

INSTITUTIONAL SYLLABUS - GBTT 251-03 TRANSPORTATION SYSTEMS

FALL 2011

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):

- I. 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 four chapters are required from this text for this course
 - (a) Point your browser at *Cengage Learning > Higher Education* at <http://www.cengage.com/search/market.do?N=16>
 - (b) Enter the ISBN number (0-324-78919-X) in the box labeled *Find Learning Products* then click *Search*.

- (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) Enter the ISBN number, 0-321-72250-7, in the box labeled *Find Your Textbook*, then click *Search*.
 - (c) On the resulting screen you will see a box giving you two choices for *Online Book* or purchasing the book; *Textbook*.
 - (d) Make your selection and complete the transaction.

B. Supplemental Material:

Distributed through ANGEL

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

Written assignments.

Midterm and final examinations

In-class discussion contribution

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.thezonelive.com/zone/02_SchoolStructure/NY_SUNYMaritimeCollege/handbook.pdf

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

COURSE SYLLABUS – GBTT 251-03 TRANSPORTATION SYSTEMS FALL 2011

INSTRUCTOR INFORMATION

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

Office hours: see Faculty and Staff > Faculty/Staff Contact on the Maritime website. Scroll down to Prof. James Drogan and click on the name. Scroll down to see Office Hours.

CLASS MEETINGS

11:30 am - 12:45 pm, Tuesdays and Thursdays

Fort A06

CLASS POLICIES

All mobile phones must be kept off and away

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.

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

Assessment	Points	Percent
Attendance	28	8%
Written Assignments (15 pts ea)	165	46%
Midterm Examination	83	23%
Final Examination	83	23%
Total Points	359	100%

Participation in in-class discussions will be counted as extra credit.

No makeup work will be assigned and extra credit is limited to that covered in the immediately preceding sentence.

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 principals. We can't really discuss transportation systems without mention of management and regulation. However, in this course the principal focus will be on the system. Other courses of study will take up management and regulation.

Key points include:

- Transportation systems ameliorate the affects of economic geography thereby enabling the well-being 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 14 modules, each of which is taught over two course periods. The first period introduces the topic of the module through a lecture. At the conclusion of the first period you will be assigned reading and writing. The reading builds upon the lecture and the writing asks you to apply what you have learned from the lecture and reading to a specific issue. The reading and writing is to be completed 24 hours before the beginning of the second period in the module. Written assignments that are late will not be accepted.

The second period of the module comprises an in-class discussion of the topic including instructor feedback on the written assignment.

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 ANGEL.

1. Introduction to the Course and to Transportation Systems

a. Description

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

Introduction to the Course and to Transportation Systems (Drogan, 2010). **Note that the reference is a placeholder and will be replaced prior to the start of class.**

Economic Geography: An Introduction (Stutz & Warf, 2012, chap. 1)

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

The Value of Introspection (Drogan, 2009)

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*.

b. Reading

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

The Silk Road ("Silk Road," 2011)

Transportation Basics (Drogan, 2007a)

3. The Transformation of the Industrial Age

a. Description

The Industrial Age 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)

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)

5. The Transformation of the Information Age

a. Description

While the tyranny of geography was largely overcome in the industrial age, transportation systems became encountered another barrier, that of information. This barrier began to be overcome with the onset of the information age (circa 1970) and the pursuit of two fundamental goals. The first is that everything of interest is visible. The second is that everything that needs 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)

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)

7. 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)

8. 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. Readings

To be provided.

9. Globalization and Its Impact on Transportation Systems

a. 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.

b. Readings

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

The Anatomy of a Taco (Schwartz, 2010).

10. Economic and Legal Boundaries and Freedoms

a. Description

Transportation systems exist with the context of a dynamic economic and legal context. The freedom 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.'

b. Readings

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

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

11. 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 transform the transportation system.

b. Readings

Maersk Orders Ten Triple-E Mega-ships ("Maersk Orders Ten Triple-E Mega-ships," 2010).

Panama Expands Canal to Increase Shipping Capacity (Fountain, 2011).

12. 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. Readings

The Case for Smarter Transportation (IBM, 2010).

13. Cultural and Ethical Issues

a. Description

Transportation systems should be understood as global transportation systems. This is not to suggest that local transportation systems are unimportant (see Westport CT Minibus), but rather to indicate that transportation systems of scale and scope are not immune to the effects of culture and ethics.

b. Readings

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

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

14. 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 which 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. Readings

A Smart Transportation System: Improving Mobility for the 21st Century (Palmisano, 2010).

Managing the Business (Drogan, 2007c).

Schedule

#	Class Dates	DOW	Topic
1	8/30/2011	Tuesday	M1: Introduction to the Course and to Transportation Systems
2	9/1/2011	Thursday	M2: Transportation Systems Prior to the Industrial Revolution
	9/6/2011	Tuesday	Hold Monday Classes on Tuesday
3	9/8/2011	Thursday	M3: The Transformation of the Industrial Age
4	9/13/2011	Tuesday	
5	9/15/2011	Thursday	M4: The Rise of Regulation
6	9/20/2011	Tuesday	
7	9/22/2011	Thursday	M5: The Transformation of the Information Age
8	9/27/2011	Tuesday	
9	9/29/2011	Thursday	M6: The Fundamental Modes of Transportation
10	10/4/2011	Tuesday	
11	10/6/2011	Thursday	M7: Issues of Design, Implementation, and Operation
12	10/11/2011	Tuesday	
13	10/13/2011	Thursday	M8: Intermodal Transportation
14	10/18/2011	Tuesday	
15	10/20/2011	Thursday	Midterm Examination
16	10/25/2011	Tuesday	Review of Midterm Examination
17	10/27/2011	Thursday	M9: Globalization and Its Impact on Transportation Systems
18	11/1/2011	Tuesday	
19	11/3/2011	Thursday	M10: Economic and Legal Boundaries and Freedoms
20	11/8/2011	Tuesday	
21	11/10/2011	Thursday	M11: Advances in Infrastructure and Equipment
22	11/15/2011	Tuesday	
23	11/17/2011	Thursday	M12: Advances in Business Systems and Information Technology
24	11/22/2011	Tuesday	
	11/24/2011	Thursday	Thanksgiving - No Classes
25	11/29/2011	Tuesday	M13: Cultural and Ethical Issues
26	12/1/2011	Thursday	
27	12/6/2011	Tuesday	M14: Future Transportation Systems
28	12/8/2011	Thursday	Review for Final Exam

References

- Bernstein, W. J. (2008). *A Splendid Exchange: How Trade Shaped the World*. New York: Atlantic Monthly Press.
- Coyle, J. J., Novack, R. A., Gibson, B., & Bardi, E. J. (2010). *Transportation: A Supply Chain Perspective* (7th ed.). South-Western Cengage Learning.
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- Drogan, J. (2007b). 4. Networks. Retrieved from <http://jmsdrgn.squarespace.com/storage/4.%20Networks.pdf>
- Drogan, J. (2007c). Managing the Business. Retrieved from <http://jmsdrgn.squarespace.com/storage/Managing%20the%20Business%20v2.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>
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- Drogan, J. (2009b). The Value of Introspection. Bronx NY: SUNY Maritime College.
- Drogan, J. (2010, August 31). *GBTT 251-I Introduction To Transportation Systems and the Course (presentation)*. Presented at the GBTT 251 Transportation Systems Fall 2010, SUNY Maritime College. Retrieved from GBTT 251-I Introduction to Transportation Systems and GBTT 251 Systems Fall 2010 Class I 8 MI: Introduction to Transportation You know transportation systems GBTT 251-I Introduction To Transportation Systems Printed 9/8/2010 the Course (presentation)
- Fountain, H. (2011, August 16). Panama Expands Canal to Increase Shipping Capacity. *The New York Times*. Retrieved August 20, 2011, from <http://www.nytimes.com/2011/08/17/science/17canal.html>
- IBM. (2010, September). *The Case for Smarter Transportation*. White Paper, IBM Corporation. Retrieved from <http://public.dhe.ibm.com/common/ssi/ecm/en/tte03001usen/TTE03001USEN.PDF>
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- Maersk Orders Ten Triple-E Mega-ships. (2010, February 21). *Eye for Transport*. Retrieved February 21, 2011, from <http://www.eyefortransport.com/content/maersk-orders-ten-triple-e-mega-ships>
- Palmisano, S. J. (2010, May 5). *A Smart Transportation System: Improving Mobility for the 21st Century*. Speech presented at the Intelligent Transportation Society of America, 2010 Annual Meeting & Conference, Houston. Retrieved from http://www.ibm.com/smarterplanet/global/files/us__en_us__transportation__ibm__samjpalmsano__smartertransportation__systems__05052010.pdf
- Schwartz, A. (2010, March 2). The Anatomy of a Taco. *Fast Company*. Retrieved June 3, 2011, from <http://www.fastcompany.com/1567625/the-anatomy-of-a-taco>
- Silk Road. (2011, January 14). *Wikipedia*. Retrieved January 15, 2011, from http://en.wikipedia.org/wiki/Silk_Road
- Stutz, F. P., & Warf, B. (2012). *The World Economy: Geography, Business, Development* (6th ed.). Saddle River NJ: Pearson Education.
- The World Trade Organization in Brief. (2009). . World Trade Organization. Retrieved from http://www.wto.org/english/res_e/doload_e/inbr_e.pdf

