

INSTITUTIONAL SYLLABUS - GBTT 251-01 TRANSPORTATION SYSTEMS SPRING 2017

I. COURSE DESCRIPTION

GBTT 251 Transportation Systems 3 class hours, 3 credits. This course presents an overview of the global transportation systems that help integrate our world, including their operation, design, and the economic factors that help drive and influence the supply chains of which they are a part. This course is the first in a sequence of two courses, the other being GBEC 428 Economic Geography, that integrates the presentation and learning of three elements primary to contemporary transportation: 1) system design, organization, and control; 2) global environments and factors, including culture and ethics, that influence transportation processes and activities; and 3) the economics of transportation, including the effects of demand and supply, private sector costing and pricing strategies, and government regulation at all levels.

3.000 Credit hours

3.000 Lecture hours

Prerequisite(s): GBUS 100

Corequisite(s): None

Follow-On Courses: GBEC 428 Economic Geography

Role in Curriculum: Major course

II. TEXT(S)

A. Required Text(s):

1. Coyle, J. J., Novack, R. A., Gibson, B., & Bardi, E. J. (2010). *Transportation: A Supply Chain Perspective* (7th ed.). South-Western Cengage Learning. 0-324-78919-X . Chapter 3 is required for course module 4; chapters 5, 6, and 8 are required for course module 6; chapter 10 is required for course module 10.

- a. You may find of interest the following option since only five chapters are required from this text for this course

(a) Point your browser at *Cengage Learning > Higher Education* at <http://www.cengage.com/search/showresults.do?N=16&iba=W15008946>

- (b) Enter the ISBN number (0-324-78919-X) in the search box.
 - (c) To the right of the resulting screen you will see a box labeled *Purchase at CENGAGE brain*. Click on the *View* button in that box and you will be presented with a screen labeled *Purchase Options*.
 - (d) Make your selection and complete the transaction.
2. Stutz, F. P., & Warf, B. (2012). *The World Economy: Geography, Business, Development* (6th ed.). Saddle River NJ: Pearson Education. 0-321-72250-7. Chapter 1 is required for course module 1; chapter 9 for course modules 3, 4, and 5; chapter 13 for course module 9; chapter 14 for course module 13.

Please note that this text is also used in GBEC 428.

- a. You may find the following of interest since only four chapters are required from this text for this course.
 - (a) Point your browser at *myPearsonstore* at <http://www.mypearsonstore.com/index.asp>
 - (b) Choose your country
 - (c) Enter the ISBN number, 0-321-72250-7, in the box labeled *Find Book*, then click *Search*.
 - (d) On the resulting screen you will see a box giving you two choices for digital and one for print.
 - (e) Make your selection and complete the transaction.

B. Supplemental Material:

Distributed through Blackboard

Please note that is a blended course wherein a learning management system, Blackboard, complements the classroom experience.

III. STUDENT LEARNING OBJECTIVES

A. Course Objectives

Upon successful completion of GBTT 251, the student will:

1. Have the perspective, information, tools, and techniques that enable an understanding of transportation in the past, present, and future tenses.
2. Be able to use this understanding as the basis to deliver value by suggesting improvements to current and future systems.
3. Be able to apply the principles of critical thinking and communicate the results of this analysis.

IV. COURSE ASSESSMENTS

A. Assessments in the Class

1. Deliverable Points
2. Examination Points
3. Attendance Points
4. Team Assessment Points

B. External Assessments

Performance in follow-on course(s)

V. ACCOMMODATIONS FOR STUDENTS WITH LEARNING DISABILITIES

If you believe that you need accommodations for a disability (also referred to as IEPs and 504 plans), please notify me within the first week of class and contact the Office of Accessibility Services at (718) 409-7348 or email Dean Tardis Johnson at tjohnson@sunymaritime.edu for an appointment to discuss your needs and the process for requesting accommodations. Since accommodations may require early planning and generally are not provided retroactively, please contact Accessibility Services as soon as possible!

VI. ACADEMIC INTEGRITY POLICY

Absolute integrity is expected of every Maritime student in all academic undertakings.

A Maritime student's submission of work for academic credit indicates that the work is the student's own. All outside assistance should be acknowledged, and the student's academic position truthfully reported at all times. In addition, Maritime students have a right to expect academic integrity from each of their peers.

Students are expected to do their own work in class, on assignments, laboratory experiments, and examinations or tests in accordance with the directions given by the instructor. It is the responsibility of all students to read and understand this statement of College policy on academic integrity. Maritime College considers the violation of academic integrity a serious matter, and one that will be treated as such.

A student who violates academic integrity may, depending on the nature of the offense, be subject to one or more of the following measures: failure of the assignment or examination, failure of the course, dismissal from the Regiment of Cadets, or dismissal from the College. Violations of academic integrity, also known as academic dishonesty, are subject to review by the Judicial Board. For details, go to:

<http://www.sunymaritime.edu/sites/default/files/media/Documents/AcademicIntegrityPolicy.pdf>

ALL ACADEMIC INTEGRITY VIOLATIONS WILL BE REPORTED TO THE DEAN OF STUDENTS

COURSE SYLLABUS– GBTT 251-01 TRANSPORTATION SYSTEMS SPRING 2017

INSTRUCTOR INFORMATION

Prof. James Drogan, jdrogan@sunymaritime.edu, 718-409-7289

Office hours: 9AM – 3PM Mondays through Thursdays MAC 228.

CLASS MEETINGS

1130AM – 1245PM, Tuesdays and Thursdays

Fort B1

CLASS POLICIES

Attendance is mandatory. **Four or more unexcused absences will result the deduction of a full letter grade (e.g., A to B, B- to C-) from the final grade.** Please notify the instructor by any available means if you expect to be absent.

Smartphones and laptops may be used during class if the use is for purposes of the class. This privilege will be rescinded if there is a substantial amount of unauthorized use.

GRADING SUMMARY

Deliverable Points	130	37%
Examination Points	130	37%
Attendance Points	58	17%
Team Assessment	32	9%
Total	350	100%

No makeup work will be assigned and extra credit is unavailable.

Details of grading will be found on p 16.

Final Grade Assignments

The initial final grade is assigned according to the following table.

%	GPA	Grade
100.0%	4	A
93.0%	4	A
90.0%	3.7	A-
87.1%	3.3	B+
83.0%	3	B
80.0%	2.7	B-
77.1%	2.3	C+
73.0%	2	C
70.0%	1.7	C-
67.1%	1.3	D+
63.0%	1	D
0.0%	0	F

The initial final grade represents the points attained divided by the total points available. This mathematical guides me in the assignment of the final grade. What this means is that the final grade I assign may be different from the mathematical grade. In assigning the final grade I take into account your consideration, respect, and encouragement of others; your desire for learning and discipline in completing the assignments; your ability to bring relevant issues to the attention of the class.

COURSE OUTLINE

Overview

Transportation systems connect centers of economic activity. These centers may be sources of supply and demand for products and services and/or centers, such as an airport, where goods and services transfer within and between modes. A transportation system does not exist alone; it requires a means of management in order to produce the desired outcome, and a means of regulation to insure it operates within the bounds of accepted legal and economic principles. We can't really discuss transportation systems without mention of management and regulation. However, in this course the principal focus will be on the physical system. Other courses of study will take up management and regulation in more detail.

Key points include:

- Transportation systems ameliorate the effects of economic geography thereby enabling the wellbeing of mankind.
- Transportation management allocates and control resources thereby enabling effective and efficient transportation systems.
- Transportation regulation establishes the means for controlling the excesses of mankind for the purpose of maximizing the well-being of the majority.

The course begins with an examination of how centers of economic activity developed, how this shaped the transportation system, the impact

of the industrial, technological and knowledge ages, and how developments in these ages overcame the restrictions of geography.

The second third of the course focuses on the three primary transportation modes -- trucks, railroads, water -- their similarities and differences, the manner in which modes can be combined to improve the customer experience, and the challenges presented by globalization.

The last portion of the course takes up the matter of future transportation systems including potential services, and their design, implementation and operation.

The aim of this course is to provide you with the perspective, information, tools, and techniques that enable an understanding of transportation in the past, present, and future tenses. This understanding provides the basis for you to deliver value to by suggesting improvements to current and future systems.

Course Design

The course comprises 15 modules, each of which is, in general, taught over two course periods.

Thursday is the first period and introduces the topic of the module through a moderated discussion. At the conclusion of the first period you will be assigned reading and writing. The reading builds upon the discussion and the writing asks you to apply what you have learned from the discussion and reading to a specific issue. The reading and writing is to be completed 24 hours before the beginning of the second period (Tuesday) in the module. **Written assignments that are late will not be accepted.**

Tuesday, the second period of the module comprises feedback on the written assignment and a discussion of a contemporary topic in transportation.

The page shows a graphical overview of the course.



The Modules

A description of the objective for each of the modules is given along with the assigned reading. The principal texts are Coyle and Stutz. Lecture notes and links to other material will be on Blackboard.

I. Introduction to the Course and to Transportation Systems

a. Description

An introduction to the course structure, objectives, activities, and assessments. An introduction to Blackboard, the learning management system through which material will be distributed and

assignments will be submitted. Transportation systems, including their context, are outlined as well as the manner in which they will be studied and the approach for assessing student performance.

b. Reading

Economic Geography: An Introduction (Stutz & Warf, 2012, Chapter I)

Ethics, Critical Thinking, and Communications (Drogan, 2009a)

Writing Papers in GBTT 251 (Drogan, 2016c)

The Value of Introspection (Drogan, 2009b)

c. Writing

No assignment

2. Transportation Systems Prior to the Industrial Revolution

a. Description

Transportation systems have a long history. The fundamentals that gave rise to transportation systems -- linkage of economic centers of activity, demand, supply, place and time utility -- continue to shape transportation systems. History is ignored at peril.

"What's past is prologue." William Shakespeare, *The Tempest*.

"Those who cannot remember the past are condemned to repeat it."

George Santyana

b. Reading

A Splendid Exchange (Bernstein, 2008, sec. Introduction)

The Silk Road ("Silk Road," 2011)

Transportation Basics (Drogan, 2007a)

c. Writing

The Relative Advantages and Disadvantages of the Silk Road(s)

d. Feedback on the Writing Assignment

e. Contemporary Issue in Transportation Systems

3. The Transformation of the Industrial Revolution

a. Description

The Industrial Revolution provided innovations, steam and canals come to mind, that overcame the tyranny of geography and resulted in the onset, in a significant way, of globalization.

b. Reading

Transportation and Communications (Stutz & Warf, 2012, pp. 245–251 to General Properties of Transportation Costs)

Industrial Revolution (Hackett, 1992)

c. Writing Assignment

The Impact of the Industrial Age on Transportation

4. The Rise of Regulation

a. Description

Success tends to breed both hubris and greed resulting in man taking unfair advantage of his fellow man. Consequently, regulation of various types results. Regulation has both benefits and costs. Some of each are planned for and achieved; others of each are unexpected, welcomed, and sometimes, endured.

b. Reading

Transportation and Communications (Stutz & Warf, 2012, pp. 251–254 to Personal Mobility in the United States)

Transportation Regulation and Public Policy (Coyle, Novack, Gibson, & Bardi, 2010, pp. 56–66)

c. Writing

Discuss the implications of the first sentence in the sixth full paragraph on page 59 of Coyle et.al.

5. The Transformation of the Information Age

a. Description

While the tyranny of geography was largely overcome in the industrial age, transportation systems encountered another barrier, that of information. This barrier began to be overcome with the

onset of the information age (circa 1960¹) and the pursuit of two fundamental goals. The first is that everything important is visible. The second is that everything to be managed is reachable. This course considers this the second of the three ages that have radically transformed transportation.

b. Reading

Transportation and Communication (Stutz & Warf, 2012, pp. 256–269 begin with Telecommunications)

c. Writing

Information Technology in a Transportation System

6. The Fundamental Modes of Transportation

a. Description

There is general acceptance of five modes of freight transportation; air, pipeline, railroad, truck, and water. Each of these modes presents a different set of capabilities to the market. The three most significant modes, based on volume, are railroad, truck, and water. These are covered in some detail.

b. Reading

Truck (Coyle et al., 2010, pp. 163–177)

Railroad (Coyle et al., 2010, pp. 195–223)

Water (Coyle et al., 2010, pp. 256–269)

c. Writing

Moving Newsprint from Vancouver to San Diego

7. General Enterprise Structure

a. Description

Transportation systems as a collection of interlinked mobile and fixed assets structured for a particular purpose achieve goals and objectives through being subject to a combination of people, processes, and information that direct the acquisition, deployment, control, and retirement of the assets.

¹ The references here is to the Southern Pacific Railroad and its development of the Total Operations Processing System (TOPS). See <https://en.wikipedia.org/wiki/TOPS>. American Airlines began the development of a seat reservation system (SABRE) in the early 1950s. See [https://en.wikipedia.org/wiki/Sabre_\(computer_system\)](https://en.wikipedia.org/wiki/Sabre_(computer_system)).

b. Reading

Introduction to Transportation Systems (Sussman, 2000, Chapter 1)

c. Writing

TBD

8. Issues of Design, Implementation, and Operation

a. Description

Transportation systems, both real and virtual, are a combination of what is permitted within geoclimatic constraints and the ambitions of those seeking to connect centers of economic activity thereby satisfying demand with supply whilst providing economic benefit. Transportation systems are a product of increasingly sophisticated thinking regarding design, implementation, and operation.

b. Reading

Networks (Drogan, 2007b)

Introduction to System Design and Control (Drogan, 2008)

c. Writing

TBD

9. Globalization and the Impact of Transportation Systems

Description

The third major age that is transforming transportation systems is globalization, the growing interdependency amongst nations and people of the world. There is, in a sense a growing co-dependence between globalization and transportation. This trend is not likely to lessen over the near future.

Globalization is the free, fast, reliable worldwide movement of products, services, money, information, ideas, news, culture, and people. This movement is motivated by the desire to increase value whether it is product exported from one country to another, or people migrating from one region of the world to another.

Transportation enables globalization, and it is globalization that creates the demand for transportation.

Reading

International Trade Patterns (Stutz & Warf, 2012, Chapter 13).

No Ordinary Disruption: The Four Global Forces Breaking All the Trends (Dobbs, Manyika, & Woetzel, 2015, sec. An Intuition Reset)

The Anatomy of a Taco (Schwartz, 2010)

a. Writing

Improving Globalization by Improving Transportation

10. Economic and Legal Boundaries and Freedoms

a. Description

Transportation systems exist with the context of a dynamic economic and legal context. The freedoms to operate within boundaries are set at the local, state, regional, national, and international level.

'Adrian Gonzalez...ARC Advisory Group, estimated that a typical cross-border shipment involves the accurate completion and filling of 35 documents, interfacing with 25 parties including customs, carriers and freight forwarders, and complying with over 600 laws and 500 trade agreements that are constantly changing.' (Cottrill, 2003, p. 17)

b. Reading

Global Transportation Planning (Coyle et al., 2010, pp. 331–344)

The World Trade Organization in Brief ("The World Trade Organization in Brief," 2009)

c. Writing

Free Trade and Global Regulation

11. Intermodal Transportation

a. Description

If a single mode could provide all the capabilities required to meet global needs, then, quite likely, only one mode would exist. Each of the three major modes has strengths and weaknesses. Often the strengths of one mode offset the weakness of another mode. Inevitably one is led to combining the strengths of the modes to overcome the weaknesses of the modes in order to provide higher levels of economic value to the user of the transportation system.

b. Reading

Global Transportation Planning (Coyle et al., 2010, pp. 344–349)

Intermodal Transportation (Rodrigue, Slack, & Comtois, 2011)

c. Writing

Seatrain Louisiana

12. Advances in Infrastructure and Equipment

a. Description

Man is a restless animal, always on the prowl for new and better ways of thinking and doing. This translates into advances in transportation infrastructure and equipment, of which the container is perhaps the most significant example that fundamentally transforms the transportation system.

b. Reading

The Driverless Truck is Coming, and It's Going to Automate Millions of Jobs (Petersen, 2016)

How and Why They Are Raising the Bayonne Bridge Roadway (O'Connell, 2014)

c. Writing

Your idea for an advance in infrastructure and equipment.

13. Advances in Business Systems and Information Technology

a. Description

Contemporary with advances in infrastructure and equipment (tools) are advances in the management (techniques) of these assets.

Advances in tools and techniques are forever locked in a *pas de deux* of co-creation.

b. Reading

TBD

c. Writing

TBD

14. Cultural and Ethical Issues

a. Description

In this course transportation systems should be understood as global transportation systems. This is not to suggest that local

transportation systems are unimportant, but rather to indicate that transportation systems of scale and scope beyond local are not immune to the effects of culture and ethics.

b. Reading

Development and Underdevelopment in the Developing World (Stutz & Warf, 2012, Chapter 14).

Cultural Acumen for the Global Manager: Lessons from Project GLOBE (Javidan & House, 2001).

The Affect of Cross Cultural Management Factors on the Design of Global Business Systems (Drogan, 2010)

c. Writing

An Intersection Between a Cultural Dimension and a Transportation System Key Point

15. Future Transportation Systems

a. Description

The further one pushes beyond today, the more unfamiliar the territory. The age of the rotary phone restricted one to an area defined by the length of the cord connecting the microphone and earpiece to the cradle has given way to the smartphone where almost anything is possible at anytime from anyplace. The "anys" are a modern mantra. There is every reason to think that any product may someday be available at anytime and anyplace to anyone. Making this possible will be the transportation system responding to, and perhaps provoking, the needs and wants of the global citizen. There is the anticipation of significant advancements in transportation systems, the most significance of which may be in the roles, responsibilities, risks, and rewards associated with the most critical of components, the human.

b. Reading

TBD

c. Writing

None

Schedule

Class #	Date	Day of Week	Subject	Deliverable Due
1	1/10/2017	Tuesday	1. Introduction to Transportation Systems and the Course	
2	1/12/2017	Thursday	2. Transportation Systems Prior to the Industrial Revolution	
3	1/17/2017	Tuesday		1/16/2017
4	1/19/2017	Thursday	3. The Transformation of the Industrial Revolution	
5	1/24/2017	Tuesday		1/23/2017
6	1/26/2017	Thursday	4. The Rise of Regulation	
7	1/31/2017	Tuesday		1/30/2017
8	2/2/2017	Thursday	5. The Transformation of the Information Age	
9	2/7/2017	Tuesday		2/6/2017
10	2/9/2017	Thursday	6. The Fundamental Modes of Transportation	
11	2/14/2017	Tuesday		2/13/2017
12	2/16/2017	Thursday	Midterm Examination	
	2/21/2017	Tuesday	HOLD MONDAY CLASSES ON TUESDAY	
13	2/23/2017	Thursday	7. General Enterprise Structure	
14	2/28/2017	Tuesday		2/27/2017
15	3/2/2017	Thursday	8. Issues of Design, Implementation, and Operations	
16	3/7/2017	Tuesday		3/6/2017
17	3/9/2017	Thursday	9. Globalization and the Impact of Transportation Systems	
18	3/14/2017	Tuesday		3/13/2017
19	3/16/2017	Thursday	10. Economic and Legal Boundaries and Freedoms	
20	3/21/2017	Tuesday		3/20/2017
21	3/23/2017	Thursday	11. Intermodal Transportation	
22	3/28/2017	Tuesday		3/27/2017
23	3/30/2017	Thursday	12. Advances in Infrastructure and Equipment	
24	4/4/2017	Tuesday		4/3/2017
25	4/6/2017	Thursday	13. Advances in Business Systems and Technology	
26	4/11/2017	Tuesday		4/10/2017
27	4/13/2017	Thursday	14. Cultural and Ethical Issues	
28	4/18/2017	Tuesday		4/17/2017
29	4/20/2017	Thursday	15. Future Transportation Systems	
	4/24-29/17		Final Examination	

GRADING

1. Deliverable Points: Thirteen papers (deliverables) due in this course. The grade is determined according to three rubrics: Ethics, Critical Thinking, and Communications. See *A Rubric for the Assessment of Ethics, Critical Thinking, and Communications* for details (Drogan, 2016b).
2. Examination Points
3. Attendance Points: It is the responsibility of the student to attend all classes. Attendance will be taken. The instructor reserves the right to fail the student in the course for more than three unexcused absences.
4. Team Assessment Points: Your teammates assess your contribution to the team based upon whether they would like to be on a team with you in the future. See *Teams* (Drogan, 2016a) for additional information on teams.

Here is a recapitulation of the points assigned in this course.

Deliverable Points	130	37%
Examination Points	130	37%
Attendance Points	58	17%
Team Assessment	32	9%
Total	350	100%

References

- Bernstein, W. J. (2008). *A Splendid Exchange: How Trade Shaped the World*. New York: Atlantic Monthly Press.
- Cottrill, K. (2003, March 17). Burden of Proof. *Traffic World*, 21.
- Coyle, J. J., Novack, R. A., Gibson, B., & Bardi, E. J. (2010). *Transportation: A Supply Chain Perspective* (7e ed.). South-Western Cengage Learning.
- Dobbs, R., Manyika, J., & Woetzel, J. (2015). *No Ordinary Disruption: The Four Global Forces Breaking All the Trends*. PublicAffairs.
- Drogan, J. (2007a). 2. Transportation Basics. Retrieved from <http://jmsdrgn.squarespace.com/storage/2.%20Transportation%20Basics.pdf>
- Drogan, J. (2007b). 4. Networks. Retrieved from <http://jmsdrgn.squarespace.com/storage/4.%20Networks.pdf>
- Drogan, J. (2008). An Introduction to System Design and Control. Retrieved from <http://jmsdrgn.squarespace.com/storage/An%20Introduction%20to%20System%20Design%20and%20Control.pdf>
- Drogan, J. (2009a). Ethics, Critical Thinking, and Communications. In *Useful Items to Pack for Your Trip* (pp. 65–90). SUNY Maritime College: James Drogan. Retrieved from <http://jmsdrgn.squarespace.com/storage/Ethics%20Critical%20Thinking%20and%20Communications.pdf>
- Drogan, J. (2009b, August 17). The Value of Introspection. Retrieved from <http://jmsdrgn.squarespace.com/storage/The%20Value%20of%20Introspection.pdf>
- Drogan, J. (2010, November 21). *The Affect of Cross Cultural Management Factors on the Design of Global Business Systems*. Research Paper, Norwich University. Retrieved from <http://jmsdrgn.squarespace.com/storage/The%20Affect%20of%20Cross%20Cultural%20Management%20Factors%20on%20the%20Design%20of%20Global%20Business%20Systems.pdf>
- Drogan, J. (2016a). Teams. In *Useful Items to Pack for Your Trip* (pp. 233–242). GBAT Department, SUNY Maritime College. Retrieved from <http://jmsdrgn.squarespace.com/storage/Teams.pdf>

- Drogan, J. (2016b, July 18). A Rubric for the Assessment of Ethics, Critical Thinking, and Communications.
- Drogan, J. (2016c, December 22). Writing Papers in GBTT 251. GBAT Department, SUNY Maritime College.
- Hackett, L. (1992). Industrial Revolution. Retrieved December 19, 2016, from <http://history-world.org/Industrial%20Intro.htm>
- Javidan, M., & House, R. J. (2001). Cultural Acumen for the Global Manager: Lessons from Project GLOBE. *Organizational Dynamics*, 29(4), 289–305.
- O’Connell, F. (2014, March 21). How and Why They Are Raising the Bayonne Bridge Roadway. *The New York Times*. Retrieved from <http://www.nytimes.com/interactive/2014/03/23/nyregion/how-and-why-they-are-raising-the-bayonne-bridge-roadway.html>
- Petersen, R. (2016, April 25). The Driverless Truck is Coming, and It’s Going to Automate Millions of Jobs. Retrieved from <http://social.techcrunch.com/2016/04/25/the-driverless-truck-is-coming-and-its-going-to-automate-millions-of-jobs/>
- Rodrigue, J.-P., Slack, B., & Comtois, C. (2011). Intermodal Transportation. Retrieved October 10, 2011, from <http://people.hofstra.edu/geotrans/eng/ch3en/conc3en/ch3c6en.html>
- Schwartz, A. (2010, March 2). The Anatomy of a Taco. Retrieved June 3, 2011, from <http://www.fastcompany.com/1567625/the-anatomy-of-a-taco>
- Silk Road. (2011, January 14). Retrieved January 15, 2011, from http://en.wikipedia.org/wiki/Silk_Road
- Stutz, F. P., & Warf, B. (2012). *The World Economy: Geography, Business, Development* (6e ed.). Saddle River NJ: Pearson Education.
- Sussman, J. M. (2000). *Introduction to Transportation Systems*. Boston: Artech House.
- The World Trade Organization in Brief. (2009). World Trade Organization. Retrieved from http://www.wto.org/english/res_e/doload_e/inbr_e.pdf