Supply Chain Management (SCMT)

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Degrees Conferred:
Ph.D. in Business Administration (WCOB)

Program Description: The Ph.D. Program in Business Administration with a Supply Chain Management Concentration prepares individuals for academic careers in research, teaching and service at universities. The program imparts knowledge of the theoretical and substantive areas of supply chain management, as well as of conceptual skills and methodological tools, and prepares students to conduct independent research.

Ph.D. in Business Administration with Supply Chain Management Concentration

Program Requirements

Generally, the program is composed of 60 credit hours. Up to 3 credit hours of prior coursework may be applied to the requirements for the supply chain management Concentration with the recommendation and consent of the student’s Ph.D. Program Advisory Committee.

Tools

Depending on their interest and backgrounds, students will choose five courses from the following list:

- Univariate statistics (minimum 3 hours; e.g., ISYS 5203)
  - ISYS 5203 Experimental Design (prior course work may be applied toward this requirement)
- Multivariate statistics (minimum 3 hours; e.g., MKTG 6433, ISYS 5623, ISYS 5723)
  - MKTG 6433 Seminar in Research Methods
  - ISYS 5623 Multivariate Analysis
  - ISYS 5723 Advanced Multivariate Analysis
- Econometrics (minimum 3 hours; e.g., ECON 6613, ECON 6623, ECON 6633)
  - ECON 6613 Econometrics I
  - ECON 6623 Econometrics II
  - ECON 6633 Econometrics III
- Structural equation analysis (e.g., SCMT 6423)
  - SCMT 6423 Seminar in Structural Equation Modeling
- Other (e.g., linear programming, integer programming, stochastic processes, qualitative research methods, etc.)

Supply Chain Management Core

Each doctoral will take five SCM Core Ph.d seminars from set of six courses

| SCMT 6413 | Fundamentals of Logistics and Supply Chain Management |
| SCMT 6433 | Supply Chain Management Research |
| SCMT 6443 | Theory in Supply Chain Management |
| SCMT 6453 | Behavioral Supply Chain Management |
| SCMT 6463 | Research in Retail Supply Chain Management |
| SCMT 6473 | Emerging Topics in Supply Chain Management |

Microeconomics 3

ECON 6223 Microeconomic Theory II (Prior course work may be applied toward this requirement)

or equivalent

Supporting Fields

Courses for the supporting fields requirement are made in consultation with the student’s Ph.D. Program Advisory Committee. All courses taken for the supporting fields must be at the graduate level and/or taken for graduate credit. A minimum of six hours should be taken in graduate research seminars.

Dissertation

A dissertation will be written under the guidance of the supply chain management faculty. The dissertation committee consists of a minimum of 3 graduate faculty members. One graduate faculty member outside the Department may be chosen for this committee depending on the dissertation topic.

SCMT 700V Doctoral Dissertation

Total Hours 60

Graduate Faculty Courses

SCMT 5123. Sustainable Logistics and Supply Chain Management. 3 Hours. Explores key sustainability concepts across supply chain functions of supply management, operations, and distribution. Course topics include values-based leadership, globalizing sustainability, marketing sustainability, voluntary product standards and governance, stakeholder engagement, reverse logistics, humanitarian logistics, and transportation. Overall, we will consider the feasibility and role of firms in producing sustainability in global supply chains.

SCMT 5133. Quantitative Methods and Decision Making. 3 Hours. Utilization of information, quantitative techniques, and computer application in decision making and problem solving for managers. This course is cross-listed with ISYS 5403.

SCMT 560V. Special Topics in Logistics. 1-6 Hour. Explores current events, concepts, and new developments in the field of logistics and transportation. Topics are selected by the Marketing and Transportation faculty for each semester the course is offered. May be repeated for up to 6 hours of degree credit.

SCMT 5623. Supply Chain Innovation and Technology. 3 Hours. This course explores innovation as a strategy to improve existing and/or invent new supply chain processes which ultimately create and/or maintain competitive advantage. Open, reverse, disruptive, incremental and breakthrough innovation concepts are explored. Design thinking is utilized to facilitate critical customer centric thinking about supply chains resulting in innovative solutions by inventing new or improving on existing processes, intellectual property, technologies, and systems. Leadership assessment techniques will be utilized to create diverse and inclusive cross-functional teams focused on current industry projects.
SCMT 5633. Introduction to Supply Chain Management. 3 Hours.
Supply chain management is the integration of key business processes from end user through suppliers. The focus of this course is on the core processes that must be linked throughout the supply chain with an emphasis on logistics processes. Foundational topics in logistics and supply chain management will be covered.

SCMT 5643. Transportation Strategies in the Supply Chain. 3 Hours.
This course focuses on the setting of objectives and the design of optimal transportation strategy and alternative means of implementing transportation strategies within different types of organizations.

SCMT 5653. Global Logistics and Supply Management. 3 Hours.
This course examines the planning and management of logistics, but emphasizes supplier selection and development, logistics options, strategic alliances, and performance measurement. Emphasis is placed on the integration of purchasing, materials management, and multi-firm logistics planning. International logistics is also addressed within each of these topics. Prerequisite: SCMT 5633.

SCMT 5663. Retail and CPG Supply Chain Management. 3 Hours.
This course examines the planning and management of supply chain activities including supplier selection and development, demand management, quick response, vendor managed inventory, logistics options, strategic alliances, and performance measurement. Emphasis is placed on the integration of purchasing, materials management, and multi-firm logistics planning.

SCMT 5673. Modeling Retail & Consumer Products Logistics. 3 Hours.
This is a more quantitative approach to measuring logistics performance, modeling tradeoffs and making decisions. Topics include forecasting, inventory management, network optimization, and transportation routing. Prerequisite: SCMT 5633.

SCMT 5683. Supply Chain Management in Global Business. 3 Hours.
Logistics management is that part of supply chain management that plans, implements, and controls the efficient, effective forward and reverse flow and storage of goods, services and related information between the point of origin and the point of consumption in order to meet customers’ requirements. To achieve its objectives, logistics management requires the integration of business processes within and across organizations in a supply chain. Using hands on projects and class discussions based on case studies and current press articles, this course will expose participants to logistics management challenges faced by member organizations of retail supply chains competing in an omni-channel environment transformed by radical changes in consumer behavior, technology, and globalization. Prerequisite: SCMT 5663.

SCMT 5693. Predictive Supply Chain Analytics. 3 Hours.
This course will introduce students to the variety and sources of data available from different technology-enabled sources, and through cases, expose them to innovative ways in which firms are using this data to improve supply chain management processes. The course will survey standard and advanced analytical techniques used to transform this data into actionable business intelligence and students will gain hands-on experience with these techniques. They will gain an understanding of the practical considerations that arise in real-world applications by means of projects.

SCMT 636V. Special Topics in Supply Chain Management. 1-6 Hour.
Independent reading and investigation in supply chain management. Prerequisite: Doctoral standing.

SCMT 6413. Fundamentals of Logistics and Supply Chain Management. 3 Hours.
Introduces students to the key substantive areas of logistics and supply chain management. Offers a combination of lectures covering topics such as inventory control and forecasting and seminars discussing associated academic literature. Prerequisite: Admission to doctoral program. May be repeated for up to 6 hours of degree credit.

SCMT 6423. Seminar in Structural Equation Modeling. 3 Hours.
The seminar focuses on data analysis using structural equation modeling methodologies. The course will concentrate on four basic methodologies: exploratory factor analysis, confirmatory factor analysis, path analysis, structural equations modeling with latent variables and their applications in empirical research. Prerequisite: Graduate Standing and MKTG 6433 or ISYS 5623 or ISYS 5723 or PSYC 6343 or equivalent. May be repeated for up to 6 hours of degree credit. This course is cross-listed with ISYS 6423.

SCMT 6433. Supply Chain Management Research. 3 Hours.
Introduces students to major streams of SCM research and discusses the interest and merit of the research question(s), the appropriateness of the theoretical framework and hypothesis development, the adequacy of the research design, including data collection, measurement, and analysis (methodology), the accuracy of the discussion of the results. Prerequisite: Admission to doctoral program. May be repeated for up to 6 hours of degree credit.

SCMT 6443. Theory in Supply Chain Management. 3 Hours.
Provides an overview of theories from fields such as strategic management and marketing and explores applications of these theories to supply chain management research. Emphasis is placed on the development of theoretically grounded testable hypotheses in the context of a broad range of SCM research areas. Prerequisite: Admission to doctoral program.

SCMT 6453. Behavioral Supply Chain Management. 3 Hours.
Focuses on human behavior in supply chain management. Topics may include but will not be restricted to behavior in inventory and ordering processes, in retail store execution, in global supply chain management, in the face of adversity and catastrophic supply chain risk, and in supply chain relationships. Prerequisite: Admission to doctoral program. May be repeated for up to 6 hours of degree credit.

SCMT 6463. Research in Retail Supply Chain Management. 3 Hours.
Focuses on retail-related supply chain management research. Seminar topics may include but will not be restricted to retail sales and order forecasting, inventory management, and store execution issues. Prerequisite: Admission to doctoral program. May be repeated for up to 6 hours of degree credit.

SCMT 6473. Emerging Topics in Supply Chain Management. 3 Hours.
Covers various emerging topics, such as information technology applications in the supply chain, humanitarian logistics, supply chain security, and individual-level decision-making in the supply chain. Prerequisite: Admission to doctoral program. May be repeated for up to 6 hours of degree credit.

SCMT 700V. Doctoral Dissertation. 1-18 Hour.
Dissertation studies in supply chain management. Prerequisite: Candidacy. May be repeated for degree credit.