GSC - Global Supply Chain Management

GSC 3600 Operations and Supply Chain Management Cr. 3
Analysis of production and supply chain systems. Topics include forecasting, production planning and scheduling, quality control, cost control, inventory control, capacity planning, purchasing, logistics, risk management, and other related subjects. Extensive coverage of SCM strategy, manufacturing, and general SCM strategy related to purchasing and logistics. Offered Every Term.
Prerequisites: (ISM 2300 with a minimum grade of D-) OR (ISM 3300 with a minimum grade of D-) OR (ECO 4100 with a minimum grade of D-) OR (BA 2300 with a minimum grade of D-)

GSC 4990 Directed Study in Global Supply Chain Management Cr. 1-3
Advanced readings and research or tutorial under supervision of faculty member. Offered Every Term.
Prerequisites: (GSC 5620 with a minimum grade of C) OR (BLG 5620 with a minimum grade of C)

GSC 4991 Study Abroad in Supply Chain Management Cr. 3
Study abroad programs in various countries. Programs run 10-15 days in length. Recent country programs in China, Poland, and Italy. Travel within a given country with visits to various companies and cultural attractions. Traveling costs are over and above tuition and vary by country. Various reading and assignments required. Offered Every Term.

GSC 5600 Logistics and Transportation Strategy Cr. 3
An overview of logistics strategy with an emphasis on transportation. Study of the management of the movement of raw materials and finished products including the development of transportation strategies and objectives, and the selection of modes and carriers. Offered for undergraduate credit only. Offered Fall, Spring/Summer.
Prerequisites: GSC 3600 with a minimum grade of D-

GSC 5620 Global Supply Chain Management Cr. 3
Concepts of managing operations and supply chains that span multiple countries. Topics covered include, Sourcing in International Settings, Global Logistics and Trade Management, Global Plant Location and Manufacturing Network Design, and Managing International Production Operations. Emerging concepts in the discipline will also be discussed. Offered for undergraduate credit only. Offered Fall, Winter.
Prerequisites: (MKT 2300 with a minimum grade of D-) OR (MKT 4300 with a minimum grade of D-)

GSC 5650 Strategic Procurement Cr. 3
Principles of the purchasing function with topics including sourcing decisions, negotiations, buyer/seller relationships in the supply chain, supplier quality issues, supplier selection, price determination, ethical issues, legal issues, and international issues. Extensive coverage of automotive industry topics and perspectives. Offered for undergraduate credit only. Offered Fall, Winter.

GSC 5670 Special Topics in Supply Chain Management Cr. 3
Offered Irregularly.
Repeatable for 6 Credits

GSC 5680 Production Planning and Control Cr. 3
Concepts for planning and management of production resources in manufacturing organizations. Topics covered include: Demand Management, Sales and Operations Planning, Master Production Scheduling, Materials Requirement Planning, and Capacity Planning in a manufacturing environment. Emerging concepts in the discipline will also be covered. Offered for undergraduate credit only. Offered Irregularly.
Prerequisites: (ISM 3600 with a minimum grade of D-) OR (ISM 4600 with a minimum grade of D-) OR (BA 3600 with a minimum grade of D-)

GSC 5690 Principles of Quality Management Cr. 3
Quality control overview with a focus on auto industry processes and including Advanced Product Quality Planning (APQP) processes for new product development in the auto industry, Six Sigma processes, statistical quality control including process capability, control charts, and acceptance sampling procedures. Offered for undergraduate credit only. Offered Fall, Winter.
Prerequisites: GSC 3600 with a minimum grade of D-

GSC 5890 Internship in Global Supply Chain Management Cr. 3
Student works a minimum of 160 hours. Offered for undergraduate credit only. Offered Every Term.
Prerequisites: (FIN 3290 with a minimum grade of D-) OR (FIN 4290 with a minimum grade of D-) OR (ISM 3400 with a minimum grade of D-) OR (ISM 4400 with a minimum grade of D-) OR (ISM 3600 with a minimum grade of D-) OR (ISM 4600 with a minimum grade of D-) OR (ISM 3630 with a minimum grade of D-) OR (ISM 4630 with a minimum grade of D-) OR (MGT 2530 with a minimum grade of D-) OR (MGT 4530 with a minimum grade of D-) OR (MKT 2300 with a minimum grade of D-) OR (MKT 4300 with a minimum grade of D-) OR (BA 3400 with a minimum grade of D-)

GSC 5996 Process Analysis and Cost Estimating for Buyers Cr. 3
Focused on providing future buyers and SCM professionals an understanding of basic production processes and the cost and quality drivers that impact supplier performance. Helps buyers learn what to look for when visiting suppliers. Teaches students how to identify and evaluate supplier cost and quality drivers. There will be multiple supplier visits during class hours. Offered for undergraduate credit only. Offered Irregularly.
Prerequisites: (GSC 3600 with a minimum grade of D-)

GSC 6997 Global Supply Chain Analysis and Planning Cr. 3
Capstone course in Global Supply Chain Management major. An emphasis on analysis, planning and strategy. Use of supply chain simulation games and/or cases to provide students with a comprehensive view of supply chain issues, and an experience running a simulated supply chain, and/or addressing critical problems from a case perspective. Offered for undergraduate credit only. Offered Every Term.
Prerequisites: GSC 3600 with a minimum grade of D-, GSC 5620 with a minimum grade of D-, and GSC 5650 with a minimum grade of D-

GSC 7010 Supply Chain Decision Tools Cr. 3
Provides hands-on familiarity with supply chain decision tools and fundamental approaches to supply chain decision making. Examples of topics covered include multi criteria decision making, efficiency analysis, cost-benefit analysis, decision analysis with simulations, etc. Capabilities of state of the art decision tools available to managers will also be discussed. Offered Every Term.
Prerequisites: BA 6090 with a minimum grade of C
GSC 7260 Theory of Constraints: Breakthrough Solutions Cr. 3
Problem solving based on Theory of Constraints logic process. Use of cause-effect logic diagrams to identify root cause of problems, discover breakthrough solutions, specify expected results of these solutions (including negative side effects which can thus be avoided), overcome obstacles to implementation, and construct a detailed plan for implementation of solutions. Applications to management of business and other operations. Offered Irregularly.
Prerequisites: BA 6025 with a minimum grade of C

GSC 7620 Global Supply Chain Management Cr. 3
Introduction to global supply chain management, integrating materials management and physical distribution through the investigation of transportation, inventory, handling and storage, acquisition, order processing and facility location subsystems. Offered Fall.
Prerequisites: (BA 6025 with a minimum grade of C) OR (BA 7050 with a minimum grade of C)

GSC 7650 Strategic Procurement Cr. 3
Creation of competitive advantage with superior procurement management. Topics include: negotiating, relationship to the supply chain, quality issues, supplier selection and management, quantity and delivery, and price determination. Strategic, ethical, legal and international issues. Offered Winter.
Prerequisites: (BA 6025 with a minimum grade of C)

GSC 7670 Special Topics in Supply Chain Management Cr. 3
Topics range from automotive supply chain management to international supply chain management fields and countries. Offered Irregularly. Repeatable for 6 Credits

GSC 7680 Manufacturing Planning and Control Cr. 3
Covers concepts for management of production resources in manufacturing organizations. Topics covered include demand management, sales & operations planning, master production scheduling, material requirement planning, capacity planning & management and production activity control. Emerging concepts in the discipline will also be discussed. Offered Fall, Winter.

GSC 7890 Internship in Global Supply Chain Cr. 3
Student works a minimum 160 hours for fifteen weeks in an entry-level management position in global supply chain. Offered Every Term.
Prerequisites: (GSC 7620 with a minimum grade of C) OR (GSC 7650 with a minimum grade of C)

GSC 7910 Managing Automotive Supply Chains Sustainability Cr. 3
Covers concepts for sustainable management of supply chains taking a holistic view of the interaction between firms, environment and society. Topics covered include: supplier management for sustainability, measurement of environmental and social impact, Life Cycle Analysis (LCA), conflict minerals reporting, automotive industry guiding principles for sustainability, lean and green interface, product design for sustainability, recycling, reusing, and reverse logistics. Emerging concepts in the discipline will also be discussed. Offered Winter.

GSC 7920 Supply Chain Process Analysis and Costing Cr. 3
Develops understanding about manufacturing processes in a wide range of products. The class will also help develop skills for cost estimating and managing sourcing in manufacturing environments. Topic covered include, how to conduct supplier site visits, viewing sales pitches, learn different types of manufacturing processes for metals, plastic and electronics and how to estimate their costs. Travel in the Detroit area will be required for the class. Offered Winter.

GSC 7930 Managing Risk in Automotive Supply Chains Cr. 3
Explores the area of risk management spanning aspects of strategic, operating, compliance and financial risks in automotive supply chains. Topics discussed include: risk identification, assessment and response, risk analysis tools (e.g. Process FEMA), risk mitigation, risk recovery and evaluation of control alternatives, crisis management and business continuity planning. Emphasis is placed on managing risk in internal operations as well as the supply network. Offered Winter.

GSC 7940 Buyer Supplier Relationships in the Auto Industry Cr. 3
Provides a study of issues in managing supplier relationships in the automotive. Topics such as supplier development, supplier performance assessment, monitoring and improvement, and OEM-supplier relationships will be discussed along with emerging trends in the industry. Offered Fall.

GSC 7950 Auto Industry SCM Capstone Cr. 3
Provides a study of issues in managing automotive supply chains such as: supply chain strategy, managing global manufacturing networks, logistics and trade management in auto networks, make-buy decisions, total cost of ownership, global automotive component sourcing and logistics, managing quality and risk, etc. Case situations of real companies facing these issues will be analyzed. Offered Winter.
Prerequisite: GSC 7620, with a minimum grade of C; GSC 7650, with a minimum grade of C; GSC 7680, with a minimum grade of C

GSC 7960 Lean Six Sigma Cr. 3
All organizations strive to improve efficiency and reduce waste, i.e. become lean enterprises. This course provides students with the core concepts related to managing lean organizations and implementing six sigma. Topics covered include, lean principles, process capability, value stream mapping, process improvement, and six sigma implementation. Offered Winter.

GSC 7970 Principles of Quality Management Cr. 3
Introduction to philosophies of quality management and quality certification standards such as ISO 9000. System analysis, business process design, leadership, benchmarking, quality standards, performance standards, customer focus. Offered Spring/Summer.
Prerequisites: (BA 6025 with a minimum grade of C) OR (BA 6090 with a minimum grade of C)

GSC 7980 Methods of Quality Management Cr. 3
Selection, implementation and applications of the most commonly-used quality methods: statistical process control, design of experiments, process analysis, error proofing, decision analysis, and response surface methods. Offered Fall, Winter.
Prerequisites: (GSC 7991 with a minimum grade of C) OR (ISM 7991 with a minimum grade of C)

GSC 7990 Directed Study in Global Supply Chain Cr. 1-3
Advanced independent readings and research under supervision of a graduate faculty member, in areas of special interest to student and faculty member. Offered Every Term.
Prerequisites: (GSC 7620 with a minimum grade of C) OR (GSC 7650 with a minimum grade of C)