Career & Technical Education Licensure
Manufacturing Careers

Name:_____

Mailing Address:_____

Telephone: Work (Area): _____ Home (Area):_____

Fax: (Area Code):_____ E-mail:_____

Date of First Review:_____

Date of Second Review:_____

Date of Third Review:_____

Degree of Attainment

0 = No evidence exists.
1 = Evidence of learning does not meet the standard
2 = Limited evidence of knowledge and skills exists.
3 = Evidence of knowledge & skills meets or exceeds standard

* If in 0 or 1, recommendation must be addressed

Standard	Candidates Evidence of Proficiency	Degree of Attain.	Recommendations to Gain Proficiency
A candidate for licensure as a teacher of manufacturing careers must complete at least a baccalaureate degree from a regionally accredited college or university and a preparation program under subpart 2 that must include the candidate's demonstration of the knowledge and skills in items A to E.			
A. A teacher of manufacturing careers must demonstrate the knowledge and applications of academic subject matter required for proficiency in the following areas: 1) knowledge of math and science to manufacturing situations within specific manufacturing careers;			

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2) technical reading and writing in a manufacturing environment such as creating and interpreting graphs, charts, manuals, journals, and specifications; 3) problem solving in mathematical applications such as equations, formulas, and processes; and 4) applying manufacturing terminology for communication with co-workers, customers, and employers.			
B. A teacher of manufacturing careers must demonstrate knowledge and application of safety principles according to the rules and regulations of: 1) the Occupational Safety and Health Administration (OSHA); 2) the Environmental Protection Agency (EPA); and 3) the Material Safety Data Sheets (MSDS).			
C. A teacher of manufacturing careers must demonstrate knowledge and application of manufacturing careers by: 1) describing potential manufacturing careers; 2) describing the levels of education, licensing/certification requirements, employment opportunities, workplace environments, potential salaries, and career growth potential; and 3) utilizing personal occupational experiences to make manufacturing careers meaningful to the students.			
D. A teacher of manufacturing careers must			

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demonstrate the knowledge and ability of the processes used to take a blueprint and manufacture a product from beginning to end using industry standards. These processes include: 1) general processes for manufacturing technology include: blueprint reading, layout techniques, handtool processes/ identifications, measurement techniques, metallurgy, sawing techniques, abrasive processes, drilling techniques, quality control, jigs, fixtures and fasteners, accreditation/certification, laser processes, sheet metal processes, forging processes, and plastic technologies; 2) specific processes for machine trades including: precision measurement techniques, milling processes, turning processes, forming processes, precision grinding, numerical control, plastics/laminates processes, electrical discharge machining processes, stereo-lithography, tool and cutter grinding, computer aided drafting (CAD), computer aided machining (CAM), and geometric tolerancing; 3) specific processes for welding trades including: electrical polarities, electrode classifications, plasma arc cutting (ARC), oxy, fuel cutting (OFC), automatic cutting processes, gouging processes, oxy, acetylene welding			

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(OAW), shielded metal arc welding (SMAW), gas metal arc welding (GMAW), flux core arc welding (FCAW), gas tungsten arc welding (GTAW), submerged arc welding (SAW), plasma arc welding (PAW), hard facing processes, and weld testing (nondestructive/destructive).			
E. A teacher of manufacturing careers must demonstrate knowledge and application of legal responsibilities and ethical practices in manufacturing including: 1) mortality and ethics and the relationship of each to manufacturing occupations, such as falsifying documents; 2) legal and policy issues impacting manufacturing industries, such as errors and omissions, negligence liabilities, and environmental issues and concerns; 3) understanding the importance of customer satisfaction, such as on-time delivery and quality control; 4) employee protection documents, such as the Right to Know regulations; and 5) requirements for reporting and documentation of any activity that adversely affects the welfare of customers and fellow workers, such as incidence reports and hazardous material spills.			

Teacher of Manufacture Careers
Subject Matter Standard Evidence
For Licensure in Career and Technical Education

SAMPLE TYPES OF EVIDENCE AN APPLICANT CAN PRESENT TO SHOW THEY HAVE DEVELOPED COMPETENCE IN THE SUBJECT MATTER STANDARD OF THEIR SPECIFIC FIELD

Type of Evidence	Accept	Not Accept	Criteria – Specify	Considerations/Comments
Work Experience Minimum Recentness. Paid/Non-paid Required for license renewal Other (specify) **Volunteer experiences if related to manufacture area and can be adequately documented to demonstrate skills and knowledge gained**	Yes Yes Yes Yes Yes Yes Yes		**As specified by licensure rules for non-degreed person 4 years work experience required for Temporary Limited licensure**.	A. Work experience should demonstrate a variety of subject content matter gained through a variety of diverse work situations. Work experience should be skilled in nature related to the manufacture trades. B. Work such as a laborer doing repetitive tasks requiring minimal skills will not be considered. Skill competencies can be demonstrated such as with a journeyperson status from an apprenticeship program. A. Certification or licensure can be used to demonstrate industry skill proficiency such as (AWS) American Welding Society, NIMS, or other.
Education Degree Major/Program Apprenticeship Internship Other (specify) **Industry certification in the areas related to the manufacturing industry.**	Yes Yes Yes Yes Yes Yes Yes		(A.A.S., B.S. B.A.) Masters Ph.D.	A. Education qualifications to demonstrate construction knowledge as identified in the licensure subject matter of the Teacher of Construction Careers. B. Education degree in Industrial Technical Education/Technology Education will demonstrate some but not all subject matter content for licensure in Career and Technical Education. C. Other related degrees from a Technical or Community College related to the particular licensure such as Engineering, Machine Trades, Computer Numeric Control, Welding or other. D. Apprenticeship documenting attainment of proficiency, 8000 hours required for a journeyperson status. E. Internships if related to a course of study hours can count 2 to 1 for an approved supervised internship.
Other Certification Trade/Professional License	Yes Yes Yes			A. Trade Professional Licenses must be current. B. Military with clinical credits and documented civilian C. Portfolio to contain qualifications and appropriate supporting

Type of Evidence	Accept	Not Accept	Criteria – Specify	Considerations/Comments
Exam/Boards Military Personal Portfolio (photos, work samples, etc.) Other (specify)	Yes Yes Yes Yes Yes			documentation verifying work hours and study hours. Supporting documentation to include references verifying appropriate work experiences and course work completed from previous employers and educational institutions. D. Membership in professional organization(s) related to Manufacture Careers demonstrating a leadership role. E. Leadership roles in related student leadership organizations