Supply Chain Management

BS in Management with a Concentration in Supply Chain Management
(effective Spring 2016)

Supply chain management is a set of approaches utilized to efficiently integrate suppliers, manufacturers, warehouses, and stores, so that the merchandise is produced and distributed at the right quantities, to the right locations, and at the right time, in order to minimize systemwide costs while satisfying customer service level requirements. In an organization, the supply chain management department may be responsible for spending 50-60% of the gross revenue, and thereby can exert significant leverage on profitability and operational success.

The SCM concentration in SOM emphasizes the cross-functional features of supply chain management. The students in SCM concentration are not only well prepared for classical demand planning, production planning, inventory management and procurement or purchasing management, but also trained to identify and solve cross-functional problems together with the departments of marketing, finance, information technology, and human resources.

This concentration goes well with Business Analytics since two of the required courses are also required for Business Analytics focus. Due to the interdisciplinary nature of supply chain management, SCM concentration goes well with other business concentrations such as Marketing and MIS. SCM as a second concentration can help the students from other concentrations establish a clear global vision of the enterprise and supply chain operation.

Job titles in SCM and or Operations Management include service manager (in retail, bank, and hospitality industry), logistics manager, supply/procurement manager, transportation manager, warehouse/distribution manager, production manager, and quality manager. Broad job titles that include operations responsibilities include business analyst, consultant, general manager, project manager, product manager, business intelligence developer. The career can progress to supply chain manager, or consultant, and to the vice president level in supply chain related areas. The positions for supply chain management can come from all sectors of the economy, public and private, including manufacturing, service, health care, and retail. Jobs may be obtained worldwide, including North America, Asia and Pacific, Europe, and South America.

Recent SOM graduates concentrating in OM/SCM accepted jobs in companies such as Microsoft Corporation, Lockheed Martin Corporation, Ernst & Young, Protiviti Consulting, Cummins Engine Co., Inc., AFK Engineers, United Technologies, HP Hood, and FactSet Research Systems.

Operations Management (OPM 311) will serve as the prerequisite for all SCM courses.
Concentration Requirements and Course Descriptions

In addition to the standard core curriculum which all SOM students take, all Supply Chain majors must take a minimum of **FOUR** SCM or related courses. **Three** of them are specific required courses and the fourth may be selected from a group of related electives (see following).

**Three Required SCM courses:**

**SCM 365 – Supply Chain Management**
Supply Chain Management Students will develop a strong understanding of managerial considerations and technologies in supply chain management. The course will cover supply chain strategy, demand planning, inventory management, transportation, distribution, warehousing, and supply chain coordination. It will use lectures, readings, cases, and online simulations.

**SCM 360 – Decision Making and Risk Analysis**
Students learn analytical techniques used in managing supply chains such as business analysis, optimization, simulation, decision analysis, and basics of forecasting in this course. It uses Excel as a platform to focus on modeling business problems. The course extensively uses problem solving and case analysis.

**SCM 480B – Business Intelligence & Analytics**
Data mining is used in a variety of fields and applications. This course is intended to serve as an introduction to the field where the focus is on statistical analysis and using data mining as a statistical tool by using Excel and XLMiner to solve real world business problems. The course will cover an extensive number of topics such as data visualization, data reduction, evaluation criteria in classification and predictive analytics, multiple linear regression, logistic regression, classification and regression trees, and Naïve Bayes.

**One Elective course chosen from the following list:**

**SCM 480E: Managing Healthcare Operations (A NEW Undergraduate Elective Course)**

Course Description:
The health care industry is the largest and growing sector of the U.S. economy and accounts for 17.6% of the gross domestic product. While the United States spends much more on health care than any other country in the world, we do not get a good return on our investment. Health care organizations face numerous challenges including increasing demand for limited resources, rising costs, increasing complexity and quality issues, and continued changes in government regulations.
In this course we will explore the challenges faced when delivering quality health care, take a principles-driven approach to study health care management and improve the health care value chain. We will learn how to evaluate the performance of operating units, understand why they perform as they do, design new or improved operating procedures and systems for competitive advantage, make short and long run decisions that affect operations, and manage the workforce. We will learn the analytical tools needed to support the efficient and effective delivery of health care such as process flow analysis, capacity management, and quality improvement. Using cases, assignments, and guest speakers we will demonstrate how these tools have been
used to improve processes in healthcare setting, as well as point out what are the institutional challenges unique to healthcare. In addition, students will involve analyzing healthcare problems using actual healthcare data.

**Course Pre-requisites:** OPM 311

**Who should take this course?**
- Anyone interested in working in the health care or other service industry.
- This course could be used for *Supply Chain Management* and *Business Analytics* concentrations.

**Further Questions?**
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**SCM 480D: Applied Models in Operations Management  (A NEW Undergraduate Elective Course)**

**Course Description:**
The objective of this course is to introduce students to the skills and concepts needed in various areas of operations management to make good managerial decisions. Unlike the required OPM311 course, the course will place heavy emphasis on understanding and applying management science models to address operations management problems. It will expose students to a variety of analytical tools used for quantitative decision making using Excel. Some topics that will be covered in this course include process management, service management, and supply chain management. As a supplement to lectures, supporting software to analyze queueing and inventory systems will also be discussed. This course may address some topics that are covered in OPM311 but focuses more on using quantitative tools to solve operations management problems. After completing the course, students should be able to characterize and identify the operational issues within a firm and propose/evaluate possible solutions quantitatively using models that they develop in Excel.

**Course Pre-requisites:** Students must have taken or currently taking OPM 311 course.

**Who should take this course?** This course is a required course for those students focusing in Supply Chain Management, and is suitable for those students who are interested in focusing in Business Analytics.

**Further Questions?**
Prof. Sal Agnihothri  
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Phone: 607-777-2125

**SCM 480 – Special Topics in Supply Chain Management**
This is a reading course. A student may talk to any SCM faculty and see whether the faculty is interested to offer a reading course in SCM. If so, course content is developed based on mutual interest of both faculty and student.