

Course Outline

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Department of Management  
School of Business and Economics

SCMN 4320-3  
Transportation and Logistics (3,0,0)

**Calendar Description**

Students examine the movement of raw materials and parts from the supplier to the manufacturer and the movement of finished products to the final consumer. An effective integration and optimization of each step in the process is emphasized. Topics include an introduction to business logistics; logistics strategy and planning; logistics product; third and fourth party logistics providers; customer services and order processing; transportation fundamentals including transportation modes, inter-modal services, pricing, and other shipping terms and documentation; transportation decision making and modeling; warehouse and storage management; and distribution requirement planning

**Educational Objectives/Outcomes**

Upon completion of this course, students will:

1. Identify the main issues in business logistics.
2. Design a logistical planning and strategy framework.
3. Develop the logistical product and identify logistical ratios.
4. Explain the business models of 3PL and 4PL.
5. Analyze and design the optimal logistics customer service levels.
6. Identify different modes of transportation & inter-modals.
7. Compute optimal batch sizes and propose optimal transport routes.
8. Design and allocate storage locations for product in a warehouse.
9. Build distribution requirement plans.

**Prerequisites**

MATH 1170 or equivalent; SCMN 3320

**Co-requisites**

None

**Texts/Materials**

## Student Evaluation

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| Midterm            | 30% |
| Assignments/ cases | 30% |
| Final exam         | 40% |

## Course Topics

1. Introduction to Business Logistics
  - Definition of business logistics
  - Importance of logistics
  - Logistics decision support
  - Approaches to business logistics
2. Logistical Strategy and Planning
  - Logistical strategy & corporate strategy
  - Logistics levels of planning
  - Logistics strategies
3. Logistics Product
  - Nature of logistics product
  - Product life cycle
  - Logistics product characteristics
    - Weight-bulk ratios
    - Value-weight ratios
    - Logistics product substitutability
  - Logistical product pricing
4. Third and Fourth Party Logistics Providers (3PL and 4PL)
  - 3PL and 4PL Providers
  - Private carriers
  - Nature, Functions & Services of 3PL and 4PL
    - Freight forwarders
    - Courier companies
  - 3PL and 4PL Business Models
5. Logistics Customer Service and Order Processing
  - Customer service defined
  - Importance and elements of logistics customer service
  - Logistics order cycle
  - Sales service relationships
  - Optimal service levels

- Service contingencies
- Order processing
  - Order preparation
  - Order entry
  - Order filling

#### 6. Transportation Fundamentals

- Transportation modes and inter-modal services
  - Single service choices : Road, water, air, pipeline and rail
  - Inter-modal
- Transportation pricing
- Freight & line haul rates
- Transportation shipment terms, documentation (bill of lading) and contracts

#### 7. Transportation Decisions and Modeling

- Transport service selection models
- Optimal batch sizes
- Transportation network planning
  - Shortest route
  - Transportation algorithm
  - Network models
- Vehicle routing, planning and scheduling

#### 8. Warehouse and Storage Management

- Warehouse and retail location strategies
- Warehouse design and management
- Freight consolidation and break bulk operations
- Warehouse material handling

#### 9. Distribution Requirement Planning (DRP)

- Inputs, outputs and mechanism of DRP
- Distribution safety stocks
- DRP and collaborative planning

### **Methods for Prior Learning Assessment and Recognition**

As per TRU policy.

### **Attendance Requirements – Include if different from TRU Policy**

As per TRU policy.

### **Special Course Activities – Optional**

**Use of Technology – Optional**

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