



# Civil, Environmental and Architectural Engineering

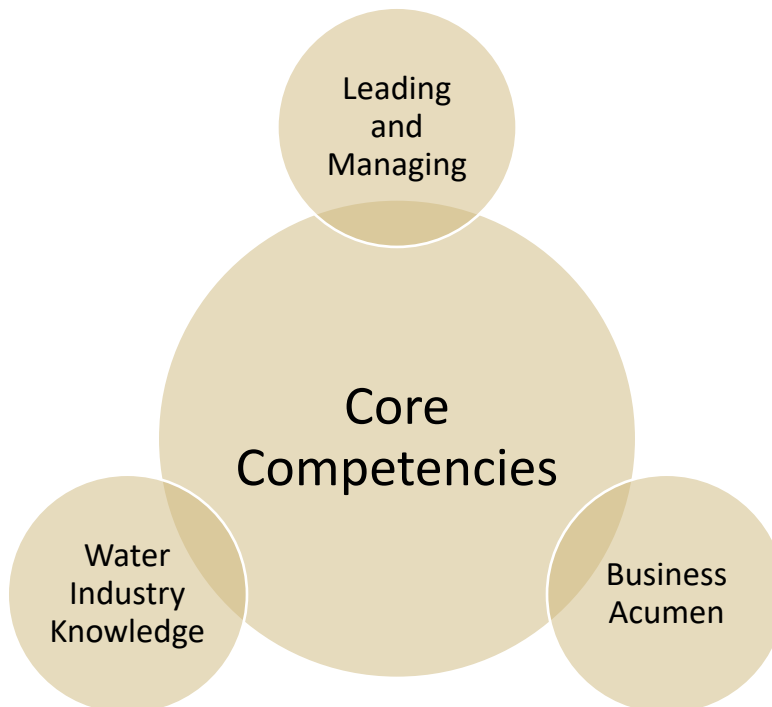
UNIVERSITY OF COLORADO **BOULDER**

## Water Engineering and Management Competency Model

The Water Engineering and Management (WE&M) Professional Master's Program (PMP) prides itself on delivering a “real-world” curriculum that students can immediately apply to their current water industry jobs. To correlate this learning to company expectations, WE&M has developed a competency model for the program. While the WE&M program is designed to provide graduates with the foundation to grow their careers to senior management roles, the expectation for a new WE&M graduate would equate more with a Manager role. This model is designed to integrate the competency expectations of a new WE&M graduate into corporate career development or succession planning processes for Senior Manager levels.

The model represents competencies that are developed in the WE&M program either explicitly (through formal instruction and evaluation) or implicitly (through team projects, peer interaction, WE&M events). It is not an absolute guarantee by the WE&M program that every graduate has equal mastery of every listed competency. The level of proficiency with each competency will vary for each student and not all competencies are formally evaluated during the program. The model reflects the best estimate of the faculty, lecturers, and advisory council of the competencies expected of WE&M graduates based on the opportunities for learning and mastery presented to them during the course of the program.

The WE&M Competency Model comprises four areas: Core Competencies, Business Acumen, Leading and Managing, and Water Industry Knowledge. Within each of these areas are several competencies that details expectations of WE&M graduates.



# Core Competencies

## Emotional Intelligence

Definition	Ability to monitor one's own and other's emotions, discriminate between different emotions, and use emotional information to guide thinking and behavior.
Behavioral Indicators	<ul style="list-style-type: none"><li>• Can identify one's own emotions and perceive the impact he/she has on others.</li><li>• Expresses a range of feelings appropriately.</li><li>• Effectively copes with those emotions that are perceived to be "negative" and thus maintains their equilibrium.</li><li>• Alert to what others are experiencing emotionally.</li><li>• Builds strong relationships, teams, and support networks because they are able to show compassion and empathy towards others.</li></ul>

## Time Management

Definition	Ability to decipher important versus urgent tasks and organize time effectively, utilizing self-management habits that lead to increased productivity.
Behavioral Indicators	<ul style="list-style-type: none"><li>• Effectively manages one's time and resources to ensure that work is completed efficiently.</li><li>• Prioritizes and identifies more critical and less critical activities and tasks; adjusts priorities as appropriate.</li><li>• Ensures that high-priority work is accomplished within required timelines.</li><li>• Schedules by effectively allocating time to complete work; coordinates own and others' schedules to avoid conflicts.</li><li>• Leverages available resources (individuals, processes, departments, and tools) to complete work efficiently.</li><li>• Stays focused by using time effectively and prevents irrelevant issues or distractions from interfering with work completion.</li><li>• Knows and relies on the "experts" in various departments who can address and solve special problems.</li></ul>

## Problem-Solving

Definition	Uses a logical and systematic approach to defining problems and developing solutions that address both symptoms and root causes.
Behavioral Indicators	<ul style="list-style-type: none"><li>• Gathers facts, ideas, and opinions needed for analyzing situations, solving problems, or making decisions.</li><li>• Can easily explain the thought process and criteria by which a decision is reached.</li><li>• Makes good decisions based on a mixture of information, analysis, wisdom, experience, and judgement.</li><li>• Collaborates with others in problem-solving efforts when appropriate</li></ul>

## Decision-Making

Definition	Generates and evaluates alternatives before making a decision or taking action, considering the risks associated with each option, and balancing risk and reward.
Behavioral Indicators	<ul style="list-style-type: none"><li>• Anticipates consequences of decisions.</li><li>• Involves people appropriately in decisions that may impact them.</li><li>• Makes decisions even when faced with missing/unclear information.</li><li>• Quickly responds with a back-up plan if a decision goes amiss.</li><li>• Proactively identifies and prioritizes the key issues involved to facilitate the decision-making process for his or her team or group.</li></ul>

## Facilitation

Definition	Plans, guides, and manages a group event to ensure that the group's objectives are met effectively, with clear thinking, good participation, and full buy-in from everyone involved.
Behavioral Indicators	<ul style="list-style-type: none"><li>• Creates collaborative relationships.</li><li>• Plans appropriate group processes.</li><li>• Creates and sustains a participatory environment.</li><li>• Guides groups to appropriate and useful outcomes, even if they aren't the leader.</li><li>• Ensures that outcomes, actions, and questions are properly recorded and actions, and appropriately dealt with afterwards.</li></ul>

# Business Acumen

## Financial Management

Definition	Understands and effectively applies general business principles to achieve desired results.
Behavioral Indicators	<ul style="list-style-type: none"><li>• Can explain the relationship of revenue, cost, margin, and working capital and keeps the bottom line in mind when making decisions.</li><li>• Can accurately read and apply basic financial statements (P&amp;L/Income Statement, Balance Sheet)</li><li>• Can estimate budgets for projects, resources, and maintenance activities</li><li>• Effectively applies financial performance metrics specific to his/her role and business results.</li></ul>

## Project Management

Definition	Discipline of planning, organizing, and managing resources to bring about the successful completion of a specific project.
Behavioral Indicators	<ul style="list-style-type: none"><li>• Initiates, plans, executes, controls, and closes projects effectively.</li><li>• Identifies key activities, dependencies and milestones in a project.</li><li>• Develops critical paths.</li><li>• Monitors and reviews impact of performance or changes.</li><li>• Schedules resources and assigns tasks to meet project objectives.</li><li>• Manages projects costs and deliverables.</li><li>• Reports on results and lessons learned.</li></ul>

## Rate Setting

Definition	Discipline of calculating cost of service, financial planning, setting pricing objectives, and designing rates.
Behavioral Indicators	<ul style="list-style-type: none"><li>• Aware of impact of capital improvement financing on customers fees.</li><li>• Ensures annual revenues meet revenue requirements for planning.</li><li>• Projects customer usage based on data.</li><li>• Addresses affordability concerns and willingness to discover solutions to address them.</li></ul>

# Leading and Managing

## Self Leadership

Definition	Practice of intentionally influencing one's thinking, feeling, and actions toward person/professional objectives.
Behavioral Indicators	<ul style="list-style-type: none"><li>• Behaves in an honest, fair, and ethical manner, consistently.</li><li>• Demonstrates self-discipline to be able to focus on one thing at a time.</li><li>• Aware of their skills, strengths, limitations, and characteristics to pursue self-development.</li><li>• Deals effectively with pressure and takes personal responsibility for outcomes.</li><li>• Does not need much leadership, but just a little guidance or advice periodically.</li><li>• Takes feedback, accepts it, and adjusts accordingly to advance.</li></ul>

## Organizational Leadership

Definition	Builds teams and leads effectively within organization.
Behavioral Indicators	<ul style="list-style-type: none"><li>• Fosters an understanding of the mission and value to business objectives.</li><li>• Encourages the participation and involvement of everyone in organization.</li><li>• Fosters a cooperative team style and creates a feeling of belonging.</li><li>• Balances people and mission to achieve results.</li></ul>

## Strategic Thinking

Definition	Ability to understand, develop, and communicate a broad, big-picture view.
Behavioral Indicators	<ul style="list-style-type: none"><li>• Identifies new information or data to key decision-makers or stakeholder to support their understanding and decisions.</li><li>• Demonstrates awareness of the impact of own work on aspects of organizational strategy, and the impact of organizational strategy on own work.</li><li>• Maintains a broad, strategic perspective while identifying and focusing on crucial details.</li><li>• Understands the position of the organization in the larger world context.</li><li>• Considers the bigger picture while setting priorities and the way forward.</li></ul>

## Communication

Definition	Provides consistent, timely, relevant communication using the most appropriate medium for the audience and the message.
Behavioral Indicators	<ul style="list-style-type: none"><li>• Effectively selects appropriate content and medium (oral, written, presentation, etc.) and delivers clear information to the target audience.</li><li>• Accurately receives information through research, questioning, and active listening.</li><li>• Effectively analyzes and synthesizes information, makes complex material understandable to the target audience.</li><li>• Uses modern communication media and technology appropriately and effectively.</li><li>• Listens attentively to others' opinions and ideas.</li></ul>

# Water Industry Knowledge

## Ethics and Governance

Definition	Well-reasoned understanding of the moral values and obligations that correspond to the water profession.
Behavioral Indicators	<ul style="list-style-type: none"><li>• Explains the water cycle and understands the impact to humans and by humans.</li><li>• Cares to be a steward of the environment.</li><li>• Desires to safeguard and promote the interests of the present and future generations in solving water problems.</li><li>• Takes seriously their role and responsibility in the water profession.</li></ul>

## Networking

Definition	Develops contacts with people who are a source of information and support and maintains those contacts through periodic connections.
Behavioral Indicators	<ul style="list-style-type: none"><li>• Relays relevant experiences and passes on knowledge unselfishly.</li><li>• Maintains contacts with people in other areas of the company or in different organization who can be useful sources of information.</li><li>• Does favors to maintain good working relationships with people whose cooperation and support are important.</li><li>• Attends meetings and social events to continually solidify and grow his or her network.</li><li>• Uses network to solve problems efficiently and effectively.</li><li>• Actively designs network in anticipation of future needs or plans.</li></ul>