

**Course Outline**

**Department of Management  
School of Business and Economics**

**BUSN 6050/1-3  
Supply Chain Management (3,0,0)**

**Calendar Description**

Students acquire the knowledge and basic skills to effectively design a supply chain for an organization. Topics include an introduction to supply chain, the importance of information technology, supply chain slacks, demand management, supply management, inventory management, production management, transportation management, location analysis, sourcing decisions, supply chain strategy, and an overview of special types of supply chains such as green and humanitarian aid supply chains.

**Educational Objectives/Outcomes**

After completing this course, students should be able to:

1. Explain supply chain management, contrast it from operations management and propose the main performance drivers of supply chain performance.
2. Assess the strategic role and impact of IT technologies on supply chain integration.
3. Express the major slacks in supply chains and formulate the approaches to manage them.
4. Construct a model to generate forecasts for a company's products.
5. Conceptualize the phenomenon of bull-whip effect in supply chains and propose the methods to mitigate its effect in supply chains.
6. Analyze the inventory management methodologies and apply the existing models to propose the optimal order sizes.
7. Develop an aggregate production plan for a company.
8. Evaluate modes of transportation; assess the selection criteria and select transportation options.
9. Analyze the various factors to select an appropriate location for a facility.
10. Evaluate the sourcing decisions and prepare the supplier selection and ranking model.
11. Interpret the strategic framework and synthesis for supply chain operational (SCOR) model.
12. Support the applications of supply chain concept for environment sustainability and humanitarian aid during disaster events.

**Prerequisites**

Meets the admission requirements to the MBA

**Co-requisites**

## Texts/Materials

### Textbook

Wisner, J. D., Tan, K.-C., & Leong, G. L. *Principles of Supply Chain Management: A Balanced Approach* (3rd ed.). Mason, OH: South-Western.

### Other Resources

“A Study on Green Supply Chain Management Practices among Large Global Corporations.”

Green Supply Chain Management, “Retail Chains & Consumer Product Goods — A Canadian Perspective.”

Green Supply Chain Management, “Manufacturing — A Canadian Perspective.”

Green Supply Chain Management, “Logistics & Transportation — A Canadian Perspective.”

Wassenhove, V. LN. (2005). Humanitarian Aid Supply Chain Management in High Gear. *Journal of Operations Research Society*, 57, pp 475-489.

Related supply chain management videos

## Student Evaluation

### Campus

On-line discussions	6%
Case studies (4)	34%
Mid-terms	20%
Final exam	40%

### Online

Discussions (12)	12%
Case studies (4)	48%
Final exam	40%

Students must pass the final exam with 50% or higher to pass the course.

## Course Topics

### 1. Introduction to Supply Chain Management & Case Analysis

- Definitions
  - Definition of operations management and supply chain management
  - Differences between operations and supply chain management
- Importance of supply chain concept

- Major flows in supply chains
  - Supply chain view and types
  - Supply chain performance metrics
  - Drivers of supply chain performance
  - Case study approach
2. Strategic Importance of IT in Supply Chain & Computer Simulation
- Role of it in supply chain integration
  - Enterprise resource planning (ERP)
  - Customer relationship management system
  - Emerging it technologies and their impact on supply chains
  - Computer simulation approach for case studies
3. Supply Chain System Slacks
- Major slacks in supply chains
    - Input, output and demand uncertainty
    - Time lags
    - Scale economies
    - Conflicting objectives in supply chains
  - Managing slacks
    - Total quality management (TQM)
    - Just in time (JIT)
4. Demand Management
- Importance of information generation & sharing in supply chains
  - Sales and operational planning
  - Forecast types
    - Qualitative forecasting
    - Quantitative forecasting
  - Forecasting accuracy and reporting
  - Forecasting case study
5. Supply Management
- Bull-whip effect in supply chains
  - Managing bull-whip in supply chains
    - Vendor managed inventory systems (vmi)
    - Collaborative planning, replenishment and global visibility in supply chains
  - Tactical considerations
    - Total value perspective
    - Contract design
    - Reverse auctions
6. Inventory Management
- Definition of inventory

- Roles and functions of inventory in supply chains
- Inventory cost structure
- Deterministic model of inventory
  - Economic order quantity (EOQ)
- Inventory management case study

#### 7. Production Management

- Pull systems of production (JIT)
- Push systems of production
  - Economic production quantity (EPQ)
  - Aggregate production planning
- Manufacturing planning framework (BOM, MPS, MRP and aggregate planning)
- Production planning case study

#### 8. Transportation Management

- Importance of transportation in supply chains
- Transportation modes
  - Road transportation (trucking)
  - Rail transportation (railways)
  - Air transportation (airways)
  - Water transportation (shipping)
  - Pipelines
- Transport shipment terms
- Transportation pricing structure

#### 9. Location Management

- Strategic importance of manufacturing locations
- Location factors
  - Country selection
  - Region selection
  - Site selection
- Location models
- Location planning case study

#### 10. Source Management

- Role of sourcing in supply chains
- In-house versus out-source decision
- Supplier selection criteria
- Supplier selection model

#### 11. Supply Chain Strategy

- Hierarchy of decision making in supply chains
- Managing uncertainty and risks in supply chains
- Supply chain operational model (scor)

- Product-process matrix
- Cost efficiency versus responsiveness
- Supply chain product mapping

12. Special Types of Supply Chains\*

- Green or environment friendly supply chains
  - Closed loop supply chains
  - Green supply chain readings
- Humanitarian aid supply chains
- Humanitarian logistics readings

**Methods for Prior Learning Assessment and Recognition**

Students can apply for PLAR in any course but it cannot be used to meet the program residency requirement.

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

As per TRU policy.

**Special Course Activities – Optional**

**Use of Technology – Optional**