EMP

Engineering Management

EMP 501: Behavioral and Organizational Aspects of Management
This course provides an understanding of the management process by analyzing organizational behavior. Topics include behavior in two-person situations, factors influencing attitudes and changes in organizational behavior, group influence on behavior, formal and informal organizational structures, conflict and conflict resolutions, and the dynamics of planned change.

Fall, 3 credits, Letter graded (A, A-, B+, etc.)

EMP 502: Engineering Economics
This is a course in advanced cost justifications for business and projects. The objective is to give the student a better understanding of what is required to justify, budget, plan and carry out technological projects in industry today. The student will also understand how management decisions are influenced by financial analysis when making budgetary project plans.

3 credits, Letter graded (A, A-, B+, etc.)

EMP 503: Legal and Regulatory Aspects of Management
A survey of business and regulatory law. Topics include contracts, sales, warranties, and business partnerships and corporations. An overview is provided of high technology topics such as computer law, product liability, patent, trademark, copyright, and environmental law and their impact on business.

Summer, 3 credits, Letter graded (A, A-, B+, etc.)

EMP 504: Quantitative Methods in Management
This course is a rapid introduction to the application of modern mathematical concepts and techniques in management science. Algebraic operations, mathematical functions and their graphical representation, and model formulation are reviewed. Topics covered include the following: mathematics of interest, annuity, and mortgage; algebraic and graphic methods of linear programming; PERT, CPM, and other network models; and inventory theory. Simple management-oriented examples are used to introduce mathematical formulations and extensions to more general problems. The computer laboratory is used to give students experience with PC software packages that solve problems in all course topics. Interpretation of computer outputs is also stressed.

Prerequisite: MAT 123 or equivalent
Fall, 3 credits, Letter graded (A, A-, B+, etc.)

EMP 506: Engineering Enterprise Management
This course will lay the foundation for an understanding of Operations Management principles for Engineers. We will explore the entire value chain from design to forecasting to supply chain management, production and quality control. We will look at the latest trends in global Operations theory, but will not forget the basics of good management in engineering field. Quantitative approaches to planning, time, cost and performance will be compared and contrasted and critical trade-offs will be explored in the area of Engineering Project.

3 credits, Letter graded (A, A-, B+, etc.)

EMP 507: Research and Special Topics in Global Industrial Management
An individual study course for students investigating special topics relating to global industrial management.

1-3 credits, Letter graded (A, A-, B+, etc.)
May be repeated 1 times FOR credit.

EMP 509: Enterprise Information and Knowledge Systems Management
This course covers the different types of enterprise systems, how they are used to manage an organization's processes, re-engineering the business with enterprise systems, and the relationship among technology, organization, and management. Knowledge-based and web-based features in modern enterprise systems will be emphasized. Database Management, Security, Control, Ethical, and Social issues of enterprise systems will be discussed.

Spring, 3 credits, Letter graded (A, A-, B+, etc.)

EMP 510: New Product Development and Design
This course covers how to manage enterprise innovation, corporate innovation cultures, ideation and creative thinking, product design and development processes and phases, issues in product design, collaboration between R&D and operations/marketing. Also, this class will focus on how to use forecasting to ensure the successful launch of a product. Case studies will be discussed.

3 credits, Letter graded (A, A-, B+, etc.)

EMP 511: Starting a Business Venture
This course covers the necessities of beginning a business from turning a concept into a new venture and developing a business plan for a venture. Topics include how to identify and evaluate the product and its market potential; management and organization issues; production and channels of distribution; and how to present a plan to the financial community. Specific case studies and guest speakers are utilized.

Summer, 3 credits, Letter graded (A, A-, B+, etc.)

EMP 517: Quality and Value Management
Modern management's approach to quality has changed radically in the last 20 years; this course explains why and how. It covers methods used by both manufacturing and service organizations to achieve high quality: how each organizational function is involved in quality; how improving quality can reduce costs; importance of communication; importance of involving all employees; need to measure quality; and introduction to statistical quality control and how it is used.

Spring, 3 credits, Letter graded (A, A-, B+, etc.)

EMP 518: Project Management for Engineers
This course will lay the foundation for an understanding of project management principles for Engineers. We will delve into conflict resolution and time management and spend a good deal of time talking about the importance of management support in engineering companies. Quantitative approaches to planning, time, cost and performance will be compared and contrasted and critical trade-offs will be explored. Other topics will include planning, organizing, and controlling resources; monitoring progress toward objectives; identifying and managing risks; communicating effectively; setting priorities; and writing engineering proposals. The systems approach will be emphasized. Finally, we will identify future trends and take a look at various case studies that will sharpen our problem-solving skills for when we undergo a #live# engineering project.

3 credits, Letter graded (A, A-, B+, etc.)

EMP 521: Strategic Marketing: Planning and Process
This course will examine the vital role that strategic marketing and planning plays in all businesses, as well as non-profit and government organizations. Marketing's role in our economy, society and the appropriate marketing target and mix of media will also be presented. The various careers which exist in marketing and the structure of marketing plans and departments are studied. The class will...
create a marketing plan based on real products and present it.

\textit{3 credits, Letter graded (A, A-, B+, etc.)}

**EMP 523: International Business and Management**

This course covers the world's marketplace, international environment, managing international business, and managing international business operations. Additional topics include cultural issues in a global marketplace, the impact of law and legal differences in the world marketplace compared to the U.S., and addressing competitive issues related to items such as a need for local contact.

\textit{3 credits, Letter graded (A, A-, B+, etc.)}

**EMP 524: Supply Chain Management**

The integration of the activities that procure materials and services, transform them into intermediate goods and final products, and deliver them to the customers in a global environment. This course covers all the logistical, ethics, and outsourcing issues in strategic and global ways.

\textit{Offered Spring, 3 credits, Letter graded (A, A-, B+, etc.)}

**EMP 525: Technology Assessment for Emerging Technologies**

This course will address the technology assessment for emerging technology through four basic components of technology assessment: scope, technology, impact, and policy. Emerging technology will cover information technology, energy, and medical technology.

\textit{Offered Summer, 3 credits, Letter graded (A, A-, B+, etc.)}

\textit{May be repeated for credit.}