Master of Project Management (MPM)

Course requirements
Project Management Curriculum

Overview

Complete all courses from the following list:

- T55-523A Project Planning and Administration*
- T81-503D Applying Innovations Within Organizations*
- T81-509B Managing Teams and Projects*
- T81-5503 Developing Leadership for Professionals
- T81-5504 Foundations of Project Management*
- T81-5505 Project Management Standards*
- T81-5506 Group Dynamics in Project Team Performance
- T81-5507 Strategies of Projects, Programs and Portfolios
- T81-5508 Advances in Project Management

* These courses are required to earn a Graduate Certificate in Project Management

Electives

Complete three elective courses from the following list:

- T55-522A Principles of Strategic Planning
- T81-524A Executive Perspectives For Technical Professionals
- T55-534A Principles of Operations Management
- T55-535 Productivity and Quality Control
- T60-502 Financial Principles of The Company**
- T64-523A Construction Cost Estimating**
- T64-572 Legal Aspects of Construction**
- T64-573 Fundamentals of Construction Management**
- T64-574C Construction Project Planning and Scheduling **
- T64-538 Quality Processes in Construction Management
- T81-535A Economics of Technology
- T81-5500 Enterprise Resource Planning (ERP)
- T81-5502 The Art and Science of Risk Management
- T81-5510 Business Ethics in Project Management (Required for Full-Time Students)

** These courses are required to earn a Graduate Certificate in Construction Management
Course Descriptions Complete all of the following courses:

Project Planning and Administration
Total Units: 3.0
This course focuses on a holistic approach to project management, covering planning, scheduling, organizing, and controlling projects. The course includes major topics of strategy, priorities, risks, project tools, and organizations. Mastery of these key tools and concepts could give students a significant competitive advantage in the marketplace, as projects are used as a major tool to achieve organizational strategic goals.

Applying Innovations Within Organizations
Total Units 3.0
This course focuses on how innovations, such as new technologies, find their way into organizations through managerial approaches. Topics will include assimilation and diffusion of technology, effects of technology on organizations and organizations on technology, and how organizations may be analyzed to assess the role of innovations. Emphasis will be placed on how to understand the organization's social system and what can be done to prepare it for an innovation. Disruptive technologies, organizational culture, and how organizations change will also be covered. Prereq: appropriate background.

Managing Teams and Projects
Total Units 3.0
Establishing a personal leadership style, assessing people, and recognizing/establishing authority on a project will be covered. Handling project meetings and dealing with key stakeholder communication will be given emphasis. Teamwork will be highlighted through discussion of various kinds of teams, team structure, and team formation. The virtual team style will also be reviewed.

Developing Leadership for Professionals
Total Units 3.0
Provides knowledge about a variety of leadership approaches and how they may be effective in technological situations. The course concentrates on developing skills to actually lead in various situations. These include decision-making, problem solving, coaching, evaluating performance, selling ideas, and gaining commitment. Combines classroom, actual experiences, and reality-based feedback to hone skills resulting in a higher ability to lead.

Foundations of Project Management
Total Units 3.0
A practical orientation for using what is known about organizations and how to apply this knowledge to managing projects. Review of the project management paradigm, the basic ingredients of a project, critical stakeholders and roles, and the normal project life cycle will be provided. An introduction to the project management mastery model is covered along with explanations for ways to integrate current and future knowledge into the model. How project approaches should differ by how to segment the problem space - monolithic, incremental, or evolutionary.

Project Management Standards
Total Units 3.0
A standard view of knowledge and processes common to all projects is presented. The course focuses on the review of the ten knowledge areas and five process groups from the Project Management Institute's Body of Knowledge (PMBOK). These knowledge areas and processes are expanded with additional insights common to all projects. The course includes student teams managing a simulated project to gain experience in applying the knowledge areas and processes. While this course introduces the concepts essential for a project management certificate from the Project Management Institute, the knowledge areas and processes are foundational for any project management professional.

Group Dynamics in Project Team Performance
Total Units: 3.0
This course examines how teams actually work looking at group behavior in social situations and how various leaders perform in these social situations. Group motivations of teams are also examined in light of the local situation and/or a large enterprise. Identifying the enabling conditions for team formation and the importance of context to team performance. The idea of a standard normal person and how it relates to team behavior. Subject areas covered include: Groupthink and the impact on projects; social facilitation with key stakeholders; project uncertainty and the dynamics of contribution; project and organizational climate.
Strategies of Projects, Programs and Portfolios

Total Units: 3.0

This course addresses the strategic alignment and prioritization of multiple and complex projects with an organization's business objectives and directions. Major areas covered include: Stakeholder value, return on investment, balancing the tradeoff between project priorities and operational imperative business benefit; establish and implement program governance of multiple projects to ensure consistent alignment with organizational strategy; balancing and coordination of project resources across multiple projects; coordination of schedules among multiple projects using traditional and advanced methods; current trends and practices in Program and Project Portfolio Management.

Prerequisites: T81-5504

Advances in Project Management

Total Units: 3.0

This course examines various aspects of organizations and project performance from actual cases. Aspects include the project decision making environment, the enterprise culture, leadership attributes, changes due to project creativity, logic of reasoning within a project and how projects are actually learning environments.

Electives:

Complete three elective courses from the following list:

Principles of Strategic Planning

Total Units: 3.0

The process of management is interwoven with strategic planning, which is developed in detail. The engineering and technology functions are linked to business policy. The strategic management process is introduced. Fundamental analytical tools for strategic decisions are addressed. Analysis of selected cases applies the conceptual framework.

Executive Perspectives for Technical Professionals

Total Units: 3.0

Executive leadership is fundamentally dealing with human emotions and relationships. Technical and other professionals are challenged in this course to think from an executive leadership position. Being able to assess and lead other people requires balancing existing realities with new visions and moving people to these new visions. Issues addressing executive leadership include: Executive competencies, consulting in executive environments, re-initiating strategic moves, leadership development, succession planning, and enterprise leadership political skills. These topics are explored through lectures, case studies, and in-class discussions with industry executives.

Principles of Operations Management

Total Units: 3.0

Examination of quantitative and managerial approaches for the planning, scheduling, and control of production and inventories in manufacturing companies. Review various models for demand forecasting, capacity planning, lot-sizing, scheduling, and shop-floor controls in various types of manufacturing environments. Analysis of techniques such as MRP II, JIT, and Kanban in production scheduling and control.

Productivity and Quality Control

Total Units: 3.0

This course provides a comprehensive coverage of quality and productivity improvement concepts for operations management. Students face realities that confront managers involved with the concurrent optimization goals of customer satisfaction and profit improvement. Theoretical and business applications are presented to provide a sound understanding of the basic principles of quality and productivity management in both a manufacturing and services business environment. The student will study contemporary management principles such as; total quality planning using the Malcolm Baldrige assessment, product reliability concepts, statistical process control, outsourcing management, customer requirements evaluation, total cost of quality assessment, productivity performance measurement and control, and others.

Financial Principles of The Company

Total Units: 3.0

The course is designed to a) provide incoming program enrollees with little or no finance and accounting experience or background with a solid basic understanding of financial accounting concepts with an emphasis on the managerial applications of financial data, b) prepare those incoming students for the more advanced, discipline specific courses offered later in the program and, c) give the those students a grounding in financial concepts that the student can utilize as they advance to higher and more responsible leadership positions post-graduation. The course is divided into three phases. The first consists of introducing and stressing basic financial concepts, rules, and principles. The second phase consists of leveraging that basic skill set to perform and evaluate analysis in the organization. The last phase will be case study driven and will challenge the student to take the lessons of the first two phases, combine that information with already existing experience and background, and develop a business correction plan for an ailing organization.
Construction Cost Estimating  
**Total Units: 3.0**  
Construction cost estimating explores the application of cost estimating principles and estimating within a project management framework in conjunction with scope definition, quality control, planning and scheduling, risk management and loss prevention techniques, local conditions, information and communication, and working relations with stakeholders. Using a single building project, the course introduces the application of basic quantity surveying and estimating principles using a methodical approach with suggested check lists and techniques for arriving at a reliable cost estimate including direct, indirect, and contingency costs and profits. Student’s estimating efforts culminate with a competitive bid day scenario. Prerequisites: T64-573 or permission of instructor.

Legal Aspects of Construction  
**Total Units: 3.0**  
A survey of the legal problems of the construction manager; including but not limited to, liability in the areas of contracts, agency, torts, insurance, bad judgment and oversight. Prerequisite: graduate status or permission of instructor.

Fundamentals of Construction Management  
**Total Units: 3.0**  
In this course, students will be exposed to the overall construction process from initial concept through startup of the completed facility. The focus is to provide familiarization of the construction and contracting process and potential involvements by construction managers in the planning, design, construction, and post construction phases. Additional topics are introduced to provide a foundation which will prepare students for future construction management coursework. Case studies and industry examples are used throughout the course to authenticate the lectures and assignments. Prereq: Graduate Standing.

Construction Project Planning and Scheduling  
**Total Units: 3.0**  
Project planning and scheduling process utilizing current techniques including critical path analysis for effective and logical scheduling of construction projects. Identification of project activities and their relationships; schedule development, analysis, and updating; relationship of project costs and resources to the schedule; legal implications; effective communication of schedule information; development of procedures to monitor actual field progress; computer application in project scheduling. Prereqs: T64-573.

Quality Processes in Construction Management  
**Total Units: 3.0**  
This course will introduce the student to the various theories of quality and provide them with the tools to apply various quality practices/principles to the construction management process. This course is designed to enable the student to enhance the effectiveness of the Construction Management process through application of two performance improvement methodologies... the Baldridge Criteria for Performance Excellence and Six Sigma. Prereq: Graduate Standing.

Economics of Technology  
**Total Units: 3.0**  
This course is designed to familiarize the student with microeconomic principles and managerial economics. Where possible, the course utilizes examples from technology environments, and information systems. The focus is on incentives and decision-making by individuals and firms and the aggregation of these decision-making agents into industries and markets. Business decision-making in the face of changing technology will be emphasized. The principles presented will be relevant both for managing a business as well as evaluating sound public policy.

Enterprise Resource Planning (ERP)  
**Total Units: 3.0**  
The skills and knowledge for managing and implementing ERP systems and projects are in high-demand by companies today. Attention to skills and knowledge needed for roles as ERP business analysts, ERP configuration specialists, and consultants will be provided. The course introduces participants to integrated business processes through the application of SAP modules supporting Sales and Distribution (SD), Materials Management (MM), Financial Accounting (FI), Production Planning (PP), and Controlling (CO) as components of the SAP integrated business solution. The course focuses attention towards learning and understanding the primary business functions that all companies utilize and the interrelationships among these modules. During the course, each student will complete exercises to construct a functioning company operating in an integrated SAP environment. The exercises provide a guide through the concepts and creation of applications supporting the business functions of the company.
The Art and Science of Risk Management

Total Units: 3.0
This course focuses on why many project managers miss requirements for schedule, budget or even both. The course concentrates on key Risk Management techniques practiced by leading Project and Program Managers and taught through fact filled lecture, case work and project execution as applied to information systems, engineering, financial, product/process and design projects/programs in today’s fast moving environment. Students will take away key value propositions including Risk Identification, Risk Quantification, Risk Monitoring, Risk Control and Risk Mitigation. This course will enable the student to address common Scope, Schedule, Quality and Cost risk events that occur on complex projects. Project Risk Management examines the types of risk, with a focus on understanding the process of risk identification, assessment, prevention, mitigation, and recovery; governance, auditing, and control of the confidentiality; integrity; and availability of data. Using common operational, strategic, tactical, and technological scenarios, the coursework provides a comprehensive approach to the challenges faced by managers where global data is readily available, risk is pervasive, regulations are ever-increasing, and the threat of disruption from potential crises is real.

Business Ethics in Project Management

Total Units: 3.0
An applied ethics course designed to recognize dilemmas by analyzing realistic and relevant case studies involving managers in various segments of industry. Studies include philosophical foundations of ethical decision making; application of various models to resolve applications and the development of ethical dilemma resolution. Particular emphasis will be placed on developing tools for problem-solving and decision-making. To grasp ideals and principles as they have been spelled out in a variety of traditional ethical systems and to apply these conceptual structures and guidelines to problems and dilemmas of Project Managers. Special emphasis will be placed on tools for problem-solving and decision-making.

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