

# **Master of Engineering in Project Management**

## **Curriculum Outline**

Course Descriptions

### **Required Courses – 19 hours**

#### **Finance for Project Manager PMGT 806 – 3 credit hours**

A study of finance including financial planning and management in technological based organizations. Topics covered include financial statement analysis, present value of financial markets, capital budgeting, taxes, investment decisions, replacement decisions, cash flow budgets and sources of capital.

#### **Personal Development for Project Managers PMGT 809 – 4 credit hours.**

Concepts and skills development in the primary areas of communication methods, ethical behavior, conflict resolution, workforce diversity, and continuous learning, and secondary areas of basic project and project team contexts and related interpersonal relations. Career development is emphasized.

#### **Project Management Fundamentals I PMGT 816 – 3 credit hours**

Managerial concepts and skills development in relation to the project-oriented business environment, project lifecycle, integrated project management, project selection, and project initiation. Focus is on management of a single project.

#### **Project Management Fundamentals II PMGT 817 – 3 credit hours**

Planning concepts and skills development in relation to developing needed information on project scope, time, cost, and risk, and making direct use of such information to develop key documentation such as the project schedule and budget. Examples of specific topics considered include project work content and change, documentation, and resource requirements. Planning content is complementary to that of PM 818.

#### **Project Management Fundamentals III PMGT 818 – 3 credit hours**

Concepts and skills development in relation to planning for management of communications, human resource aspects of project team formation and development, procurement, and quality. Examples of specific topics considered include information handling, reporting, and stakeholder relationships. Planning content is complementary to that of PM 817.

#### **Project Management Fundamentals IV PMGT 819 – 3 credit hours**

Concepts and skills development in relation to project execution, including processes monitoring and controlling, and project closure. Examples of specific topics considered include handling change requests, procurement, teamwork and team development, and cost management. Course content represents systematic treatment of all aspects of project management beyond planning – that is, in project execution and closing phases.

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### **Required Research and Practica**

#### **Case Studies in Project Management PMGT 830 – 2 credit hours.**

Reinforcement and demonstration of developing project management skills through case analysis and discussion. Goal is integration of learning across all core courses, and also drawing on content from general management, applications area, and advanced project management elective courses taken. Emphasis is on integrated project management. The students will document their project in a written report and present their project during the final oral examination to the Project Management faculty (2) and student's employer or representative if practical.

### **Elective Courses – 12 hours**

#### **Management of Intra-organizational Projects PMGT 820 – 3 credit hours**

Application area course exposing students to specialized knowledge, standards, and regulations involved in managing organizations' internal projects. Attention is directed to unique characteristics of internal project environments, major project phases – from selection to closing – and related management processes.

#### **Management of Consulting Projects PMGT 821 – 3 credit hours**

Application area course exposing students to specialized knowledge, standards, and regulations involved in managing consulting projects. Attention is directed to unique characteristics of consulting project environments, major project phases – from selection to closing – and related management processes.

#### **Management of Governmental Projects PMGT 822 – 3 credit hours**

Application area course exposing students to specialized knowledge, standards, and regulations involved in managing projects for governmental entities. Attention is directed to unique characteristics of the governmental project environments, major project phases – from selection to closing – and related management processes.

#### **Risk Management for Project Managers PMGT 823 – 3 credit hours**

Advanced study of risk management theory and practice as applied in managing projects. Basic concepts and methods of risk management are reviewed – such as qualitative and quantitative risk assessment – and details then examined.

#### **Project Cost Estimation, Analysis, and Control PMGT 824 – 3 credit hours**

Advanced study of cost estimation methodology, cost engineering, and cost control applicable in project management. Includes review of commonly used supportive software.

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### **Portfolio Analysis for Project Managers PMGT 825 – 3 credit hours**

Concepts and methods of intra- and inter-project finance including inter-organization funding, project evaluation and selection, project cost accounting, portfolio formulation and modification, and performance tracking. Introduces fundamentals of investment theory and real options analysis.

### **Program Management PMGT 826 – 3 credit hours**

Examination of program definition, structuring, and management in the context of organizational strategy, and the critical resources and skills required in long-term program evolution and execution. Facilitation of efforts across multi-tiered organizations will be stressed.

### **Project Team Management and Development PMGT 827 – 3 credit hours**

Concepts and methods of team and team member development, achieving higher-performance teams while satisfying organizational expectations. Specific topics include management concepts and practices, team dynamics, and interpersonal skills in negotiation and conflict resolution.

### **Management of Global Projects PMGT 828 – 3 credit hours**

Survey of management challenges in conducting international projects, emphasizing cross-culture issues. Differences across world regions and selected key countries in relation to communication and interpersonal norms, business conventions, and legal systems will receive particular attention.

### **Management of Distributed Project Teams PMGT 829 – 3 credit hours**

Concepts and methods of conducting high-performance, multi-site team operations, focusing on intra-team communication, coordination, and control. Incorporates review of practical technologies with emphasis on web-enabled approaches.