

**RUTGERS MASTER OF SCIENCE IN SUPPLY CHAIN MANAGEMENT
MODULES DESCRIPTIONS**

1. Business-to-Business Marketing (online, elective) – 3 credits

Introduces business-to-business marketing from the perspective of both the seller and the buyer. Covers marketing strategy and product/ market planning systems; selling and management of the sales force; marketing research and competitive intelligence; pricing and promotion; management of auxiliary services; and industrial buying behavior.

2. Operations Analysis (online, elective) - 3 credits

Covers fundamentals of performance analysis for various operational issues encountered in real life supply chain processes. The major topics include demand forecasting techniques, sales and operations planning (SOP), mathematical programming applications and spreadsheet solutions, supply chain inventory planning, uncertainty, and safety stock management, project resource allocation and risk analysis, network design and facility location selections, and computer simulation and quality management. Harvard Business Cases on developing cost-effective solutions for continuous improvement of a company's operational efficiency and strategic position in today's highly dynamic and competitive marketplace are used. The objective of the course is to help our students to develop analytical thinking skills and to build the knowledge of business performance optimization toward operational excellence of supply chains.

3. Supply Chain Management Strategies (online, elective) - 3 credits

This course provides a broad overview of key supply chain strategies, issues and challenges. Successful supply chain management requires cross-functional integration of key business processes within the firm and across the network of firms that comprise the supply chain. The challenge is to determine how to successfully accomplish this integration. Other topics covered include the management aspects of logistics networks, forecasting, inventory management, supply contracts, strategic alliances, supply chain integration and design, procurement and outsourcing, customer value, international issues, and a quick review of supply chain software. Case studies, supplemented with a Supply Chain Simulation, and guest speakers are used to illustrate the issues discussed in lectures.

4. Global Procurement and Supply Management (online, elective) - 3 credits

Supply Management is the overarching cross-functional management framework that integrates all activities related to the acquisition and management of resources for the organization. It includes global sourcing, supplier relationship management, procurement and purchasing. Supply Management is now recognized as a key strategic initiative to create value for the corporation. This course reviews the demands placed on today's procurement and supply management from the firm's stakeholders and demonstrates their impact on the competitive success and profitability of the organization. Furthermore it describes ethical, contractual and legal issues faced by procurement, and recognizes the expanding strategic nature of supply management. The major areas covered are procurement as a functional activity, and how effective supply management impacts on total quality, cost, delivery, technology, and responsiveness to the needs of a firm's external customers (insourcing/outourcing, supplier evaluation, supplier development, and global sourcing). We introduce the tools, techniques, and approaches for managing the procurement and sourcing process (cost/price analysis, negotiations, and contract management). Case studies and outside speakers will be used to illustrate the issues discussed in lectures.

5. Supply Chain Solutions with ERP/SAP I (online, elective) - 3 credits

This is a 3 credit course for Supply Chain Solutions with ERP/SAP I. This course provides a technical overview of Enterprise Resource Planning Systems and their role within an organization. It introduces key concepts of integrated information systems and explains why such systems are valuable to businesses. SAP ECC is introduced to illustrate the concepts, fundamentals, framework, general information, technology context, technological infrastructure, and integration of enterprise-wide business applications. In addition to lectures, students will be guided through several hands-on activities of various business processes in SAP ECC.

6. Risk and Disruption Management (online, elective) - 3 credits

Properly addressing risks and facing possible disruptions are of primary importance to supply chain management. With the wake of high consequence disruptive events, risk identification and disruption response activities have become ever more critical. The objective of the course is to provide an overview of key supply chain risk areas, particularly with the proliferation of outsourcing, use of information technology and global logistics. Equally important is how companies are managing the preparation, mitigation and response strategies to major disruptive events. Topics covered include science of catastrophes, vulnerability and threat assessments, resources and capabilities identification/integration, basic crisis management, contingency planning, disaster recovery and business continuity in supply chain settings. Scenario based experiments (table-top exercises) will provide mock situations where students will make decisions on how to handle supply chain disruption. Case-based studies will be used to provide hands-on learning to illustrate the issues discussed in lectures.

7. Demand Management (online, elective) - 3 credits

This course focuses on the applications of forecasting models and methodologies throughout supply chains, for use in business related activities, including operations, sales, marketing and finance. The course aims to help students understand the significance of matching supply and demand and the development of managerial insights aimed at improving that balance. Several relevant techniques for forecasting, inventory management, and production planning are developed and illustrated. The students are asked to build forecasting and inventory models in Microsoft Excel. The course will focus on by combining theory, examples, practical applications and case studies and consist of a combination of lectures, case presentations, and class discussion.

8. Supply Chain Law and Governance (online, elective) - 3 credits

Law impacts every stage of the product and service cycle. Supply chain managers and professionals must therefore be conversant with the substance and language of a number of legal issue areas that are tightly bound with strategic supply chain management. The legal topics covered in the course will include but are not limited to: supply chain and procurement contracts, dispute settlement, finance, international trade, transportation, tort, international investment law, and labor and environmental supply chain governance. Students will learn key legal concepts and also learn how to apply them to real life situations.

9. Lean Six Sigma (online, elective) - 3 credits

Lean six sigma is an application of the quantitative six sigma quality management techniques within a lean enterprise. The goal is to create an efficient organization that continuously reduces waste and operates at the most efficient levels possible. In addition to covering the fundamentals of Lean and Six Sigma, this course will equip students with other important tools and strategies to improve the performance of business processes. Students will practice solving business problems and improving processes through case studies, team exercises and simulations, self-assessments, and guest lectures. Topics covered will include: six sigma improvement methodology and tools, lean manufacturing tools and approaches, dashboards and other business improvement techniques. Students will also gain an understanding of: the strategic importance of business improvement, the need for fact based management, the significance of change management, and how to deploy these tools in different parts of the value chain.

10. Project Management (online, elective) - 3 credits

Project Management is one of the most critical elements in the competitiveness and growth of organizations. Projects are the drivers of innovation and change and no organization can survive today without projects. Effective leaders in today's leading companies must be effective project managers. Furthermore, almost every MBA graduate may sooner or later be asked to manage a project. This course presents the classical foundations of project management and introduces students to the world of real-life project problems. Upon completion of this course, students will understand the basic concepts and critical factors of initiating, planning, organizing, controlling, and running a project. They will be able to develop a project plan, build a project team and adapt their project management style to the unique project characteristics. Course topics will include: project initiation, project success dimensions, integration, scope, planning, controlling and monitoring, time, cost and risk management, project organization, project teamwork, and project adaptation. The course will also advise students how they could prepare themselves for the PMP Exam of the Project Management Institute in order to become Professional Project Managers.

11. Supply Chain Finance (online, elective) - 3 credits

Supply Chain Management is generally focused on product and information flow, but is largely driven by financial and accounting considerations. An often unknown fact is that the supply chain is designed to enhance the financial value of a corporation, or ultimately to serve the chief financial officer. The objective of the course is to introduce key financial and accounting aspects of SCM, and instill a financially-oriented mindset by integrating said aspects into the analysis of SCM issues and systems. Topics covered include supply chain costing, working capital management, supply chain financing, supply chain risk management, and supply chain contracts and purchasing. Some case studies will illustrate the concepts learned.

12. Global Logistics Management (online, elective) - 3 credits

Global Logistics Management is designed to provide students with an understanding of the strategic and tactical elements of logistics management. This course will examine the forward and reverse forms of transportation and storage for supply chain management. In addition to studying transportation modal choices, logistics and transportation infrastructure in the U.S. and around the world will be discussed. Other relevant topics will include cross-docking, reverse logistics tactics, multi-modal freight operations, high-tech automated warehousing and order delivery and current topics in the logistics industry. We will take a total systems approach to the management of all those activities involved in the forward and reverse movement and storage of products and related information through the supply chain. The teaching method will be a combination of case analysis, lecture and class discussion. Also, guest executives will discuss how they created and managed logistics innovation.

13. Supply Chain Sustainability (online, elective) - 3 credits

There is global experience and examples that show how sustainability criteria in the 'upstream' supply chain management and procurement process. Corporations can both improve environmental performance, while addressing ethics, social regeneration and economic concerns (e.g. the 'triple bottom-line'). This course will allow students to participate in applied research to explore the application of environmentally responsible supply chain principles which includes: designing supply chain management and procurement schemes which address environmental, social and ethical considerations in organizational policy development as well as the procurement process. Research themes may include: the public and private supply chain management and procurement process, green purchasing process, contract design, procurement which promotes low carbon emission considerations and zero waste (avoidance and minimization), social and economic regeneration, civic infrastructure policy, e-procurement applications, and cost cutting measures derived from life cycling costing modelling. The goal is to provide students with different experiences to examine environmental management from a supply chain management perspective.

14. Supply Chain Management (face-to-face, core) - 3 credits

Supply Chain Management provides a broad overview of key supply chain strategies, issues and challenges. Topics covered include the management aspects of logistics networks, forecasting, inventory management, strategic alliances, supply chain integration and design, procurement and outsourcing, customer value, international issues, and a review of supply chain software strategies. Case studies, supplemented with current best practices are used to illustrate the issues discussed in lectures.

15. Supply Chain Management Trends (online, elective) - 3 credits

Supply Chain Management Trends is targeted towards the most advanced applied Supply Chain Management topics, providing future Supply Chain Leaders with an overview of key supply chain trends, issues and challenges in the upcoming decade. This module is designed for those who aspire to embrace new technology and lead innovation in the organization, technology, and processes. Progressive companies and leaders need to reexamine their current business models to maximize supply chain effectiveness, capture the essential technological capabilities required to enable high performing teams to proactively stay ahead of the competition.

16. Digital Supply Chain Integration (online, elective) - 3 credits

Digital Supply Chain Integration focuses on how businesses can use the power of information systems to integrate their supply chain. The role of information systems within the broader supply network is covered with particular emphasis on networked Supply Chain Management Systems and multi-enterprise orchestrated business flow systems. In addition to the central role of ERPs as systems of reference, the course will also focus on supply management, procure-to-pay, supply chain finance, transportation management, end-to-end visibility, and control towers. The overall goal is to enable students to understand the leading edge of business information systems.