



**Course Title:** Project Management with Microsoft Project – Virtual

**Course Length:** 24 hours over 10 weeks, in 2-3 hour segments

**Time Online:** 24 Hours

**Time in Class:** N/A

**Time in Lab:** N/A

**Class Size:** Minimum 6 / Maximum 30

**Price Per Student:** \$1,355.00\*

**Location:** Online

**Course Description:**

Projects are a part of our life. Whether they are at work or at home, an organized approach to project management will enhance the successful completion of the endeavor. In most cases, projects involve bringing a number of individuals together from different functional disciplines for a common goal or purpose. Whether it is the design and development of a new product or service, building a home or organizing a family reunion, using project management tools and techniques allow for a systematic approach to determine the scope of work, the steps/tasks needed to accomplish the project, a logic flow of tasks leading to a schedule that identifies the critical path. Additionally, identifying the key resources like contractors, equipment, facilities, employees with the appropriate skills to participate in the effort. The technical dimensions and tools of project management need to be coupled with an understanding of the behavioral and business implications for a holistic approach to project management. Whether you are a member of the team or a newly minted project manager, having the right tools in your toolbox and understanding the business and people context, will enhance your ability to be a part of a successful effort.

This course is well suited to engineers, managers, technicians, and other staff including those with primary roles in marketing, service, etc.

This course is delivered through Canvas Learning Management System (access through Michigan Tech) and participant is required to have access to Microsoft Project software.

**Lab Projects Description:**

Hands-On Experimental Lab projects are not included in this course, however, it does include many hands-on applications that are conducted within the classroom setting. These are shown in the syllabus below.

**Course Learning Objectives:**

Students who successfully complete this course will have a strong understanding of how to apply project and program management techniques in automotive engineering. Students will be able to apply the project management tools as well as use the behavioral dimensions or “soft skills”

\* Price based on minimum enrollment, subject to change

associated with managing project teams. This holistic and integrative approach leads to successful management of projects and programs. The key learning objectives are to:

- Describe the behavioral, organizational, and technical/structural components of project management for successfully managing a project and team.
- Identify, describe, and apply all stages of the project life cycle to a real-life project.
- Apply the project management concepts, techniques, and tools to facilitate strong decision making for project managers and team members. Tools include Stakeholder Analysis Statement of Work, Project Charter, Work Breakdown Structure, Network Diagram/Critical Path, Resource Management, Budgets, and Risk Management.
- Use Microsoft Project as a framework for completing computer-based assignments associated with the application of scheduling, budgeting, and performance monitoring tools
- Apply the knowledge learned to develop a comprehensive project plan.

#### Course Content / Syllabus:

##### Behavioral and Management Dimensions of Project Management

- Project Management Defined
  - What is project management?
  - Project versus programs
  - Need for project management
  - Project goals – metrics
  - Project environment
  - Where is project management appropriate
  - Project management standards, PMI and PMBOK
- Project Organization
  - Formal organization structure
  - Requirements of project organization
  - Differentiating different forms of organization structures
- Leadership, Teams, Project Roles and Responsibilities
  - Project manager responsibilities
  - Project manager authority and qualifications
  - Roles of project teams and team members
  - Project stakeholder engagement
- Stakeholder Management (Customer Interaction)
  - Stakeholder identification
- Project Selection and Portfolio Management (Strategy)
  - Project portfolio management
  - Methods for assessing individual projects
  - Methods for comparing and selecting projects
- Communication Skills, Negotiation, Conflict Management
  - Project communication plans
  - Methods for communicating
  - Negotiation in context of project management
    - For resources
    - For money/budget
    - Techniques
  - Dealing with difficult people

##### Technical Dimensions and Applications of Project Management

- Project Life Cycle
  - What is it
  - Systems development cycle
  - Project feasibility
  - Project proposal
- Project Definition and Project Charter
  - Project boundaries
  - Statement of work
  - Project charter using PMBOK as a guide
- Work Breakdown Structure
  - Task identification
  - Grouping of tasks
  - Work breakdown structure
  - Work packages
  - Microsoft Project Module 1 – MS Project Basics and WBS & Task Related
- Project Scheduling Tools
  - Network Diagram and Critical Path
    - Task relationships
    - Critical path calculation
    - PERT
    - Variability of activity duration
  - Gantt Chart
    - Translating the network diagram to the Gantt chart
    - Milestones
  - Microsoft Project Module 2 - Network Diagram, Critical Path, and Gantt Chart
- Resource Management including equipment, facilities, vendors, and people
  - RACI
  - Resource breakdown structure
  - Constraint management
  - Leveling resources
  - Microsoft Project Module 3 – Resource Management
  - Microsoft Project Module 4 – Resource Usage and Leveling
- Cost Estimation and Budgeting (Financial Acumen)
  - Cost categories
  - Cost estimates
  - Estimating process
  - Budgets
  - Microsoft Project Module 5 – Project Budget
- Project Execution, Monitoring, and Control
  - Project monitoring and control
  - Performance analysis
  - Earned value management
  - Microsoft Project Module 6 – Project Monitoring and Control
  - Microsoft Project Module 7 – Earned Value Management
- Project Closeout
  - Project evaluation
  - Project management information systems
  - Informal communication
  - Project termination and closeout

- Lessons learned
- Student Assessment (Exam)
- Course Evaluations