

Introduction

Employers seeking to enhance their workforce with highly skilled and well-prepared individuals need look no further than the Industrial Manufacturing Technician (IMT), a registered apprenticeship program (RAP) that trains workers for a variety of entry-level manufacturing roles.

The IMT is a flexible, customizable program—not a one-size-fits-all approach and not a job title. With the IMT program, workers can train to become journeyworker assemblers, machine operators, multiple machine operators, industrial engineering technologists and technicians, and more. It is adaptable for clean tech, advanced manufacturing, battery, semiconductors, plastic, metal, wood, and other sectors.

The program provides a nationally recognized, stackable credential and a defined career pathway for incumbent and entry-level workers. Apprentices who complete the IMT program will have the foundational skills to advance along the career ladder into higher-skilled jobs within the manufacturing workplace. This career progression will help employers fill hard-to-fill jobs and upgrade their incumbent workforce.

IMT is an 18-month or 3,000-hour RAP. It trains workers to:

- Set up, operate, monitor and control production equipment.
- Help improve manufacturing processes and schedules to meet customer requirements.
- Efficiently and safely manage raw materials/consumables.

Apprentices completing the IMT program will receive an industry-recognized credential as a "journeyworker" and will be registered by the state apprenticeship agency or federal office of apprenticeship.

The program offers several advantages for employers:

- It is customizable to meet an employer's skill requirements.
- Qualified participants exit the program with journey-level certification.
- The 3,000 hours includes 2,736 hours of on-the-job training (OJT) and 264 hours of related technical instruction (RTI), i.e., classroom instruction.

IMT allows apprentices to advance through the program via time-based requirements, by meeting competency-based requirements, or with a hybrid approach. The employer or joint apprenticeship committee, where there is one, determines the approach for their program.

On-the-Job Training — 2,736 hours

IMT builds the skills and competencies of apprentices in the full range of the production work cycle within a given company. During the 2,736 hours of on-the-job training (OJT), the trainee is both working (being productive) and learning. The OJT includes a customizable Job Book that spells out detailed competency levels for such skills as equipment setup and operations, safety, routine equipment maintenance, use of mechanical tools and testing equipment—that is, the Job Book reflects the specific needs of each company.

Workers who already have experience in certain skills or who have completed other courses may qualify for "advanced standing," potentially shortening the number of hours required to achieve the journey-level credential.

The OJT part of the program is delivered alongside a formal mentoring program. Each apprentice is assigned an experienced and skilled mentor who demonstrates new skills, observes and provides feedback on the apprentice's performance, and signs off when the apprentice shows mastery of the demonstrated skills. When the employer determines the apprentice has mastered all of the skills and competencies in the Job Book, all materials are reviewed by the registered apprenticeship sponsor before the apprentice is awarded the completion credential.

Related Technical Instruction — 264 hours

Related technical instruction (RTI) refers to classroom and lab learning experiences. It complements the on-the-job training and helps apprentices develop the necessary technical, workforce and academic skills for their job. RTI, like other aspects of the program, is both flexible and customizable.

Textbook readings, written exams, lab and hands-on training, learning how to be a mentor and classroom instruction all can be part of RTI. It can take place at a training center or college, and courses can be in person, online or use a hybrid combination of both. IMT's related technical instruction includes:

- Industrial math and blueprint reading
- CPR and OSHA 10 safety training
- Quality practice and measurement
- Manufacturing processes and production
- Maintenance awareness
- Communication for apprentices
- Additional requirements identified by employers

On-the-Job Training Competencies	Approx. Hours
Operate production equipment	1,000
Produce products that meet or exceed quality standards	500
Interpret technical information	200
Measure/inspect work using mechanical tools and testing equipment	200
Set up production equipment	200
Local options customized to meet industry-specific requirements	136
Demonstrate continuous improvement, such as demonstrating familiarity with lean manufacturing and Six Sigma principles	100
Demonstrate knowledge of electrical and/or mechanical maintenance	100
Demonstrate knowledge of inventory and material processes	100
Demonstrate knowledge of trends and the current state of business	100
Protect self and other workers from accidents and injuries	100
TOTAL	**2,736***

** NOTE: Some programs may have up to 3,000 OJT hours.*

Related Technical Instruction Courses	Approx. Hours
Industry sector-specific courses	30
Quality Assurance and Continuous Improvement	28
Manufacturing 101	24
Measurements and Computations Using Gauges and Tools	24
Measurements, Gauges and Tools	24
Mechanical Knowledge	24
Tool Basics for Machine Operator	24
Safety for Manufacturing	20
Blueprint Reading	16
Manufacturing 2	16
Industrial Math	10
Communication Skills	8
Digital Literacy	8
Transition to Trainer	8
TOTAL	**264**

Want to know more? Reach out to the Working for America Institute.
www.workingforamerica.org • info@workingforamerica.org

This workforce product was funded by a grant awarded by the U.S. Department of Labor's Employment and Training Administration. The product was created by the recipient and does not necessarily reflect the official position of the U.S. Department of Labor. The U.S. Department of Labor makes no guarantees, warranties or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability or ownership. This product is copyrighted by the institution that created it.