

The Ohio State University

## ***Geography 3300: Transportation Security***

Spring Semester, 2016

**Location:** Cunz, 140  
**Time:** TuTh 12:45-2:05pm  
**Reg. Number:** 18999  
**Instructor:** Dr. Morton E. O'Kelly **E-mail:** [okelly.1@osu.edu](mailto:okelly.1@osu.edu)

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### **Course Description:**

This course serves as an introduction to transportation security. The objectives of the course are as follows:

- 1) To provide an understanding of the importance of transportation in human activity in historical and contemporary contexts;
- 2) To identify the major modes of transportation and their general characteristics and to understand the role each plays in the broader context of human activity;
- 3) To identify and understand elements associated with protecting transportation infrastructure and cargo, to include regulations; industrial practices; cargo screening equipment; personnel, physical, and procedural security requirements; and new security technologies;
- 4) To identify the major transportation industry and government institutions responsible for addressing transportation security issues, and to understand the role each plays in shaping transportation security policies and procedures;
- 5) To identify and understand key concepts and methods used by transport planners and/or policy-makers in addressing transportation security issues;
- 6) To assess and understand transportation security vulnerabilities from a geographic, transport planning, and/or policy perspective, as well as identify and understand current international security threats, countermeasures, and potential future security concerns.

### **Readings**

Readings will be provided through CARMEN.

Material covered each week is based on the units identified in the Course Notes.

## Course Overview

The following is a general overview of the contents of each section. It is subject to adaptation to suit the amount of material in each module. Generally each module is two lectures.

Week #1: Unit 1 Introduction to Transportation Geography and Transport Security

Week #2: Unit 2 Transport and Development of Networks

Week #3: Unit 3 Special nodes in networks – hubs and gateways

Week #4: Unit 4 Network failure and resilience

### ■ Midterm #1

Week #5: Unit 5 Modes

Week #6: Unit 6 Policy and Planning for Safety and Risk

Week #7: Unit 7 People and behavior in transport access

Week #8: Unit 8 Places and security (critical infrastructure)

### ■ Midterm #2

Week #9: Unit 9 Viewing transport security as a system

Week #10: Unit 10 Simulation to represent evacuation and other security issues

Week #11: Unit 11 Introduction to cost benefit assessment

Week #12: Unit 12 Threats and response (prepare report)

Week #13: Unit 13 Response and recovery for critical infrastructure protection

### ■ Final

## Course Notes:

There will be two mid-terms and one final exam covering the following sections:

**Mid-term #1:** Covers Units 1-4 (see above) from the Course Notes; lecture, and any additional handouts

**Mid-term #2:** Covers Units 5-8 (see above) from the Course Notes; lecture, and any additional handouts

**Final Exam:** Covers Units 9-13 (see above) from the Course Notes; lecture, and any additional handouts

**IMPORTANT NOTE:** Students missing a scheduled exam (mid-term or final) will be required to provide sufficient documentation before he/she will be allowed to take a make-up exam. Students failing to provide sufficient documentation for a missed exam will result in a score of **zero** for that exam – **no exceptions**.

The following is a list of exams, exercises, and other assignments with their corresponding point total and percentage of the final grade:

Mid-term #1:	20%
Mid-term #2:	20%
Final:	20%
Writing Assignment #1	10%
Writing Assignment #2	10%
Security Report:	10%
Security Report map or visuals:	5%
Class Participation/Other Assignments:	5%

### **Important Due Dates/Other Dates:**

Spring break, March 14-18.

The final exam is Thursday April 28 2pm - 3:45pm in the regular classroom.

### **Course Expectations:**

Class attendance is important, and a failure to attend class on a regular basis will impact your final grade. Students are encouraged to ask questions and to visit office hours. Carmen will be used to receive homework, and the due dates and time will be given in class.

### **Student Conduct Policy:**

Plagiarism and other forms of cheating will not be tolerated. Please consult the Code of Student Conduct at [http://studentaffairs.osu.edu/resource\\_csc.asp](http://studentaffairs.osu.edu/resource_csc.asp). University rules provide severe penalties for academic misconduct, ranging from course failure to dismissal from the University. University Rules can be found in the "University Survey – A Guidebook and Readings for New Students" handbook. Any questions about this policy, or your grade, should be brought directly to the attention of the instructor.

### **Other Policies:**

It is university policy to provide reasonable accommodations to students with physical, mental, or learning disabilities. To request such accommodations contact the Office for Disability Services in 150 Pomerene Hall at 292-3307. Once certified, present the relevant information to the instructor in a timely manner.

Late material -- material received after a deadline drops 20% of the available points each day. The deadline will be time stamped on CARMEN. Manage your time to avoid last minute technical issues.

## **Exams:**

The mid-term and final exams will consist of a combination of multiple choice/true-false questions, matching questions, and short-answer and/or essay questions. Exams will be based on material covered in the course notes, lecture, and supplemental material provided by the instructor. Each exam (mid-terms and final) is worth 20% of the grade.

### ***1) Writing Assignments:***

There will be two (2) short writing assignments that students will be required to complete as part of the course on topics provided by the instructor. Each assignment is worth 100 points (200 points total). Guidelines will be given by the instructor on the structure, content, and format for the writing assignments.

### ***2) Security Report:***

Students will be required to write a short report on a topic provided by the instructor. Guidelines will be given by the instructor on the structure, content, and format for the report. The topic report is worth 100 points.

### ***3) Power Point Presentation:***

Students will be required to create and submit a Story Map or a PowerPoint presentation summarizing the content of the short report. The PowerPoint presentation is worth 50 points. Guidelines will be given by the instructor on the content of the PowerPoint presentation.

## **Class Participation/Other Assignments:**

In addition to the exams and groups activities, students will be assessed on other activities. These activities may be based on classroom questions and answers, classroom discussion, in-class exercises/quizzes, or other activities/exercises done outside of class.

## **Writing Assignment #1 – Transportation Incident News Report (Preview)**

For the first writing assignment, you will be required to write and submit a paper on a recent transportation security incident as reported in the news. Transportation security incidents can be varied, but it is best to stick to terrorist attacks directed at transportation related targets (airports, train stations, subways, etc.). The new report should be fairly recent (within the last 3 years) and come from a reliable and well-documented source.

The paper should be between 2-3 pages in length, double-spaced typed, and include a reference page (not included in the 2-3 page length) – properly formatted – indicating the source(s) reporting the transportation incident. The paper **must** include the following information:

- Summary of the incident – what occurred, how it happened, when and where it took place, what kind of damage/casualties, who was involved/responsible for incident, etc.
- Analysis of the strengths and/or weaknesses of the security measures that existed prior to the

incident taking place. This can be a summary of someone else's analysis (be sure to include proper citation if so) or your own (be sure to indicate that the analysis is your own). Recommendations on the security measures that 1) have been (or will be) undertaken.

Week	Unit / topic	DATE	DAY	TOPIC	OBJECTIVES
Week #1:	Unit 1 Introduction to Transportation Geography and Transport Security	jan 12	Tues	transport and geography	approaches
		jan 14	Thr	transport and security	
Week #2:	Unit 2 Transport and Development of Networks	jan 19	Tues	transport and development	history
		jan 21	Thr	network evolution	
Week #3:	Unit 3 Special nodes in networks – hubs and gateways	jan 26	Tues	hub and gateway nodes	nodes
		jan 28	Thr	links and flows	
Week #4:	Unit 4 Network failure and resilience	feb 2	Tues	vulnerability	networks
		feb 4	Thr	probability of disconnect	
	■ Midterm #1	feb 9	Tues	midterm	
Week #5:	Unit 5 Modes	feb 11	Thr	air	industry and govt agencies
		feb 16	Tues	rail, surface, urban transit	DHS TSA
Week #6:	Unit 6 Policy and Planning for Safety and Risk	feb 18	Thr	policy and planning (safety and risk)	critical infrastructure (malicious / threats)
		feb 23	Tues	pipeline and other	
Week #7:	Unit 7 People and behavior in transport access	feb 25	Thr	behavioral ideas	mobility and access
		mar 1	Tues	time geography / access	
Week #8:	Unit 8 Places and security (critical infrastructure)	mar 3	Thr	port security	physical security
		mar 8	Tues	internet and cyber security	
	■ Midterm #2	mar 10	Thr	midterm	
		mar 15	Tues	break week	
		mar 17	Thr	break week	
Week #9:	Unit 9 Methods for mapping and visualization	mar 22	Tues	visualization	story maps
		mar 24	Thr	quantitative measures	cost benefit analysis
Week #10:	Unit 10 Simulation to represent evacuation and other security issues	mar 29	Tues	evacuation and other games	threats to links and flows
		mar 31	Thr	AAG -- review session	flexible content depends on sched
Week #11:	Unit 11 Viewing transport security as a system	apr 5	Tues	systems	detection and interception
		apr 7	Thr	assessment of fault tolerance	weaknesses
Week #12:	Unit 12 Threats and response (prepare report)	apr 12	Tues	synthesis	response and recovery
		apr 14	Thr	reports from projects and review	
Week #13:	Unit 13 Response and recovery for critical infrastructure protection	apr 19	Tues	reports from projects and review	
		apr 21	Thr	reports from projects and review	
				final	Thursday April 28 2pm - 3:45pm

The final exam is April 28<sup>th</sup> 2pm-3:45pm in the regular classroom.