SUPPLY CHAIN MANAGEMENT

Department of Supply Chain Management
Eli Broad College of Business and The Eli Broad Graduate School of Management

293 Cooperative Education for Business Students Fall, Spring. 1(1-0) A student may earn a maximum of 3 credits in all enrollments for this course. Interdepartmental with Accounting and Economics and Finance and Hospitality Business and Management. Administered by Supply Chain Management. R: Approval of department. SA: MSC 293

303 Introduction to Supply Chain Management Fall, Spring, Summer. 3(3-0) R: Open to juniors or seniors in the Eli Broad College of Business and The Eli Broad Graduate School of Management and not open to undergraduate students in the School of Hospitality Business and open to students in the Agribusiness Management major or in the Applied Engineering Sciences major or in the Construction Management major or in the Food Industry Management major or in the Packaging major. Objectives, processes, and functions of supply chain management activities including procurement, manufacturing, and logistics. The role of supply chain processes in creating competitive advantage with respect to quality, flexibility, lead-time, and cost.

304 Survey of Supply Chain Management Fall, Spring, Summer. 3(3-0) R: Not open to students in the Eli Broad College of Business and The Eli Broad Graduate School of Management. Objectives, processes, and functions of supply chain management activities including procurement, manufacturing, and logistics. The role of supply chain processes in creating competitive advantage with respect to quality, flexibility, lead-time, and cost.

371 Procurement and Supply Management Fall, Spring, Summer. 3(3-0) P: SCM 303 R: Open to juniors or seniors in the Eli Broad College of Business and The Eli Broad Graduate School of Management or in the Applied Engineering Sciences major or in the Sales Communication Specialization. Strategic issues in procurement and supply management. Purchasing process, procurement cycle, purchasing research, relationships with suppliers, negotiation, and commodity planning. Cost, price, and value analysis.

372 Manufacturing Planning and Control Fall, Spring, Summer. 3(3-0) P: (SCM 303 and MKT 317) or (SCM 303 and STT 351) R: Open to juniors or seniors in the Eli Broad College of Business and The Eli Broad Graduate School of Management or in the Applied Engineering Sciences major. SA: MGT 402, MSC 402, MSC 372

373 Logistics and Transportation Management Fall, Spring, Summer. 3(3-0) P: SCM 303 and (MKT 317 or concurrently) R: Open to juniors or seniors in the Eli Broad College of Business and The Eli Broad Graduate School of Management or in the Applied Engineering Sciences major. Microanalysis of logistics and transportation services. Customer service, distribution operations, purchasing, order processing, facility design and operations, carrier selection, transportation costing, and negotiation.

393 Introduction to International Business Fall, Spring, Summer. 3(3-0) Fall: Abroad. Spring: Abroad. Summer: Abroad. Interdepartmental with Accounting and Finance and General Business and Business Law and Marketing and Marketing. Administered by Marketing. R: Open to students in the Eli Broad College of Business and The Eli Broad Graduate School of Management or in the School of Hospitality Business.

475 Supply Chain Decision Modeling Fall, Spring. 2(2-0) P: SCM 372 R: Open to juniors or seniors in the Supply Chain Management major. SA: MSC 475

476 Transportation Management Fall, Spring. 2(2-0) P: SCM 373 R: Open to juniors or seniors in the School of Supply Chain Management or approval of department. SA: MSC 476

479 Supply Chain Cost Management Fall, Spring. 2(2-0) P: SCM 371 R: Open to juniors or seniors in the Supply Chain Management Major. SA: MSC 479

475 Supply Chain Decision Modeling Fall, Spring. 2(2-0) P: SCM 372 R: Open to juniors or seniors in the Supply Chain Management major. SA: MSC 475

Decision modeling in supply chains with emphasis on forecasting, aggregate planning, material requirement planning, inventory management, transportation, supply network design, quality management, and sourcing decisions. Use of traditional and advanced spreadsheet modeling tools.

476 Transportation Management Fall, Spring. 2(2-0) P: SCM 373 R: Open to juniors or seniors in the Department of Supply Chain Management or approval of department. SA: MSC 476

Current issues and strategies in transportation management and policy. Carrier management problems and opportunities, and economic characteristics of the various modes of transportation.

479 Supply Chain Cost Management Fall, Spring. 2(2-0) P: SCM 371 R: Open to juniors or seniors in the Supply Chain Management Major. SA: MSC 479

Pricing and cost management basics, cost models, parametric cost modeling, process mapping for cost management, total cost of ownership, target costing for purchased materials, value analysis and value engineering, using cost analysis to support purchase negotiations, current trends in cost management.

490 Independent Study Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. SA: MSC 490

Supervised program of independent library or field research designed to supplement classroom study.

490H Honors Independent Study Fall, Spring, Summer. 1 to 3 credits. SA: MSC 490H

Supervised program of library or field research designed to supplement classroom study.

491 Topics in Supply Chain Management Fall, Spring, Summer. 2(2-0) Interdepartmental with Accountancy and Finance and General Business and Business Law and Marketing and Marketing. Administered by Marketing. SA: MSC 491

Topic-specific course on current trends in supply chain management. Course content varies. SA: MSC 491

800 Supply Chain Management Fall, Spring. 3(3-0) R: Open to graduate students and not open to students in the Master of Business Administration in Business Administration or in the Supply Chain Management major. SA: MSC 800

Fundamentals of materials and logistics management. Strategic impact of the transformation process in a global economy. Quality, inventory management, logistics strategy, customer service, international procurement, management of technology.

815 Emerging Topics in Supply Chain Management Fall, Spring. 1 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. RB: SCM 800 or MBA 831 R: Open to MBA students and open to master’s students in the Supply Chain Management Major or approval of department. SA: MSC 815

Perspectives on new and emerging issues of supply management. Topics vary.
Supply Chain Management—SCM

816 Emerging Topics in Operations Management
Spring. 1 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. RB: SCM 870 or MBA 831 R: Open to MBA students and open to master's students in the Supply Chain Management Major or approval of department. SA: MSC 816 Perspectives on new and emerging issues in operations management. Topics vary.

817 Emerging Topics in Logistics Management
Spring. 1 to 12 credits. A student may earn a maximum of 12 credits in all enrollments for this course. RB: SCM 870 or MBA 831 R: Open to MBA students and open to master's students in the Supply Chain Management Major or approval of department. SA: MSC 817 Perspectives on new and emerging issues in logistics management. Topics vary.

825 Strategic Sourcing
Spring. 1.5(1.5-0) P: MBA 831 R: Open to MBA students in the Eli Broad College of Business and The Eli Broad Graduate School of Management or approval of department. SA: MSC 825 C: SCM 826 concurrently or SCM 827 concurrently. Strategic sourcing process. Opportunity assessment, spend and requirements analysis, supply market analysis, category sourcing strategy development and implementation. Supplier evaluation and selection.

826 Manufacturing Design and Analysis
Spring. 1.5(1.5-0) P: MBA 831 R: Open to MBA students in the Eli Broad College of Business and The Eli Broad Graduate School of Management or approval of department. SA: MSC 826 C: SCM 825 concurrently or SCM 827 concurrently. Designing and analyzing operations processes. Capacity planning and management, process flow and mapping, value-mapping, quality tools and techniques, dependent demand inventory techniques. Recent developments and data.

827 Competing Through Supply Chain Logistics
Spring. 1.5(1.5-0) P: MBA 831 R: Open to MBA students in the Eli Broad College of Business and The Eli Broad Graduate School of Management or approval of department. SA: MSC 827 C: SCM 825 concurrently or SCM 826 concurrently. Logistics as a value-adding process that synchronizes demand and supply. Supply chain logistics strategy, information technology, segmental positioning, forecasting and collaborative planning, and customer accommodation.

833 Decision Support Models
Spring. 1 to 3 credits. P: SCM 800 or MBA 831 SA: MGT 833, MSC 833 Analytical models to support decision making with specific supply chain focus. Topics include multiple regression, linear optimization, decisions under uncertainty, and forecasting.

834 Supply Chain Simulation
Spring. 1 to 3 credits. P: SCM 800 or MBA 831 Simulation models to support decision making with specific supply chain focus. Simulation concepts, programming, design methods, and results interpretation.

842 Total Quality Management
Fall. 1 to 3 credits. P: MBA 831 or SCM 800 Total quality management principles and practices, tools and techniques, implementation of continuous quality improvement programs, links to manufacturing and competitive strategies. Six Sigma and statistical quality control.

843 Sustainable Supply Chain Management
Spring. 1 to 3 credits. RB: SCM 800 or MBA 831 SA: MSC 843 Sustainability within business and supply chain contexts. Balancing ecology/waste, economy, and equity. Supply chain sustainability from design and resource management through transformation processes, to delivery to the final customer.

848 Analysis of Supply Markets and Suppliers
Fall, Spring, Summer. 2(2-0) R: Open to master's students in the Supply Chain Management Major. SA: MSC 848 Methods for supply market analysis to support sourcing strategy development, contract negotiations and cost management initiatives. Analysis of supply market conditions and structure. Buyer and supplier power. Supply risk. Benchmarking. Value analysis and value engineering.

852 Supply Management
Fall. 1.5(1.5-0) P: SCM 825 RB: SCM 826 and SCM 827 R: Open to MBA students in the Eli Broad College of Business and The Eli Broad Graduate School of Management or approval of department. SA: MSC 852 Procurement and supply management. Insourcing and outsourcing decisions. Global sourcing. Supply chain risk management. Cost analysis and management tools. Purchase negotiation, contract management and purchasing ethics. Supplier relationship management and supplier development.

853 Operations Strategy
Fall. 1.5(1.5-0) P: SCM 826 RB: SCM 825 and SCM 827 R: Open to MBA students in the Eli Broad College of Business and The Eli Broad Graduate School of Management or approval of department. SA: MSC 853 Developing and implementing operations strategy. Matching competitive priorities with operational investments and decisions. Manufacturing process choice, capability development, technology management, process simulation, linking supply chain with product type and inventory management decisions. Recent developments such as synchronized flow management, E-commerce, and advanced performance measurement.

854 Integrated Logistics Systems
Fall. 1.5(1.5-0) P: SCM 827 RB: SCM 825 and SCM 826 R: Open to MBA students in the Eli Broad College of Business and The Eli Broad Graduate School of Management or approval of department. SA: MSC 854 Logistics systems and operations that achieve synchronized demand and supply. Transportation, inventory analysis, warehousing, materials handling, and logistics network design. Integrated performance measurement and organizational structure.

855 Supply Chain Management Technology and Applications I
Spring. 1.5(1.5-0) P: SCM 852 and SCM 853 and SCM 854 or approval of department R: Open to MBA students in The Eli Broad College of Business and The Eli Broad Graduate School of Management or approval of department. SA: MSC 855 Integration of logistics, procurement, and operations strategy in the supply chain. Problem solving approaches, decision support tools, and analytical methods. Applications through case studies and computer simulations of supply chain situations in consumer and industrial settings.

856 Supply Chain Management Technology and Applications II
Spring. 1.5(1.5-0) P: SCM 855 R: Open to MBA students in the Eli Broad College of Business and The Eli Broad Graduate School of Management or approval of department. Integration of logistics, procurement, and operations strategy in the supply chain. Problem solving approaches, decision support tools, and analytical methods. Applications through case studies and computer simulations of supply chain situations in consumer and industrial settings.

863 Negotiations
Fall, Spring, Summer. 1 to 2 credits. Interdepartmental with Management. Administered by Management. R: Open to master's students in the Department of Management or in the Department of Supply Chain Management. Strategic negotiations, negotiation preparation, buyer-supplier relationship assessment, international negotiations, and negotiation simulation.

864 Supply Chain Innovation Project Management
Spring. 1 to 3 credits. P: MBA 831 or SCM 800 Role of product and process innovation in firm competitiveness. Innovation projects in various parts of supply chain, including radical, incremental and continuous process improvement projects. Project management techniques addressing the definition, planning, and execution of innovation related projects.

869 Service Supply Chains

870 Introduction to Supply Chain Management I
Spring, Summer. 3(3-0) R: Open to master's students in the Eli Broad College of Business and The Eli Broad Graduate School of Management or approval of department. SA: MSC 870 Integrated view of procurement, operations, and logistics management. Management of the flow of products from raw material sourcing and acquisition through delivery to the final customer.

871 Applied Data Analysis
Fall, Spring, Summer. 3(3-0) R: Open to master's students in the Supply Chain Management Major. SA: MSC 871 Quantitative and statistical methods for decision making. Hypothesis testing, regression and correlation analysis, forecasting, linear programming, decision analysis, and project management.
872  Distribution Fulfillment
Fall, Spring, Summer. 2(2-0) P: SCM 870 R: Open to master's students in the Supply Chain Management Major. SA: MSC 872
Management of the firm's value-creation process from product development through order receipt and delivery to consumer. Alternative approaches to developing customer value and the role of the demand and supply chain in providing it.

873  Supply Chain Management Sourcing, Operations and Distribution
Fall, Spring, Summer. 1 to 3 credits. P: SCM 870 R: Open to master's students in the Eli Broad College of Business and The Eli Broad Graduate School of Management or approval of department.
Management of the firm's value creation processes with particular emphasis on strategic sourcing, procurement, operations strategy, capacity strategy, capacity location, channel development and management, and coordination of plans across supply chain partners.

874  Total Quality Management and Lean Enterprise
Fall, Spring, Summer. 3(3-0) P: SCM 870 R: Open to master's students in the Supply Chain Management Major. SA: MSC 874
Total quality management and lean enterprise principles, practices, and techniques. Implementation of quality and lean enterprise improvement programs. Relationship to manufacturing and competitive strategies.

875  Manufacturing Planning and Control
Fall, Spring, Summer. 2(2-0) P: SCM 870 R: Open to master's students in the Supply Chain Management Major. SA: MSC 875
Planning and control functions required to match supply and demand in a manufacturing firm. Tools and methods for planning production and the resources and capacity needed to support production. Role of information and information systems in planning and control. Coordination of plans across organizations supply chain.

876  Logistics Operations Methods and Systems
Fall, Spring, Summer. 2(2-0) P: SCM 870 R: Open to master's students in the Supply Chain Management Major. SA: MSC 876
Micro-analysis of logistics and transportation services including customer service and order fulfillment, distribution operations, purchasing or operation of transportation services, third-party logistics providers, and network design.

877  Supply Chain Management Information Technology
Summer. 2(2-0) P: SCM 872 and SCM 875 and SCM 886 R: Open to master's students in the Supply Chain Management major. SA: MSC 877
Role of information technology in supply chain management, planning, and operations. Requirements, capabilities, and considerations for using information technology applications in supply chain management.

878  Logistics Systems Analysis
Summer. 2(2-0) P: SCM 870 R: Open to master's students in the Supply Chain Management major. SA: MSC 878
Process of solving logistics problems. Applications of analysis tools and techniques to identify benefits and costs of logistics change.

879  Supply Chain Management-Strategy and Applications
Fall, Spring. Summer. 3(3-0) P: SCM 870 RB: 15 credits in MS Supply Chain Management R: Open to master's students in the Supply Chain Management Major. SA: MSC 879
Analysis and solution of supply chain management cases and simulations. Teamwork, communication, and job skills. Situations involving purchasing, manufacturing, logistics and transportation as an integrated supply chain.

880  Global Supply Chain Management
Fall. 3(3-0) P: SCM 870 R: Open to master's students in the Supply Chain Management major. SA: MSC 881
Requirements for global operations and strategy development. Similarities and differences of international and domestic supply chain operations.

881  Supply Chain Management Field Study
Fall, Spring, Summer. 5 credits. P: SCM 870 RB: Completion of 24 credits of Master of Science in Supply Chain Management program. R: Open to master's students in the Supply Chain Management Major. SA: MSC 882
Practical application of course material to a problem or situation in the student's organization.

882  Technology and Product Innovation Management
Fall, Spring. Summer. 2(2-0) P: SCM 870 R: Open to master's students in the Supply Chain Management Major. SA: MSC 883
Management of technology and product development for high technology firms. Creating new product ideas, designing high technology products, managing cross-functional teams, developing and implementing marketing plans, interpreting marketing data, sales forecasting for new products, testing new products, assessing competitive dynamics, and coping with uncertain environmental forces.

883  Strategic Sourcing
Fall, Spring, Summer. 2(2-0) P: SCM 870 R: Open to master's students in the Supply Chain Management Major. SA: MSC 886
Fundamentals of strategic sourcing and supply chain management. Integration and coordination of product innovation, sourcing, manufacturing, distribution, and logistics for global competitiveness.

884  Introduction to Packaging for Supply Chain
Fall, Spring, Summer. 1.5 to 3 credits. P: SCM 870 R: Open to master's students in the Supply Chain Management Major.
Overview of packaging materials, filling lines, and distribution dynamics related to supply chain management.

885  Food Safety in Supply Chain Management
Fall, Spring. Summer. 1.5 to 3 credits. P: SCM 870 R: Open to master's students in the Supply Chain Management Major.
Understanding of food safety requirements, challenges and the key considerations for managing food safety in supply chains.

886  Brand Protection for Supply Chain Managers
Fall, Spring. Summer. 1.5 to 3 credits. P: SCM 870 R: Open to master's students in the Supply Chain Management Major.
Introduction to general issues related to product counterfeiting and how the problem affects supply chain professionals. Foundational principles of brand protection activities as carried out through the supply chain functions of brand owners.

887  Independent Study
Fall, Spring. Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Approval of department. SA: MSC 890
Faculty-supervised independent study.

888  Global Supply Chain Management
Fall, Spring. Summer. 1 to 3 credits. A student may earn a maximum of 6 credits in all enrollments for this course. R: Approval of department. SA: MSC 890
Faculty-supervised independent study.

890  Operations Strategy
Summer. 2(2-0) P: SCM 870 R: Open to master's students in the Supply Chain Management major. SA: MSC 893
Manufacturing strategy as a competitive weapon. Link between manufacturing strategy and corporate strategy. Alignment of manufacturing strategy with corporate strategy, and structural and infrastructural decisions. Development and deployment of global manufacturing strategy. Adaptation of strategy to position the competitive capabilities of the firm appropriately.

891  Supply Chain Consulting and Auditing
Spring. 3(3-0) P: SCM 835 R: Open to doctoral students in the Eli Broad College of Business and The Eli Broad Graduate School of Management.
Development of supply chain consulting skills. Consultative processes. Role of consulting and consultative selling.

892  Supply Chain Statistical Research Methods
Fall. 3(3-0) P: Open to doctoral students in the Eli Broad College of Business and The Eli Broad Graduate School of Management. Statistical research methods and techniques to support supply chain management empirical research. Applications of statistical methods drawn from current literature in procurement, operations management, and logistics.

893  Supply Chain Applied Decision Models
Spring. 3(3-0) P: Open to doctoral students in the Eli Broad College of Business and The Eli Broad Graduate School of Management. Linear and non-linear optimization models. Linear programming, integer programming, goal programming, multi-criteria models, and non-linear programming (constrained and unconstrained optimization). Problem formulation and solution procedures.

894  Procurement and Sourcing Theory
Spring of odd years. 3(3-0) R: Open to doctoral students. Theoretical models explaining procurement and sourcing strategy. Frameworks to guide research.

895  Seminar in Manufacturing Strategy
Fall of even years. 3(3-0) R: Open to doctoral students.
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921 Seminar in Inventory Management
  Spring of even years. 3(3-0) R: Open to doctoral students.
  Classical, just-in-time, and multi-echelon inventory control models. Forecasting.

923 Topics in Operations Management
  Spring of odd years. 3(3-0) R: Open to doctoral students.
  Current research in the field. Topics vary.

930 Theory of Logistics Systems
  Spring. 3(3-0) R: Open to doctoral students.
  SA: MSC 930
  Development and management of firm logistics systems within the context of an integrated supply chain strategy. Elements of network, economic, behavioral, and systems theory in the design, management, and control of logistics systems.

931 Simulation Methods for Business Research
  Spring of odd years. 3(3-0) P: MGT 906 or SCM 916 or approval of department R: Open to doctoral students. SA: MSC 931
  Techniques and methodology for system design and policy formulation. Methodological focus on simulation and analytical techniques to develop empirical results documenting current and anticipated system performance.

932 Logistics and Public Policy
  Fall of even years. 3(3-0) RB: SCM 930 R: Open to doctoral students. SA: MSC 932
  History and rationale of government in the development, maintenance, and control of transportation and supply chain infrastructure. Interaction of users, carriers, government, and public to create, interpret, and refine national economic and environmental policies.

990 Independent Study
  Fall, Spring, Summer. 1 to 3 credits. A student may earn a maximum of 12 credits in all enrollments for this course. R: Open to doctoral students in the Department of Supply Chain Management. SA: MSC 990
  Intensive reading and research on a supply chain topic of mutual interest to a faculty member and a doctoral student.

995 Directed Research Paper
  Fall, Spring, Summer. 1(1-0) R: Open to doctoral students in the Department of Supply Chain Management.
  Production of research paper under the direction of a senior faculty member

999 Doctoral Dissertation Research
  Fall, Spring, Summer. 1 to 12 credits. A student may earn a maximum of 36 credits in all enrollments for this course. R: Open to doctoral students in the Department of Supply Chain Management or approval of department. SA: MSC 999
  Doctoral dissertation research.