:20PM

**Instructor Information**

**Instructor:** Hilton A. Córdoba, Ph.D.  
**Office:** HH 210  
**Office Hours:** T: 11:30AM – 12:30PM & 2:00PM – 4:00PM  
R: 11:30AM – 12:30PM & 2:00PM – 4:00PM  
And by appointment  
**E-mail:** [cordoba@marshall.edu](mailto:cordoba@marshall.edu)  
**Phone:** (304) 696-4627

<b>University Policies</b>	By enrolling in this course, you agree to the University Policies listed below. Please read the full text of each policy by going to <a href="http://www.marshall.edu/academic-affairs">www.marshall.edu/academic-affairs</a> and clicking on “Marshall University Policies.” Or, you can access the policies directly by going to <a href="http://www.marshall.edu/academic-affairs/policies/">www.marshall.edu/academic-affairs/policies/</a> . Academic Dishonesty/Excused Absence Policy for Undergraduates/Computing Services Acceptable Use/Inclement Weather/Dead Week/Students with Disabilities/Academic Forgiveness/Academic Probation and Suspension/Academic Rights and Responsibilities of Students/Affirmative Action/Sexual Harassment
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### Textbook:

J.P. Rodrigue, C. Comtois, B. Slack, *The Geography of Transport Systems*, 4th Edition.

### Classroom Etiquette

- 1) In order to enhance and maintain a productive atmosphere for education, **personal communication devices such as cellular telephones are to be *\*\*turned off\*\** in class sessions.**
- 2) Please arrive on time! If you happened to be late, please **enter the classroom quietly** and **minimize all noise** as you settle in your seat.
- 3) If you plan to leave class early, please **inform me** of your expected departure time, otherwise, you will be marked absent.
- 4) All in-class discussions will be conducted in a respectful manner.

### Netiquette: When emailing me-

- 1) Show that you have manners and include a simple salutation (“hello” will suffice).
- 2) Provide your class information (i.e. I’m in your TR or MW at xx time).
- 3) When asking for something, please do so politely.
- 4) If I feel that your question can best be answered in person, I will ask you to come see me during office hours or to schedule a Skype meeting/phone call.
- 5) If the answer to your inquiry can be found in the syllabus, I will reply with “see syllabus”.
- 6) If you email me anytime from Monday through Friday, expect a reply within 24 hours. Expect a longer return on weekends and holidays.
- 7) You will be expected to log into Blackboard every week to keep-up with announcements, assessment materials, and grades.

## Course Evaluation Method

<b>Assignment</b>	<b>Quantity</b>	<b>Value (points)</b>	<b>Total (points)</b>	<b>Percentage</b>
Quizzes	13	25	325	41%
Labs	6	25	150	19%
Discussion Questions	7	20	140	18%
Article Critiques	3	25	75	9%
Application Project	1	100	100	13%
<b>Grand Total</b>			<b>790</b>	<b>100%</b>

### **Quizzes**

There will be 13 quizzes and they will cover lecture material, assigned readings, and labs.

### **Labs**

There will be 6 labs, and you will have one week to complete each. Do not expect to complete all of your lab work during the scheduled lab time. You will need to dedicate time outside of class to completing your labs.

### **Discussion Questions**

Each week a list of questions on the required readings and documentaries will be posted to Blackboard. The responses to the questions are due at the beginning of class for the day they are assigned.

### **Article Critiques**

You will select three research article from peer-reviewed journals and write a critical review for each one. The topic for each article is of your choice, but must deal with the themes discussed in class. Detailed instructions available in Blackboard.

### **Application Project**

You will select one of the techniques or model covered in class and use it to assess a local transport facility or system. Detailed instructions available in BlackBoard

## Grading Scale

You will accumulate points throughout the semester and the final grade/point distribution will be as follows:

A 650-585 100% to 90%

B 584-520 89% to 80%

C 519-455 79% to 70%

D 454-390 69% to 60%

F 389-0 59% to 0%

### Tentative Schedule of Topics

Date	Topic	Assignments Due	Required Readings	Companion Readings
20-Aug	Course Overview		Syllabus	
<b>Unit I</b>				
27-Aug	Transportation & Spatial Organization I	Discussion Questions 1 Lecture Quiz 1	Available in Blackboard	Rodrigue, Chs. 1, 2
3-Sep	Transportation & Spatial Organization II	Discussion Questions 2 Lecture Quiz 2	Available in Blackboard	Rodrigue, Chs. 1, 2
10-Sep	Evolution of Transportation I	Discussion Questions 3 Lecture Quiz 3	Available in Blackboard	Rodrigue, Chs. 3, 4
17-Sep	Evolution of Transportation II	Discussion Questions 4 Article Critique 1 Lecture Quiz 4	Available in Blackboard	Rodrigue, Chs. 3, 4
<b>Unit II</b>				
24-Sep	Spatial Interaction I	Lab 1 Lecture Quiz 5		Rodrigue, Ch. 10
1-Oct	Spatial Interaction II	Lab 2 Lecture Quiz 6		Rodrigue, Ch. 10
8-Oct	Network Analysis I	Lab 3 Lecture Quiz 7		Rodrigue, Ch. 10
15-Oct	Network Analysis II	Lab 4 Lecture Quiz 8		Rodrigue, Ch. 10
22-Oct	Allocation Models	Lab 5 Article Critique 2 Lecture Quiz 9		Rodrigue, Ch. 10
<b>Unit III</b>				
29-Oct	Urban Transport I	Discussion Questions 5 Lecture Quiz 10	Available in Blackboard	Rodrigue, Chs. 7, 9
5-Nov	Urban Transport II	Lab 6 Lecture Quiz 11		Rodrigue, Chs. 7, 9
12-Nov	Transport Impacts & Sustainability I	Discussion Questions 6 Lecture Quiz 12	Available in Blackboard	Rodrigue, Ch. 8
19-Nov	Transport Impacts & Sustainability II	Discussion Questions 7 Article Critique 3 Lecture Quiz 13	Available in Blackboard	Rodrigue, Ch. 8
26-Nov	<b>No class: Thanksgiving Break</b>			
3-Dec	Reflections/Discussion	Application Project		

## Example of Instructional Method

### Lab 1

#### Assignment:

The countries of Mexico, Guatemala, Belize and Honduras have joined forces to develop a 'tourism' road network between notable Mayan archaeological sites of Central America. Their aim is to facilitate the movement of tourists between these sites by offering direct highway connections.

Your assignment is to assess the connectivity of this network and offer a future expansion recommendation based on your spatial analysis. Please answer the following questions (and show all work) based on the attached map of Central America representing this 'planar' network.

#### Full Network Measures

1. Is this network a 'minimally connected network'?
2. How many edges would be needed to establish a 'maximally connected network'?
3. What is the 'diameter' of this network?
4. Calculate the 'gamma index' for this network.
5. Would this network represent a 'spinal', 'grid' or 'delta' network configuration?

Money is budgeted for a new road, however planners are trying to decide the added benefit of a new addition.

6. Calculate the 'gamma index' if a linkage were to connect V1 and V4.
7. What percent increase would this result in over the original network's 'gamma index'?
8. Calculate the 'gamma index' if linkages were to connect V1 to V4 and V3 to V6.
9. What percent increase would this result in over the original network's 'gamma index'?

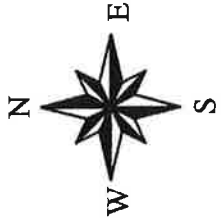
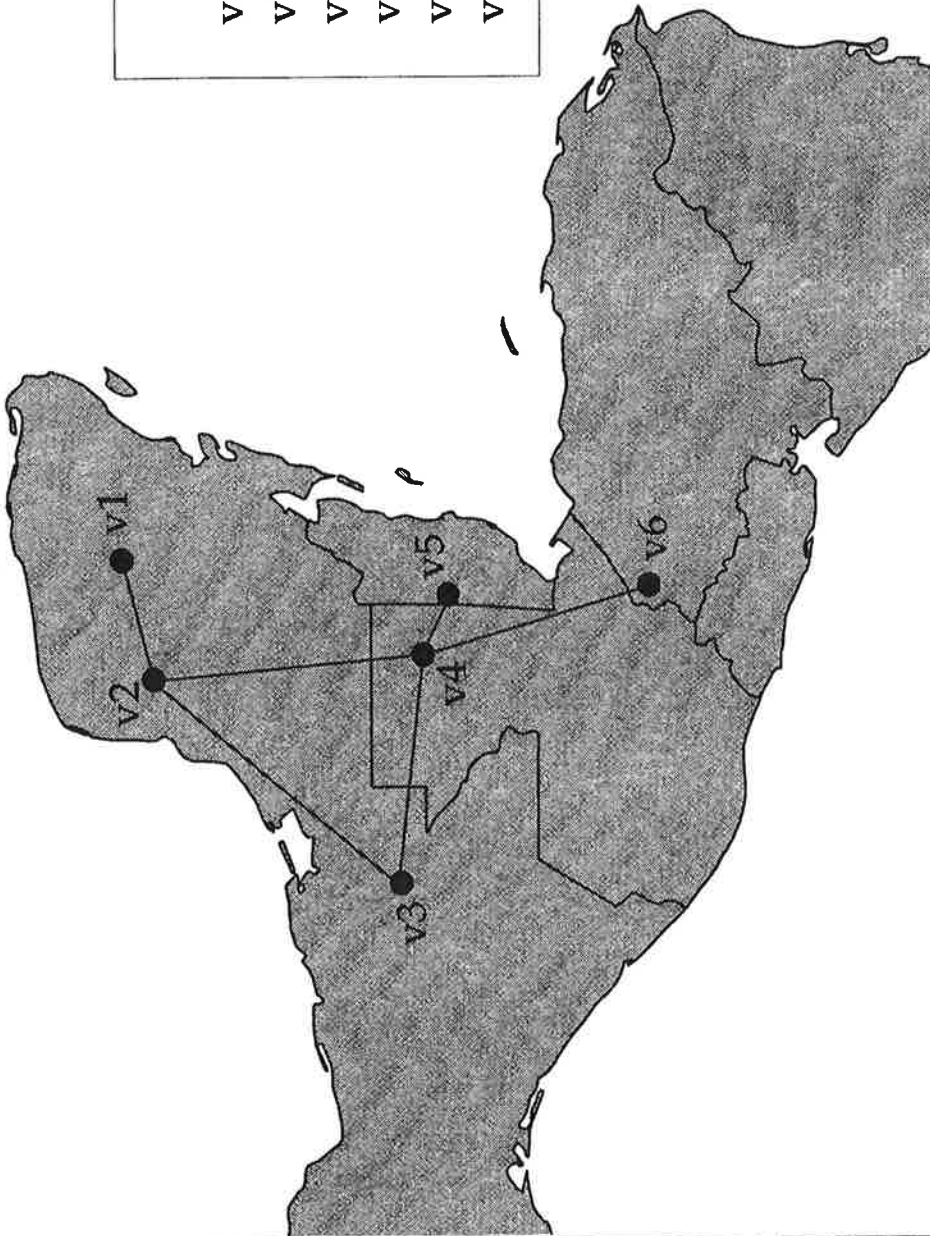
#### Individual Network Measures

10. Calculate a 'connectivity' matrix (C-matrix) for the original network—only at the C1 level.
11. Describe the procedure that would be necessary to calculate a 'total connectivity' matrix (T-matrix) for the original network. You do not have to perform the calculations, but merely show that you understand the process.

12. After a T-matrix is calculated, which node has the highest degree of accessibility within the network? The node with the highest row total or the node with the lowest row total?
13. Calculate a Shimbel distance matrix (D-matrix) for the original network.

# The Maya Highway

- Nodes**
- v1: Chichen Itza
  - v2: Uxmal
  - v3: Palenque
  - v4: Tikal
  - v5: Xunantunich
  - v6: Copan



## Example of Evaluation Method

### Article Critiques

#### Objective:

The goal of this activity is to give you an opportunity to evaluate a research paper. You might have done some article summaries or even critical evaluation of some resources. However, this activity is unique because you evaluate a research article from a methodology perspective.

#### Task:

For this assignment you summarize and evaluate three peer-reviewed research articles dealing either with a geographical concept, methodology, application of technique, or any of thematic issues covered in class. However, the study area or subjects in the research must be in or from Latin America. After you find an article that you would like to review, send a copy to your instructor for approval. Also, please note that not all three reviews are due at the same time, so refer to the syllabus for individual submission deadlines.

This assignment has two components: a summary section, where you write a brief (maximum 1 page) summary of the article in your own words. Do not use copy and paste try to rephrase. Address the following questions:

- 1 What is (are) the research problem(s)/goal (s)?
- 2 What is (are) the research question(s) (or hypothesis)?
- 3 Is the research important? Why?
- 4 In your own words, what methods and procedures were used?
- 5 Describe the sample (If any) or data used in this study.
- 6 Describe the reliability and validity of all the instruments (if any) used.
- 7 How was the data analyzed?
- 8 What is (are) the major finding(s)? Are these findings important?

In the critique section, you evaluate the article using the following questions. Note, I only expect you to answer the questions that are highlighted. I listed many more questions simply because I would like you to learn what to look for when evaluating a research article. Finally, some questions will be more relevant to some articles than others.

#### Introduction Section

- 1 Is there a statement of the problem?
- 2 Is the problem "researchable"? That is, can it be investigated through the collection and analysis of data?
- 3 Is background information on the problem presented?
- 4 Is the educational significance of the problem discussed?



- 5 Does the problem statement indicate the variables of interest and the specific relationship between those variables which are investigated? When necessary, are variables directly or operationally defined?

#### Review of Related Literature

- 1 Is the review comprehensive?
- 2 Are all cited references relevant to the problem under investigation?
- 3 Are most of the sources primary, i.e., are there only a few or no secondary sources?
- 4 Have the references been critically analyzed and the results of various studies compared and contrasted, i.e., is the review more than a series of abstracts or annotations?
- 5 Does the review conclude with a brief summary of the literature and its implications for the problem investigated?
- 6 Do the implications discussed form an empirical or theoretical rationale for the hypotheses which follow?

#### Hypotheses

- 1 Are specific questions to be answered listed or specific hypotheses to be tested stated?
- 2 Does each hypothesis state an expected relationship or difference?
- 3 If necessary, are variables directly or operationally defined?
- 4 Is each hypothesis testable?

#### Method

- 1 Are the size and major characteristics of the population studied described?
- 2 If a sample was selected, is the method of selecting the sample clearly described?
- 3 Is the method of sample selection described one that is likely to result in a representative, unbiased sample?
- 4 Did the researcher avoid the use of volunteers?
- 5 Are the size and major characteristics of the sample described?
- 6 Does the sample size meet the suggested guideline for minimum sample size appropriate for the method of research represented?

#### Instruments

- 1 Is the rationale given for the selection of the instruments (or measurements) used?
- 2 Is each instrument described in terms of purpose and content?
- 3 Are the instruments appropriate for measuring the intended variables?
- 4 Is evidence presented that indicates that each instrument is appropriate for the sample under study?
- 5 Is instrument validity discussed and coefficients given if appropriate?
- 6 Is reliability discussed in terms of type and size of reliability coefficients?
- 7 If appropriate, are subtest reliabilities given?

- 8 If an instrument was developed specifically for the study, are the procedures involved in its development and validation described?
- 9 If an instrument was developed specifically for the study, are administration, scoring or tabulating, and interpretation procedures fully described?

#### Design and Procedure

- 1 Is the design appropriate for answering the questions or testing the hypotheses of the study?
- 2 Are the procedures described in sufficient detail to permit them to be replicated by another researcher?
- 3 If a pilot study was conducted, are its execution and results described as well as its impact on the subsequent study?
- 4 Are the control procedures described?
- 5 Did the researcher discuss or account for any potentially confounding variables that he or she was unable to control for?

#### Results

- 1 Are appropriate descriptive or inferential statistics presented?
- 2 Was the probability level,  $\alpha$ , at which the results of the tests of significance were evaluated, specified in advance of the data analyses?
- 3 If parametric tests were used, is there evidence that the researcher avoided violating the required assumptions for parametric tests?
- 4 Are the tests of significance described appropriate, given the hypotheses and design of the study?
- 5 Was every hypothesis tested?
- 6 Are the tests of significance interpreted using the appropriate degrees of freedom?
- 7 Are the results clearly presented?
- 8 Are the tables and figures (if any) well organized and easy to understand?
- 9 Are the data in each table and figure described in the text?

#### Discussion (Conclusions and Recommendation)

- 1 Is each result discussed in terms of the original hypothesis to which it relates?
- 2 Is each result discussed in terms of its agreement or disagreement with previous results obtained by other researchers in other studies?
- 3 Are generalizations consistent with the results?
- 4 Are the possible effects of uncontrolled variables on the results discussed?
- 5 Are theoretical and practical implications of the findings discussed?
- 6 Are recommendations for future action made?

- 7 Are the suggestions for future action based on practical significance or on statistical significance only, i.e., has the author avoided confusing practical and statistical significance?
- 8 Are recommendations for future research made?

**Format:**

The format of your paper should NOT be like a Q & A list. Instead, you should integrate your answers into an essay format. The critique part should be 2-5 pages (750-2000 words), and should be longer than your summary.