

# Project Management - CPS (PJM)

## Courses

### **PJM 1100. Project Management Fundamentals - Project Initiation and Close. (3 Hours)**

Explores topics including project management principles, project phases, project domains, project management process groups, and roles of the project manager. Offers students an opportunity to work specifically with tools, techniques, and processes throughout project initiation and project close. Utilizes case studies and real-world examples to demonstrate the inner workings of a project.

### **PJM 1400. Project Planning. (3 Hours)**

Introduces the tools, techniques, and processes applied in project scope management, estimating, scheduling and resource allocation, and control. Offers students an opportunity to build a detailed work plan and integrate best practices resulting in a resource-balanced, time-sensitive schedule and project plan. Introduces additional topics, including estimating and scheduling tools, applied to student work.

**Prerequisite(s):** PJM 1100 with a minimum grade of D-

### **PJM 1990. Elective. (1-4 Hours)**

Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

### **PJM 2000. Project Monitoring and Control. (3 Hours)**

Explores the role of the project manager during project execution and the tools, techniques, and processes used to monitor and control the project. Offers students an opportunity to utilize project baselines to monitor progress, resolve issues, and manage changes. Applies analytics and earned value to determine the health of the project and identify and implement actions to continue, revise, or terminate the project. Addresses additional topics, including performance reporting and dashboards, to highlight best practices in providing project information to key stakeholders.

**Prerequisite(s):** PJM 1100 with a minimum grade of D- ; PJM 1400 with a minimum grade of D-

### **PJM 2100. Quality and Risk. (3 Hours)**

Covers management planning, risk identification, risk analysis, risk response planning and implementation, and risk monitoring. Offers students an opportunity to work with quality management planning, quality assurance, and quality control tools and techniques to ensure the project solution meets the quality standards it is designed to achieve. The key to project success is to be prepared to address risk as well as ensure that the project solution is fit for use.

**Prerequisite(s):** PJM 1100 with a minimum grade of D- ; PJM 1400 with a minimum grade of D-

### **PJM 2200. Project Procurement and Contract Management. (3 Hours)**

Offers an in-depth analysis of project procurement including resource identification (human, material, equipment); resource managing; control; and closing of procurement activities. Also covers key topics including how to work with different contract types and legal aspects of project management.

**Prerequisite(s):** PJM 1100 with a minimum grade of D- ; PJM 1400 with a minimum grade of D-

### **PJM 3000. Leading Agile Projects. (3 Hours)**

Offers an overview of agile project methodologies. Introduces agile approaches, compares and contrasts these approaches to traditional project management, and considers how to tailor the two approaches to determine a project's best approach. Additionally, reviews agile-specific practices from an application perspective and investigates agile project management tools.

**Prerequisite(s):** (PJM 1100 with a minimum grade of D- ; PJM 1400 with a minimum grade of D- ) or ITC 4500 with a minimum grade of D-

### **PJM 3100. Principles of Business Analysis Management. (3 Hours)**

Offers a framework of business analysis and requirements management. Topics include the role of the business analyst in the current organizational environment, understanding the business need, working with key stakeholders to identify the benefits of the project, and strategies to lead the organizational change necessary to harvest that value. Offers students an opportunity to utilize case studies to focus on process improvement and writing requirements.

**Prerequisite(s):** PJM 1100 with a minimum grade of D-

### **PJM 4000. Program and Project Portfolio Management. (3 Hours)**

Offers an overview of program and project portfolio management. Explores the role of project, program, and project portfolio management in supporting realization of an organization's strategy. Projects may be subsets of a program—reviews the role of the program manager and tools, techniques, and processes used to plan and manage a program. Projects and programs are subsets of a portfolio—discusses how the portfolio is selected and managed. Reviews case studies, current articles, and readings to reinforce student learning.

**Prerequisite(s):** PJM 1100 with a minimum grade of D-

**PJM 4850. Capstone. (3 Hours)**

Offers students an opportunity to utilize all the project management tools, techniques, and skills they have acquired. Students explore the integration of the curriculum throughout the entire project life cycle, applying applicable integration concepts to achieve desired project outcomes. Reviews case studies, current articles, and readings to reinforce learning. This is the final course in the project management BS program.

**Prerequisite(s):** PJM 1100 with a minimum grade of D- ; PJM 1400 with a minimum grade of D- ; PJM 2000 with a minimum grade of D- ; PJM 2100 with a minimum grade of D- ; PJM 2200 with a minimum grade of D- ; PJM 3000 with a minimum grade of D- ; PJM 3100 with a minimum grade of D- ; PJM 4000 with a minimum grade of D-

**Attribute(s):** NUPATH Capstone Experience, NUPATH Writing Intensive

**PJM 5000. Project Management Practices. (2.25 Hours)**

Provides an overview of the project management process. Emphasizes project definition, identification of project scope, project life cycle, and project planning. Uses case studies to examine best practices and common project management pitfalls.

**PJM 5001. Foundations of Project Management. (3 Hours)**

Offers students an opportunity to learn foundational knowledge and concepts in project management. Analyzes various project management methodologies while presenting a structured approach to understanding key principles, models, and methods required to manage various project types through a complete project life cycle. Introduces project management software and emphasizes distinctions between project, program, and portfolio management. Strongly recommended for students with little or no formal project management experience.

**PJM 5005. Project Scope Management. (2.25 Hours)**

Offers insight into how projects are defined, evaluated, and ultimately translated into manageable project requirements and concrete deliverables. By learning how to identify stakeholder needs and convert those needs into viable, measurable project scope documentation, a project manager can successfully manage not only a project's scope but also make informed recommendations when trade-offs between project scope, cost, and schedule become necessary.

**PJM 5015. Project Risk Management. (2.25 Hours)**

Examines quantitative techniques for risk assessment and decision making, as well as the steps and elements of a risk management plan, including the ongoing monitoring of risk factors. The accurate identification of risks, and understanding of how to account for the potential impact of risks, can greatly impact the likelihood of project success.

**PJM 5025. Project Scheduling and Cost Planning. (2.25 Hours)**

Builds on the project schedule to explore cost estimation methods, break-even analysis, and earned value management. Studies effective tools and techniques that can allow project managers to translate specifications to realistic project plans that lead to a resource-loaded schedule and baseline budget. These tools and techniques can be used to minimize bottlenecks and downtime, identify and plan for resource needs, develop contingencies, and manage risk and scope creep. Topics include schedule development, cost estimating, and cost and schedule management through earned value management. A well-thought-out and well-managed schedule is critical to successful project management and is integral to the efficient management of project costs. Offers students an opportunity to learn to manage the project budget, revise cost estimates, and develop confidence levels.

**PJM 5135. Project Quality Management. (2.25 Hours)**

Designed to provide detailed instruction in Project Quality Management (PQM) processes, one of the ten knowledge areas outlined in the Project Management Institute's Project Management Body of Knowledge. Discusses how to integrate PQM processes into the overall project plan and how to prepare a PQM plan. Encourages students to work together in a team environment to complete a PQM plan for a project.

**PJM 5205. Leading and Managing Technical Projects. (2.25 Hours)**

Offers students an opportunity to learn about leadership and management skills and strategies needed to succeed in a demanding technical project environment. Many project managers understand the technical aspects of a particular project environment but lack these critical management and leadership skills. Topics covered include understanding the technical environment, managing and motivating team members, understanding organizational culture, interpersonal strategies, and developing a personal leadership approach.

**PJM 5210. Communication Skills for Project Managers. (2.25 Hours)**

Offers students an opportunity to learn strategies for communicating technical concepts in a clear, concise, and appropriate manner for both written and oral communication media. In all project environments, communication is critical for project success. The ability to craft project reports and to communicate with customers, clients, team members, and company executives is critical for anyone leading technical projects. Often, the project manager needs to communicate technical data to a nontechnical audience. Explores various communication models and approaches with a focus on applying those models in a real-world context.

**PJM 5215. Leading Remote Project Teams. (2.25 Hours)**

Offers students an opportunity to learn strategies for creating a cohesive, high-performing project team in a remote project environment. The challenges of leading a remote project team are apparent to anyone who has attempted it. The technological challenges are complicated by the reality that most teams have participants located around the world. Therefore, we face not only the standard fare of interpersonal challenges but also cultural challenges as well.

**Prerequisite(s):** PJM 5001 with a minimum grade of D-

**PJM 5810. Principles of Agile Project Management. (2.25 Hours)**

Provides an overview of the fundamentals of agile project management. Topics include agile vs. traditional approaches, the agile manifesto, and the development of agile as a value-added business practice. Introduces key agile project management practices, including communication management planning and risk-management planning. Reviews agile-specific practices and method tailoring from an application perspective. Investigates agile project management tools.

**PJM 5900. Foundations of Project Management. (4 Hours)**

Offers students an opportunity to learn foundational knowledge and concepts in project management. Analyzes various project management methodologies while presenting a structured approach to understanding key principles, models, and methods required to manage various project types through a complete project life cycle. Introduces project management software and emphasizes distinctions between project, program, and portfolio management. Strongly recommended for students with little or no formal project management experience.

**PJM 6000. Project Management Practices. (3 Hours)**

Provides an overview of the project management process. Emphasizes project definition, identification of project scope, project life cycle, and project planning. Uses case studies to examine best practices and common project management pitfalls.

**Prerequisite(s):** PJM 5900 with a minimum grade of C-

**PJM 6005. Project Scope Management. (3 Hours)**

Offers insight into how projects are defined, evaluated, and ultimately translated into manageable project requirements and concrete deliverables. By learning how to identify stakeholder needs and convert those needs into viable, measurable project scope documentation, a project manager can successfully manage not only a project's scope but also make informed recommendations when trade-offs between project scope, cost, and schedule become necessary.

**Prerequisite(s):** PJM 5900 with a minimum grade of C-

**PJM 6015. Project Risk Management. (3 Hours)**

Examines quantitative techniques for risk assessment and decision making, as well as the steps and elements of a risk management plan, including the ongoing monitoring of risk factors. The accurate identification of risks, and understanding of how to account for the potential impact of risks, can greatly impact the likelihood of project success.

**Prerequisite(s):** PJM 5900 with a minimum grade of C-

**PJM 6025. Project Scheduling and Cost Planning. (3 Hours)**

Builds on the project schedule to explore cost estimation methods, break-even analysis, and earned value management. Studies effective tools and techniques that can allow project managers to translate specifications to realistic project plans that lead to a resource-loaded schedule and baseline budget. These tools and techniques can be used to minimize bottlenecks and downtime, identify and plan for resource needs, develop contingencies, and manage risk and scope creep. Topics include schedule development, cost estimating, and cost and schedule management through earned value management. A well-thought-out and well-managed schedule is critical to successful project management and is integral to the efficient management of project costs. Offers students an opportunity to learn to manage the project budget, revise cost estimates, and develop confidence levels.

**Prerequisite(s):** PJM 5900 with a minimum grade of C- ; PJM 6005 with a minimum grade of C-

**PJM 6075. Project Finance. (3 Hours)**

Explores real-world cases of project finance across industry sectors (e.g., energy, resource recovery, and mining) to examine how organizations structure their capital to mitigate various project risks and to secure scarce resources in the business environment. Topics include capital structure, discounted cash flow, financial instruments, capital budgeting, cost of capital, risk and return, project agreements, project cost accumulation, project cost allocation, and project investment ranking. Offers students an opportunity to develop a profound understanding of the principles of project finance.

**Prerequisite(s):** PJM 6025 with a minimum grade of C-

**PJM 6125. Project Evaluation and Assessment. (3 Hours)**

Offers students an opportunity to learn to develop metrics for determining and reporting project performance. Examines both quantitative and qualitative approaches of evaluation, with an emphasis on earned value management. Examines stakeholder analysis and techniques for reporting performance results.

**Prerequisite(s):** PJM 5900 with a minimum grade of C-

**PJM 6135. Project Quality Management. (3 Hours)**

Introduces project quality management principles, processes, models, and methods necessary to deliver quality projects and products within organizations. Discusses how to integrate PQM processes into the overall project plan and how to prepare a PQM plan. Offers students an opportunity to work together in a team environment to complete a PQM plan for a project.

**Prerequisite(s):** PJM 5900 with a minimum grade of C-

**PJM 6140. Managing Troubled Projects. (3 Hours)**

Examines how to prevent failed and troubled projects, how to perform a project assessment/audit, how to develop a troubled project recovery plan, and how to develop a failed project shutdown plan. Includes team presentations of case study assignments to gain experience in managing and avoiding failed and troubled projects, one of the most significant assignments for a project manager.

**Prerequisite(s):** PJM 6005 with a minimum grade of C- ; PJM 6015 with a minimum grade of C- ; PJM 6025 with a minimum grade of C- ; PJM 6135 with a minimum grade of C-

**PJM 6145. Global Project Management. (3 Hours)**

Expands the detailed treatment of project management into the global areas of environmental factors, national differences, cultural differences, outsourcing, and virtual project management. The state of the art in project management has advanced to heavy use of global project management. Addresses the Project Management Institute's Project Management Body of Knowledge practices as applied in the organization and the future of project management.

**Prerequisite(s):** PJM 5900 with a minimum grade of C-

**PJM 6175. Project Resource Management. (3 Hours)**

Offers an overview of procurement management and human resource management and studies how these two knowledge areas are key to a project's success. Describes the processes necessary to effectively purchase or acquire products, services, or results for a given project through the lens of the project manager and procurement office. Examines how to effectively acquire, develop, and manage human resources in various organizational settings.

**PJM 6180. Project Stakeholder Management. (3 Hours)**

Offers students an opportunity to learn the mechanisms necessary to effectively identify all stakeholders, including the people, groups, or organizations that are impacted or may have an impact on the project. Examines how to analyze stakeholder expectations and how to develop management strategies for effective stakeholder engagement throughout the project.

**PJM 6185. Managing Innovation Projects. (3 Hours)**

Examines theories and practices in managing innovation projects, while emphasizing the project manager's role in product development, value proposition design, innovation experimentation, and business modeling. Offers students an opportunity to explore agile concepts in rapid prototyping and to develop skills in assessing innovations for feasibility, viability, desirability, and sustainability. Explores common impediments to innovation faced by project leaders.

**PJM 6190. Emerging Research in Project Management. (3 Hours)**

Introduces concepts related to research and analysis that are integral to scholarly learning. Also introduces research methods, along with their applications, benefits, challenges, and limitations in the context of conducting meaningful inquiry and research in project management. Offers students an opportunity to explore research design, data collection, and statistical and interpretive analysis by completing a research project under faculty supervision in which they examine a relevant problem of practice in project management, conduct a literature review, analyze data, and present their findings.

**Prerequisite(s):** PJM 5900 with a minimum grade of C-

**PJM 6205. Leading and Managing Technical Projects. (3 Hours)**

Offers students an opportunity to learn about leadership and management skills and strategies needed to succeed in a demanding technical project environment. Many project managers understand the technical aspects of a particular project environment but lack these critical management and leadership skills. Topics covered include understanding the technical environment, managing and motivating team members, understanding organizational culture, interpersonal strategies, and developing a personal leadership approach.

**PJM 6210. Communication Skills for Project Managers. (3 Hours)**

Offers students an opportunity to learn strategies for communicating technical concepts in a clear, concise, and appropriate manner for both written and oral communication media. In all project environments, communication is critical for project success. The ability to craft project reports and to communicate with customers, clients, team members, and company executives is critical for anyone leading technical projects. Often, the project manager needs to communicate technical data to a nontechnical audience. Explores various communication models and approaches with a focus on applying those models in a real-world context.

**PJM 6215. Leading Remote Project Teams. (3 Hours)**

Offers students an opportunity to learn strategies for creating a cohesive, high-performing project team in a remote project environment. The challenges of leading a remote project team are apparent to anyone who has attempted it. The technological challenges are complicated by the reality that most teams have participants located around the world. Therefore, we face not only the standard fare of interpersonal challenges but also cultural challenges as well.

**PJM 6610. Foundations of Project Business Analysis. (3 Hours)**

Offers a framework of business analysis. Topics include the role of the business analyst in the current organizational environment, understanding the business need, working with key stakeholders to identify the benefits of the project, and strategies to lead the organizational change necessary to harvest value.

**Prerequisite(s):** PJM 5900 with a minimum grade of C-

**PJM 6620. Strategy Analysis and Needs Assessment. (3 Hours)**

Focuses on investigating needs and defining change strategy through quantitative and qualitative data collection and analysis techniques. Examines the design of data collection instruments and varied elicitation techniques. Applies theories and practices in strategy analysis using design thinking, agile analysis, behavior change design, and business architecture. Uses practical case studies to apply strategy analysis and needs assessments within a project, program, product, and organizational context.

**Prerequisite(s):** PJM 6610 with a minimum grade of C or PJM 6710 with a minimum grade of C

**PJM 6630. Requirements Analysis and Design. (3 Hours)**

Introduces techniques in requirements analysis, management, and design definition. Applies practices in the elicitation, analysis, and documentation of functional, nonfunctional, transitory, business, and stakeholder requirements. Applies tools and techniques in specifying, modeling, and prioritizing requirements. Evaluates strategies for determining design options and recommending solutions.

**Prerequisite(s):** PJM 6610 with a minimum grade of C or PJM 6825 with a minimum grade of C

**PJM 6640. Leadership Strategies for the Business Analyst. (3 Hours)**

Introduces the techniques applied by the business analyst to work with stakeholders in the requirements process. Emphasizes the processes of facilitation, communication, problem solving, consensus building, and negotiation. A central part of the course requires students to participate in and evaluate facilitated simulations.

**Prerequisite(s):** PJM 6610 with a minimum grade of C

**PJM 6710. Introduction to Program and Portfolio Management. (3 Hours)**

Examines project, program, and portfolio management with a primary focus on the similarities and distinctions between program management and portfolio management. Offers students an opportunity to develop and evidence a foundational understanding of program and portfolio management and the critical role these play within today's global environment.

**Prerequisite(s):** PJM 6005 with a minimum grade of C- ; PJM 6015 with a minimum grade of C- ; PJM 6025 with a minimum grade of C-

**PJM 6715. Advanced Program Management. (3 Hours)**

Offers students an opportunity to develop a deep understanding of program management and the program management life cycle. Covers best practices for developing and managing a program that is consistently aligned with the strategic direction of the organization, ensuring that stated benefits are realized. Uses case studies and real-world examples throughout to engage students in an experiential and applied manner.

**Prerequisite(s):** PJM 6710 with a minimum grade of C

**PJM 6720. Advanced Portfolio Management. (3 Hours)**

Offers students an opportunity to develop a mature understanding of portfolio management topics, techniques, and tools. Emphasizes learning to identify, prioritize, and oversee a portfolio of programs and projects that deliver value aligned with the strategic direction of the organization. Applied exercises and case studies used throughout the course are designed to ensure students are able to understand how to apply these competencies in a workplace-ready manner.

**Prerequisite(s):** PJM 6710 with a minimum grade of C

**PJM 6725. Program and Portfolio Leadership. (3 Hours)**

Discusses the leadership challenges and opportunities present to those who work in program and portfolio management roles, including engaging stakeholders effectively, communicating with senior-level executives, and managing the competing priorities associated with creating successful programs and a balanced and benefits-oriented portfolio. The ability to meet the leadership challenges inherent to program and portfolio management is essential for success in managing the dynamics of project management programs and portfolios.

**Prerequisite(s):** PJM 6710 (may be taken concurrently) with a minimum grade of C

**PJM 6730. Program and Portfolio Evaluation. (3 Hours)**

Offers students an opportunity to learn the skills and tools they need to evaluate and measure performance at the program and portfolio level with attention given to identifying and measuring benefits and their continued value to accomplishing the strategic goals of the organization. A key benefit of effective and impactful program and portfolio management is the ability to develop and utilize meaningful qualitative and quantitative metrics at the project, program, and portfolio level.

**Prerequisite(s):** PJM 6715 with a minimum grade of C ; PJM 6720 with a minimum grade of C

**PJM 6735. Program and Portfolio Management Capstone. (3 Hours)**

Offers students an opportunity to complete a capstone project that illustrates their mastery of competencies taught throughout the program. Capstone projects should evidence a student's ability to apply their learning in an experiential manner to solve a real-world challenge faced by program and portfolio managers.

**Prerequisite(s):** PJM 6710 with a minimum grade of C- ; PJM 6715 with a minimum grade of C- ; PJM 6720 with a minimum grade of C- ; PJM 6725 with a minimum grade of C- ; PJM 6730 with a minimum grade of C-

**PJM 6740. Managing Program and Portfolio Risk and Complexity. (3 Hours)**

Examines program and portfolio management with a primary focus on the development of risk-management plans and risk-response plans at the program and portfolio levels. Explores techniques to recognize and address complexity factors as well as developed enterprise-level risk-management challenges and opportunities.

**Prerequisite(s):** PJM 6715 with a minimum grade of C- ; PJM 6720 with a minimum grade of C-

**PJM 6810. Principles of Agile Project Management. (3 Hours)**

Provides an overview of the fundamentals of agile project management. Topics include agile vs. traditional approaches, the agile manifesto, and the development of agile as a value-added business practice. Introduces key agile project management practices, including communication management planning and risk-management planning. Reviews agile-specific practices and method tailoring from an application perspective. Investigates agile project management tools.

**PJM 6815. Advanced Agile Project Management. (3 Hours)**

Constitutes an advanced offering focusing on specific approaches to executing projects in an agile environment. Seeks to provide the student with a firm grounding and an applied, experiential understanding of specific agile approaches. Offers students an opportunity to engage in real-world-oriented case studies to evidence a strong understanding of the methodologies in a practical, experiential manner by planning and simulating an agile project using a methodology taught in the course.

**Prerequisite(s):** PJM 6810 with a minimum grade of C-

**PJM 6820. Agile Implementation and Governance. (3 Hours)**

Explores the implementation of agile within an organization and the governance structure to support agile projects. Studies the use of change management techniques to address stakeholder needs as the organization moves from a traditional to agile or blended approach to projects. Reviews and applies advanced topics in program/ portfolio management in agile environments. Offers students an opportunity to develop an implementation strategy and governance plan.

**Prerequisite(s):** PJM 6810 with a minimum grade of C-

**PJM 6825. Agile Lean Product Development. (3 Hours)**

Offers a practical overview of modern lean/agile product exposure based on contemporary industry practice. To win in today's competitive market requires giving your business the ability to deliver highly profitable products faster than the competition. Covers the complete life cycle of product management, from identifying customers and users through to sales, marketing, and managing teams. Covers how to minimize investment and output while maximizing the information discovered in order to support effective decision making.

**Prerequisite(s):** PJM 6810 (may be taken concurrently) with a minimum grade of C

**PJM 6910. Capstone. (3 Hours)**

Offers students an opportunity to utilize project management methodologies, principles, and tools acquired in the master's program to develop plans that address stakeholder needs across the project life cycle.

**Prerequisite(s):** PJM 5900 with a minimum grade of C- ; PJM 6005 with a minimum grade of C- ; PJM 6015 with a minimum grade of C- ; PJM 6025 with a minimum grade of C- ; PJM 6135 with a minimum grade of C-

**PJM 6962. Elective. (1-4 Hours)**

Offers elective credit for courses taken at other academic institutions. May be repeated without limit.

**PJM 6983. Topics. (1-4 Hours)**

Covers special topics in project management. May be repeated without limit.

**PJM 6995. Project. (1-4 Hours)**

Focuses on in-depth project in which a student conducts research or produces a product related to the student's major field. May be repeated up to five times.