



ADVANCING ECONOMIC PROSPERITY, HEALTH
AND QUALITY OF LIFE IN INDIANA AND BEYOND



OPERATING FROM NINE STATEWIDE OFFICES
TAP UTILIZES PURDUE UNIVERSITY FACULTY, STUDENTS AND STAFF

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GENERAL QUESTIONS

Purdue University Technical Assistance Program (TAP)

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PURDUE





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OVERVIEW

Advancing economic prosperity, health and quality of life in Indiana and beyond

The Purdue University Technical Assistance Program (TAP) provides high-value solutions to increase profitability for manufacturing, healthcare and service industries, and to improve the productivity of state and local government. Operating from nine statewide offices, the program utilizes Purdue University faculty, students and staff.

Since Purdue TAP began more than a quarter century ago, the program has assisted approximately 14,000 organizations and trained more than 43,000 employees. Thousands of Hoosier jobs have been saved in direct response to Purdue TAP's technical assistance, performance improvement, and technology adoption initiatives.

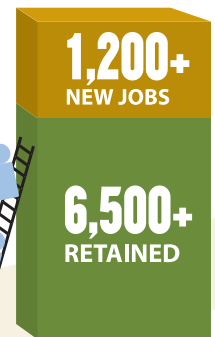
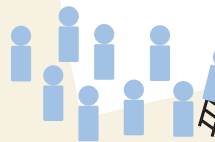
In the last five years alone, Purdue TAP's work has left an economic impact footprint on the state in excess of \$1 billion. Indiana manufacturing companies have benefited from nearly \$860 million in new and/or retained sales; cost savings; and new capital investment as a direct result of Purdue TAP's guidance. Healthcare providers throughout the state have accrued more than \$170 million in incentive payments by working with Purdue TAP to improve the way they use electronic health records systems.

5-YEAR ECONOMIC IMPACT

SERVED
4,000+
COMPANIES



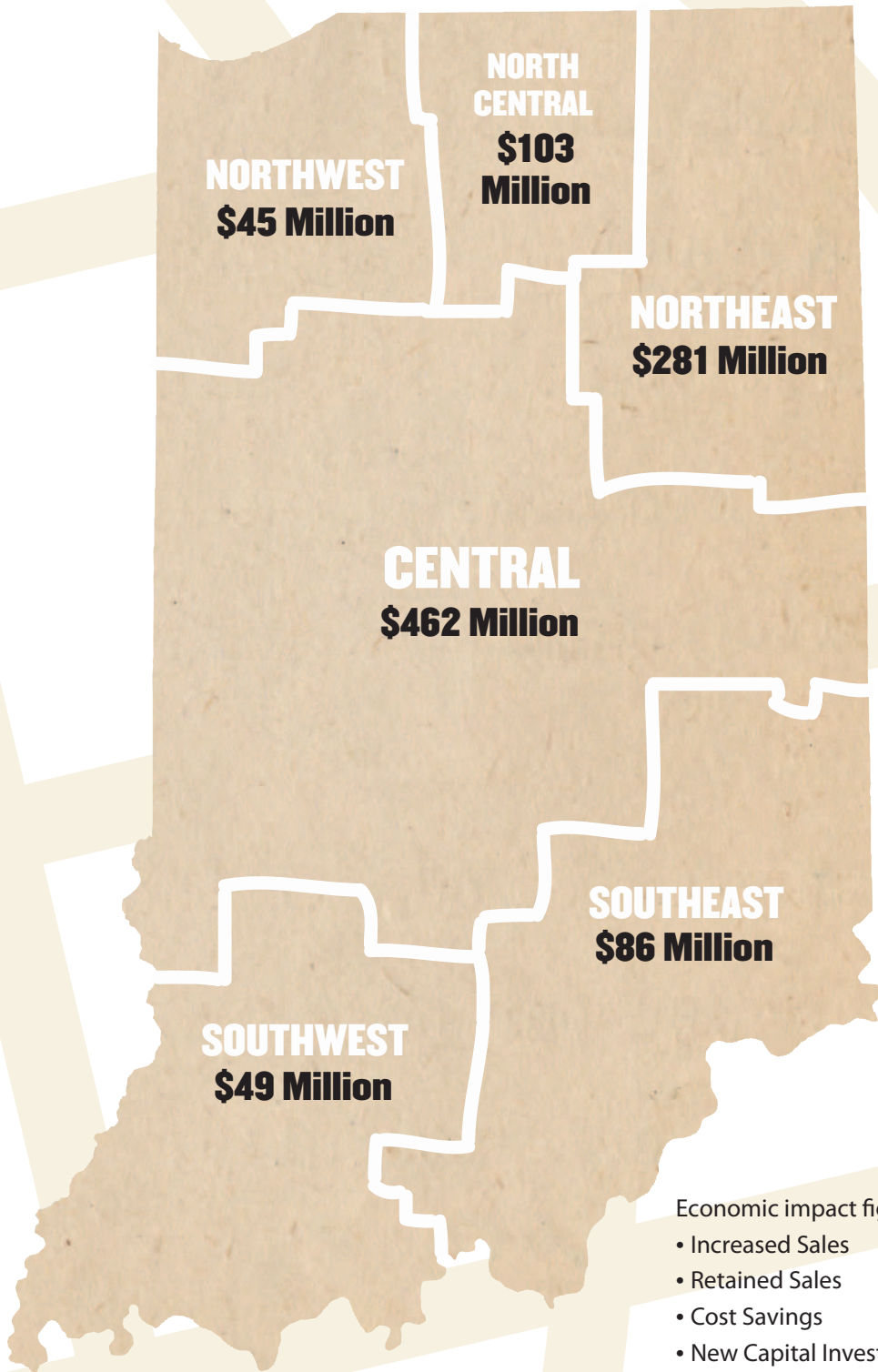
7,700+
JOBS



TOTAL 5YR ECONOMIC
IMPACT

\$1 BILLION+

5-YEAR ECONOMIC IMPACT



Economic impact figure includes:

- Increased Sales
- Retained Sales
- Cost Savings
- New Capital Investment
- EHR Incentives





“TAP helped us reduce process hand-offs, improve productivity, and — most significantly — reduce our manufacturing lead-time by 68%.”

— Michael Shebek, President, Automatic Pool Covers, Inc., Westfield, Ind.

MANUFACTURING

Boosting manufacturing competitiveness through identification of improvement opportunities and streamlined processes

Purdue TAP's manufacturing division — the Manufacturing Extension Partnership (MEP) — leverages resources in both the public and private sectors to identify areas of improvement, streamline processes, and ultimately increase competitiveness.

MANUFACTURING SERVICES

- Six Sigma Technical Certification
- Quality Improvement
- Workforce Development
- Quality, Environmental and Energy Management Systems (ISO)
- Supply Chain Services
- Lean Manufacturing Assessment and Implementation

TECHNOLOGY ADOPTION

Led by Purdue University in partnership with Ivy Tech Community College and Vincennes University, the Indiana Next Generation Manufacturing Competitiveness Center (IN-MaC) aims to attract, retain and grow high-value manufacturing industries in Indiana. Purdue MEP oversees IN-MaC's Technology Adoption Program, working with more than 20 companies throughout the state to develop needed process-technology improvements. For one such company, **Jeco Plastic Products** of Plainfield, Ind., those improvements resulted in orders of more than \$110,000 in tooling and \$150,000 in parts that previously would have been outsourced to China, as well as growth projections for the year of three to five times that amount.



“Purdue/IN-MaC provided us with technological tools of which we formerly knew nothing. As a result, we developed completely novel improvements on existing process technology.” — Craig Carson, CEO, Jeco Plastic Products, Plainfield, Ind.





“With PHA’s help, we’ve standardized processes and created efficiencies that keep the patient front and center.”

— Jim Layman, Executive Director, Family Health Clinics of Delphi and Monon, Ind.

HEALTHCARE

Advising professionals and organizations in the healthcare industry for improved, patient-centered care at reduced cost

TAP’s healthcare division — Purdue Healthcare Advisors (PHA) — guides professionals in physician practices, clinics, hospitals and health systems to improve patient care, meet government regulations, and increase operational margins.

HEALTHCARE SERVICES

- Lean Healthcare Consulting and Project Facilitation
- Lean Six Sigma for Healthcare Certification
- EHR Project Facilitation — Meaningful Use; Patient Centered Medical Home (PCMH); and Physician Quality Reporting System (PQRS)
- Health Information Technology Security Assessments and Remediation

SECURING ePHI

To comply with federal “Meaningful Use” standards for electronic health records (EHRs), providers like **Heart City Health Center** must show they can keep patient health information safe and secure. The South Bend-based federally qualified health center turned to PHA to assess their information-security risk and make viable recommendations for improvement. Administrators there say PHA has given the center a new way of looking at their security policies.



“It’s not just about privacy and security, it’s also about the availability and integrity of the information to the provider at the point of care. PHA understands how providers can and should interact with health information technology.”

— Fundisani Mangena, MBA, Chief Quality Officer, Heart City Health Center, Elkhart, Ind.



GOVERNMENT



Helping the government sector reach higher levels of performance and productivity

Purdue TAP's continuous improvement expertise impacts government processes, human capital, leadership and culture to create lasting positive change in the areas of productivity, growth and technology.

The **Indiana Department of Transportation** wanted to streamline road-surface marking. To save time and money, INDOT planned to transition to painting lanes with just one truck per district, but first had to make changes to its painting processes as well as physical alterations to trucks. Purdue TAP's Lean approach allowed for the development of a successful pilot program in which each district's scheduled lane miles were painted with a single truck.

“The Purdue TAP team was able to quickly study our process and develop a plan to accomplish the same amount of work with roughly half the equipment.”

— Todd Shields, INDOT Maintenance Field Support Manager, Indianapolis, Ind.



ENERGY AND SUSTAINABILITY SERVICES



Applying sustainable practices and using energy wisely for a competitive advantage

Purdue TAP's consulting and training services are designed to help companies improve processes and develop best practices for energy management.

NEAR (formerly Indy-east Asset Development) was contracted by the City of Indianapolis to provide energy efficiency upgrades for lighting and other conservation measures for 43 businesses and nonprofits on the Near Eastside. Energy-consumption auditing by Purdue TAP allowed participating businesses to realize an average energy savings of 17%, or a total annual savings of nearly \$70K, for all their utility bills combined.

“The energy audits that Purdue TAP provided helped guide us in selecting projects and in making the most cost-effective improvements to meet each building’s needs.” — Rachel Mattingly, Program Manager, NEAR, Indianapolis, Ind.



PURDUE

HIGH VALUE SOLUTIONS TO INCREASE PROFITABILITY

Purdue's Technical Assistance Program (TAP) identifies areas of improvement and streamlines processes by leveraging our unlimited resources of professional experts, faculty, and students. Our organization serves more than 500 companies annually by implementing continuous improvement principles in the areas of productivity, growth and technology. Purdue TAP has helped our clients collectively achieve over \$1 billion of economic impact in Indiana since 2005.

Purdue TAP provides companies on-site assistance in the following areas:

- ❖ **Lean Manufacturing**
Learn to reduce waste, increase productivity, and achieve higher quality products.
- ❖ **Lean Office**
Eliminate non value-added activities from a company's processes while streamlining its value-added activities.
- ❖ **Quality (ISO) & Environmental Improvement**
Improve quality and reduce waste with an effective Quality Management System.
- ❖ **Six Sigma Certification**
Increase your company's skills in process optimization and continuous improvement.
- ❖ **Leadership & Supervision**
Addresses the recurring management challenges every leader confronts on a daily basis.
- ❖ **Training Within Industry (TWI)**
Learn how to increase productivity and morale while reducing training time.
- ❖ **Top Line Business Growth**
Methods that help your company accelerate more profitable growth.
- ❖ **Energy Efficiency & Sustainability**
Learn ways to decrease energy usage and reduce energy costs.

ECONOMIC IMPACT

MAKING A DIFFERENCE IN INDIANA

❖ Jobs added/saved	9,323
❖ Increased/retained sales	\$728.6M
❖ Cost savings	\$92.7M
❖ Capitol investments	\$181.0M
❖ TOTAL	\$1.0 BILLION

*"Results from Purdue's partnership have been significant and immediate: **\$400,000 reduction in inventory costs** during the first two months; **\$120,000 in savings** after addressing variances in its poly-coated chip board; and **\$40,000 in savings** from improved productivity."*

- Oji Intertech Inc., North Manchester, IN





Made in Indiana

The Purdue Technical Assistance Program's (TAP) "Made in Indiana" program highlights the contributions Indiana manufacturing makes to the state's economy and raises awareness of the products made in Indiana.

This program features a spotlight page on TAP's website and social media platforms. Indiana manufacturers can be included in Made in Indiana with a profile page at no cost.

Benefits of Made in Indiana program include:

- ❖ No cost to list your company
- ❖ Free company profile page to increase awareness of your products and services
- ❖ Support Indiana manufacturing industry by participating

Indiana Definition for Made in Indiana:

- ❖ Company registered with either a primary or secondary manufacturing NAICS code (Purdue TAP will verify).
- ❖ The product's final assembly, manufacturing or processing must take place in Indiana and the manufacturing facility must be located in Indiana.

How to Register:

- ❖ Visit www.mep.purdue.edu/made/register.aspx

Features include:

Company Spotlight Page on TAP Website:

Indiana manufacturers can sign up for a FREE company profile page which features an overview of their company, products and services, contact information, and product pictures.

Social Media:

Social media platforms were launched to support the website, including Twitter and a LinkedIn group that allow members to discuss the important issues that impact our field, stay informed with industry news and network with one another.

Manufacturer of the Week:

Purdue TAP will also feature an Indiana manufacturer each week to honor the hardworking businesses that make our State grow. At no cost, your company can be featured on our website.

About Purdue TAP

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Faculty Assistance Projects

In order to advance economic prosperity, health, and quality of life in Indiana and beyond, up to 40 hours a year of assistance is available from Purdue to businesses throughout the state of Indiana. This assistance is to address an acute need with a discrete solution. The need may be to determine what to fix, how to fix it, where to start, or where to go. The solution may take the form of guidance, analysis, or validation. What follows is a sampling of areas in which Purdue faculty and staff may provide assistance.

Information Technology

- Broadband infrastructure planning
- Database assessments
- Networking assessments
- Security assessments
- Software evaluation and recommendations
- Web site usability

Manufacturing

- Advanced process control
- Automation
- Electrical issues
- Issue identification
- Processing issues
- Mechanical issues

Materials

- Mechanical and physical properties analysis
- Heat treating
- Product failure analysis
- Product evaluation and testing
- Product quality issues

Product Design and Development

- Circuit and electronic design
- Design for assembly
- Design input and review
- Design method selection
- Finite element analysis
- Fluid dynamics
- Material selection
- Problem solving
- Product evaluation and testing
- Rapid prototyping
- Reverse engineering

Productivity & Process Optimization

- Data gathering and analysis
- Lean improvement opportunities
- Issue identification
- Logistics
- Plant layout
- Scheduling
- Sourcing & make/buy decisions
- Statistical analyses
- Supply chain optimization
- Warehouse management

Quality Assurance

- Data analysis for processes and products
- Data trending
- Experiment design
- Quality control techniques application
- Quality systems improvement opportunities
- Sampling and sample size calculations
- Survey design and analysis

Technology Leadership and Innovation

- Counseling and discipline procedures
- Effective communications
- HR policies and procedures
- Issue identification
- Leadership development skills
- Training methods
- Training needs analysis

Lean Manufacturing Services

Lean Executive Overview: This one-day workshop is designed to provide an overview of Lean Manufacturing concepts and Lean Behaviors necessary for successful change. Discover how Lean makes work rewarding as well as profitable and enduring. Participants will have the knowledge and tools to create an effective lean strategy, develop personal lean leadership skills and gain broad support among colleagues for the lean transformation.

Principles of Lean Manufacturing 101 Workshop: An all-day, high energy, fast-paced presentation, in tandem with hands-on simulation activities so participants learn what advanced manufacturing is all about; identify the eight wastes in manufacturing and ways to reduce them.

5S System – The Visual Workplace: Experience how the 5S System reduces waste in a simulated production facility. Participants learn the concepts of the 5S System and then apply them to transform a cluttered, disorganized production area into a clean, organized and orderly workplace.

Principles of Value Stream Mapping (VSM): Learn how to create a value map of your current- and future-state processes. Understand the total flow of the value stream, see the sources of waste, determine common language about the process, show linkage of information and process, develop an improvement plan, and prioritize activities.

Quick Changeover/Set-up Reduction: Learn the fundamentals of set-up reduction in applying quick-change thinking to any type of setup or industry. Focus on attaining quick changeover through the systematic elimination of the internal components while streamlining the final procedure.

Total Productive Maintenance (TPM): Gain knowledge of Overall Equipment Effectiveness (OEE) and how it relates to capacity. Apply TPM principles and techniques to equipment in a hands-on simulation and experience how applying TPM can achieve dramatic improvements in uptime and increased capacity.

Cellular Flow Manufacturing: Discover how to link and balance operations to reduce lead times, minimize WIP, optimize floor space usage and improve productivity using a five-step process for designing and implementing work cells.

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Lean Manufacturing Services

Pull/Kanban Systems: Control resources in a production process by replacing only what has been consumed. Applies principles of Pull System/Kanban in a life-like simulation and demonstrates how principles can be applied to a variety of situations.

Standard Work: Provides you with the information and practice you need to participate in implementing standardization and standard work in your workplace. This workshop presents an approach to implementing standardization and standard work methods designed to eliminate waste from production processes. The methods and goals discussed in this workshop are closely related to the lean manufacturing system.

Error Proofing: Using simple, usually low-cost devices, fixtures, and procedures to reduce/eliminate errors. Stops errors before defective parts are created. Frees up the need for human vigilance and memory.

Advanced Problem Solving: Provides the background and skills necessary to lead an effective, structured, team-based, analytical approach that detects potential problems and thus alleviate chronic failure problems within an organization. Learn how to apply several techniques to detect, identify, analyze and solve performance problems by understanding variation, and uncover root causes and apply the Lean Six Sigma DMAIC (define, measure, analyze, improve, and control) problem solving approach.

Kaizen Event Facilitation: Kaizen is a team-focused approach aimed at the “continuous improvement” of processes. Kaizen facilitation coaches help cross functional teams to see non-value added (NVA) waste in any process and implement rapid system improvements using appropriate Lean Manufacturing tools and methodology: (Brainstorming, 5S, Teambuilding, Problem Solving, Cellular Flow, Pull/Kanban, Set-up reduction, etc.). Kaizen efforts improve quality, cost margins and equipment uptime while decreasing lead times.

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Energy Efficiency & Sustainability



“In today’s competitive environment, you can’t afford to overlook energy and sustainability. Applying sustainable practices and using energy wisely provides a competitive advantage, reduces waste, and maximizes profit. Let us help get you started!”

*The Purdue Technical Assistance Program’s **Energy Efficiency & Sustainability (EES)** services are designed to help companies improve processes and develop energy management practices through workshops, on-site training, awareness events, implementation and consulting services.”*

- Kelly Weger, RA, LEED AP
Lead Project Specialist – Sustainability
(317) 275-6817
weger@purdue.edu

Our Program Helps Businesses with:

- On-Site Technical Assistance
 - Energy Assessment
 - EES Project Design & Management
- Developing Team Members – Build the Culture
 - Technology & Awareness Training*
 - Basic to Advanced Levels*
- Identify and Implement Solutions
 - Guided implementation sessions
 - Kaizen Events
- Sustain the Gains – Formalize the System
 - ISO 14001/ 50001*

*Society of Manufacturing Engineers (SME) Certificates available for select courses. Purdue TAP Certificates available for all courses

Did you know? Ban screen savers, then program sleep mode for 20 minutes or less of inactivity. For a company with 20 computers, **savings would be \$2,000-3,000 per year!**

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www.mep.purdue.edu



MANUFACTURING
EXTENSION PARTNERSHIP
National Network

Defense Manufacturing Assistance Program

As the Department of Defense (DOD) continues the process of downsizing, there will be a corresponding reduction in the number and size of current and future defense contracts awarded to private sector manufacturing firms. The Defense Manufacturing Assistance Program (DMAP) provides assistance to identify projects that address critical needs and areas of improvement for communities and companies to help diversify defense contractors by leveraging Manufacturing Extension Partnership services and subject matter experts.

The Purdue Manufacturing Extension Partnership (MEP) is accepting inquiries for DMAP partnership projects by Indiana defense manufacturers.

Eligible companies

- ❖ Small to medium size enterprises – target 35-1000 employees
- ❖ 5% reduction in sales, production or employment within past 24 months (or imminent threat of reduction in the immediate future)
- ❖ Defense Contractor or tier 1,2,3,4, etc. supplier to defense industry
- ❖ Ability to cost-share the project (up to \$25,000)
- ❖ Management team dedicated to diversification / growing their business

Partnership focus areas

- ❖ Core strengthening
- ❖ Market diversification
- ❖ New technology commercialization

Projects will be selected by Purdue MEP with an emphasis on projects with high-potential outcomes.

About Purdue MEP

The Purdue Manufacturing Extension Partnership, a business unit of the Purdue Technical Assistance Program (TAP), provides high-value solutions to help Indiana businesses maximize their success by increasing profits, reducing costs and implementing growth systems. Our organization serves more than 500 companies annually by implementing continuous improvement principles in the areas of productivity, growth and technology. Purdue MEP has helped our clients collectively achieve over \$1 billion of economic impact in Indiana since 2005.

The goal of DMAP is to maintain and retain the critical manufacturing infrastructure, capacity, and capabilities to meet national security priorities, and strengthen competitiveness and add or preserve jobs in Indiana.

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Lean Courses

5-S The Visual Workplace
Cellular Flow Manufacturing
Culture and Change Management
Inventory Control and Cycle Counting
Lean Product Development
Making Materials Flow - A Plan For Every Part
Mistake Proofing
Performance Measures for Lean Enterprises
Principles of Lean Manufacturing (Lean 101)
Principles of Lean Office
Pull-Kanban Systems
Set-Up Reduction / Quick Changeover
Six Sigma - Black Belt Certification
Six Sigma - Green Belt Certification
Six Sigma - White Belt
Team Building Concepts
Total Productive Maintenance (TPM)
TWI Job Instruction
TWI Job Methods
TWI Job Relations
TWI Job Safety
Value Stream Mapping (Manufacturing & Office)
Visual Controls
Kaizen Facilitation

Quality Courses

Blueprint Reading
Error-Proofing Techniques
FMEA -Failure Mode & Effects Analysis/PPAP

Gage R&R, Control Charts & Process Capability
Geometric Dimensioning & Tolerancing (GD&T)
ISO13485 Internal Auditor Training
ISO14001 Internal Auditor Training
ISO9001 Internal Auditor Training
ISO9001/AS9100 Internal Auditor Training
ISO9001/TS16949 Internal Auditor Training
PPAP - Production Part Approval Process
Problem Solving (A3, DMAIC, PDCA, mistake proofing)
Risk Management
Root Cause Analysis
SPC - Statistical Process Control
Standard Work
Introduction to Minitab statistical software

Growth Courses

Lean Product Development
Marketing 101

Leadership Courses

Creating Self Awareness - CAPS Study
Dealing with Complaints
Effective Communication
Effective Motivation
Emotional Intelligence
Leadership Dynamics
Leadership is an Attitude
Managing Across Generations
Managing Conflict & Counseling
Managing Organizational Change
Managing Performance & Coaching Job Skills
Problem Solving and Decision Making
Project Management
Situational Leadership
Teams and Team Building
Time Management and Goal Setting
Understanding Leadership Essentials to Grow Leaders

Energy Courses

ISO 50001 International Energy Management Standard
Demand Management
Energy Optimization Assessment
Energy Savings 101
Energy Value Stream Mapping
Fans System Assessment Tool (FSAT)
Fundamentals of Compressed Air Systems
Fundamentals of Lighting Efficiency
Fundamentals of Power Factor
HVAC System Optimization

Motor System Management Best Practices End-User Workshop
Process Heating Assessment and Scoping Tool (PHAST)
Pumping System Assessment Tool (PSAT)
Steam System Management Training

Sustainability Courses

Dumpster Dive - Material Use and Solid Waste Mgmt
Energy Management
Green 101 - Generalist (Online & Classroom)
Green Chemistry - Chemical Waste Mgmt
H2O Conserve - Supply Water/Wastewater Mgmt
Pollution Solutions - Climate/Air Emissions Mgmt
Putting Sustainability into Practice
Sustainable Manufacturing
Waste Stream Mapping