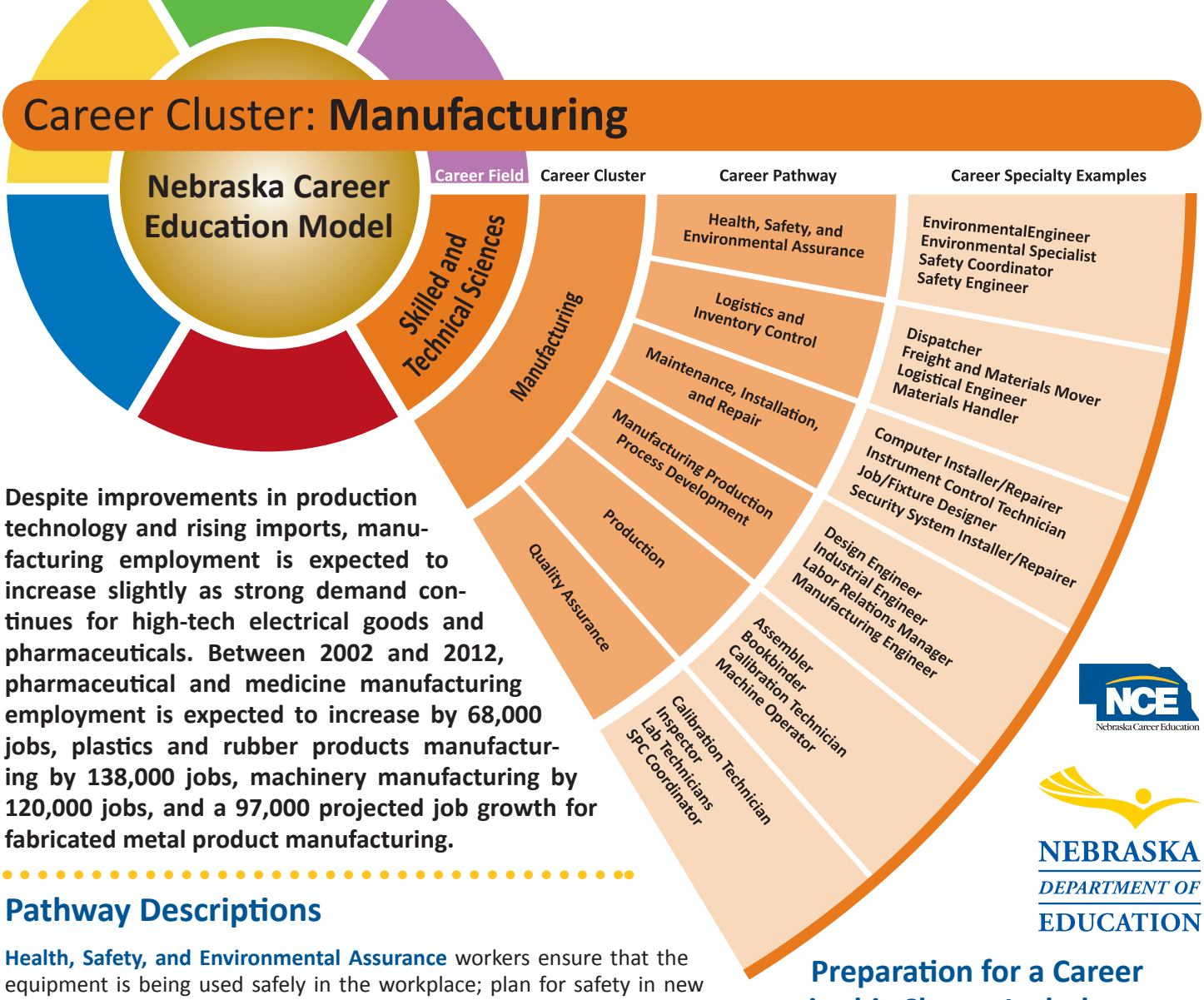
Career Cluster: **Manufacturing**



Despite improvements in production technology and rising imports, manufacturing employment is expected to increase slightly as strong demand continues for high-tech electrical goods and pharmaceuticals. Between 2002 and 2012, pharmaceutical and medicine manufacturing employment is expected to increase by 68,000 jobs, plastics and rubber products manufacturing by 138,000 jobs, machinery manufacturing by 120,000 jobs, and a 97,000 projected job growth for fabricated metal product manufacturing.

Pathway Descriptions

Health, Safety, and Environmental Assurance workers ensure that the equipment is being used safely in the workplace; plan for safety in new production processes; conduct hazard investigations and inspections; and implement health, safety, and/or environmental programs, projects, policies, or procedures.

Logistics and Inventory Control workers move raw materials, unload trucks, wrap pallets for shipment, and communicate with traffic managers.

Maintenance, Installation, and Repair workers perform preventive maintenance procedures on machines, tools, and equipment. They also troubleshoot and repair electrical, electronic, and mechanical systems.

Manufacturing Production Process Development workers are responsible for product design of the manufacturing process. They also monitor the manufacturing process and the materials used to manufacture the product.

Production workers make parts or assemble them. They work with machines, making or assembling electronic parts, constructing or assembling modular housing, performing welding jobs, or printing materials.

Quality Assurance workers assure that standards and procedures are adhered to and that delivered products or services meet performance requirements.

NCE
Nebraska Career Education

NEBRASKA
DEPARTMENT OF
EDUCATION

Preparation for a Career in this Cluster Includes...

Nebraska Career Education Coursework

Intro to the Manufacturing & Mechatronics
Manufacturing Wood/Metals/Plastics/Welding
Electronics
Distribution & Logistics
Mechatronics

Extended Learning

SkillsUSA
OPPD/NPPD Power Drive
Robotics Competition
FFA
Math Club
Connect with manufacturing professionals
Learn about the history of the buildings in your community
Learn to repair machinery
Learn to use the latest tools for home repair
Tour a factory

Job shadow professionals
Participate in internships
Secure part-time employment
Volunteer in this career area

For additional Career Cluster Information visit: www.nebraskacareerconnections.org.

Postsecondary Options: **Manufacturing**

Students preparing for a career in the Manufacturing Career Cluster have a variety of postsecondary options. Education and training can be obtained through onthe- job training, technical colleges, two-year community colleges, four-year colleges/universities, and apprenticeship programs. They can enter programs leading to a certificate or a degree at the associate, baccalaureate, or advanced degree level. The table below shows examples of postsecondary Manufacturing programs of study organized by pathway.

	High School Diploma On-the-Job Training	Certificate/License	Associate's Degree	Bachelor's Degree	Master's/Doctoral Professional Degree
Health, Safety, and Environmental Assurance			Environmental Engineering Technology Environmental Studies Occupational Safety and Health	Environmental Engineering Environmental Studies Occupational Safety and Health	Environmental Biology Environmental Studies Occupational Safety and Health
Logistics and Inventory Control	Heavy Equipment Operation Industrial Truck and Tractor Operation Material Handling	Truck Driving	Logistics and Materials Management Industrial Truck and Tractor Operation Transportation, Distribution, and Logistics	Logistics and Materials Management Industrial Truck and Tractor Operation Transportation, Distribution, and Logistics	Logistics and Materials Management
Maintenance, Installation, and Repair	Business Machine Technology Custodial Services Electronics Technology	Computer Installation and Repair Electronics Technology Industrial Mechanics	Diesel Technology Manufacturing Technology Mechanical Engineering Technology Industrial Technology	Biomedical Technology Manufacturing Technology Mechanical Engineering Technology	
Manufacturing Production Process Development	Construction Trades	Construction Trades	Architectural Engineering Technology Automotive Engineering Technology Drafting & Design Technology	Architectural Engineering Civil Engineering Computer Engineering	Architecture Civil Engineering Construction Management and Inspection Transportation and Highway Engineering
Production	Iron working Precision Production Upholstering and Leather working Woodworking	Iron working Precision Crafting and Repair Upholstering and Leather working Welding	Building Construction Electrical and Electronics Engineering Technology Iron working	Computational Mathematics Electrical and Electronics Engineering Technology Operations Management	Computational Mathematics Operations Management
Quality Assurance		Quality Control Technology	Occupational Safety and Health Quality Control Technology	Occupational Safety and Health Quality Control Technology	Occupational Safety and Health

For additional information on the Manufacturing Career Cluster please contact:

Tony Glenn
Skilled and Technical Sciences
Career Field Specialist

Nebraska Department of Education
301 Centennial Mall South
Lincoln, NE 68509

Phone: 402-471-4819
Email: tony.glenn@nebraska.gov
Web: www.education.ne.gov/TEAM