

SYS 550
Freight Transportation Systems and Logistics
Outline and Readings
Fall 2XXX

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<u>Topic</u>	<u>Week</u>
1. Freight Transport and Logistics as a System	1
1.1 Transportation in Society	
1.2 The Freight Transportation System	
2. The Changing Production-Distribution System	2
2.1 Changing Location Patterns, Commodity Flows, and Customer Demands	
2.2 Global, Societal Trends	
2.3 Case Study	
3. Supply of Transportation Service	3
3.1 Modes, Technologies, and Services	
3.2 Vehicles and Operations	
3.3 Information Technology - Agent of Change	
4. Physical Movement System	
4.1 Speed, Power, and Energy	4
4.2 Link Flows	5
4.3 Terminals	5

5/6.	Network Operations, Information Flows, and Performance	
5.1	Networks	6
5.2	Time Definite Service	7
6.2	Terminals and Ports	7
5.3	Dynamic Networks	8
5.4	Service Differentiation and Yield Management	8
7.	Intermediate Study Report Status and Discussion	9
8.	Shipper Logistics	
8.1	Location and Channel Choice	10
8.2	Mode and Carrier Choice - Total Cost Model	11
8.3.	Speaker: Electronic Commerce	11
9.	Green Logistics and Environmental Issues	12
9.1.	Trends	
9.2.	Supply Chain Optimization	
10.	Public Infrastructure and Logistics	13
10.1.	Planning Paradigm	
10.2.	Freight System Modeling - Data	
10.3	Freight System Modeling - Network	
10.4	Open Access	
11.	Final Study Report Presentations	14

Field Trips: 1. Philadelphia Port and Container Terminal,
or North Jersey Marine Terminal
2. Amtrak Train Control Center
3. UPS Air Hub, Philadelphia