

**Maintenance Management Professional Certificate**  
**Designed by Plant Engineering and Maintenance Association of Canada (PEMAC)**  
**Program Length: 225 hours – Total 8 modules**

A maintenance professional manages the physical assets of a building and recommends future purchases. Organizations rely on you to improve uptime, production capacity, and equipment reliability, in a safe, environmentally compliant way. Your knowledge of the economic life of assets, return on investment, and effective communication between departments makes you vital to your team.

**Delivery Modes: Face to Face Delivery** - Courses are taught face to face on the Bow Valley College campus. **Blended Delivery** - Most sessions will be taught live online (asynchronous) using adobe connect and one session will be taught face to face on campus.

**Schedule and Course Information**

WINTER & SPRING 2019				
<b>Module 1 (15 hours)</b>	<b>Module 2 (30 hours)</b>	<b>Module 3 (30 hours)</b>	<b>Module 6 (30 hours)</b>	<b>Module 4 (30 hours)</b>
<b>MMPR9101: An Integrated Strategy for Maintenance Management</b>	<b>MMPR9102: Production and Operations Management for the Maintenance Management</b>	<b>MMPR9103: Human Resource Management for the Maintenance Manager</b>	<b>MMPR9106: Maintenance Work Management</b>	<b>MMPR9104: Financial Management for the Maintenance Manager</b>
<b>Duration: 2 days</b> <b>Day 1:</b> Friday, January 11 <b>Day 2:</b> Saturday, January 12	<b>Duration: 4 days</b> <b>Day 1:</b> Friday, January 25 <b>Day 2:</b> Saturday, January 26 <b>Day 3:</b> Friday, February 8 <b>Day 4:</b> Saturday, February 9	<b>Duration: 4 days</b> <b>Day 1:</b> Friday, March 1 <b>Day 2:</b> Saturday, March 2 <b>Day 3:</b> Friday, March 22 <b>Day 4:</b> Saturday, March 23	<b>Duration: 10 days</b> <b>Start:</b> Tuesday, March 5 <b>End:</b> Thursday, April 4 <b>Day in Class:</b> Tuesday, April 2 (6pm – 9pm) mandatory	<b>Duration: 4 days</b> <b>Day 1:</b> Friday, April 12 <b>Day 2:</b> Saturday, April 13 <b>Day 3:</b> Friday, May 3 <b>Day 4:</b> Saturday, May 4
<b>Time:</b> 8:00AM to 5:00PM	<b>Time:</b> 8:00AM to 5:00PM	<b>Time:</b> 8:00AM to 5:00PM	<b>Days:</b> Tuesday & Thursday <b>Time:</b> 6:00PM to 9:00PM	<b>Time:</b> 8:00AM to 5:00PM
\$395 plus GST On campus	\$795 plus GST On campus	\$795 plus GST On campus	\$795 plus GST Blended (in class and online)	\$795 plus GST On campus

*\* Dates and times are subject to change*

SPRING & SUMMER 2019				
<b>Module 7 (30 hours)</b>	<b>Module 1 (15 hours)</b>	<b>Module 5 (30 hours)</b>	<b>Module 8 (30 hours)</b>	
<b>MMPR9107: Computerized Maintenance Management Systems</b>	<b>MMPR9101: An Integrated Strategy for Maintenance Management</b>	<b>MMPR9105: Developing and Implementing Maintenance Tactics</b>	<b>MMPR9108: Capstone Project</b>	
<b>Duration: 10 days</b> <b>Start:</b> Tuesday, April 23 <b>End:</b> Thursday, May 23 <b>Day in Class:</b> Tuesday, May 21 (6pm – 9pm) mandatory	<b>Duration: 5 days</b> <b>Start:</b> Thursday, May 30 <b>End:</b> Thursday, June 13 <b>Day in Class:</b> Tuesday, June 11 (6pm – 9pm) mandatory	<b>Duration: 4 days</b> <b>Day 1:</b> Friday, May 24 <b>Day 2:</b> Saturday, May 25 <b>Day 3:</b> Friday, June 14 <b>Day 4:</b> Saturday, June 15	<b>Duration: 2 days (on campus)</b> <b>Day 1:</b> Friday, June 21 <b>Day 2:</b> Friday, August 23	
<b>Days:</b> Tuesday & Thursday <b>Time:</b> 6:00AM to 9:00PM	<b>Days:</b> Tuesday & Thursday <b>Time:</b> 6:00AM to 9:00PM	<b>Time:</b> 8:00AM to 5:00PM	<b>Time:</b> 8:00AM to 5:00PM	
\$795 plus GST Blended (in class and online)	\$395 plus GST Blended (in class and online)	\$795 plus GST On campus	\$795 plus GST On campus	

### Maintenance Management Professional Certificate – Course Descriptions

<b>MODULE 1 – (15 Hours)</b>	<b>MODULE 2 – (30 Hours)</b>	<b>Module 3– (30 Hours)</b>	<b>Module 4– (30 Hours)</b>
<p><b>MMPR9101: An Integrated Strategy for Maintenance Management</b></p> <p>Based on the course text, Uptime, Module 1 develops the framework for thinking about a strategic approach to maintenance management that is integrated with the business. Drawing on the elements presented in the "Maintenance Excellence Pyramid" of Uptime, participants in Module 1 will learn how strategy, people, basic care, materials management, performance management, work management, support systems, and tools such as RCM (Reliability Centered Maintenance) and RCFA (Root Cause Failure Analysis) can work together to build a culture of excellence.</p>	<p><b>MMPR9102: Production and Operations Management for the Maintenance Mgmt.</b></p> <p>This module links maintenance strategies with those of production and operations. By studying production methodologies maintenance managers will be better prepared to apply these techniques to improve the performance of their business unit and align their efforts to support the production goals of the organization. Topics covered include:</p> <ul style="list-style-type: none"> <li>Aligning maintenance strategy with corporate strategy</li> <li>Overview of production systems and operations scheduling</li> <li>Implementing quality control</li> <li>Lean manufacturing principles and techniques</li> <li>Continuous Improvement</li> </ul>	<p><b>MMPR9103: Human Resource Management for the Maintenance Manager</b></p> <p>This module looks at how human resources practices relate to the maintenance environment. Topics covered include the role of human resources in maintenance management, meeting legal requirements, recruitment and selection, orientation training and employee development, proper application of performance appraisals, the union management interface, managing change through effective leadership and managing safety in the workplace.</p> <ul style="list-style-type: none"> <li>Understanding the legal aspects of human resource management</li> <li>Dealing with labour issues within the maintenance environment</li> <li>Human resource planning</li> <li>Applying recruitment and selection procedures</li> <li>Conducting performance appraisals</li> <li>Implementing performance management</li> <li>Compensation management</li> <li>Managing safety within a maintenance environment</li> </ul>	<p><b>MMPR9104: Financial Management for the Maintenance Manager</b></p> <p>This module focuses on the application of accounting and finance principles as it pertains to the maintenance management role. The module will give you an understanding of the foundation principles of accounting and cover the four main pillars of accounting knowledge the maintenance manager needs to support a successful maintenance department. These four main pillars are: Project Analysis, Budgeting/ Forecasting, Cost Analysis for Managerial Decisions, and MRO Inventory</p> <ul style="list-style-type: none"> <li>Basic understanding of accounting principles</li> <li>Project analysis</li> <li>Understanding how costs flow in an Enterprise System</li> <li>Budgeting/Forecasting</li> <li>Cost analysis for management decisions</li> <li>MRO inventory management</li> </ul>
<p><b>MODULE 5– (30 Hours)</b></p> <p><b>MMPR9105: Developing and Implementing Maintenance Tactics</b></p>	<p><b>Recommended Pre-requisite: Module 1</b></p> <p><b>Module 6– (30 Hours)</b></p> <p><b>MMPR9106: Maintenance Work Management</b></p>	<p><b>Recommended Pre-requisite: Module 1</b></p> <p><b>Module 7– (30 Hours)</b></p> <p><b>MMPR9107: Computerized Maintenance Management Systems</b></p>	<p><b>Recommended Pre-requisite: Module 1</b></p> <p><b>Module 8– (30 Hours)</b></p> <p><b>MMPR9108: Capstone Project</b></p>
<p>This module focuses on maintenance efforts to ensure that physical assets safely, capably, reliably and repeatedly perform to their designed specifications. The focus is on techniques to develop maintenance tactics that will address how the assets are used, how they are likely to fail, the consequence of failure, and identifying maintenance tactics that are both feasible and worth doing. After developing tactics, the module will focus on how tactics need to be implemented and their effectiveness tracked. Topics include:</p> <ul style="list-style-type: none"> <li>Understanding the "Operating Context"</li> <li>Defining Asset Function and Functional Failures</li> <li>Failure Mode and Effect Analysis, FMEA</li> <li>Understanding consequences and the application of the RCM Decision Diagram</li> <li>Maintenance task identification</li> <li>Planning maintenance tasks</li> <li>Implementing Preventive Maintenance</li> <li>Introducing Condition Based Monitoring (CBM) into the maintenance equation</li> </ul> <p><b>Recommended Pre-requisite: Module 1</b></p>	<p>Effective work management ensures that the right things are done at the right time using the right resources and the right tools improving reliability while minimizing interruptions to production processes and/or services. This module provides a study of the fundamental principles of the work management process in addition to the basics of planning, scheduling and work coordination methods. Upon completion of this module, participants will have a sound understanding of work management tools and how to apply them to effectively transition from reactive to proactive maintenance. Key learning elements include:</p> <ul style="list-style-type: none"> <li>Effective use of resources</li> <li>Aligning maintenance activities with production or service schedules</li> <li>Developing and documenting maintenance strategies</li> <li>Integrating proactive maintenance tactics</li> </ul> <p><b>Recommended Pre-requisite: Module 1 &amp; 5</b></p>	<p>Module 7 is a study of the features, benefits and the effective use of a CMMS or EAM computerized maintenance work management process. Topics include selection, implementation and optimization of a suitable Computerized Maintenance Management System (CMMS) or Enterprise Asset Management system (EAM) in addition to ongoing support and upgrading of a CMMS/EAM based on changing requirements. Topics include:</p> <ul style="list-style-type: none"> <li>Integrating use of CMMS with other departments</li> <li>Project planning and organization</li> <li>Implementing team development</li> <li>Assigning team roles and responsibilities</li> </ul> <p>Integrating the CMMS activities:</p> <ul style="list-style-type: none"> <li>Financial; Work/Job Planning; Data collection; Preventive and Predictive Maintenance</li> </ul> <p><b>Recommended Pre-req: Module 1, 5 &amp; 6</b></p>	<p>Through the application of the key learning elements from the previous seven MMP modules participants apply the principles, latest concepts and techniques to a final project. Working in small groups or teams, participants will select a project that will audit, assess and improve their current maintenance departments or develop a new maintenance strategy in their company or resolve a significant maintenance issue within their departments. There is also the option of developing a "Greenfield" maintenance strategy and program upon approval from the instructor. The assessment of the Capstone projects is intended to qualify participants for their MMP certification and designation. Mandatory Pre-requisites:</p> <p><b>Modules 1, 2, 3, 4, 5, 6 &amp; 7</b></p>