

2024 SPRING SESSION – MAY 13-17 – A 5-DAY FULLY-ACCREDITED PROGRAM
HELD ON THE CAMPUS OF THE OHIO STATE UNIVERSITY IN COLUMBUS, OHIO



MANAGER OF MAINTENANCE IMPROVEMENT CERTIFICATE

From Reactive to Proactive Maintenance!

Provides an understanding of the core techniques for improving manufacturing performance and equipment reliability. Designed for maintenance and production resources seeking a solid understanding of the fundamental techniques for improving the maintenance process.

Ask yourself... Where are you today?





Event Details

Course Objective
Understand how to improve the maintenance process

Business Sector
Manufacturing
Transportation
Municipalities

You Should Attend
Maintenance Managers
Production Managers
Facility Managers
Planners
Reliability Engineers
Quality Managers
Maintenance Supervisors

Duration
5 Days

Dates & Location
May 13-17, 2024
Columbus, OH



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When equipment plans its own downtime it is ten times more costly to get back to a safe, efficient, "run-ready" state!

PROGRAM DESCRIPTION

Moving from a reactive to a proactive maintenance environment has a big and positive impact directly on your bottom line. Did you know that when equipment plans its own downtime (i.e. a breakdown) it is ten times more costly both financially and in terms of capacity losses to get back to a safe, efficient 'run-ready' state?

Chances are you already know you must do something to improve the reliability of your equipment but you might not know exactly what to do or how to get started.

Held on the campus of The Ohio State University, this one week, fully-accredited program has been designed to introduce you to nine fundamental techniques for doing just that! Get started on your journey to World Class Reliability today.

Upon completion of this program, you will be awarded: the Manager of Maintenance Improvement Certificate by Productivity Inc. and the Fisher College of Business at The Ohio State University. Graduates of the program earn 4 CEUs.

Designed for maintenance and production resources seeking a solid understanding of the fundamental techniques for improving the maintenance process.

PROGRAM OBJECTIVES

This program will teach you...

- Learn how to use data to make improvements.
- Understand how to create provisional standards and one-point-lessons.
- Learn to properly plan and schedule repairs and PMs.
- Discover how to eliminate equipment-specific losses.
- Understand the proper storage and distribution of spare parts.



WHAT PAST ATTENDEES ARE SAYING...

"Very detailed and the training flow perfectly matched a real world maintenance process. I recommend this training to maintenance professionals, operating managers, machine operators or anyone willing to improve their processes."

Lee Williams - Facilities and Equipment Manager - **Pharmavite/Nature Made Vitamins**

"I selected this program over others because of the focus on continuous improvement and was not disappointed."

Jim Cochran - Project Management Director - **American Sugar Refining, Inc.**

"I'm impressed. This has been a great learning experience."

Romey Bryant - Manager of Production Support - **Premix, Inc.**

"Extremely knowledgeable instructor engaging with well thought-out examples."

Steve Winters - Facilities and Maintenance Manager - **Northrop Grumman**

Provides an understanding of the core techniques for improving manufacturing performance and equipment reliability.

Benefits of Attending:

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PROGRAM CURRICULUM

MONDAY 8AM-5PM ▼	TUESDAY 8AM-5PM ▼	WEDNESDAY 8AM-5PM ▼	THURSDAY 8AM-5PM ▼	FRIDAY 8AM-12PM ▼
Establishing a Zero Failure Culture	Autonomous Maintenance	Focused Improvement	Maintenance Planning & Scheduling	Setting Standards & Leading the Effort
Establishing Key Maintenance Metrics and Measures	The Waste Proof PM Process	Machine Failure Analysis	Managing the Storeroom & Spare Parts	Leadership Roundtable

You'll be in Good Company

Attendees come to our Certificate programs from all industries. Here are some who have graduates:

Abbott Labs / American Greetings / American Woodmark / ATI / Banner Health / Boeing / Brazeway / Brookdale Senior Living / CertainTeed Co. / Clopay Plastics / Crown Equipment / Cytec Industries / E. & J. Gallo Winery / Interstates Companies / John Deere / Kaiser Aluminum / KeyBank / LGS Sky Chefs / Luxottica Optical Mfg. / Mars Petcare / Mead Johnson Nutrition / Mettler-Toledo LLC / MI Windows and Doors / Nintendo of America / Northrop Grumman / Ohio Colleges of Medicine / Orange County Sanitation District / OSU Wexner Medical Center / Owens Corning / Revere Copper & Brass / Sauder Woodworking / Sherwin Williams / Siemens / Sun Products Co. / T. Marzetti / The United States Mint / Urschel Labs / U.S. Dept. of Labor / Williamson-Dickie Mfg. Co. / Wonderful Citrus / Wooster Community Hospital

★★★★

WHAT PAST ATTENDEES ARE SAYING...

"Terrific! Finally a lean-based TPM training. Ellis is fantastic and well-qualified."

Ryan Romander - Lean Project Manager - **Basic American Foods**

"Excellent, empowering and direct."

C.Scott McFarland - Maintenance Manager - **Newell Rubbermaid**

"Enjoyed the program, received good information and intend on implementing positive change at my sites."

Ken Fabrizio - Engineering & Maintenance Manager - **Allnex**

MANAGER OF MAINTENANCE IMPROVEMENT **MODULE DESCRIPTIONS**

DAY 1 MONDAY 8AM-5PM

Establishing a Zero Failure Culture

The goal of the maintenance process is to minimize equipment life cycle cost and achieve zero speed losses, zero unplanned downtime, zero safety incidents, zero quality issues, etc.

The principle of zero failures states that abnormalities that go unnoticed or are ignored eventually lead to some type of failure.

During this session, we will carefully explain each of the basic principles of proper maintenance and how they relate to each other to create a natural synergy, enabling you to achieve the goal of zero.

You will gain a good understanding of these principles and how and when to implement them to get the greatest return in the shortest possible time.

Actual case studies will be explored to show the rates of sustained improvements and to illustrate the relationship between a proper maintenance process and the roots of Lean manufacturing.

Establishing Key Maintenance Metrics and Measures

Determining the focus of your maintenance effort depends on where the data tells you to go. What is happening to the equipment and how it is performing is found in the numbers, not intuition.

This session will teach the basic maintenance performance metrics -- MTTR, MTBF, Schedule Compliance, Weighted Identifier, etc. -- and how they are calculated.

It will also teach you how to break down the data and show you how affecting this data will move the numbers in the right direction.

DAY 2 TUESDAY 8AM-5PM

Autonomous Maintenance (AM)

Autonomous Maintenance is a proven process that partners operators, maintenance technicians, engineers, and leaders in the operation and maintenance of equipment.

Properly implemented, AM can eliminate the causes of 40-60% of unplanned downtime.

This module covers the seven steps of Autonomous Maintenance and equipment related visual management and how to use tools such as provisional standards, one-point-lessons, improvement bulletins, etc., to stabilize equipment performance and stop deterioration.

The Waste Proof PM Process

Maintenance improvement addresses the concept of the Six Big Losses, defined by Nakajima as formidable obstacles to equipment effectiveness.

Implementation of the Quick Changeover methodology directly addresses one of these losses—set up and adjustment—and will help you dramatically reduce the downtime associated with make readies and other machine changeovers resulting in increased flexibility and customer responsiveness.

The changeover methodology can also play a major role in reducing the time to complete major machine repairs, PM's, and many more similar applications, thus improving MTTR.

This module will demonstrate how you can use the principles of Quick Changeover to greatly improve a variety of maintenance and other activities found anywhere people and processes interact.

DAY 3 WEDNESDAY 8AM-5PM

Focused Improvement (FI)

The goal of Focused Improvement is to maximize OEE through uncompromising elimination of equipment-specific losses.

In this module you will learn how to use the Value Stream Mapping principals to identify critical pieces of equipment and their related impact on lead time.

You will then learn how to document, monitor, and trend equipment related losses, and a process for determining the actions necessary for loss control/elimination.

Machine Failure Analysis

Key to ensuring a maintenance process that continually strives for Zero Failures is the skill to analyze those failures and eliminate them from ever reoccurring in the future.

Machine Failure Analysis incorporates standard problem solving methods with maintenance system outcomes to produce a problem solving technique designed specifically to analyze and eliminate machine failure.

This team-based approach to maintenance improvement looks at the failure on a physical, systemic level. Mechanical attributes, spare parts, preventative maintenance procedures and employee skills are all analyzed and reworked to ensure the failure never returns.

DAY 4 THURSDAY 8AM-5PM

Maintenance Planning and Scheduling

Moving from a reactive maintenance organization to a proactive maintenance organization requires constant improvement in the way the maintenance process is managed.

A key element of any proactive maintenance organization is its ability to properly plan and schedule repairs and PMs.

In this session we present the basics of a good maintenance planning & scheduling process, and introduce metrics that will help justify the program.

Managing The Storeroom & Spare Parts

The great necessary evil of any maintenance initiative is the management of the spare parts department.

Proper usage and storage of spare parts is not just an exercise in housekeeping, but a critical component in the success of your preventative and planned maintenance activities and an integral part of your overall maintenance improvement initiative.

An effective stores management system will save your organization thousands of dollars by ensuring spare parts are on hand and in good condition, thus decreasing the potential for duplicate ordering and increasing equipment uptime.

In this module you will learn how to properly manage the storage and distribution of your spare parts.

DAY 5 FRIDAY 8AM-12NOON

Setting Standards and Leading The Effort

Standard work is a key element in the elimination of waste and a critical component of both operator based maintenance (Autonomous Maintenance) and maintenance improvement.

In this module, you will learn a proven methodology to develop a standard procedure, and then apply document control and visual workplace principles and techniques to train others in their new best practice.

Leadership Roundtable

Sustaining the gains made through implementation of the tools learned during the certificate program will be vital to ensuring ongoing maintenance improvement.

As we wrap up the week's learning we will discuss the transformational issues that must be addressed and the leadership techniques that must be in place to ensure long-term success.

Lean Resources on our web site



What's Missing From Your Lean Initiative?

Most business owners and general managers recognize just how critically important proper equipment maintenance is...

➔ Read more at www.productivityinc.com



Productivity Inc. is a leading consulting and education firm that helps organizations build new capabilities, create better customer experiences, and grow. We focus on three progressive strategies: Operational Excellence, Innovation and Leadership Development.

Working together, these strategies provide the means to continually refresh a company's value proposition while making the organizational changes needed for daily improvement and sustainable growth.

We pioneered the implementation of Lean and TPM methodologies in manufacturing in the late 1970s. Since then, we have extended these methodologies across a wide range of industries, including finance, public works and other service industries. Our time-tested Lean Management System - **motion™ The Management System by Productivity** - provides a uniquely comprehensive approach to implementing lean across an entire enterprise.

Our Innovation System, developed from years of research into proven, leading-edge practices for innovation management and top-line growth, helps organizations in both service and manufacturing industries to develop an organization-wide capability to innovate. More than simply a lean consulting firm, Productivity Inc. can provide a variety of methodologies to keep your business in motion™.

Learn more at www.productivityinc.com



motion™ – The Management System by Productivity

Imagine...

- Your customers are your best supporters,
- employees at all levels know their customers and actively solve problems to better serve them,
- leaders team-up to prepare their long-term plans and translate them into annual objectives and work place initiatives,
- leaders and managers work closely together to set direction and provide sense of purpose,
- continuous improvement and innovation in action,
- an organization of networked teams fully integrated and enabled...

What you are imagining is an organization in motion™, and we can help you get there!

[Live the experience of motion™, the Management System by Productivity](#)



The Innovation System™ by Productivity

In a rapidly changing environment, current value propositions are not enough to ensure your organization's long-term survival. You'll need reliable pathways for creating new value. In our experience we've found that the traditional value creation functions are not structured for this type of innovation effort.

This effort – the development of an organization-wide capability to reliably, repeatably and predictably create new value – requires the building of an Innovation System to provide the means to explore outside the confines of your existing business model.

Productivity has developed a systemic process for creating an organization-wide Innovation capability — developing your own Innovation System™.

[Live the experience of The Innovation System™ by Productivity](#)

On-Site Training and Skill Development for Manufacturing and Service Industries

Actionable, Proven, Results-Oriented...

As stand-alone training sessions or combined into a multi-session curriculum, our proven training programs will provide the knowledge transfer and skill you need to participate and add value to your organization's Operational Excellence effort.

All our on-site training programs are taught using a Learn-by-Doing approach that translates theory into action providing your organization with an immediate return.

We can work with you to collaboratively build a curriculum that fits your specific training needs, allowing you to achieve short-term results while developing long-term organizational capabilities.

We have provided customized training curricula to organizations throughout the Global 1000 including: adidas AG, BNP Paribas, The Emerson Electric Company, Kaiser Aluminum Company, Gannett NJ Media Group, Oldcastle BuildingEnvelope, Suncor Energy, and Whirlpool Corporation. We would welcome the opportunity to collaboratively develop a curriculum that fits your specific training needs.

LEADERSHIP DEVELOPMENT EXPERIENCE

Training and coaching for leaders and managers to plan, deploy, lead and support a sustainable, company-wide, improvement and growth program.



LEAN IN SERVICES

Developed for all service environments, learn how the application of Lean techniques improves customer service and develops strategic competitive advantage.



TPM AND LEAN

Learn the TPM Pillars and Lean techniques necessary to implement a TPM and Operational Excellence program in your facility..



[All Our On-site Training Programs](#)

We Educate – We Certify

In the change process, everyone needs to understand how they can contribute. This understanding begins with education.

Get everyone speaking (and practicing) the same "language"! That's what our educational programs are designed to do. In the 1980's, we were the first organization to introduce Lean educational workshops and learn-by-doing kaizen events. Over the years, we have continuously upgraded and improved our training curricula.

Productivity has partnered with **The Ohio State University's Fisher College of Business** to offer Lean Certifications and Certificates.

LEAN MANAGER CERTIFICATION - LMAC - COLUMBUS, OH

Designed for leaders and managers seeking the knowledge and confidence necessary to drive Lean principles throughout their organizations.



LEAN MANAGEMENT CERTIFICATION FOR SERVICES – LMAC SERVICE - COLUMBUS, OH

Designed for leaders and managers seeking the knowledge and confidence necessary to drive Lean principles throughout their organizations.



[All Our Public Educational Events](#)

AEROSPACE AND ELECTRONICS / AT&T INC. / THE BOEING COMPANY / INTEL CORPORATION / JEPPESEN / LITTELFUSE, INC. / MEGGITT POLYMERS AND COMPOSITES / PRATT & WHITNEY / UNITED TECHNOLOGY CORPORATION / WEIR GROUP / **AUTOMOTIVE** / AUTOLIV INC. / CUMMINS CORPORATION / FORD MOTOR COMPANY / HONDA OF AMERICA / KAMTEC, INC. / LEAR CORPORATION / MIBA BEARINGS LLC / TENNECO, INC. / **BANKING/FINANCE, INSURANCE AND SERVICES** / ARVAL / BNP PARIBAS / COUNTRY FINANCIAL INSURANCE COMPANY / GOODYEAR/DUNLOP SERVICES / GRANGE INSURANCE / GROUPAMA / GROUPE CAISSE D'EPARGNE / KEYBANK / NATIONWIDE FINANCIAL SERVICES, INC. / SPB / **CAPITAL GOODS** / AEROQUIP CORP. / A.O. SMITH CORP. / BUSCH MANUFACTURING / CRANE CURRENCY/DEERE & COMPANY/EMERSON ELECTRIC CO./JOHNSON CONTROLS/METTLER TOLEDO LLC/POCLAIN HYDRAULICS / SAUDER WOODWORKING COMPANY / SNAP-ON INC. / STANLEY BLACK & DECKER INC. / UNION TANK CAR COMPANY / **CHEMICALS** / AIR PRODUCTS AND CHEMICALS, INC. / ARKEMA / CECA / CYPLUS IDESA / KMG CHEMICALS, INC. / SOLVAY / **CONSUMER GOODS** / ACUSHNET COMPANY / ADIDAS GROUP / BERRY GLOBAL GROUP INC. / D&W FINE PAK / DURACELL INC. / GANNETT NJ MEDIA GROUP / HENKEL CORPORATION / KIMBERLY-CLARK CORPORATION / LEK INC. / MANA PRODUCTS / PING GOLF / PIRELLI COMPANY / PLASTIPAK HOLDINGS INC. / PROCTER & GAMBLE / QUAD/GRAPHICS, INC. / RECKITT BENCKISER GROUP / SHERWIN WILLIAMS / TEXOPS / UNILEVER / W.L. GORE / **ENGINEERING AND CONSTRUCTION** / AMERICAN WOODMARK CORP. / ATLAS ROOFING / BRAZEWAY, INC. / CERTAINTEED CORPORATION / JACOBS ENGINEERING GROUP INC. / JELD-WEN, INC WINDOWS & DOORS / MI WINDOWS AND DOORS / OLDCASTLE BUILDINGENVELOPE / OWENS CORNING / **FOOD AND BEVERAGES** / ADVANCED PIERRE FOODS / ANHEUSER-BUSCH / CALIFORNIA NATURAL PRODUCTS / THE COCA COLA COMPANY / E. & J. GALLO WINERY / FLORDIA CRYSTALS CORPORATION / GENERAL MILLS, INC. / GLANBIA NUTRITIONALS / GROUPE AOSTE S.A. / THE HERSHEY COMPANY / INGREDION INC. / MARS PETCARE / MEAD JOHNSON COMPANY / MILLERCOORS / SCHWAN'S COMPANY / T. MARZETTI COMPANY / URSCHEL LABORATORIES COMPANY / WONDERFUL CITRUS / **HEALTHCARE SERVICES, EQUIPMENT AND PHARMACEUTICALS** / BOSTON SCIENTIFIC CORP. / BROOKDALE SENIOR LIVING / CEVA SANTE ANIMALE / ETHYPHARM / GENENTECH, INC. / HOPITAUX UNIVERSITAIRES DE GENEVE / IPSEN GROUP / LEICA BIOSYSTEMS COMPANY / MAYO CLINIC / MEDTRONIC / MERCK SANTE / MERIAL / OHIO COLLEGES OF MEDICINE / OSU WEXNER MEDICAL CENTER / PFIZER – FAREVA / VIRBAC / WOOSTER COMMUNITY HOSPITAL / **METALS AND MINING** / ALCOA CORPORATION / ALLEGHENY TECHNOLOGIES / BARRICK GOLD CORPORATION / GBC METALS, LLC / HIRSCHVOGEL INC. / IMERYS / KAISER ALUMINUM CORP. / SEARLES CORPORATION / **MUNICIPALITIES AND GOVERNMENT** / CITY OF ALEXANDRIA, VA / FEDERAL AVIATION ADMINISTRATION / NATIONAL SECURITY AGENCY / OHIO DEPARTMENT OF DEVELOPMENTAL DISABILITIES / ORANGE COUNTY SANITATION DISTRICT / UNITED STATES DEPARTMENT OF LABOR / UNITED STATES MINT / **OIL AND GAS** / BP AMOCO / EXXONMOBIL CORP. / MARATHON OIL CORP. / SUNCOR ENERGY / SUNOCO...

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Email: lean@productivityinc.com

**EUROPE
PRODUCTIVITY INNOVATION**
Paris – Lyon - London

**LATIN AMERICA
PRODUCTIVITY LATINO AMERICA**
Mexico

Lean Resources on our web site



**#9 White Paper
What's Missing From
Your Lean Initiative?**

TPM's integral role, with 5 takeaways to guide your strategy. *Most business owners and general managers recognize just how critically important proper equipment maintenance is, particularly in an asset-oriented work environment.*

➔ Read more at www.productivityinc.com