

## Course Description

### ***I. Supply Chain Management Foundation Course***

**SCM 1000      Fundamentals in Supply Chain Management      0 (48-0) Credits**

*Prerequisite: None*

The course covers supply chain operating practices and principles (i.e., the fundamentals of materials and logistics management). Topics includes analyzing the dynamic nature of supply chain management for products and services, the impact of the global economy on the supply chain management process, strategies for customer service, quality, logistics management, inventory management, forecasting, postponement, sourcing (in particular, global sourcing), network design, and virtual integration (web-centric) and integrated supply chain management

### ***II. Supply Chain Management Core Courses***

**SCM 1201      Strategic Supply Chain Management      3 (3-0) Credits**

*Prerequisite: None*

This course covers an in-depth understanding of the application of contemporary models, practices and performance measures to diagnose supply chain performance and to develop supply chain strategies. Topics include the formulation of supply chain management strategies that would integrate with companies' e-business strategies and practices and develop action plans for upgrading the supply chain practices and supporting ICT systems to deliver improved supply chain performance.

**SCM 1202      Quantitative Modeling and Analysis      3 (3-0) Credits**

*Prerequisite: None*

This course covers a basic understanding of the analytical tools and techniques necessary for effective logistics and supply chain analysis and decision-making. Topics included building a mathematical model and quantitative analysis in making use of data, models and information technology to improve decision quality for practical logistics and supply chain management along with the use of a spreadsheet as a decision aid.

**SCM 1203      Design and Control of Supply Chain Processes      3 (3-0) Credits**

*Prerequisite: None*

This course covers both the design and management of supply chain processes needed for developing new products or services, producing them, and distributing the finished goods or services. Topics include a wide ranges of activities of ensuring that a product or service is of high quality, planning and controlling the flow of materials or customers so that lead times are minimized, and distributing finished goods or services at the right place at the right time so as to maximize profit within a supply chain process.

**SCM 1204 Information Technology in Supply Chain Management 3 (3-0) Credits**

*Prerequisite: None*

This course covers designing and implementing information technology for supply chain strategy. Topics include understanding the role of IT and the financial factors influencing supply chain decisions, building business process modeling, tools and techniques for strategic IT framework implementation. Implementations of IT for supply chain such as ERP, APS and e-supply chain are discussed.

**SCM 1205 Financial Decision Making in Supply Chain 3 (3-0) Credits**

*Prerequisite: None*

This course covers an introduction to financial decision making for supply chain decision. Topics include a decision-making framework for determining the most efficient allocation of capital within the firm's supply chain and also applying economic principles to financial supply chain problems. Topics covered will help students to effectively assess how well a firm's financial statements reflect the economic effects of the firm's strategies for managing its supply chain and learn analytic tools for making an analysis of the supply chain's profitability and risk.

### **III. Concentration Courses**

<b>Supply Management Concentration Courses -</b>
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**SUP 2301      Procurement Methodologies      3 (3-0) Credits**

*Prerequisite: None*

This course covers best practices in procurement and in creating cost controls to directly affect shareholder value. Topics include methods used in planning and forecasting, how to determine cost of capital and economic profit and how to present purchasing savings, how to use technology in the purchasing workflow, how to manage and control the process and requirements in handling political and legal issues associated with e-commerce, how to analyze and evaluate supplier performance and how to benchmark and negotiate

**SUP 2302      Negotiation Strategies      3 (3-0) Credits**

*Prerequisite: None*

This course covers an understanding of the negotiation process and how to conduct a successful negotiation. Topics include a step-by-step process for preparing, planning and conducting a successful negotiation to identify the underlying interests of all parties and develop solutions to meet all parties' interests. Also, this course will highlight on how to take advantage of the windows of opportunity to incorporate these skills into a negotiation strategy and conduct an effective negotiation and strategies and tactics to break through negotiation roadblocks

**SUP 2303      Contract Analysis      3 (3-0) Credits**

*Prerequisite: None*

This course covers the tools and techniques of writing contracts. Topics include various types of contracts, including capital equipment, services, design work, construction, etc; ways to broaden

and strengthen contract writing capability; and to understand how contracts should be put together and contracts flow.

**SUP 2304 Strategic Global Sourcing**

**3 (3-0) Credits**

*Prerequisite: SUP 2301 Procurement Methodolies*

This course covers a leading-edge approach to optimizing supply management's organizational contribution. Topics include: global sourcing, international freight forwarder, how to form an effective commodity team for the purchase of goods and/or services, how successful commodity team functions, how to measure team success, and how to effectively communicate value delivered.

**SUP 2305 Supplier Relationship Management**

**3 (3-0) Credits**

*Prerequisite: None*

This course covers strategies for creating value through supply alliances. Topics include the scope, structure and dynamics of strategic relationships; how to work with different external and internal organizational structures; how to evaluate a relationship for alliance potential, including a real-world opportunity to work on a relationship of your choice; how to incorporate a purchasing/ supplier alliance into your organization; how to plan, negotiate, implement and monitor/ manage alliance relationship in your organization's supply strategy and operations; and to recognize and address cultural and organizational barriers to forming positive relationships.

**SUP 2306 Roles of Technology in Supply Systems**

**3 (3-0) Credits**

*Prerequisite: SCM 1204 Information Technology in Supply Chain Management*

This course covers the roles of technology in harnessing its power for efficient supply management. Topics include: strategies to create an efficient transaction cycle, the relationships and interdependencies of supply management with ERP and e-commerce programs, the critical steps in implementing technology driven programs, and strategies for achieving organizational synergy within supply management program. Other important topics include technology within the supply chain, how other organizations are utilizing technology within the supply chain (including best practices), and the experiences of other participants through group breakout sessions and the future direction of efficient supply chain management through the identification and tracking of emerging technology trends.



*Prerequisite: SCM 1202 Quantitative Modeling and Analysis*

This course covers the concepts of Six Sigma methodology and how to improve the quality of manufacturing and business process improvement. Topics include measuring, evaluating and improving performances in conjunction with Six Sigma methodology and Quality Function Deployment (QFD), loss function; system, parameter and tolerance design using statistically designed experiments.

**MFG 2406 Simulation Modeling in Manufacturing Systems 3 (3-0) Credits**

*Prerequisite: SCM 1202 Quantitative Modeling and Analysis*

This course covers an introduction to essential concepts, methods, and applications of simulation in hierarchical design, planning, and control of manufacturing systems. Topics include modeling automated transfer lines, cellular manufacturing, and flexible manufacturing systems with a particular emphasis on understanding the impact of resource bottlenecks on material flow, time delays on manufacturing system and analysis of throughput rate.

<b><i>Distribution Concentration Courses -</i></b>
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**DIS 2501 Integrated Warehouse Operations 3 (3-0) Credits**

*Prerequisite: SCM 1201 Strategic Supply Chain Management*

This course focuses on planning and managing warehouse operations. Topics include warehouse functions and resources, warehouse operations, site selection, warehouse design, costs, space and layout planning, stock locator systems, storage systems, order picking and replenishment, packaging, and warehouse management systems. Upon completion, students should be able to creating a totally integrated warehouse system.

**DIS 2502 Multimodal Transportation Systems 3 (3-0) Credits**

*Prerequisite: SCM 1201 Strategic Supply Chain Management*

This course covers critical issues in transportation - a multimodal systems approach. Topics include transportation operations, modes, carrier options, third parties, transportation costing, pricing, routing and scheduling, transportation documentation, transportation models, and transportation management systems.

**DIS 2503      Logistics and Distribution Networks      3 (3-0) Credits**

*Prerequisite: SCM 1201 Strategic Supply Chain Management*

This course covers the concepts of logistics network design and configuration, distribution strategies, distribution management concepts such as types of distribution systems, distribution channels, unitization, and distribution resource planning.

**DIS 2504      Materials Handling and Packaging      3 (3-0) Credits**

*Prerequisite: SCM 1201 Strategic Supply Chain Management*

This course covers types of material handling equipment, material handling operations, material handling system design, equipment costs, unitizing, use of queuing theory, automation in material handling. It also touches on packaging issues such as functions of packaging, benefits of good packaging, and packaging and transportation costs.

**DIS 2505      Strategic Retailing      3 (3-0) Credits**

*Prerequisite: SCM 1201 Strategic Supply Chain Management*

This course addresses critical issues for success in the highly competitive retail environments including financial analysis; operations and store management. Topics include retailing history, types of retailers, consumer buying behavior, segmentation strategy. Emphasis is on retail mix strategy: store location strategy; merchandise management, pricing, communication and promotion, store atmosphere and image, and customer service. In addition, the administrative aspects such as financial planning, unit management, human resource management, and information technology in retailing are covered.

***IV. Thesis and Non-Thesis Courses***

**Plan A: Thesis**

**SCM 2201      Thesis      12(0-1) Credits**

*Prerequisite: Consent of the advisor*

Students who opt for thesis course are required to get advisor's approval on the topic chosen prior to work on research. Students should finish their thesis within 4 semesters after the first

thesis registration. Students should also present their thesis proposal and final document to a committee.

**Plan B: Non-Thesis**

**SCM 2202 Graduate Project**

**6 (0-1) Credits**

*Prerequisite: Consent of the Advisor*

Students who opt for non-thesis course are required to work on a graduate project. Advisor's approval on the topic chosen is a must. Students should finish their project within 4 semesters after the first graduate project course registration. Students should also present their work to a committee. A comprehensive examination will be given upon completion of all courses.

**Free Elective Courses**

**SCM 2601 Customer Relationship Management**

**3 (3-0) Credits**

*Prerequisite: None*

The course covers the design and implementation of a customer-relationship (CRM) management strategy. Topics include conceptual foundations of CRM, the interaction between corporate strategy, organizational structure, supply chain, and customer relation, measuring and managing customer satisfaction, customer loyalty and customer profitability and the basic CRM analytic tools.

**SCM 2602 Supply Chain Collaboration**

**3 (3-0) Credits**

*Prerequisite: None*

The course covers the design and implementation of supply chain collaboration program to increase sales revenue, reduce cost and maximize profits. Topics include the leading industry standard on collaboration CPFR (Collaborative Planning Forecasting and Replenishment), co-managed inventory, VMI (Vendor-Managed Inventory) and implementation of collaboration initiatives to improve the firm's operational performance and strengthen its relationship with trading partners.

**SCM 2603 Government Supply Chain**

**3 (3-0) Credits**

*Prerequisite: None*

The course covers the needed transformation in the public sector or government to be capable of rapidly responding to unexpected contingencies and surge requirements of the commercial sector. Topics include an overview of innovative practices and tools, a blueprint for government-wide transformation, and configuring government supply chain to the specific needs of the increasingly complex operations of the government

**SCM 2604    Supply Chain Risk Management**

**3 (3-0) Credits**

*Prerequisite: None*

The course covers sources of supply chain risk and their impact on supply chain performance; with strategies to help mitigate supply chain risk. Topics includes identifying, evaluating and controlling supply-chain risks such as Natural disasters, labor disputes, terrorism and more mundane risks through a delicate balancing act: keeping inventory, capacity and related elements at appropriate levels across the entire organization's supply chain in a rapidly changing environment. The transfer of financial risk is also examined.

**SCM 2605    Seminar in Supply Chain Management**

**3 (3-0) Credits**

*Prerequisite: None*

This course is designed to provide a comprehensive study of all aspects of industry: conditions, problems and solutions. Potential growth of business and ways to develop industry are also covered. Course involves panel discussion, guest speakers, case studies, field trips, research and presentation.