

The Manufacturing Skill Standards Council (MSSC) is an industry-led training, assessment and certification system focused on the industry-wide core skills and knowledge needed by the nation's production workers. The nationwide MSSC System, based upon federally-endorsed standards, offers both entry-level and incumbent workers the opportunity to demonstrate that they have mastered the skills increasingly needed in the high-growth, technology-intensive jobs of the 21st century.

The MSSC System awards "Certified Production Technician_{AE} (CPT_{AE})" certificates to individuals who pass any or all of its five Production modules: Safety; Quality Practices & Measurement; Manufacturing Processes & Production, Maintenance Awareness and Green Production. Applicable to all sectors of manufacturing, the MSSC's "20/20 Vision" to assess at least 20 percent of the front-line production and material handling workforces within 20 years—a strategy for providing industry with a future pipeline of skilled workers.

MSSC offers industry a new set of tools to ensure that both entering and incumbent workers are flexible, easily trainable, and highly motivated knowledge workers able to keep pace with technological change—the "Industrial Athlete of the Future." CPT is the only certification in manufacturing which has been accredited by the American National Standards Institute under ISO standard 17024.

The CPT_{AE} credential sets the gold standard in our nation's factories. MSSC benefits to manufacturers include:

- A new ISO standard in certification companies can use as a common practice throughout their global operations and supply chains
- A pipeline of skilled workers by embedding MSSC certification training into schools
- Decreased recruitment costs by providing job candidates with industry-recognized credentials
- Elimination of remedial training costs by providing well prepared workers
- Increased ROI for training by targeting it against the gaps identified by the MSSC diagnostic tool
- An aid to attracting, motivating and retaining qualified employees

The National Skill Standards Board formally recognized MSSC as the "Voluntary Partnership" for manufacturing in 1998 and officially endorsed the MSSC's industry-led, nationally validated standards in 2001. The development of those standards involved 4000 front-line workers, 700 companies, leading industrial unions, 350 subject matter experts and a public-private investment of over \$9.5 million.

Since that time, MSSC has developed, validated, piloted and deployed all the tools of a comprehensive system: updated standards, on-line and instructor-led courses, computer-based simulation training, textbooks, instructor certification training, assessment center certification, a national registry, assessments, credentials, and diagnostic tools for employers. Companies may use these tools themselves or work through their local community colleges and/or high schools. The key work activities against which MSSC trains and assesses workers is attached, together with a list of testimonials.

In 2011, MSSC expanded the scope of CPT_{AE} to include a fifth green production module to enhance the green-related skills of the production workforce in all manufacturing sectors in order to help manufacturers improve their environmental performance. Thus, we are not limiting GPM to green products manufacturing per se.



Key Work Activities for Standards, Training and Assessments

SAFETY

1. Work in a Safe and Productive Manufacturing Workplace
2. Perform safety and environmental assessments
3. Perform emergency drills and participate in emergency teams
4. Identify unsafe conditions and take corrective action
5. Participate in safety training
6. Participate in equipment safety training
7. Suggest processes and procedures that support safety of work environment
8. Fulfill safety and health requirements for maintenance, installation, and repair
9. Monitor safe equipment and operator performance
10. Utilize effective, safety-enhancing workplace practices

MANUFACTURING PROCESSES & PRODUCTION

1. Identify customer needs
2. Determine resources available for the production process
3. Set up equipment for the production process
4. Set team production goals
5. Make job assignments
6. Coordinate work flow with team members and other work groups
7. Communicate production and material requirements and product specifications
8. Perform and monitor the process to make the product
9. Document product and process compliance with customer requirements
10. Prepare final product for shipping or distribution

GREEN PRODUCTION

1. Train workers in environmental issues
2. Implement and promote environmental programs, projects, policies or procedures
3. Conduct environmental incident & hazard investigations
4. Conduct preventive environmental inspections

QUALITY PRACTICES & MEASUREMENT

1. Participate in periodic or statistically based internal quality audit activities
2. Check and document calibration of gauges and other data collection equipment
3. Suggest continuous improvements
4. Inspect materials and product/process at all stages to ensure they meet specifications
5. Document the results of quality tests
6. Communicate quality problems
7. Take corrective actions to restore or maintain quality
8. Record process outcomes and trends
9. Identify fundamentals of blueprint reading
10. Use common measurement systems and precision measurement tools

MAINTENANCE AWARENESS

1. Perform preventive maintenance and routine repair
2. Monitor indicators to ensure correct operations
3. Perform all housekeeping to maintain production schedule
4. Recognize potential maintenance issues with basic production systems, including knowledge of when to inform maintenance personnel about problems with:
 - Electrical systems
 - Pneumatic systems
 - Hydraulic systems
 - Machine automation systems
 - Lubrication processes
 - Bearings and couplings
 - Belts and chain drives
 - High Vacuum systems
 - Laser Systems
5. Monitor environmental aspects at each stage of production
6. Implement continuous improvement in environmental assurance practices
7. Use advanced materials to reduce waste
8. Reprocess materials by recycling and reuse throughout product life cycle to optimize waste reduction