







MANUFACTURE SMARTER.

# CERTIFICATE COURSE CATALOG

LEADERSHIP • INDUSTRY 4.0 • PROJECT MANAGEMENT
LEAN • QUALITY MANAGEMENT • SIX SIGMA • FOOD
WORKFORCE • BLUEPRINT READING • GD&T
SALES DEVELOPMENT • CYBERSECURITY

2021-2022





has assisted Michigan's small and medium-sized businesses since 1991.

Through personalized services to meet the needs of clients, we offer expert training and consulting in Cybersecurity, Growth Strategies, Operational Excellence, Leadership Development, Advancing Technology, Research Services and Food Processing.

The Center is closely affiliated with the Michigan Economic Development Corporation (MEDC) with the shared goal of making Michigan businesses vibrant, driving GDP growth, and creating new and lasting jobs.

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This booklet reflects certificate courses offered by The Center. For a complete schedule of courses for 2022, visit <u>The-Center.org</u>. All courses listed in this catalog include a certificate upon completion.

# WHO WE ARE

Since 1991, the Michigan Manufacturing Technology Center has been consulting with Michigan's small and medium-sized manufacturers on how to compete and grow. We've assembled a team of experts over the years who are passionate about what they do and don't stop until the job is done. We've worked with thousands of manufacturers to diversify, get lean, and stay relevant. By continuing to work on projects with the same amount of passion, we will do our part to ensure the future of Michigan manufacturing for decades to come.

Today, the Michigan Manufacturing Technology Center is driving innovation and best practices to keep up with changes in the global economy through consulting services such as sustainability and workforce training, expertise in technology implementation, website development, and more. No other organization in the state of Michigan has the people, the experience, or the breadth of resources that we provide. We're strongly committed to our mission of working with manufacturers to thrive and prosper.

# TRAINING LOCATIONS

Most classes can be conducted at locations across Michigan, including at our headquarters in Plymouth, as well as Troy, Sterling Heights, Jackson, Lansing, Traverse City, Kalamazoo and other cities.

#### **ON-SITE TRAINING**

In the pursuit of empowering employees and businesses with invaluable training opportunities, The Center offers customizable, on-site training courses covering Operational Excellence, Business Growth, Workforce Skill Development, and Supply Chain Optimization. For more information about services available at your organization, call 888.414.6682.

#### **HEALTH & SAFETY**

The Center will continue to follow COVID-19 response guidelines set forth by the Centers for Disease Control and Prevention and the state of Michigan. For full details, refer to our Safe Work Playbook in the COVID-19 Resources section on <u>The-Center.org</u>.

### **NEARBY LODGING**

For students needing overnight accommodations, The Center has partnered with various hotels in the area. We hope you'll take advantage of one of the many choices near our Plymouth, Mich. location. To search nearby hotels, visit <a href="https://example.com/hotels/real/black-nearby-nearby-hotels/">https://example.com/hotels/</a>.

# CANCELLATION/RESCHEDULING POLICY

#### ALL CANCELLATION AND RESCHEDULING CHANGES ARE SUBJECT TO THE FOLLOWING CONDITIONS:

- All cancellations and course rescheduling must be done in writing via email at <a href="mailto:events@the-center.org">events@the-center.org</a>. All online registrations must be <a href="mailto:paid via credit card/PayPal">paid via credit card/PayPal only</a>.
- Any course registration canceled 15 calendar days or more prior to original course date will receive a full refund <u>less</u> a \$100.00 administrative fee.
- Any course registration canceled less than 15 calendar days prior to original course date, as well as NO SHOWS, will forfeit all fees.
- Any rescheduling requests must be received at least 15 calendar days or more prior to original course date. A \$100.00 administrative fee will be applicable to all date changes.
- Any rescheduling requests occurring in less than 15 calendar days prior to original course date will be subject to an administrative fee of 50% of the course fee.



A major talent shortage is posing a great challenge for manufacturers as they seek to hire workers with the experience and technical knowledge needed to fill open positions in their facilities. But now, a lack of soft skills, or interpersonal skills, among candidates is making it even more difficult to find the kind of worker that will help their companies succeed in the long run.

Many believe soft skills don't matter as much in a manufacturing career, as technical knowledge is the focus of most work in the industry. However, it is clear that 'soft' skills such as time management, organization, communication and leadership are essential when it comes to being a successful and well-rounded manufacturing employee. To understand the importance of these soft skills, read on to see how different skills can be applied in a manufacturing setting to foster collaboration and support improvements in productivity, delivery and employee morale.

**PROBLEM SOLVING.** The ability to think critically about problems to identify root causes and countermeasures is necessary in all careers, including manufacturing. According to the National Association of Colleges and Employers Job Outlook 2017 survey, 77% of employers say they favor candidates who can think critically. This skill is regularly used in manufacturing, both with conflict resolution between workers and with troubleshooting issues in production.

**LEADERSHIP.** Making conscious efforts to support inclusion, teamwork and motivation among co-workers will result in more collaboration and stronger relationships within the team. This will support continuous improvement initiatives in the facility as teams will work better together to brainstorm innovative ways to improve operations.

**COMMUNICATION.** Lack of effective communication skills can be largely detrimental to a worker's success – and the success of the organization. No matter how technically talented an employee might be, performance can be hindered if they do not have the communication skills needed for everyday interactions at work. Misunderstandings can occur when dealing with customers, or, worse yet, when explaining procedures for operating machinery to other workers.

**ADAPTABILITY.** In manufacturing, it is essential that workers can think on their feet and adapt to disruptions or changes in production. This is especially true with the rise of **Industry 4.0**, as workers must stay up to date on the latest process improvements and be able to quickly adjust to any new practices or equipment.

When looking to hire or promote workers, consider choosing the candidate with the strongest soft skills. While technical skills will fill immediate gaps in operations, soft skills will help both employers and employees find success for years to come.

# CYBER SECURITY AUGMENTED & WIRTUAL REALITY THE CENTER INDUSTRY 4.0 ROBOTICS AUTOMATION

NINE TECHNOLOGY TRENDS FORM THE BUILDING

**BLOCKS OF INDUSTRY 4.0** 

# DISTANCE LEARNING (DL)

The Center offers fully virtual classes in addition to our traditional face-to-face classes. Our live-stream, distance learning classes incorporate multiple learning processes resulting in improved content retention and increased application to the workplace. Each class includes two or more of the following methods: pre-work, live-stream instruction, individual and team tasks, games or contests, assignments for multi-session classes, and a completion project. Full-day classes typically will include 1-2 hours of live-stream in the morning and afternoon with 4-6 hours of offline activities to reinforce the instruction. Virtual learning classes with live instructor include:

#### DI: 8D PROBLEM SOLVING

Many things can go wrong in a manufacturing facility such as errors in specifications, overrun/underrun of quantities, missing production and shipping deadlines. But, what is the root cause of the problem? And, what can be done to solve it? This course presents the necessary tools and teaches how to utilize them. Participants will gain a deeper understanding of how to report findings, determine and apply remedies, and solve the problems so they don't happen again.

½ day of class | \$295/person | 8:00 AM - 12:00 PM

#### DL: APPLIED PROJECT MANAGEMENT

Following the Project Management Book of Knowledge, our Applied Project Management program is an Active Learning Model-based course where participants learn tools and techniques for planning, executing and monitoring strategic initiatives. Participants apply their learning in real-time by working on a project case study. Upon completion, this course satisfies the requirements to sit for the Project Management certification.

10 days of classes | \$1,950/person | 8:30 AM - 12:30 PM

#### DI · BI UFPRINT READING

How to interpret a technical drawing is an essential skill to anyone involved in the manufacturing industry, especially prior to learning GD&T. This Blueprint Reading virtual course is designed for those who need an introduction to drawing interpretation.

1 day of class | \$395/person | 8:00 AM - 5:00 PM

#### DL: FINANCE FOR THE NON-FINANCIAL MANAGER

This class exposes non-financial managers to financial concepts that are relevant to managing any type of business, with an additional focus on manufacturing. The key concept is that managers make daily decisions that impact the financial health of the business, so they need to understand the basics of financial management.

½ day of class | \$295/person | 8:00 AM - 12:00 PM

#### DI: FRONTLINE | FADER

Provide frontline leaders the tools to improve communication, engagement and productivity. Leaders will become more competent and confident resulting in increased employee engagement, better productivity, higher employee satisfaction and reduced turnover. Using our exclusive Active Learning Model participants will learn through assessment, practice, application and reflection.

4 days of classes | \$995/person | 9:00 AM - 12:00 PM

#### DI: GET MORE DONE

The Center's Get More Done class allows participants to improve their personal productivity by assessing workflow, planning improvements using core principles, and turning skills into daily practice. This Active Learning Model class will have you applying your skills immediately.

½ day of class | \$195/person | 1:00 PM - 4:00 PM

#### DI: ISO 9001:2015 INTERNAL AUDITOR

Learn the information necessary for conducting internal quality audits. Emphasis is placed on effective auditing processes, skills and techniques. Participants will be instructed in developing an audit plan and the audit report required for management review. Corrective and preventive action will be reviewed, as well as the 2015 standards and requirements.

3 days of classes | \$995/person | 8:00 AM - 5:00 PM

#### DL: LEAN MANUFACTURING CHAMPION CERTIFICATION

Build your organization's internal Lean capacity as a Lean Champion and better facilitate continuous improvement projects. Cycle through live stream instruction, hands-on application, check meetings, debriefs and presentations. Learn to identify opportunities to remove waste in current processes, build more effective teams, increase productivity, improve quality and reduce stress.

12 days of classes | \$3,500/person | 8:00 AM - 4:30 PM

# DISTANCE LEARNING (DL)

#### DL: LEAN MANUFACTURING **PRACTITIONER**

Lean Manufacturing Practitioner will develop an individual's capability to contribute to an organization's Lean transformation.

4 days of classes | \$1,500/person | 8:00 AM - 4:30 PM

#### DL: LEAN OFFICE CHAMPION **CERTIFICATION**

Build your organization's internal lean capacity as a Lean Champion and learn how to facilitate continuous improvement projects in your workplace. This six-month training will include tools for facilitating change, seeing waste in current processes, building more effective teams, increasing productivity while reducing stress, and improving the quality of services or products delivered to your customer.

12 days of classes | \$3,500/person | 8:00 AM - 4:30 PM

#### DL: LEAN OFFICE PRACTITIONER

Increase your capability to contribute to your organization's Lean transformation.

4 days of classes | \$1,500/person | 8:00 AM - 4:30 PM

#### DL: LEAN SIX SIGMA FUNDAMENTALS

Develops the skills necessary to become a critical part in your organization's quality improvement initiatives. Gain a strong foundation of the Lean and Six Sigma methodologies for meaningful participation in Six Sigma project teams.

4 days of classes | \$995/person | 8:00 AM - 12:00 PM

#### DI: PROBIEM SOLVING

Improve quality by reducing errors and scrap through engaging staff in a structured, problem-solving process based on A3 thinking. This class is designed for employees who are expected to participate in their organization's problem-solving activities or lead a problem-solving team.

1 day of class | \$395/person | 8:00 AM - 4:30 PM

#### DL: TRAIN THE ONLINE TRAINER

Increase effectiveness and confidence as an online trainer with hands-on skill development. Participants will begin with an online interactive module prior to the first session. Participants will work independently to develop a short livestream training during the second session and will receive feedback from fellow participants, coaching from the trainer, and self-reflection.

2 days of classes | \$595/person | 8:30 AM - 11:30 AM

#### **CYBERSECURITY**

#### IMPROVING INFORMATION SECURITY THROUGH RISK MANAGEMENT

In the current age of cyber crime, the information that is important to our business is continually at risk, and a cybersecurity/information security incident can be devastating. It is vitally important that each business understand and manage the risks to their information, systems and network that support their business.

This class provides participants with the means to identify and mitigate information security risks using the NIST Cybersecurity Framework. By utilizing the five primary framework categories (Identify, Protect, Detect, Respond, Recover) participants will learn how to identify information that needs to be protected, improve processes to reduce risk, identify if the information has been compromised and learn how to recover from these compromises.

1 day of class | \$495/person | 8:00 AM - 5:00 PM



#### FOREIGN SUPPLIER VERIFICATION PROGRAM (FSVP)

Gain the knowledge to implement the requirements of the "Foreign Supplier Verification Programs for Importers of Food for Humans and Animals" regulation of the U.S. Food and Drug Administration. This regulation implements the provisions of the 2011 Food Safety Modernization Act.

2 days of classes | \$595/person | 8:00 AM - 5:00 PM

#### PREVENTIVE CONTROLS QUALIFIED INDIVIDUAL (PCQI)

A Preventive Controls Qualified Individual (PCQI) is required to prepare and oversee the implementation of the facility's Food Safety Plan in compliance with FSMA requirements. Key course topics include developing a Food Safety Plan, Hazard Analysis and Preventive Controls, verification and validation procedures, corrective action (recall plan) and record keeping procedures.

This course is recognized by the FDA as meeting the requirements to become a PCQI. Individuals successfully completing this training will receive a certificate from the Food Safety Preventive Controls Alliance (FSPCA).

2 days of classes | \$895/person | 8:00 AM - 6:00 PM

#### FOOD PROCESSING SKILLS **DEVELOPMENT**

Join The Center as we cover topics small business owners and front-line workers in the food industry should know. Learn about current Good Manufacturing Practices and how to write them. Learn about the Food Safety Modernization Act, as well as how to identify and control hazards that impact your food safety plan. Lean culture, 5S, the eight types of waste and problem solving skills are addressed.

1 day of class | \$395/person | 8:00 AM - 5:00 PM



# RISK MANAGEMENT IN FOOD PROCESSING

There are many failures that can occur during food processing. Learn how to identify, prioritize, and eliminate failures that can lead to inefficiencies in subsequent processing steps or ultimately dissatisfied customers. Implement Lean tools such as standard work, problem solving, and error proofing to reduce or eliminate processing failures. At the end of training, participants should be able to perform FMEA analysis on their own processes and make the necessary improvements to eliminate the chance of a failure.

1½ days of ON-SITE TRAINING | \$600/person (minimum of 5 participants)

# **GD&T/BLUEPRINT READING**

#### BLUEPRINT READING (CEU Credits: .7)

How to interpret a technical drawing is an essential skill to anyone involved in the manufacturing industry, especially prior to learning GD&T. This Blueprint Reading course is designed for those who need an introduction to drawing interpretation.

1 day of class | \$395/person | 8:00 AM - 5:00 PM

#### **GD&T COMPREHENSIVE**

Topics covered include:

- Evaluate tolerances for size, form, orientation and location
- Interpret feature control frames for each GD&T symbol
- · Determine correct datum usage
- · Calculate "bonus" tolerance for MMC and LMC
- Apply geometric tolerances to drawings
- · Explain "composite" tolerancing for position and profile

2 days of classes | \$795/person | 8:00 AM - 5:00 PM

#### GD&T FUNDAMENTALS

Learn the importance of the GD&T system, proper identification and call out of datum features, and the effect of modifiers, especially MMC. Attendees will also learn how GD&T saves money over traditional tolerances and how to interpret the 14 symbols.

1 day of class | \$395/person | 8:00 AM - 5:00 PM



#### **TOLERANCE STACKS ANALYSIS**

After learning GD&T concepts, many participants find they need a methodical way of adding tolerances into an overall stack-up analysis. The Tolerance Stacks program is designed for engineers and those who work with stacks. While there is no standard way to do stacks, a spreadsheet method is introduced which allows for both traditional plus/minus tolerances and geometric tolerances. MMC "bonus" and "shift" tolerances are covered.

2 days of ON-SITE TRAINING | \$725/person (minimum of 6 participants)

NEW CLASS DATES ARE ADDED FREQUENTLY.

For a complete schedule of all 2022 courses at The Center, visit <u>The-Center.org</u>.

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The ongoing skilled trades employee shortage is causing many manufacturers to hire from outside of the industry, bringing in people without manufacturing skills or backgrounds. To ease workers' transitions into a manufacturing environment, a strong training program is essential. This is especially critical now as millennials make up a large part of the available workforce, and 87% of millennials view professional development and career growth as very important. To show your company is interested in investing in its employees, training is the answer.

In addition, providing ongoing training to workers contributes to both employee engagement and productivity as their skills are enhanced and efficiencies are improved. This can greatly impact your bottom line, as companies that invest in employee training achieve a 24% higher profit margin than those who don't.

With so much at stake, most companies cannot afford to neglect training for workers. Consider, for example, the following benefits that come from training:

- Training reduces stress and builds confidence.
  Whether someone is completely new to a
  manufacturing environment, or simply trying
  to learn a new process within the facility, the
  effectiveness of their training will determine how
  well they perform. In fact, 74% of workers stated that
  lack of training was the biggest hurdle in achieving
  their full potential at work. By gaining additional
  guidance and understanding through training,
  workers will be set up for success as they can more
  confidently approach their jobs.
- Improved confidence leads to better job satisfaction and production quality. When workers are confident in their abilities, they become more engaged. This

heightened engagement not only improves worker happiness, but also can have massive impacts on quality and productivity.

- Job satisfaction leads to improved employee retention. To ensure talent stays within your company, training can help. As you continue to invest in the skills of workers, their job satisfaction increases, thus eliminating their desire to look elsewhere for work. With 40% of workers leaving their jobs within the first year due to poor training, this aspect cannot be ignored.
- Employee retention leads to more favorable company reviews. By demonstrating that you care about your workers and investing in their professional development, workers will be much more likely to view your company in a favorable way. This will be reflected in employee surveys and workplace culture.
- Favorable reviews attract more workers to your company. When workers are happy with their company, they will likely spread the word to others in person or on review sites such as Glassdoor and Indeed. By establishing a strong reputation as a company that invests in workers and wants them to grow and succeed, hiring efforts will be supported as candidates will view your company in a more favorable and desirable way.

A properly trained employee feels better about the job they are doing and produces quality work. When they produce quality work, they are more engaged in their job and motivated to improve the business as a whole. And just as one bad apple can spoil the basket, the opposite also is true: happiness and engagement are contagious.

# INDUSTRY 4.0

#### ADVANCED MANUFACTURING **TECHNOLOGIES**

Gain an understanding of the Industry 4.0 technologies that have changed the way businesses design, test, manufacture and service products. Class discussions center around the ways in which different technologies - including 3D Scanning/Design, Product/Process Simulation, Digital Twin, Smart Products and Additive Manufacturing - can be applied to continuously improve all aspects of operations, complete with ROI calculations and expected benefits of implementation.

½ day of class | \$295/person

#### DIGITAL PROCESS CONTROL

Do you know how well your business is performing? By implementing targeted digital process control throughout a facility, manufacturers can achieve greater interconnectivity and insight into current operations, ultimately optimizing performance. This course focuses on how to do that! With technologies such as sensors, the Internet of Things and machine monitoring effectively in place, manufacturers can gain a real-time, comprehensive view of current operations to identify key areas in need of improvement and make corrective actions in the moment.

½ day of class | \$295/person

#### ENHANCED OPERATIONS MANAGEMENT

This class provides an overview of Manufacturing Operations Management (MOM) and how it can be used with technology to make systems implementation easier and improve business operations. Class topics covered include the components of MOM, Big Data and Analytics, System Integration and insight for how to get started. Participants will leave with an understanding of the benefits of implementing technology in their operational management system.

½ day of class | \$295/person

#### **HUMAN MACHINE INTERACTION**

Today's manufacturers are faced with many challenges, from a growing talent shortage to issues with variation and productivity. The use of automation and Industry 4.0 technologies provides manufacturers with a way to improve aspects related to quality and efficiency, while making humans' jobs easier.

Learn how technologies such as Robots/Cobots, Augmented & Virtual Reality and System Integration, support workers in dull, dirty or dangerous jobs and help eliminate sources of waste to increase employee engagement, productivity, quality and savings.

½ day of class | \$295/person

#### LEADERSHIP

#### FINANCE FOR THE NON-FINANCIAL **MANAGER**

This class exposes non-financial managers to financial concepts that are relevant to managing any type of business, with an additional focus on manufacturing. The key concept is that managers make daily decisions that impact the financial health of the business, so they need to understand the basics of financial management.

½ day of class | \$295/person | 8:00 AM - 12:00 PM

#### PRACTICAL APPROACH TO PROJECT MANAGEMENT USING SMARTSHEET® (CEU Credits: 1.4)

This course focuses on the discipline of initiating, planning, executing, controlling and closing the work of a team to achieve specific goals and meet specific success criteria. After attending this course, learners will be able to understand the project manager's role in supporting strategic objectives that contribute to the bottom line. Gain leadership skills and business intelligence tools and techniques required to meet project requirements.

2 days of classes | \$1,200/person | 8:00 AM - 5:00 PM

#### SUPERVISOR SKILLS (CEU Credits: 2.8)

Do you have an employee with leadership potential or a newly promoted supervisor or foreman and want to give them practical management training? Get equipped with the knowledge and skills to thrive in today's management environment. Learn how to identify various leadership styles, different behavioral characteristics and how to relate to each, communication barriers and how to overcome them, and how to manage and maximize available time and decrease non-productive activities

4 days of classes | \$975/person | 8:00 AM - 5:00 PM

#### SUPERVISOR SKILLS 2.0 - SUSTAINED LEADERSHIP PROGRAM (CEU Credits: 1.5)

Good leadership is not just characterized by the ability to motivate a group toward a common goal—it's the ability to cross over from being someone employees must follow to someone they want to follow. This course will further equip participants with the knowledge and skills needed to become effective leaders. Topics covered include power of influence, crucial accountability, social styles and learning styles.

Prerequisite: The Center's Supervisor Skills (CEU Credits: 2.8) course

3 days of classes | \$975/person | 9:00 AM - 4:00 PM

# LEAN PRINCIPLES & TECHNIQUES



# 5S APPLICATION TRAINING

The 5S program for the shop floor is a good starting point for a Lean manufacturing improvement activity. Participants will brainstorm methods for removing additional constraints from the manufacturing process in a specific model area within your organization. Learn the basic principles of 5S and successful implementation, the importance of an effective work environment, how to sustain change, and how to overcome issues associated with 5S.

1½ days of ON-SITE TRAINING | \$600/person (minimum of 5 participants)

#### 5S/VISUAL MANAGEMENT & PULL SYSTEMS

Over time, most workplaces become cluttered with outdated and unnecessary information. This course provides the tools needed to clear the clutter and create a visual workplace where there is a place for everything. Learn how to transform a factory into a well-organized operation where messages concerning product quality, productivity, schedule and safety are accurately delivered.

1 day of class | \$495/person | 8:00 AM - 5:00 PM

#### A3 PROBLEM SOLVING

Use problem solving tools to assist in the continual improvement process with emphasis on creating and implementing a Lean Business Strategy. Gain the knowledge to confidently measure and improve your processes through data driven decision making. An exercise in understanding and creating an A3 report is included.

½ day of class | \$295/person | 8:00 AM - 12:00 PM

#### ADVANCED PROBLEM SOLVING: LEAN SIX SIGMA YELLOW BELT (CEU Credits: 2.1)

Lean Six Sigma Yellow Belt (LSSYB) training develops the skills of the professional who participates as a supporting team member in a variety of Six Sigma projects led by Six Sigma Green or Black Belts. Upon class completion (no project required), a LSSYB will understand the broad aspects and foundational elements of Lean Six Sigma methodology. Gain the knowledge to implement, perform, interpret and apply Lean Six Sigma principles in a skilled, yet limited and/or supportive context.

3 days of classes | \$1,500/person | 8:00 AM - 5:00 PM

#### ERROR PROOFING/POKA-YOKE

Understand the benefits of building in quality at the source. Implement methods or devices into the manufacturing process instead of inspection only at the end of the process. Best practice examples of how companies prevent errors or defects are introduced. A hands-on factory simulation is included.

½ day of class | \$295/person | 1:00 PM - 5:00 PM



#### KAIZEN PRACTITIONER

A typical Kaizen event for each model area/product group consists of five days of focused team activity. Participants learn the benefits, characteristics, building blocks, and key performance measures as they facilitate a successful Kaizen event in their own organization. Kaizens available include 5S, Single Minute Exchange of Dies, Total Productive Maintenance and Kanban. Objectives include:

- · Understand Kaizen and basic steps for success
- Document plant layout with Value Stream Mapping
- · Document strengths and opportunities in model area
- · Apply Lean tools and techniques where applicable
- · Balance the workload and restructure the work area to eliminate waste

5 days of ON-SITE TRAINING | \$2,000/person (minimum of 5 participants)

#### LEAN MANUFACTURING CHAMPION: CONTINUOUS IMPROVEMENT WITH TECHNOLOGY (CEU Credits: 3.5)

This training helps organizations successfully implement proven techniques for eliminating waste. Using competency-based and hands-on approaches, this course provides team leaders the knowledge and skills to apply Lean business solutions within their own operations, resulting in reductions in the time and cost to execute business processes.

\* It is recommended that an executive management team member who will be sponsoring the company-wide Lean initiative attends the culture piece on day one to acknowledge commitment of resources and to ensure management objectives and Lean improvement ideas.

5 days of classes | \$1,995/person | 8:00 AM - 5:00 PM 5 days of ON-SITE TRAINING | \$1,995/person (minimum of 6 participants)

NEW CLASS DATES ARE ADDED FREQUENTLY.

For a complete schedule of all 2022 courses at The Center, visit The-Center.org.

# LEAN PRINCIPLES & TECHNIQUES

#### LEAN OFFICE CHAMPION (CEU Credits: 2.1)

Apply Lean principles, beyond the manufacturing floor, right to your front door. Typically 70% of labor costs are attributed to above-the-shop-floor activities including support operations such as quoting, accounting, sales and engineering. This training offers a comprehensive hands-on approach to teach team leaders how to identify opportunities for improvement through reduction in TIME conducting transactional activities.

3 days of classes | \$1,500/person | 8:00 AM - 5:00 PM



#### LEAN SIMULATION

Simulation training will help participants understand how Lean philosophy and techniques can be applied to maximize customer value, minimize waste, and reduce costs through workplace organization and visual controls, cellular manufacturing and one-piece flow, quality at the source, and pull scheduling. The simulation will let participants go through three rounds of setting up a Lean factory. More time is spent learning how a company can transform a traditional manufacturing firm into a Lean producer by focusing on material and information flow resulting in lead-time reductions, improved on-time shipments and quality, increased labor productivity and waste elimination. This class can be designed for low volume/high mix (Timewise) OR high volume/low mix (Buzz) manufacturing environments.

8 hours of ON-SITE TRAINING | \$300/person (minimum of 10 participants)

#### LEAN SIX SIGMA GREEN BELT (CEU Credits: 5.6)

Lean Six Sigma Green Belt (LSSGB) training covers the application of established Lean and six sigma techniques to remove wastes, improve operational speed, lower costs and increase customer satisfaction. This certification focuses on improved quality and accuracy, minimized cost and variation, on-time delivery and optimized operational speed; all which enable organizations to become more efficient and profitable producers. Participants receive a LSSGB certification upon submission of a Lean Six Sigma project report that is reviewed and approved by our Six Sigma Master Black Belt.

\* A project sponsor is strongly recommended and is expected to attend the first session.

8 days of classes | \$3,450/person | 8:00 AM - 5:00 PM

#### RISK MANAGEMENT & TOTAL COST OF OWNERSHIP FOR SUPPLY CHAIN

Risk is everywhere and it impacts companies large and small. This training session helps you to identify the triggers of risk events, the importance of developing a plan to mitigate them when they do occur, and how to establish monitoring metrics and activities so you may be prepared for the inevitable. Participants will also learn how Total Cost of Ownership allows companies to account financially for each activity along the supply chain including costs associated with the acquisition of materials, transportation, storage, and the selling of purchased good or services.

1 day of class | \$495/person | 8:00 AM - 5:00 PM



#### SET-UP TIME REDUCTION (SMED/QCO)

This course focuses on reducing set-up times in order to increase flexibility. Single Minute Exchange of Dies (SMED) refers to the theory and techniques for performing set-up operations in less than 10 minutes. Participants will learn how inexpensive techniques can be implemented to achieve quick changeovers (QCO), which can improve production and reduce waste.

1½ days of ON-SITE TRAINING | \$600/person (minimum of 5 participants)

#### STANDARD WORK

A key ingredient in the creation of a Lean enterprise, Standard Work is a set of procedures for each operational process that documents the most effective, balanced combination of people, machines, materials, and space to meet customer demand. Without Standard Work, processes will change for operational convenience, which are often not in the best interest of the organization or customer.

1 day of class | \$495/person | 8:00 AM - 5:00 PM



# TOTAL PRODUCTIVE MAINTENANCE (TPM) APPLICATION TRAINING

Teach operations the philosophy and skills necessary to transform productive maintenance activities from a "cost burden" to a "cost savings." At the end of instruction, clients should understand:

- The principles and benefits of TPM and autonomous maintenance
- · Calculate Overall Equipment Effectiveness
- The role maintenance provides in continuous improvement
- Improvements made at the shop level can dramatically improve overall company performance

1 ½ days of ON-SITE TRAINING | \$600/person (minimum of 5 participants)

NEW CLASS DATES ARE ADDED FREQUENTLY.

For a complete schedule of all 2022 courses at The Center, visit <u>The-Center.org</u>.

# LEAN PRINCIPLES & TECHNIQUES

#### TOTAL PRODUCTIVE MAINTENANCE/ QUICK CHANGEOVER (TPM/QCO)

Learn how to calculate and use Overall Equipment Effectiveness, the key metric for measuring equipment performance. Emphasis is placed on the importance of teamwork and integration between production and maintenance departments. Two hours of this session focus on reducing set-up times for manufacturers, increasing flexibility. Frequent set-ups are necessary to produce a variety of goods in small lots (low volume-high mix). Inexpensive but highly effective techniques are shown to achieve quick changeovers.

1 day of class | \$495/person | 8:00 AM - 5:00 PM

# UNDERSTANDING LEAN PRINCIPLES & TECHNIQUES 4.0

Understanding Lean Principles & Techniques 4.0 demonstrates how Lean can be applied to an organization to maximize customer value, minimize waste, and reduce costs through workplace organization and visual controls, cellular manufacturing, quality at the source and pull scheduling. This three-round, Lean factory simulation gives participants an understanding of how Lean principles, when effectively applied, can positively impact their company. Learn how to transform a traditional manufacturer into a Lean producer by focusing on material and information flow resulting in lead-time reductions.

1 day of class | \$395/person | 8:00 AM - 5:00 PM



# VALUE STREAM MAPPING & DEPLOYMENT PLAN

Value-Stream Mapping helps clients see manufacturing processes as a Lean production system. Learn how to redesign manufacturing and information flow processes to maximize customer value while minimizing costs and waste. Participants will develop value stream maps on a product/product family, including developing a current state value stream map, identifying waste areas, and creating a future state value stream map. Students then learn how to create a deployment plan to ensure that the future state becomes a reality.

2 days of ON-SITE TRAINING | \$600/person (minimum of 6 participants)

#### WHAT OUR CLIENTS ARE SAYING:

#### LEAN SIX SIGMA GREEN BELT

"Every aspect of the course was insightful. I enjoyed it very much!"

Miguel H., Application Engineer

#### MANUFACTURING SKILLS DEVELOPMENT

"I would definitely recommend this manufacturing skills class for those who want to get a better idea about manufacturing concepts. I loved it!"

Dhruv K., Design Specification

#### AIAG/VDA FMEA FOR PRACTITIONERS

"As someone with no FMEA experience, the instructor took the time to make sure I was keeping up and absorbing the material and participating, not just coasting through the training."

Nolan M., Manufacturing Engineer

# QUALITY MANAGEMENT

#### 8D PROBLEM SOLVING (CEU Credits: .7)

Root cause analysis and problem-solving tools are presented and demonstrated in this session. Both internal (yield issues) and external (warranty, field failure, customer complaint) problems are introduced. Understanding is gained through practical, hands-on exercises using common measurement gauges. Problems are introduced to demonstrate the typical formats for reporting the findings, applying solutions and corrections.

1 day of class | \$395/person | 8:00 AM - 5:00 PM

#### AIAG/VDA FMEA FOR PRACTITIONERS (CEU Credits: 1.4)

This two-day interactive course will equip participants with the knowledge and skills needed to complete the new FMEA methodology, which includes the activities surrounding the 7-Step Approach and use of Action Priority ratings. The seven steps are covered with exercises designed to ensure maximum understanding.

At course completion, participants will have the tools needed to objectively evaluate the effectiveness of their current FMEA process while planning and using the new AIAG-VDA-FMEA process.

2 days of classes | \$795/person | 8:00 AM - 5:00 PM

#### AS 9100D INTERNAL AUDITOR (CEU Credits: 2.1)

Better understand the specifics of the AS 9100D aerospace system and how to audit to it. Learn how various requirements may, or may not, apply to your organization and be better prepared to implement, understand, and audit your system. Auditor tips are studied as well as scheduling, planning, and performing audits. Participants will conduct several mock audits through the process and will gain a practical understanding of both the ISO 9001 and AS 9100 system audit programs.

3 days of classes | \$995/person | 8:00 AM - 5:00 PM

#### CORE TOOLS: APOP, PPAP AND FMEA (CEU Credits: 1.4)

This course blends APQP, PPAP and FMEA and guides participants through the steps of the launch process. Utilized correctly, the deployment of these core tools leads to continuous improvement, defect prevention and reduction in variation and waste.

2 days of classes | \$795/person | 8:00 AM - 5:00 PM

#### CORE TOOLS: MEASUREMENT SYSTEMS ANALYSIS (CEU Credits: .7)

Measurement Systems Analysis (MSA) examines sources of variation in the measurement process, as well as information about measurement characteristics based on accuracy, precision and stability.

1 day of class | \$395/person | 8:00 AM - 5:00 PM

#### CORE TOOLS: STATISTICAL PROCESS CONTROL (CEU Credits: .7)

Attendees run a group of sequentially produced parts and measure them to determine average, range and sigma. Control limits are calculated, and additional samples are measured and plotted to determine where the process is going and why. Interpretations of results and capability study exercises are addressed.

1 day of class | \$395/person | 8:00 AM - 5:00 PM

#### IATF 16949:2016 INTERNAL AUDITOR (CEU Credits: 2.8)

Emphasis is placed on effective auditing processes, skills and techniques. Participants will learn how to develop an audit plan and report required for management review. Corrective and preventive actions will be reviewed. Clear definitions of the five clauses of the IATF 16949 requirements are covered. Participants will also be introduced to techniques for interfacing with third party registrars, as well as non-intrusive auditing practices.

4 days of classes | \$1,195/person | 8:00 AM - 5:00 PM

#### ISO 9001:2015 INTERNAL AUDITOR (CEU Credits: 2.1)

Learn the information necessary for conducting internal quality audits. Emphasis is placed on effective auditing processes, skills and techniques. Participants will be instructed in developing an audit plan and the audit report required for management review. Corrective and preventive action will be reviewed, as well as the 2015 standards and requirements.

3 days of classes | \$995/person | 8:00 AM - 5:00 PM

NEW CLASS DATES ARE ADDED FREQUENTLY.

For a complete schedule of all 2022 courses at The Center, visit <u>The-Center.org</u>.

# QUALITY MANAGEMENT

#### ISO 13485:2016 INTERNAL AUDITOR (CEU Credits: 2.8)

Understand the specifics of the ISO 13485 Medical Device system, and how to audit to it. Learn how the various requirements may, or may not, apply to your type of organization and be better prepared to implement, understand, and audit your system. Auditor tips and techniques are studied as well as scheduling, planning, and performing audits. You will conduct several mock audits and end with a practical understanding of both the ISO 9001 and added ISO 13485 system audit programs.

4 days of classes | \$1,195/person | 8:00 AM - 5:00 PM

#### ISO 14001:2015 INTERNAL AUDITOR (CEU Credits: 1.4)

The ISO 14001:2015 Internal Auditor course will quickly acquaint you with the ISO 14001:2015 standards and requirements. This class will cover ISO 14001:2015 elements and standards, how to diagnose conformances and non-conformances, details of the audit process, measures for implementing corrective action, structured steps for conducting an audit, and structures sequence of a typical audit via an interactive simulation session.

2 days of classes | \$795/person | 8:00 AM - 5:00 PM



#### LAYERED PROCESS AUDIT

Layered Process Audits (LPAs) offer companies tremendous potential benefits. They involve all plant personnel, including multiple levels of management, and cover all key areas in the manufacturing process. Creating an LPA system that is truly effective and obtaining the best, most accurate results requires a solid plan, detailed preparation and knowledgeable personnel.

Learn how to plan, prepare and conduct an LPA on your company's manufacturing processes. Through a combination of coursework and practical application, our instructor will guide you to establish the necessary planning, checklists and reports through hands-on mentoring in a familiar environment.

6 hours of ON-SITE TRAINING | \$400/person (minimum of 5 participants)

#### RISK MANAGEMENT USING FMFA (CEU Credits: 1.4)

Learn the steps of Risk Management using the tool of Failure Mode Effects Analysis (FMEA) to define, manage, and reduce risks. Processes also used in this training include brainstorming, creating SIPOCs and Process Flowcharts to help in the understanding and analysis of the process. Get to know each step of an FMEA, with exercises designed to ensure maximum understanding of both Design FMEA and Process FMEA.

2 days of classes | \$795/person | 8:00 AM - 5:00 PM

# SALES DEVELOPMENT

#### SALES ACCELERATION

Hoping to take your sales strategies to the next level? This course, tailored towards salespeople in the manufacturing industry, offers a comprehensive analysis of your company's sales strategies. Learn how to better understand the current market and how effectively your company is competing within it, using a variety of proven tools such as:

- · Sales and Marketing Strategy
- Market Research Strategies
- SWOT and PEST Analyses
- · Website/Social Media Leverage
- · CRM Analysis
- · Sales Management Tools

2 days of classes | \$799/person | 8:00 AM - 5:00 PM



# SIX SIGMA

#### ADVANCED DESIGN OF EXPERIMENTS

This course focuses on advanced experimental design techniques for variable type response data. Topics covered include a full review of proper design of experiments and analysis, statistically sound approaches for quickly finding significant factors, accounting for nuisance noise variables, multiple approaches for process or product optimization, and techniques for analyzing multiple response variables simultaneously. Application of techniques using Minitab software is also presented.

3 days of classes | \$1,800/person | 8:00 AM - 4:30 PM

#### INTRODUCTION TO DESIGN OF **EXPERIMENTS**

Introduction to Design of Experiments is an interactive two-day course focused on the fundamentals of experimental design for variables (continuous) type response (Y) data. Factors tested can be attribute (categorical) or variables (continuous) type. Included are statistical tests for analyzing one or more factors concurrently. A sequential learning approach is presented to allow the student to achieve real results regardless of experience level. Hypothesis Tests for analyzing given populations as well as Factorial experiments to build new knowledge are included.

2 days of classes | \$995/person | 8:00 AM - 5:00 PM

#### SIX SIGMA BLACK BELT (CFU Credits: 70)

Training employees as Six Sigma Black Belts will provide the valuable skills needed to tackle the toughest problems confronting your organization by coupling the proven Define, Measure, Analyze, Improve, and Control (DMAIC) problemsolving methodology with robust statistical tools. Six Sigma offers a carefully defined road map for achieving business process improvements. Black belt trainees obtain a solid understanding of the tools and methods associated with the Six Sigma approach.

The pace of instruction allows trainees to absorb and quickly deploy Six Sigma. With each session, trainees can immediately apply newly acquired skills to their certification project. This improves the retention of key Six Sigma principles, reinforces contextual learning and builds trainee confidence. On-site mentoring by the instructor allows for any fine-tuning with the trainee and his/her sponsor in their own work environment.

Certification Timeline: The Black Belt candidate is expected to certify within 12 months of the first day of class. If the time line is not met there will be a late fee for certification. The penalty for late certification increases with time.

\* Participation of a project sponsor (usually the candidate's manager or other company leader) is a requirement for Black Belt certification. A sponsor is expected to attend the first training session with the Black Belt candidate, and to be involved in the project review sessions occurring throughout the certification process.

10 days of classes | \$7,350/person | 8:00 AM - 5:00 PM

#### MINITAB TRAINING

MiniTab Training focuses on the fundamentals of MiniTab execution and is ideal for individuals wanting to improve their MiniTab skills. Individuals with no previous MiniTab experience who need to use the software to create and manipulate data files, conduct basic data analysis, conduct basic quality tools such as Run Charts, Pareto Charts and Cause and Effect Diagrams, or who set-up a DOE Run Matrix should register.

1 day of class | \$495/person | 8:00 AM - 5:00 PM

#### SIX SIGMA GREEN BELT (CEU CREDITS: 3.5)

From executive leaders to front-line employees, Six Sigma Green Belt training enhances the way employees approach their day-to-day work. Providing employees with Six Sigma Green Belt training equips them with a logical and objective way to identify, measure and eliminate problems within an organization. Suddenly, employees don't have to just cope with process problems - they begin to recognize and implement solutions to them

A blend of DMAIC project management methods and practical data analysis techniques provide employees with new ways to contribute to the bottom line

Certification Timeline: At the end of the course, each participant will receive a certificate of completion for attending. Certification has three elements: participant has attended all session days, has passed the final exam and provided evidence of involvement in a Six Sigma project to the instructor in the form of a project report.

\* A project sponsor is strongly recommended and ensures that project efforts are consistent with the organization's overall strategy. A sponsor is expected to attend the first training session, and to be involved in the project review sessions throughout the certification process.

5 days of classes | \$2,800/person | 8:00 AM - 5:00 PM

ADVANCED PROBLEM SOLVING: LEAN SIX SIGMA YELLOW BELT (see pg. 9)

LEAN SIX SIGMA GREEN BELT (see pg. 10)

# WORKFORCF

#### **ALLYSHIP**

Stand beside and up for Women, People of Color, LGBTQ and other underrepresented groups. An ally is a person who actively promotes and aspires to advance the culture of inclusion through intentional, positive and conscious efforts that benefit people as a whole. Join this class to:

- Identify and discuss ways in which individuals may be marginalized or overlooked
- Recognize when marginalization happens and its impact on the workplace
- Develop strategies to seek out allies &/or to become an ally
- Move toward playing an advocacy role in influencing those with power and influence
- Learn how to lift others up by advocating and to share growth opportunities with others

\$395/person | 90 minutes (in-person or live instructor-led virtual option)

This class is presented in partnership with the Center for Automotive Diversity, Inclusion & Advancement (CADIA)

# BRIDGE THE GAP: VALUING DIFFERENCE TO FOSTER A CULTURE OF MUTUAL RESPECT

Self awareness and empathy are the hallmarks of great leadership. Increasing the awareness of one's own emotions, as well as those of others, can help us make intentional choices on how to manage and build strong relationships. Attendees will learn the importance of understanding emotions and the impact they can have on behaviors, actions, relationships and workplace culture. Join this class to:

- Learn what emotional intelligence is and why it matters in the work environment
- Recognize and manage personal triggers
- · Increase self, social and situational awareness
- Help ourselves and others feel heard by increasing our awareness of how we respond to each other

 $395/person \mid 90 \text{ minutes (in-person or live instructor-led virtual option)}$ 

-OR-

\$595/person | half day (in-person)

This class is presented in partnership with the Center for Automotive Diversity, Inclusion & Advancement (CADIA)

# DIVERSITY, EQUITY & INCLUSION TO DRIVE BUSINESS OBJECTIVES

Learn about Diversity, Equity & Inclusion (DEI) at a personal and organizational level. Individuals and teams will define why DEI are important to them and to their organization. Join this class to:

- · Learn the history, evolution and business case for DEI
- · Create a personal definition of DEI
- Gain an understanding of the barriers in bringing one's whole self to work
- · Move toward playing an advocacy role in DEI
- · Understand what DEI means at an organizational level
- · Learn why DEI is critical to the company's bottom line

\$395/person | 90 minutes (in-person or live instructor-led virtual option)

-OR-

\$595/person | half day (in-person)

This class is presented in partnership with the Center for Automotive Diversity, Inclusion & Advancement (CADIA)

#### **INCLUSION & BELONGING**

Create and maintain a welcoming environment for all. Attendees will learn how to foster a sense of inclusion and belonging for employees from different identity groups, work styles and experiences. Join this class to:

- Define inclusion and belonging, how they differ and why they matter
- Recognize the signs of a culture lacking inclusion and belonging
- Implement strategies for addressing behaviors that detract from an inclusive culture
- Increase your personal awareness and create a sense of purpose and belonging inside your organization through small, but powerful, daily interactions

\$395/person | 90 minutes (in-person or live instructor-led virtual option)

This class is presented in partnership with the Center for Automotive Diversity, Inclusion & Advancement (CADIA)

NEW CLASS DATES ARE ADDED FREQUENTLY.

For a complete schedule of all 2022 courses at The Center, visit The-Center.org.

# WORKFORCE

#### LEADING REMOTE TEAMS

During the COVID-19 pandemic, companies launched head-first into establishing remote teams, with barely a backwards glance at the unique challenges that exist for both leaders and team members. Learn how to establish best practices, incorporate agreements and use communication tools to effectively lead remote and/or hybrid teams. If managed well, you can expect remote workers to be highly engaged and accountable, as well as successful at building relationships, brainstorming, goal setting and planning. This class teaches you how to:

- Understand the common challenges of remote teams
- · Identify six essential truths for remote leaders
- · Have key conversations and build agreements that impact team trust
- · Learn what styles and approaches work in a remote environment

\$395/person | 90 minutes (in-person or live instructor-led virtual option)

This class is presented in partnership with the Center for Automotive Diversity, Inclusion & Advancement (CADIA)

#### MANUFACTURING SKILLS DEVELOPMENT (CEU Credits: 1.4)

This training is designed for students who are either new to the manufacturing environment or those who need a more thorough understanding of manufacturing. Manufacturing Skills Development will provide a foundation for the processes, approach and culture needed to run an effective and efficient operation. The following topics are covered:

- Quality Management Systems (4 hrs.) Students are introduced to the systems and processes necessary to deliver a conforming product on time and satisfy the customer by controlling variation in the process.
- Problem Solving Skills (4 hrs.) Learn the various techniques for problem solving in the manufacturing environment, focusing on the ability to identify the problem, isolate the root cause, and document the process.
- Lean Manufacturing (4 hrs.) Gain an understanding of Lean principles and techniques and how they can be applied to maximize customer value, minimize waste and reduce cost. Students also will learn about the eight types of waste in every organization and what constitutes a value-added process.
- Culture & Motivation (4 hrs.) Learn the methods and means for operational communication, motivational techniques and conflict management.

2 days of classes | \$995/person | 8:00 AM - 5:00 PM

#### **UNCONSCIOUS BIAS**

Identify and overcome hidden bias for individuals and teams. Everyone who has a brain has bias. By understanding that we're all biased, we can become more aware of our thoughts and actions when relating to others. Learn to pause and put conscious thought behind our actions. Attend this class to:

- · Identify and discuss specific types of bias and begin thinking about them in new ways
- · Recognize and address bias and its impact
- Expose ourselves to more people with identities different than our own to minimize bias
- Move toward playing an advocacy role in influencing those with power and influence

\$395/person | 90 minutes (in-person or live instructor-led virtual option)

-OR-

\$595/person | half day (in-person)

This class is presented in partnership with the Center for Automotive Diversity, Inclusion & Advancement (CADIA)



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#### WANT TO SCHEDULE A COURSE AT YOUR LOCATION? CALL 888.414.6682.

NOTES		

FOR MORE INFORMATION
REGARDING OUR
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