

## ***Master of Science in Supply Chain Management***

### ***2 - Required Professional Development & Career Workshops***

#### **MGMT 7770 Prof. Development Workshop 1/Career Workshops**

The PDW sequence is designed to develop the professional skills of students in the MS Programs that are needed to be a successful contributor in a business setting. PDW I follows a framework of Leadership, Followership, and Membership in a professional community. Students will gain practical experience through exposure to experts in specific skill areas, role play and practice sessions, and exercise completions. The fall semester concentrates on individual skills development in presentation, communication and networking. Additionally, membership in one's professional community will be emphasized through engagement in two activities specific to the student's MS Program. Building on the skills and abilities obtained earlier in your career, this PDW is geared toward a higher level of professionalism inherent in a successful business environment.

#### **MGMT 7780 Prof. Development Workshop 2/Career Workshops**

The PDW sequence is designed to develop the professional skills of students in the MS Programs that are needed to be a successful contributor in a business setting. The PDW II will continue to follow a framework of Leadership, Followership and Membership in a professional community. Students will gain practical experience through exposure to experts in specific skill areas, role-play and practice sessions, and exercise completions. The second semester emphasizes developing influence skills, understanding and shaping group dynamics, and navigating organizational politics. Additionally, membership in one's professional community will be emphasized through engagement in four hours of activities specific to the student's M.S. program.

### ***4 - Required Business Core:***

#### **MGMT 6100 Statistics for Managerial Decision Making**

This course develops an understanding of concepts in business statistics and focuses on application of concepts in problem-solving situations. In particular, students learn to present and describe data, analyze probability distributions, make statistical inferences based on data samples, and develop basic models for prediction and forecasting.

#### **MGMT 6190 Introduction to Accounting and Financial Management**

This course introduces accounting and financial management to first-semester M.S. students. The interpretation and preparation of basic financial statements, such as the balance sheet and income statement are introduced along with relevant regulation and practice. In addition, the course introduces the student to basic financial concepts and techniques such as time value, risk, equilibrium asset pricing models, capital budgeting, cost of capital and capital structure and discusses their applications in practice.

**MGMT 6490 Competitive Advantage and Operations Strategy**

This course includes topics such as manufacturing as a competitive weapon; management of quality; manufacturing technology implementation; strategic impact of advanced manufacturing technologies; and manufacturing's role in new product development.

**MGMT 6140 Information Systems for Management**

Analyzes the use of information and communications technology to improve performance and to achieve organizational goals. Examines information systems in sales, marketing, finance, and operations. Provides a framework for understanding and evaluating IS contributions to product services and managerial effectiveness. Focuses upon implementation of information technology as a strategic weapon for productivity and competitive advantage. Lectures, case discussion, projects, and technical supplements.

**4 – Required Supply Chain Core:****MGMT 6080 Networks, Innovation and Value Creation**

This course considers the evolving new models of value creation and business growth being introduced across different industries and examines such critical issues as product and process technology strategy, operational innovation, IT strategies and infrastructures, networks and organization, and finance. Utilizing a series of case studies from across a range of industry networks, students will have a chance to learn how companies can participate in such networks and what unique business resources and capabilities they can employ to enhance their probability of commercial success.

**MGMT 6460 Advanced Quantitative Methods for Business**

This course is designed to provide the student with an understanding of how quantitative models, methods, algorithms, and computational techniques can be used to solve both services and manufacturing enterprise problems. Students will investigate how to apply optimization methods using a hands-on implementation approach.

**ISYE 6600 Design of Manufacturing Systems Supply Chains**

Dynamics of manufacturing systems and supply chains, lean manufacturing, lead time reduction in manufacturing and service operations, advanced pull systems, concurrent design of products and supply chains, rapid new product introduction, remanufacturing and reverse supply chains, and integration of information technology in supply chain operations. Analysis of models and their application to design and planning problems in manufacturing, as well as service systems is emphasized.

**MGMT 6310 Supply Chain Capstone**

This course provides students with an opportunity to work on real business supply chain opportunities with companies in a student team over a four-to- five month period. Students work together as a consulting team with a client and adviser(s) in a business environment to develop solutions that will be put to use by the client to achieve

significant business benefits. Student teams develop their analysis and recommendations and complete the project with the delivery of a final report and presentation to the client senior management.

## **2 - Specialized Electives:**

### **MGMT 6170 Advanced Systems Analysis and Design**

This is an advanced course in systems analysis and design that presents conceptual material about both traditional approaches to systems development such as process oriented and data-oriented methodologies and evolving approaches such as object-oriented development methods. Key stages of the systems development life cycle including planning, analysis, and design are the focus of this course. Models and procedures for understanding and modeling an organization's existing and planned information systems are presented. Computer-aided software engineering tools are used to provide hands-on experience in designing information systems. A case-based approach is used to provide students an opportunity to apply the analytical and design techniques covered in the course. In addition, students are expected to do a real-life systems development project. The course also focuses on the issues and challenges in managing systems development.

### **MGMT 6350 Supply Chain Analytics**

This is a hands on course where students learn a mix of theoretical and practical tools and use them to solve a variety of supply chain problems, both analytically and numerically. Time series, Markov chain, optimal control, linear programming, statistical analysis, and other mathematical tools are used to examine data to understand supply, demand and inventory levels and develop insights for managerial recommendations.

### **MGMT 6230 Global Sourcing and Procurement**

Sourcing is an important function that has a significant impact on the profitability of firms. This course examines sourcing from a strategic and operational perspective and presents best practices and frameworks for effective sourcing in large and small firms. Topics covered include factors influencing sourcing strategies of firms and the importance of sourcing in supply chain management, procurement strategies for commodities, differentiated products and services, electronic procurement and cost containment strategies, supplier evaluation and selection, negotiation and contracting, and global sourcing strategies.

### **ISYE 4250 Facility Design**

An in-depth study of the major design issues in location and physical configuration of production and service facilities. The course emphasizes the use of mathematical models, computer modeling, and quantitative analysis as aids to the design process. Topics include plant layout and location, material handling, material flow analysis, and distribution systems. Major course concepts are developed through case studies and projects.