

Ag and Food Careers in Pennsylvania

A Desk Guide for Educators and Counselors

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pennsylvania
DEPARTMENT OF AGRICULTURE

Agriculture and Food Careers in Pennsylvania

An Overview

In light of demographic and technology trends that will impact the US workforce in the next 10-20 years, particularly the Baby Boom workforce changing its relationship to work and the constant changes in new technology, the human capital pipeline in all industries will be severely impact. Companies will not only run out of skilled people to operate technology but there will be more general labor shortages of workers just to get basic tasks done. Skills and labor shortages become economic development issues for local areas because they impact productivity and, in many cases, can lead companies to move production facilities to other areas around the country that can supply a pipeline of skilled workers.

For Pennsylvania, agriculture and food-related industries are the backbone of the statewide economy. These industries employed nearly 500,000 people across the Commonwealth in 2015 with a \$40 billion value-added impact on the Pennsylvania economy. Our workforce development efforts support the economic development role of the PA Department of Agriculture on behalf of the state economy as well as its business development responsibilities for the agriculture and food industries.

To remain competitive in the global marketplace, the agriculture and food industries in PA must resolve the problem of an aging workforce...and do it soon. The Secretary of Agriculture has proposed an initiative to identify a demand-driven career pathway, to marshal substantial resources that already exist in a variety of systems, to identify gaps in education and training, to focus on work-based learning as methods to fill those gaps, and to account for the needs of young people and adults as a way of finding a solution to the shortage of talent in the near and long-term.

For the period from 2015 through 2025, the Department estimates that there will be more than 75,000 new and replacement job openings in agriculture and food careers in Pennsylvania.

Addressing this shortage can be accomplished using existing concepts and processes. However, current information will need to be made more specific for the agriculture and food industries through a study of the unique career pathways and the requirements of employers in these targeted industries. There are also considerable resources for education and training that can address the needs that are identified but they will need to be supplemented by new content and processes that account for the changing nature of these key industries.

As the PA Department of Agriculture moves into the project, we have collected a wide variety of data from government and proprietary sources as well as direct input from people in the Agriculture and Food Industries. We have recently identified over twenty occupations where labor and skill shortages seem to exist

and for which we are in the process of collecting detail from industry and the education worlds.

This information will be brought to focus groups representing the Agriculture and Food Industries so that employers can provide their insight on the importance of the jobs and the gap that exists in filling the career highways for each. These conversations will yield information for further dialogue with educators.

Career Clusters and Occupations

Farming and Agricultural Operations

- Farm Manager
- Dairy Herdsman
- Farm Equipment Mechanics and Service Technicians
- Farmworkers-Farm, Ranch, and Aquacultural Animals
- Farmworkers and Laborers-Crop, Nursery, and Greenhouse

Landscaping

- Landscaping and Groundskeeping Worker

Food Manufacturing

- Food Batchmakers
- Packaging Machine Operators
- Bakers
- Butchers
- Slaughters and Meat Packers
- Meat Trimmers
- Inspectors, Testers, Samplers, and Weighers
- Industrial Machinery Mechanics
- General Maintenance and Repair Workers
- Heavy and Tractor Trailer Truck Driver
- Forklift Driver

Forestry, Lumber, and Wood Products

- Fallers
- Logging Equipment Operator
- Sawing Machine Operator
- Team Assemblers
- Paper Goods Machine Operators
- Sales Representatives, not medical or scientific products

Conservation and Natural Resources

- Soil and Water Conservationists
- Agriculture Technician

Animal Health and Veterinary Services

- Veterinarians
- Veterinary Technologists and Technicians
- Veterinary Assistants
- Medical and Clinical Laboratory Technician

Understanding the Information on an Occupational Overview and Its Source

Summary statement comes directly from the O*Net profile.

Vital Statistics

- SOC is Standard Occupational Classification system from the Bureau of Labor Statistics of the US Department of Labor. This is a hierarchical classification system. Normally, a six-digit code is used.
- CIP is Classification of Instructional Programs from the US Department of Education. The Center for Workforce Information and Analysis provides a crosswalk from the SOC codes to the CIP codes in PA.
- Median Hourly Wage, 2015 Jobs, and Openings from 2015-2024 comes from the Compatible O*Net Occupations report from Economic Modeling Specialists International.
- WorkKeys is a product of ACT, a nationally-recognized career readiness service which offers a database of expected levels in Applied Mathematics, Locating Information, and Reading for Information for many occupations.
- Military Occupation Specialties (MOS) are descriptions of specific job activities for enlisted personnel in the military branches.
- NCAE/AFNR are the national standards used by agricultural education programs to inform curriculum developers of the expectations of employers for people graduating from the program.
- Keystone refers to the Keystone Exams which are end-of-course assessments designed to assess proficiency in the subject areas of Algebra I, Algebra II, Geometry, Literature, English Composition, Biology, Chemistry, U.S. History, World History, and Civics and Government. The Keystone Exams are one component of Pennsylvania's new system of high school graduation requirements. Keystone Exams will help school districts guide students toward meeting state standards.

Duties, Knowledge, and Skills come directly off the O*Net Profile for the occupation.

Education, Training, and Certificates comes from several sources.

- The first line comes from the Compatible O*Net Occupations report that was referenced above.
- Higher Education comes from Program Overview report of the Programs module of EMSI.
- Related Career and Technical Education Programs comes from the listing from the PA Department of Education of its technical programs around the Commonwealth.

Top Compatible Occupations comes from the Compatible O*Net Occupations report referenced above. Each line include the SOC code of the other occupation; the % of compatibility between the knowledge, skills, and abilities of the two jobs; and the wage of the job being compared.

Farming and Agricultural Operations

Farm Manager

Plan, direct, or coordinate the management or operation of farms, ranches, greenhouses, aquacultural operations, nurseries, timber tracts, or other agricultural establishments. May hire, train, or supervise farm workers or contract for services to carry out the day-to-day activities of the managed operation. May engage in or supervise planting, cultivating, harvesting, financial, or marketing activities.

Related Job Titles: Accredited Farm Manager (AFM), Cash Crop Farmer, Dairy Farmer, Farm Manager, Farm Operator, Farmer, Grain Farmer, Ranch Manager, Rancher, Sow Farm Manager

Vital Statistics

- SOC: [11-9013.02](#)
- CIP
 - 01.0101 Agricultural Business and Management, General
 - 01-0102 Agribusiness/Agricultural Business Operations
 - 01-0104 Farm/Farm and Ranch Management
 - 01.0199 Agricultural Business and Management, Other
 - 01.0301 Agricultural Production Operations, General
 - 01.0302 Animal/Livestock Husbandry and Production
 - 01.0304 Crop Production
 - 01.0306 Dairy Husbandry and Production
 - 01.0307 Horse Husbandry/Equine Science and Management
 - 01.0308 Agroecology and Sustainable Agriculture
 - 01.0901 Animal Sciences, General
 - 01.0902 Agriculture Animal Breeding
 - 01.0903 Animal Health
 - 01.0904 Animal Nutrition
 - 01.0905 Dairy Science
 - 01.0906 Livestock Management
 - 01.0907 Poultry Science
 - 01.1101 Plant Sciences, General
 - 01.1102 Agronomy and Crop Science
 - 01.9999 Agriculture, Agriculture Operations and Related Sciences, Other
 - 52.0101 Business/Commerce, General
 - 52.0201 Business Administration and Management, General
 - 52.0299 Business Administration, Management, and Operations, Other
- Median Hourly Earnings: \$32.72

- 2015 Jobs: 17,420
- Openings from 2015-2024: 2,950
- WorkKeys (AM-LI-RI): 5-5-4
- Military Occupation Specialty (MOS): None
- Program of Study: None
- NCAE/AFNR
 - Agricultural Business Systems Pathway
 - ABS.01.03. Devise and apply management skills to organize and run an AFNR business in an efficient, legal and ethical manner.
 - ABS.01.01. Apply micro- and macroeconomic principles to plan and manage inputs and outputs in an AFNR business.
- Keystone
 - A1.1.1.4. Use estimation to solve problems.
 - A1.2.1.2. Create, interpret, and/or use the equation, graph, or table of a linear function.
 - BIO.B.1.2. Explain how genetic information is inherited.
 - BIO.B.2.4. Apply scientific thinking, processes, tools, and technologies in the study of genetics.
 - LIT.N.2.1.1. Make inferences and/or draw conclusions based on analysis of a text.
 - LIT.N.2.2.3. Explain, interpret, compare, describe, analyze, and/or evaluate connections between texts.
 - LIT.N.2.5.1. Differentiate between fact and opinion.

Duties

- Direct crop and/or animal production processes
- Monitor activities such as irrigation, chemical application, harvesting, milking, breeding, and grading to ensure adherence to safety standards
- Maintain financial, operational, production, and/or employment records
- Inspect farm equipment to ensure proper functioning
- Evaluate marketing or sales alternative; prepare budgets and financial reports
- Hire and train workers

Knowledge

- Food production
- Administration and management
- Production and processing
- Mathematics

- Economics and accounting
- Mechanical

Skills

- Critical thinking
- Judgment and decision-making
- Speaking
- Coordination and monitoring
- Active listening
- Complex problem-solving

Education, Training, and Certificates

- 38% have Bachelor's degree, 27% have Post-Secondary Certificate, 30% have a High School diploma or GED
- Higher Education
 - Agricultural Business Operations
 - Delaware Valley University, Doylestown, PA (Bachelor's and Master's)
 - Penn State University, College of Agricultural Science, State College, PA (Bachelor's)
 - Animal Science
 - Delaware Valley University, Doylestown, PA (Bachelor's)
 - Penn State University, College of Agricultural Science, State College, PA (Doctor, Masters, Bachelor's)
 - Dairy Science
 - Delaware Valley University, Doylestown, PA (Bachelor's)
 - Other Animal Sciences
 - Delaware Valley University, Doylestown, PA (Bachelor's)
 - Agronomy and Crop Science
 - Delaware Valley University, Doylestown, PA (Bachelor's)
 - Penn State University, College of Agricultural Science, State College, PA (Doctor, Masters, Bachelor's)
 - Plant Science and Integrated Pest Management
 - Penn State University, College of Agricultural Science, State College, PA (Bachelor's)
- High School Agriculture Programs
 - General Agriculture (30)
 - General Agricultural Production Operations (50)
 - General Animal Sciences (7)

Top Compatible Occupations

- First-Line Supervisors of Agricultural Crop and Horticulture Workers (45-1011.07) (94%) (\$25.22)
- First-Line Supervisor of Animal Husbandry and Animal Care Workers (45-1011.08) (94%) (\$25.22)
- Precision Agriculture Technicians (19-4099.02) (93%) (\$22.47)
- Environmental Engineering Technicians (17-3025.00) (92%) (\$22.12)
- Soil and Water Conservationist (19-1031) (91%) (\$26.15)
- Food Scientist (19-1012) (90) (\$30.35)
- Agricultural Equipment Operator (45-2091) (74%) (\$14.00)

Dairy Herdsman

Directly supervise and coordinate activities of animal husbandry or animal care workers.

Related Job Titles: Animal Care Supervisor, Animal Caretaker Supervisor, Cattle Manager, Dairy Farm Operations Manager, Dairy Manager, Farm Manager, Farm Supervisor, Feed Manager, Herdsman, Sow Farm Manager

Vital Statistics

- SOC: [45-1011.08](#)
- CIP
 - 01.0101 Agricultural Business and Management, General
 - 01-0104 Farm/Farm and Ranch Management
 - 01.0199 Agricultural Business and Management, Other
 - 01.0301 Agricultural Production Operations, General
 - 01.0302 Animal/Livestock Husbandry and Production
 - 01.0304 Crop Production
 - 01.0306 Dairy Husbandry and Production
 - 01.0901 Animal Sciences, General
 - 01.0902 Agriculture Animal Breeding
 - 01.0904 Animal Nutrition
 - 01.0905 Dairy Science
 - 01.0906 Livestock Management
 - 01.0907 Poultry Science
- Median Hourly Earnings: \$25.22
- 2015 Jobs: 1,117
- Openings from 2015-2024: 280
- WorkKeys; None
- Military Occupation Specialty (MOS)
 - 68T Animal Care Specialist (Army-Enlisted)
- Program of Study
 - None
- NCAE/AFNR
 - Animal Systems Pathway
 - AS.01.01. Evaluate the development and implications of animal origin, domestication and distribution on production practices and the environment.
 - AS.02.01. Demonstrate management techniques that ensure animal welfare.
 - AS.03.01. Analyze the nutritional needs of animals.

- Keystone
 - A1.1.1.1. Compare and/or order any real numbers.
 - A1.2.1.2. Create, interpret, and/or use the equation, graph, or table of a linear function.
 - BIO.A.3.2. Identify and describe how organisms obtain and transform energy for their life processes.
 - BIO.A.4.2. Explain mechanisms that permit organisms to maintain biological balance between their internal and external environments.
 - BIO.B.4.1. Identify and describe the cell structures involved in transport of materials into, out of, and throughout a cell.
 - LIT.N.2.1.1. Make inferences and/or draw conclusions based on analysis of a text.
 - LIT.N.2.2.3. Explain, interpret, compare, describe, analyze, and/or evaluate connections between texts.
 - LIT.N.2.5.1. Differentiate between fact and opinion.

Duties

- Observe animals for signs of illness, injury, or unusual behavior
- Monitor animal care, maintenance, breeding, or packing and transfer activities to ensure work is done correctly
- Train workers in animal care procedures, maintenance duties, and safety precautions
- Treat animal illnesses or injuries, following experience of advice from veterinarians
- Assign tasks such as feeding and treatment of animals and cleaning and maintenance of animal quarters

Knowledge

- Biology
- Administration and management
- Mechanical
- Education and training
- Food production

Skills

- Critical thinking
- Management of personnel resources
- Speaking
- Coordination
- Monitoring

Education, Training, and Certificates

- 52% have High School diploma, 29% have a Bachelor's degree
- Higher Education
 - Agricultural Business Operations
 - Delaware Valley University, Doylestown, PA (Bachelor's and Master's)
 - Penn State University, College of Agricultural Science, State College, PA (Bachelor's)
 - Animal Science
 - Delaware Valley University, Doylestown, PA (Bachelor's)
 - Penn State University, College of Agricultural Science, State College, PA (Doctor, Masters, Bachelor's)
 - Dairy Science
 - Delaware Valley University, Doylestown, PA (Bachelor's)
 - Other Animal Sciences
 - Delaware Valley University, Doylestown, PA (Bachelor's)
 - Veterinary and Animal Health Technology
 - Great Lakes Institute of Technology, Erie, PA (Associate's)
 - Lancaster County Career and Technology Center, Lancaster, PA (Associate's)
 - Vet Tech Institute, Pittsburgh (Associate's)
 - Sanford-Brown Institute, Pittsburgh, PA (Associate's)
 - Harcum College, Bryn Mawr, PA (Associate's)
 - Manor College, Jenkintown, PA (Associate's)
 - Johnson College, Scranton, PA (Associate's)
 - Lehigh Carbon Community College, Schnecksville, PA (Associate's)
 - Northampton County Community College, Bethlehem, PA (Associate's)
 - Wilson College (Bachelor's)
- High School Agriculture Programs
 - General Agriculture (30)
 - General Agricultural Production Operations (50)
 - General Animal Sciences (7)

Top Compatible Occupations

- First-Line Supervisors of Crop and Horticulture Workers (45-1011.07) (95%) (\$25.22)
- First-Line Supervisors of Production and Operating Workers (51-1011) (94%) (\$27.39)

- Food Service Managers (11-9051) (93%) (\$19.63)
- Agricultural Inspectors (45-2011) (92%) (\$25.33)
- Farm and Ranch Managers (11-9013.02) (92%) (14.18)
- Environmental Engineering Technicians (17-3025) (92%) (\$22.12)

Videos

- <https://www.youtube.com/watch?v=Qwf0mFqyoUo&list=PLirgxJFbtsml2Ak2p3HhK7q2vsq1uyFRB&index=38>

Farm Equipment Mechanics and Service Technicians

Diagnose, adjust, repair, or overhaul farm machinery and vehicles, such as tractors, harvesters, dairy equipment, and irrigation systems.

Related Job Titles: Agricultural Mechanic, Agricultural Technician, Farm Equipment Mechanic, Harvester Mechanic, Mechanic, Service Mechanic, Service Technician, Shop Mechanic, Tractor Mechanic

Vital Statistics

- SOC: [49-3041](#)
- CIP
 - 01.0201 Agricultural Mechanization, General
 - 01.0204 Agricultural Power Machinery Operation
 - 01.0205 Agricultural Mechanics and Equipment, Machine Technology
 - 01.0299 Agricultural Mechanization, Other
 - 47.0000 Mechanics and Repairers, General
 - 47.0302 Heavy Equipment Maintenance Technology/Technician
 - 47.0399 Heavy and Industrial Equipment Maintenance Technologies, Other
 - 47.0613 Medium, Heavy Vehicle and Truck Technology/Technician
 - 47.0699 Vehicle Maintenance and Repair Technologies, Other
 - 47.9999 Mechanic and Repair Technologies/Technicians, Other
- Median Hourly Earnings: \$16.34
- 2015 Jobs: 923
- Openings from 2015-2024: 380
- WorkKeys (AM-LI-RI): 3-4-3
- Military Occupation Specialty (MOS)
 - 91L Construction Equipment Repairer (Army-Enlisted)
- Program of Study
 - Agriculture Mechanization, General (01.0201)
- NCAE/AFNR
 - Power, Structural, and Technical Systems Pathway
 - PST.01.01. Apply physical science and engineering principles to assess and select energy sources for AFNR power, structural and technical systems.
 - PST.01.03. Apply physical science principles to metal fabrication using a variety of welding and cutting processes

(e.g., SMAW, GMAW, GTAW, fuel-oxygen and plasma arc torch, etc.).

- PST.02.01. Perform preventative maintenance and scheduled service to maintain equipment, machinery and power units used in AFNR settings.
- Keystone
 - A1.2.3.2. Estimate or calculate to make predictions based on a circle, line, bar graph, measure of central tendency, or other representation.
 - A1.2.1.1. Analyze a set of data for the existence of a pattern and represent the pattern algebraically and/or graphically.
 - BIO.A.2.1. Describe how the unique properties of water support life on Earth.
 - LIT.N.2.1.1. Make inferences and/or draw conclusions based on analysis of a text.
 - LIT.N.2.2.3. Explain, interpret, compare, describe, analyze, and/or evaluate connections between texts.
 - LIT.N.2.5.1. Differentiate between fact and opinion.

Duties

- Record details of repairs made and parts used
- Reassemble machines and equipment following repair, test operation, and make adjustments as necessary
- Maintain, repair, and overhaul farm machinery and vehicles
- Examine and listen to equipment, read inspection reports, and confer with customers to locate and diagnose malfunctions
- Dismantle defective machines for repair
- Test and replace electrical components
- Repair or replace defective parts; clean and lubricate parts; tune or overhaul engines

Knowledge

- Mechanical
- Customer and personal service
- Computers and electronics
- Applied physics

Skills

- Troubleshooting and repair
- Quality control analysis
- Critical thinking
- Equipment selection

- Operation monitoring

Education, Training, and Certificates

- 56% have a High School diploma or GED
- Higher Education
 - General Agriculture Mechanization
 - Penn State University, State College, PA (Bachelors)
- High School Agriculture Programs
 - General Agriculture Mechanization (19)
- Related Career and Technical Education Programs
 - Certificate in Automotive Mechanics (NATEF)
 - Certificate in Diesel Equipment Technology (NATEF)
 - Certificate in Heavy Equipment Operations and Maintenance (NCCER)
 - Automotive Mechanics Technology (96)
 - Medium/Heavy Vehicle and Truck Technology/Technician (32)
 - Other Vehicle Maintenance and Repair Technologies (19)
 - Construction/Heavy Equipment/Earthmoving Equipment Operation (3)

Top Compatible Occupations

- Electric Motor, Power Tool, and Related Repairers (49-2092) (97%) (\$18.97)
- Automotive Specialty Technicians (49-3023.02) (97%) (\$16.23)
- Bus and Truck Mechanics and Diesel Engine Specialists (49-3031) (97%) (\$19.88)
- Mobile Heavy Equipment Mechanics (49-3042) (97%) (\$22.41)
- Industrial Machinery Mechanic (49-9041) (94%) (\$22.60)
- General Maintenance and Repair Worker (49-9071) (94%) (\$17.94)
- Outdoor Power Equipment and Other Small Engine Mechanics (49-3053) (95%) (\$14.30)
- Precision Agriculture Technicians (19-4099.02) (82%) (\$22.47)
- Agricultural Equipment Operator (45-2091) (84%) (\$14.00)
- Farm and Ranch Manager (11-9013.02)

Videos

- http://www.careerinfonet.org/occ_rep_vidpopup.asp?soccode=493041&matchVideo=49-3041.00

Farmworker and Laborers, Crop, Nursery, and Greenhouse

Manually plant, cultivate, and harvest vegetables, fruits, nuts and field crops. Use hand tools, such as shovels, trowels, hoes, tampers, pruning hooks, shears, and knives. Duties may include tilling soil and applying fertilizers; transplanting, weeding, thinning, or pruning crops; applying pesticides; cleaning, packing, and loading harvested products. May construct trellises, repair fences and farm buildings, or participate in irrigation activities.

Related Job Titles: Farm Laborer, Farm Worker, Field Irrigation Worker, Field Worker, Harvester, Hired Hand, Hoe Worker, Irrigator, Orchard Worker, Picker

Vital Statistics

- SOC: [45-2092](#)
- CIP
 - 01.0000 Agriculture, General
 - 01.0301 Agricultural Production Operations, General
 - 01.0304 Crop Production
 - 01.0399 Agricultural Production Operations, Other
 - 01.0601 Applied Horticulture/Horticultural Operations, General
 - 01.0603 Ornamental Horticulture
 - 01.0604 Greenhouse Operations and Management
 - 01.0606 Plant Nursery Operations and Management
 - 01.1101 Plant Sciences, General
 - 01.1102 Agronomy and Crop Science
 - 01.1103 Horticultural Science
 - 01.9999 Agriculture, Agriculture Operations and Related Sciences, Other
- Median Hourly Earnings: \$11.13
- 2015 Jobs: 12,191
- Openings from 2015-2025: 4,020
- WorkKeys: None
- Military Occupation Specialty (MOS): None
- Program of Study: None
- NCAE/AFNR
 - Plant Systems Pathway
 - PS.01.02. Prepare and manage growing media for use in plant systems.
 - PS.01.03. Develop and implement a fertilization plan for specific plants or crops.

- PS.03.01. Demonstrate plant propagation techniques in plant system activities.
 - PS.03.05. Harvest, handle and store crops according to current industry standards.
- Keystone
 - ALG1.1.1.1 Represent and/or use numbers in equivalent forms (e.g., integers, fractions, decimals, percents, square roots, and exponents).
 - ALG1.1.1.4 Use estimation strategies in problem-solving situations.
 - A1.2.3.2 Use data displays in problem solving settings and/or to make predictions.
 - LIT.N.2.1.1. Make inferences and/or draw conclusions based on analysis of a text.
 - LIT.N.2.2.3. Explain, interpret, compare, describe, analyze, and/or evaluate connections between texts.
 - LIT.N.2.5.1. Differentiate between fact and opinion.
 - BIO.A.1.2 Describe relationships between structure and function at biological levels of organization.
 - BIO.B.2.4 Apply scientific thinking, processes, tools, and technologies in the study of genetics.
 - BIO.B.4.2 Describe interactions and relationships in an ecosystem.

Duties

- Operate tractors, tractor-drawn machinery, and self-propelled machinery to plow, harrow and fertilize soil, or to plant, cultivate, spray and harvest crops.
- Repair and maintain farm vehicles, implements, and mechanical equipment.
- Harvest fruits and vegetables by hand.
- Apply pesticides, herbicides or fertilizers to crops.
- Inform farmers or farm managers of crop progress.
- Identify plants, pests, and weeds to determine the selection and application of pesticides and fertilizers.
- Direct and monitor the work of casual and seasonal help during planting and harvesting.
- Clear and maintain irrigation ditches.
- Record information about crops, such as pesticide use, yields, or costs.
- Dig and plant seeds, or transplant seedlings by hand.
- Repair farm buildings, fences, and other structures.
- Participate in the inspection, grading, sorting, storage, and post-harvest treatment of crops.

- Load agricultural products into trucks, and drive trucks to market or storage facilities.

Knowledge

- No knowledge met the minimum score

Skills

- Operation and control
- Operation monitoring
- Active listening
- Coordination
- Critical thinking
- Speaking

Education, Training, and Certificates

- 19% have a High School diploma or GED, 80% have less than a High School diploma

Top Compatible Occupations

- Pourers and Casters (51-4052) (96%) (\$16.98)
- Laborers and Freight, Stock, and Material Movers, Hand (53-7062) (96%) (\$13.33)
- Landscaping and Groundskeeping Workers (37-3011) (95%) (\$12.11)
- Packaging and Filling Machine Operators and Tenders (51-9111) (95%) (\$15.77)
- Pipelayers (47-2151) (95%) (\$17.81)

Farmworkers, Farm, Ranch, and Aquacultural Animals

Attend to live farm, ranch, or aquacultural animals that may include cattle, sheep, swine, goats, horses and other equines, poultry, finfish, shellfish, and bees. Attend to animals produced for animal products, such as meat, fur, skins, feathers, eggs, milk, and honey. Duties may include feeding, watering, herding, grazing, castrating, branding, de-beaking, weighing, catching, and loading animals. May maintain records on animals; examine animals to detect diseases and injuries; assist in birth deliveries; and administer medications, vaccinations, or insecticides as appropriate. May clean and maintain animal housing areas. Includes workers who shear wool from sheep, and collect eggs in hatcheries.

Related Job Titles: Breeding Technician, Cowboy, Egg Gatherer, Farm Hand, Farrowing Worker, Herdsman, Livestock Handler, Milking Worker, Ranch Hand, Vaccinator

Vital Statistics

- SOC: [45-2093](#)
- CIP
 - 01.0000 Agriculture, General
 - 01.0302 Animal/Livestock Husbandry and Production
 - 01.0303 Aquaculture
 - 01.0306 Dairy Husbandry and Production
 - 01.0307 Horse Husbandry/Equine Science and Management
 - 01.0399 Agriculture Production Operations, Other
 - 01.0904 Animal Nutrition
 - 01.0905 Dairy Science
 - 01.0906 Livestock Management
 - 01.0907 Poultry Science
 - 01.9999 Agriculture, Agriculture Operations, and Related Sciences, Other
- Median Hourly Earnings: \$12.49
- 2015 Jobs: 2,386
- Openings from 2015-2025: 890
- WorkKeys: None
- Military Occupation Specialty (MOS): None
- Program of Study: None
- NCAE/AFNR
 - Animal Systems Pathway
 - AS.02.01. Demonstrate management techniques that ensure animal welfare.

- AS.03.02 Analyze feed rations and assess if they meet the nutritional needs of animals.
 - AS.04.02. Apply scientific principles to select and care for breeding animals.
- Keystone
 - ALG1.1.1.1 Represent and/or use numbers in equivalent forms (e.g., integers, fractions, decimals, percents, square roots, and exponents).
 - ALG1.1.1.4 Use estimation strategies in problem-solving situations.
 - A1.2.3.2 Use data displays in problem solving settings and/or to make predictions.
 - LIT.N.2.1.1. Make inferences and/or draw conclusions based on analysis of a text.
 - LIT.N.2.2.3. Explain, interpret, compare, describe, analyze, and/or evaluate connections between texts.
 - LIT.N.2.5.1. Differentiate between fact and opinion.
 - BIO.A.1.2 Describe relationships between structure and function at biological levels of organization.
 - BIO.B.2.4 Apply scientific thinking, processes, tools, and technologies in the study of genetics.
 - BIO.B.4.2 Describe interactions and relationships in an ecosystem.

Duties

- Feed and water livestock and monitor food and water supplies.
- Drive trucks, tractors, and other equipment to distribute feed to animals.
- Examine animals to detect illness, injury, or disease, and to check physical characteristics, such as rate of weight gain.
- Provide medical treatment, such as administering medications and vaccinations, or arrange for veterinarians to provide more extensive treatment.
- Mix feed, additives, and medicines in prescribed portions.
- Inspect, maintain, and repair equipment, machinery, buildings, pens, yards, and fences.
- Move equipment, poultry, or livestock from one location to another, manually or using trucks or carts.
- Clean stalls, pens, and equipment, using disinfectant solutions, brushes, shovels, water hoses, or pumps.
- Mark livestock to identify ownership and grade, using brands, tags, paint, or tattoos.

- Herd livestock to pastures for grazing or to scales, trucks, or other enclosures.
- Shift animals between grazing areas to ensure that they have sufficient access to food.
- Order food for animals, and arrange for its delivery.
- Perform duties related to livestock reproduction, such as breeding animals within appropriate timeframes, performing artificial inseminations, and helping with animal births.
- Milk animals such as cows and goats, by hand or using milking machines.
- Segregate animals according to weight, age, color, and physical condition.
- Patrol grazing lands on horseback or using all-terrain vehicles.
- Maintain growth, feeding, production, and cost records.
- Groom, clip, trim, or castrate animals, dock ears and tails, or shear coats to collect hair.
- Spray livestock with disinfectants and insecticides, or dip or bathe animals.

Knowledge

- Administration and Management

Skills

- Active listening
- Critical thinking
- Monitoring
- Coordination
- Operation and control
- Operation monitoring
- Complex problem solving
- Speaking
- Equipment selection
- Judgement and decision-making
- Social perceptiveness
- Time management
- Troubleshooting

Education, Training, and Certificates

- 3% have a Post-Secondary Certificate, 43% have a High School diploma or GED. 54% have less than a High School diploma
- High School
 - General Agriculture (30)
 - General Agricultural Production Operations (50)
 - General Animal Sciences (7)

Top Compatible Occupations

- Packaging and Filling Machine Operators and Tenders (51-9111) (97%) (15.77)
- Landscaping and Groundskeeping Workers (37-3011) (96%) (\$12.11)
- Grinding and Polishing Workers, Hand (51-9022) (96%) (\$14.45)
- Fence Erectors (47-4031) (96%) (\$16.88)
- Pipelayers (47-2151) (96%) (\$17.81)

Videos

- http://www.careerinfonet.org/occ_rep_vidpopup.asp?soccode=452093&matchVideo=45-2093.00

Landscaping

Landscaping and Groundskeeping Worker

Landscape or maintain grounds of property using hand or power tools or equipment. Workers typically perform a variety of tasks, which may include any combination of the following: sod laying, mowing, trimming, planting, watering, fertilizing, digging, raking, sprinkler installation, and installation of mortarless segmental concrete masonry wall units.

Related Job Titles: Gardener, Greenskeeper, Grounds Maintenance Worker, Grounds Person, Grounds Worker, Grounds/Maintenance Specialist, Groundskeeper, Landscape Specialist, Landscape Technician, Outside Maintenance Worker

Vital Statistics

- SOC: [37-3011](#)
- CIP
 - 01.0601 Applied Horticulture/Horticultural Operations
 - 01.0604 Greenhouse Operations and Management
 - 01.0605 Landscaping and Groundskeeping
 - 01.0607 Turf and Turfgrass Management
- Median Hourly Earnings: \$12.11
- 2015 Jobs: 42,671
- Openings from 2015-2025: 17,390
- WorkKeys: None
- Military Occupation Specialty (MOS): None
- Programs of Study
 - Applied Horticulture Operations (01.0601)
- NCAE/AFNR
 - Plant Systems Pathway
 - PS.04.01. Evaluating, identifying and preparing plants to enhance an environment.
 - Power, Structural, and Technical Systems Pathway
 - PST.02.02. Operate machinery and equipment while observing all safety precautions in various settings.
 - PST.04.03. Follow architectural and mechanical plans to construct, maintain and/or repair various structures (e.g., material selection, site preparation and/or layout, plumbing, concrete/masonry, etc.).
- Keystone
 - ALG1.1.1.1 Represent and/or use numbers in equivalent forms (e.g., integers, fractions, decimals, percents, square roots, and exponents).

- ALG1.1.1.4 Use estimation strategies in problem-solving situations.
- A1.2.3.2 Use data displays in problem solving settings and/or to make predictions.
- LIT.N.2.1.1. Make inferences and/or draw conclusions based on analysis of a text.
- LIT.N.2.2.3. Explain, interpret, compare, describe, analyze, and/or evaluate connections between texts.
- LIT.N.2.5.1. Differentiate between fact and opinion.
- BIO.A.1.2 Describe relationships between structure and function at biological levels of organization.
- BIO.B.2.4 Apply scientific thinking, processes, tools, and technologies in the study of genetics.
- BIO.B.4.2 Describe interactions and relationships in an ecosystem.

Duties

- Gather and remove litter.
- Use hand tools, such as shovels, rakes, pruning saws, saws, hedge or brush trimmers, or axes.
- Operate vehicles or powered equipment, such as mowers, tractors, twin-axle vehicles, snow blowers, chain-saws, electric clippers, sod cutters, or pruning saws.
- Water lawns, trees, or plants, using portable sprinkler systems, hoses, or watering cans.
- Prune or trim trees, shrubs, or hedges, using shears, pruners, or chain saws.
- Mix and spray or spread fertilizers, herbicides, or insecticides onto grass, shrubs, or trees, using hand or automatic sprayers or spreaders.
- Care for established lawns by mulching, aerating, weeding, grubbing, removing thatch, or trimming or edging around flower beds, walks, or walls.
- Follow planned landscaping designs to determine where to lay sod, sow grass, or plant flowers or foliage.
- Trim or pick flowers and clean flower beds.
- Attach wires from planted trees to support stakes.
- Plant seeds, bulbs, foliage, flowering plants, grass, ground covers, trees, or shrubs and apply mulch for protection, using gardening tools.
- Mow or edge lawns, using power mowers or edgers.
- Rake, mulch, and compost leaves.
- Decorate gardens with stones or plants.

- Use irrigation methods to adjust the amount of water consumption and to prevent waste.
- Provide proper upkeep of sidewalks, driveways, parking lots, fountains, planters, burial sites, or other grounds features.
- Shovel snow from walks, driveways, or parking lots and spread salt in those areas.
- Maintain irrigation systems, including winterizing the systems and starting them up in spring.
- Plan or cultivate lawns or gardens.
- Maintain or repair tools, equipment, or structures, such as buildings, greenhouses, fences, or benches, using hand or power tools.
- Care for artificial turf fields, periodically removing the turf and replacing cushioning pads or vacuuming and disinfecting the turf after use to prevent the growth of harmful bacteria.
- Install rock gardens, ponds, decks, drainage systems, irrigation systems, retaining walls, fences, planters, or playground equipment.
- Care for natural turf fields, making sure the underlying soil has the required composition to allow proper drainage and to support the grasses used on the fields.
- Advise customers on plant selection or care.
- Haul or spread topsoil or spread straw over seeded soil to hold soil in place.

Knowledge

- English language
- Customer and personal service
- Chemistry

Skills

- Operation and control

Education, Training, and Certificates

- 4% have Bachelor's degrees, 2% have Associate's degree, 16% have a Post-Secondary Certificate, 26% have a High School diploma, 52% have less than a High School diploma
- Higher Education
 - Applied Horticulture
 - Bidwill Training Center (certificates)

- Temple University (certificates)
 - Westmoreland County Community College (certificates)
- Greenhouse Operations
 - Delaware Valley University (Bachelor's)
 - Harrisburg Area Community College (Associate's)
 - Penn State University (Bachelor's)
 - PA College of Technology (Associate's)
- Landscaping and Groundskeeping
 - Delaware Valley University (Bachelor's)
 - Harrisburg Area Community College (Associate's)
 - Penn State University (Bachelor's)
 - PA College of Technology (Associate's)
- Turf and Turfgrass Management
 - Delaware Valley University (Bachelor's)
 - Penn State University (Bachelor's)
 - PA College of Technology (Associate's)
- High School Agriculture Programs
 - General Agriculture (30)
 - Operations, General Applied Horticulture (37)

Top Compatible Occupations

- Laborers and Freight, Stock, and Material Movers, Hand
- Helpers-Production Workers (51-9198)
- Pipelayers (47-2151) (97%)
- Pourers and Casters, Metal (51-4052) (97%)
- Sawing Machine Setters, Operators, and Tenders, Wood (51-7041)

Food Manufacturing

Food Batchmaker

Set up and operate equipment that mixes or blends ingredients used in the manufacturing of food products. Includes candy makers and cheese makers.

Related Job Titles: Batching Operator, Blender, Brewing Technician, Compounder, Dough Scaler and Mixer, Machine Operator, Mixer, Process Operator, Processing Operator, Syrup Maker

Vital Statistics

- SOC: [51-3092](#)
- CIP
 - 01.0401 Agricultural and Food Products Processing
 - 12.0508 Institutional Food Worker
 - 48.0000 Precision Production Trades, General
 - 48.9999 Precision Production, Other
- Median Hourly Earnings: \$15.16
- 2015 Jobs: 6,495
- Openings from 2015-2024: 2,220
- WorkKeys (AM-LI-RI): 3-4-4
- Military Occupation Specialty (MOS)
 - 922A – Food Service Technician (Army-Warrant Officer)
 - 92G – Food Service Specialist (Army-Enlisted)
 - 3300 – Basic Food Service Marine (Marine-Enlisted)
 - 3381 – Food Service Specialist (Marine-Enlisted)
 - 752 – CWO-Food Service (Navy-Warrant Officer)
- Program of Study
 - Institutional Food Workers (12.0501)
- NCAE/AFNR
 - Food Products and Processing Systems Pathway
 - Power, Structural, and Technical Systems Pathway
- Keystone
 - BIO.A.2.1. Describe how the unique properties of water support life on Earth.
 - BIO.A.2.2. Describe and interpret relationships between structure and function at various levels of organization.
 - BIO.A.2.3. Explain how enzymes regulate biochemical reactions within a cell.
 - LIT.N.1.2. Use appropriate strategies to determine and clarify meaning of vocabulary in literature.

- LIT.N.1.3. Use appropriate strategies to comprehend literature during the reading process.
- LIT.N.2.1. Use appropriate strategies to make and support interpretations of literature.
- ALG1.1.1.4. Use estimation strategies in problem-solving situations.
- ALG1.1.2.1. Write, solve, and/or graph linear equations using various methods.
- ALG1.1.2.2. Write, solve, and/or graph systems of linear equations using various methods.

Duties

- Record production and test data for each food product batch, such as ingredients used, temperature, test results, and time cycle
- Follow recipes to produce food products of specified flavor, texture, clarity, bouquet, or color
- Set up, operate, and tend equipment that cooks, mixes, blends, or processes ingredients in the manufacturing of food product according to formulas or recipes
- Mix or blend ingredients, according to recipes
- Clean and sterilize vats and factory processing areas

Knowledge

- Production and processing
- Food production
- Mechanical
- Public safety and security
- Mathematics

Skills

- Monitoring
- Operation and control
- Critical thinking
- Operation monitoring
- Reading comprehension

Education, Training, and Certificates

- 86% have a High School Diploma or GED
- Higher Education
 - Food Service Systems Management
 - Bucks County Community College (Associates)
 - Luzerne County Community College (Associates)

- Harrisburg Area Community College (Associates)
- Related Career and Technical Education Programs
 - Agricultural and Food Processing (1)
 - Institutional Food Workers (107)

Top Compatible Occupations

- Food Cooking Machine Operators and Tenders (51-3093) (97%) (\$15.64)
- Print Binding and Finishing Workers (51-4193) (96%) (\$15.85)
- Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders (51-4122) (96%) (\$16.04)
- Inspectors, Testers, Sorters, Samplers, and Weighers (51-9061) (96%) (\$18.63)
- Cooks, Restaurant (35-2014) (95%) (\$11.04)

Packaging Machine Operator

Operate or tend machines to prepare industrial or consumer products for storage or shipment.

Related Job Titles: A-Operator, Adjuster/Packer, Bundler, Chemical Operator, Closing Machine Operator, Fabrication Technician, Filler Operator, Machine Operator, Packaging Operator, Packing Machine Operator

Vital Statistics

- SOC: [51-9111](#)
- CIP
 - 48.0000 Precision Production Trades, General
 - 48.9999 Precision Production, Other
- Median Hourly Earnings: \$15.77
- 2015 Jobs: 15,899
- Openings from 2015-2024: 4,270
- WorkKeys (AM-LI-RI): 3-4-3
- Military Occupation Specialty (MOS)
 - 3052 Packaging Specialist (Marines-Enlisted)
- Program of Study: None
- NCAE/AFNR
 - Food Products and Processing Systems Pathway
 - Power, Structural, and Technical Systems Pathway
- Keystone
 - ALG1.1.1.1. Represent and/or use numbers in equivalent forms.
 - ALG1.1.1.2. Apply number theory concepts to show relationships between real numbers in problem-solving settings.
 - ALG1.1.1.4. Use estimation strategies in problem-solving situations.
 - BIO.A.1.2. Describe relationships between structure and functions at biological levels of organization.
 - BIO.B.4.1. Describe ecological levels of organization in the biosphere.
 - LIT.N.1.2. Use appropriate strategies to determine and clarify meaning of vocabulary in literature.
 - LIT.N.1.3. Use appropriate strategies to comprehend literature during the reading process.

Duties

- Sort, grade, weigh, and inspect products, verifying and adjusting product weight or measurement to meet specifications

- Observe machine operations to ensure quality and conformity of filled or packaged products to standards
- Monitor the production line, watching for problems such as pile-ups or jams
- Attach identification labels to finish packaged items
- Stock and sort product for packaging machine operation and replenish packaging supplies

Knowledge

- Production and processing

Skills

- Monitoring
- Operation monitoring
- Active listening
- Coordination
- Quality control analysis

Education, Training, and Certificates

- 72% have a High School Diploma or GED
- Credential
 - [Manufacturer's Skill Standards Council](#) offers the Certified Production Technician Certificate which is available at certain Career and Technology Centers and Community Colleges in the Commonwealth

Top Compatible Occupations

- Cutting and Slicing Machine Setters, Operators, and Tenders (51-9032) (98%) (\$16.07)
- Sawing Machine Setters, Operators, and Tenders (51-7041) (97%) (\$12.73)
- Cutting, Punching, and Press Machine Setters, Operators, and Tenders, Metal and Plastic (51-4031) (97%) (\$16.43)
- Laborers and Hand Freight, Stock, and Material Movers (53-7062) (97%) (\$13.33)
- Pourers and Caster, Metal (51-4052) (97%) (\$16.98)

Videos

- http://www.careerinfonet.org/occ_rep_vidpopup.asp?soccode=519111&matchVideo=51-9111.00

Bakers

Mix and bake ingredients to produce baked goods.

Related Job Titles: Baker, Bakery Clerk, Bakery Manager, Cake Decorator, Dough Mixer, Machine Operator, Mixer, Pastry Chef, Processor, Scaler

Vital Statistics

- SOC: [51-3011](#)
- CIP
 - 12.0501 Baking and Pastry Arts, Baker, Pastry Chef
 - 48.0000 Precision Production Trades, General
 - 48.9999 Precision Production, Other
- Median Hourly Earnings: \$11.82
- 2015 Jobs: 9,865
- Openings from 2015-2024: 2,780
- WorkKeys (AM-LI-RI): 3-4-3
- Military Occupation Specialty (MOS)
 - 922A – Food Service Technician (Army-Warrant Officer)
 - 92G – Food Service Specialist (Army-Enlisted)
 - 94D – Baker (Army-Enlisted)
 - 3300 – Basic Food Service Marine (Marine-Enlisted)
 - 3381 – Food Service Specialist (Marine-Enlisted)
 - 752 – CWO-Food Service (Navy-Warrant Officer)
- Program of Study
 - Baking (12.0501)
- NCAE/AFNR
 - Food Products and Processing Systems Pathway
 - Power, Structural, and Technical Systems Pathway
- Keystone
 - BIO.A.2.1. Describe how the unique properties of water support life on Earth.
 - BIO.A.2.2. Describe and interpret relationships between structure and function at various levels of organization.
 - BIO.A.2.3. Explain how enzymes regulate biochemical reactions within a cell.
 - LIT.N.1.2. Use appropriate strategies to determine and clarify meaning of vocabulary in literature.
 - LIT.N.1.3. Use appropriate strategies to comprehend literature during the reading process.

- LIT.N.2.1. Use appropriate strategies to make and support interpretations of literature.
- ALG1.1.1.4. Use estimation strategies in problem-solving situations.
- ALG1.1.2.1. Write, solve, and/or graph linear equations using various methods.
- ALG1.1.2.2. Write, solve, and/or graph systems of linear equations using various methods.

Duties

- Observe color of products being baked and adjust oven temperatures, humidity, or conveyor speeds accordingly
- Set oven temperatures and place items into hot ovens for baking
- Combine measured ingredients in bowls of mixing, blending, or cooking machinery
- Measure or weigh flour or other ingredients to prepare batters, doughs, fillings, or icings
- Roll, knead, cut, or shape dough to form baked goods

Knowledge

- Food production
- Production and processing
- Customer and personal service
- Administration and management
- Mathematics

Skills

- Active listening
- Monitoring
- Coordination
- Critical thinking
- Reading comprehension

Education, Training, and Certificates

- 36% have a High School diploma; 32% have Some College Courses or a Post-Secondary Certificate
- Higher Education
 - Baking and Pastry Arts/Baker/Pastry Chef
 - Walnut Hill College, Philadelphia, PA (Bachelor's and Associate's)
 - Art Institute of Pittsburgh, Pittsburgh, PA (Associate's)
 - PA College of Technology, Williamsport, PA (Associate's)

- Westmoreland County Community College, Youngwood, PA (Associate's)
- Luzerne County Community College, Nanticoke, PA (Associate's)
- YTI Career Institute, York, PA
- Star Career Academy, Philadelphia, PA
- Harrisburg Area Community College, Harrisburg, PA
- Yorktowne Business Institute, York, PA
- Related Career and Technical Education Programs
 - Baking and Pastry Arts/Baker/Pastry Chef (12)

Top Compatible Occupations

- Butchers and Meat Cutters (51-3021) (95%) (\$15.55)
- Inspectors, Testers, Sorters, Samplers, and Weighers (51-9061) (95%) (\$18.63)
- Meat, Poultry, and Fish Cutters and Trimmers (51-3022) (95%) (\$13.58)
- Food Batchmakers (51-3092) (94%) (\$15.16)
- Combined Food Preparation and Serving Workers, Including Fast Food (35-3021) (94%) (\$8.84)

Videos

- http://www.careerinfonet.org/occ_rep_vidpopup.asp?soccode=513011&matchVideo=51-3011.01

Butchers

Cut, trim, or prepare consumer-sized portions of meat for use or sale in retail establishments.

Related Job Titles: Butcher, Journeyman Meat Cutter, Market Manager, Meat Clerk, Meat Cutter, Meat Department Manager, Meat Manager, Meat Specialist, Meat Wrapper, Seafood and Service Meat Manager

Vital Statistics

- SOC: [51-3021](#)
- CIP
 - 12.0506 Meat Cutting and Meat Cutter
 - 48.0000 Precision Production Trades, General
 - 48.9999 Precision Production, Other
- Median Hourly Earnings: \$15.55
- 2015 Jobs: 6,680
- Openings from 2015-2024: 2,030
- WorkKeys (AM-LI-RI): 3-3-3
- Military Occupation Specialty (MOS)
 - 922A – Food Service Technician (Army-Warrant Officer)
 - 92G – Food Service Specialist (Army-Enlisted)
 - 94D – Baker (Army-Enlisted)
 - 3300 – Basic Food Service Marine (Marine-Enlisted)
 - 3381 – Food Service Specialist (Marine-Enlisted)
 - 752 – CWO-Food Service (Navy-Warrant Officer)
- Program of Study: None
- NCAE/AFNR
 - Animal Systems Pathway
 - Food Products and Processing Systems Pathway
 - Power, Structural, and Technical Systems Pathway
- Keystone
 - ALG1.1.1.1. Represent and/or use numbers in equivalent forms.
 - ALG1.1.1.2. Apply number theory concepts to show relationships between real numbers in problem-solving settings.
 - ALG1.1.1.4. Use estimation strategies in problem-solving situations.
 - BIO.A.1.2. Describe relationships between structure and functions at biological levels of organization.
 - BIO.A.2.2. Describe and interpret relationships between structure and functions at various levels of biochemical organization.

- BIO.B.2.4. Apply scientific thinking, processes, tools, and technologies in the study of genetics.
- LIT.N.1.2. Use appropriate strategies to determine and clarify meaning of vocabulary in literature.
- LIT.N.1.3. Use appropriate strategies to comprehend literature during the reading process.

Duties

- Wrap, weigh, label, and price cuts of meat
- Prepare and place meat cuts and products in display counter
- Prepare special cuts of meat ordered by customers
- Cut, trim, bone, tie, and grind meats to prepare meats in cooking form
- Receive, inspect, and store meat upon delivery to ensure meat quality

Knowledge

- Production and processing
- Customer and personal service
- Food production

Skills

- Monitoring
- Active listening
- Critical thinking
- Persuasion
- Service orientation

Education, Training, and Certificates

- 58% have a High School diploma or GED
- Related Career and Technical Education Programs
 - Institutional Food Workers (107)
 - Meat Cutting/Meat Cutter (1)

Top Compatible Occupations

- Cooks, Restaurant (35-2014) (97%) (\$11.04)
- Meat, Poultry, and Fish Cutters and Trimmers (51-3022) (97%) (\$13.58)
- Bakers (51-3011) (95%) (\$11.82)
- Combined Food Preparation and Serving Workers, Including Fast Food (35-3021) (95%) (\$8.84)
- Inspectors, Testers, Sorter, Samplers, and Weighers (51-9061) (94%) (\$18.63)

Videos

- http://www.careerinfo.net/occ_rep_vidpopup.asp?soccode=513021&matchVideo=51-3021.00

Slaughters and Meat Packers

Work in slaughtering, meat packing, or wholesale establishments performing precision functions involving the preparation of meat.

Related Job Titles: Boning Room Worker, Breast Trimmer, Fetter Bone Buster, Kill Room Operator, Meat Cutter, Meat Packager, Meat Packer, Meat Trimmer, Production Worker, Trimmer

Vital Statistics

- SOC: [51-3023](#)
- CIP
 - 12.0506 Meat Cutting and Meat Cutter
 - 48.0000 Precision Production Trades, General
 - 48.9999 Precision Production, Other
- Median Hourly Earnings: \$12.82
- 2015 Jobs: 2,902
- Openings from 2015-2024: 970
- WorkKeys: None
- Military Occupation Specialty (MOS)
 - 922A – Food Service Technician (Army-Warrant Officer)
 - 92G – Food Service Specialist (Army-Enlisted)
 - 94D – Baker (Army-Enlisted)
 - 3300 – Basic Food Service Marine (Marine-Enlisted)
 - 3381 – Food Service Specialist (Marine-Enlisted)
 - 752 – CWO-Food Service (Navy-Warrant Officer)
- Program of Study: None
- NCAE/AFNR
 - Animal Systems Pathway
 - Food Products and Processing Systems Pathway
 - Power, Structural, and Technical Systems Pathway
- Keystone
 - ALG1.1.1.1. Represent and/or use numbers in equivalent forms.
 - ALG1.1.1.2. Apply number theory concepts to show relationships between real numbers in problem-solving settings.
 - ALG1.1.1.4. Use estimation strategies in problem-solving situations.
 - BIO.A.1.2. Describe relationships between structure and functions at biological levels of organization.
 - BIO.A.2.2. Describe and interpret relationships between structure and functions at various levels of biochemical organization.

- BIO.B.2.4. Apply scientific thinking, processes, tools, and technologies in the study of genetics.
- LIT.N.1.2. Use appropriate strategies to determine and clarify meaning of vocabulary in literature.
- LIT.N.1.3. Use appropriate strategies to comprehend literature during the reading process.

Duties

- Remove bones and cut meat into standard cuts in preparation for marketing
- Cut, trim, skin, sort, and wash viscera of slaughtered animals to separate edible portions from offal
- Slit open, eviscerate, and trim carcasses of slaughtered animals
- Tend assembly lines

Knowledge

- Production and processing
- Administration and management
- Mechanical
- Food production
- Public safety and security

Skills

- No skills meet the minimum score

Education, Training, and Certificates

- 80% have less than a High School Diploma
- Related Career and Technical Education
 - Institutional Food Worker (107)
 - Meat Cutting/Meat Cutter (1)

Top Compatible Occupations

- Food Preparation Workers (35-2021) (96%) (\$9.97)
- Hand Packers and Packagers (53-7064) (96%) (\$11.75)
- Cleaning, Washing, and Metal Pickling Equipment Operators and Tenders (51-9192) (95%) (\$14.67)
- Janitors and Cleaners (37-2011) (95%) (\$11.96)
- Helpers-Production Workers (51-9198) (95%) (\$12.76)

Videos

- http://www.careerinfonet.org/occ_rep_vidpopup.asp?soccode=513021&mat chVideo=51-3021.00

Meat, Poultry, and Fish Cutters and Trimmers

Use hand or hand tools to perform routine cutting and trimming of meat, poultry, and seafood.

Related Job Titles: Breast Trimmer, Deboner, Meat Cutter, Trimmer, Wing Scorer

Vital Statistics

- SOC: [51-3022](#)
- CIP
 - 12.0506 Meat Cutting and Meat Cutter
 - 48.0000 Precision Production Trades, General
 - 48.9999 Precision Production, Other
- Median Hourly Earnings: \$13.58
- 2015 Jobs: 2,468
- Openings from 2015-2024: 960
- WorkKeys: None
- Military Occupation Specialty (MOS)
 - 922A – Food Service Technician (Army-Warrant Officer)
 - 92G – Food Service Specialist (Army-Enlisted)
 - 94D – Baker (Army-Enlisted)
 - 3300 – Basic Food Service Marine (Marine-Enlisted)
 - 3381 – Food Service Specialist (Marine-Enlisted)
 - 752 – CWO-Food Service (Navy-Warrant Officer)
- Program of Study: None
- NCAE/AFNR
 - Animal Systems Pathway
 - Food Products and Processing Systems Pathway
 - Power, Structural, and Technical Systems Pathway
- Keystone
 - ALG1.1.1.1. Represent and/or use numbers in equivalent forms.
 - ALG1.1.1.2. Apply number theory concepts to show relationships between real numbers in problem-solving settings.
 - ALG1.1.1.4. Use estimation strategies in problem-solving situations.
 - BIO.A.1.2. Describe relationships between structure and functions at biological levels of organization.
 - BIO.A.2.2. Describe and interpret relationships between structure and functions at various levels of biochemical organization.

- BIO.B.2.4. Apply scientific thinking, processes, tools, and technologies in the study of genetics.
- LIT.N.1.2. Use appropriate strategies to determine and clarify meaning of vocabulary in literature.
- LIT.N.1.3. Use appropriate strategies to comprehend literature during the reading process.

Duties

- Clean, trim, slice, and section carcasses for future processing
- Cut and trim meat to prepare for packing
- Remove parts from carcasses
- Inspect meat product for defects, bruises, or blemishes and remove them along with any excess fat

Knowledge

- Production and processing
- Food production

Skills

- Active listening
- Coordination
- Critical thinking
- Monitoring
- Speaking

Education, Training, and Certificates

- 65% have less than a High School Diploma
- Related Career and Technical Education Programs
 - Institutional Food Workers (107)
 - Meat Cutting/Meat Cutter (1)

Top Compatible Occupations

- Butchers and Meat Cutters (51-3021) (96%) (\$15.55)
- Food Preparation Workers (35-2021) (96%) (\$9.97)
- Combined Food Preparation and Serving Workers, Including Fast Food (35-3021) (95%) (\$8.84)
- Slaughterers and Meat Packers (51-3023) (95%) (\$12.82)
- Hand Packers and Packagers (53-7064) (95%) (\$11.75)

Videos

http://www.careerinfonet.org/occ_rep_vidpopup.asp?soccode=513022&matchVideo=51-3022.00

Inspectors, Testers, Samplers, and Weighers

Inspect, test, sort, sample, or weigh non-agricultural raw materials or processed, machined, fabricated or assembled parts or products for defects, wear, and deviations from specifications.

Related Job Titles: Inspector, Picker / Packer, Quality Assurance Auditor, Quality Assurance Inspector, Quality Assurance Technician, Quality Auditor, Quality Control Inspector, Quality Control Technician, Quality Inspector, Quality Technician

Vital Statistics

- SOC: [51-9061](#)
- CIP
 - 48.0000 Precision Production Trades, General
 - 48.9999 Precision Production, Other
- Median Hourly Earnings: \$18.63
- 2015 Jobs: 19,911
- Openings from 2015-2024: 5,910
- WorkKeys (AM-LI-RI): 4-4-4
- Military Occupation Specialty (MOS)
 - 003556 Hull Systems Technician (Navy - Enlisted)
 - 003760 Inspector (Navy - Enlisted)
 - 12K Plumber (Army - Enlisted)
 - 15T UH-60 Helicopter Repairer (Army - Enlisted)
 - 1A111 Flight Engineer Helper (Air Force - Enlisted)
 - 1A131 Flight Engineer Apprentice (Air Force - Enlisted)
 - 1A151 Flight Engineer Journeyman (Air Force - Enlisted)
 - 1A171 Flight Engineer Craftsman (Air Force - Enlisted)
 - 1A191 Flight Engineer Superintendent (Air Force - Enlisted)
 - 1A1X1 Flight Engineer (Air Force - Enlisted)
 - 2111 Small Arms Repairer/Technician (Marine Corps - Enlisted)
 - 2131 Towed Artillery Systems Technician (Marine Corps - Enlisted)
 - 2141 Assault Amphibious Vehicle (AAV) Repairer/Technician (Marine Corps - Enlisted)
 - 2146 Main Battle Tank (MBT) Repairer/Technician (Marine Corps - Enlisted)
 - 2147 Light Armored Vehicle (LAV) Repairer/Technician (Marine Corps - Enlisted)
 - 2149 Ordnance Vehicle Maintenance Chief (Marine Corps - Enlisted)
 - 2171 Electro-Optical Ordnance Repairer (Marine Corps - Enlisted)
 - 2181 Ground Ordnance Weapons Chief (Marine Corps - Enlisted)
 - 2311 Ammunition Technician (Marine Corps - Enlisted)
 - 2891 Ground Electronics Systems Maintenance Chief (Marine Corps - Enlisted)

- 2A011K Avionics Test Station And Components Helper, A-10/B-2/C-17/CV-22/F-16/AFSOC Avionics Systems (Air Force - Enlisted)
- 2A011M Avionics Test Station And Components Helper, B-1/E-8/F-15 Avionics Systems (Air Force - Enlisted)
- 2A011P Avionics Test Station And Components Helper, Avionics Sensor Systems and Electronic Warfare Systems (Air Force - Enlisted)
- 2A031K Avionics Test Station And Components Apprentice, A-10/B-2/C-17/CV-22/F-16/AFSOC Avionics Systems (Air Force - Enlisted)
- 2A031M Avionics Test Station And Components Apprentice, B-1/E-8/F-15 Avionics Systems (Air Force - Enlisted)
- 2A031P Avionics Test Station And Components Apprentice, Avionics Sensor Systems and Electronic Warfare Systems (Air Force - Enlisted)
- 2A051K Avionics Test Station And Components Journeyman, A-10/B-2/C-17/CV-22/F-16/AFSOC Avionics Systems (Air Force - Enlisted)
- 2A051M Avionics Test Station And Components Journeyman, B-1/E-8/F-15 Avionics Systems (Air Force - Enlisted)
- 2A051P Avionics Test Station And Components Journeyman, Avionics Sensor Systems and Electronic Warfare Systems (Air Force - Enlisted)
- 2A071K Avionics Test Station And Components Craftsman, A-10/B-2/C-17/CV-22/F-16/AFSOC Avionics Systems (Air Force - Enlisted)
- 2A071M Avionics Test Station And Components Craftsman, B-1/E-8/F-15 Avionics Systems (Air Force - Enlisted)
- 2A071P Avionics Test Station And Components Craftsman, Avionics Sensor Systems and Electronic Warfare Systems (Air Force - Enlisted)
- 2A0X1 Avionics Test Station And Components (Air Force - Enlisted)
- 2A212 Special Operations Forces/Personnel Recovery (SOF/PR) Integrated Instrument and Flight Control Systems Helper (Air Force - Enlisted)
- 2A232 Special Operations Forces/Personnel Recovery (SOF/PR) Integrated Instrument and Flight Control Systems Apprentice (Air Force - Enlisted)
- 2A252 Special Operations Forces/Personnel Recovery (SOF/PR) Integrated Instrument and Flight Control Systems Journeyman (Air Force - Enlisted)
- 2A272 Special Operations Forces/Personnel Recovery (SOF/PR) Integrated Instrument and Flight Control Systems Craftsman (Air Force - Enlisted)
- 2A2X2 Special Operations Forces/Personnel Recovery (SOF/PR) Integrated Instrument and Flight Control Systems (Air Force - Enlisted)
- 2A313E Tactical Aircraft Maintenance Helper, A-10/U-2 (Air Force - Enlisted)
- 2A313L Tactical Aircraft Maintenance Helper, F-15 (Air Force - Enlisted)

- 2A313M Tactical Aircraft Maintenance Helper, F-16 (Air Force - Enlisted)
- 2A314A Fighter Aircraft Integrated Avionics Helper, A-10/U-2 Avionics (Air Force - Enlisted)
- 2A314B Fighter Aircraft Integrated Avionics Helper, F-15 Avionics (Air Force - Enlisted)
- 2A314C Fighter Aircraft Integrated Avionics Helper, F-16 Avionics (Air Force - Enlisted)
- 2A318A Remotely Piloted Aircraft Maintenance Helper, MQ-1/MQ-9 (Air Force - Enlisted)
- 2A318B Remotely Piloted Aircraft Maintenance Helper, RQ-4 (Air Force - Enlisted)
- 2A333E Tactical Aircraft Maintenance Apprentice, A-10/U-2 (Air Force - Enlisted)
- 2A333L Tactical Aircraft Maintenance Apprentice, F-15 (Air Force - Enlisted)
- 2A333M Tactical Aircraft Maintenance Apprentice, F-16 (Air Force - Enlisted)
- 2A334A Fighter Aircraft Integrated Avionics Apprentice, A-10/U-2 Avionics (Air Force - Enlisted)
- 2A334B Fighter Aircraft Integrated Avionics Apprentice, F-15 Avionics (Air Force - Enlisted)
- 2A334C Fighter Aircraft Integrated Avionics Apprentice, F-16 Avionics (Air Force - Enlisted)
- 2A338A Remotely Piloted Aircraft Maintenance Apprentice, MQ-1/MQ-9 (Air Force - Enlisted)
- 2A338B Remotely Piloted Aircraft Maintenance Apprentice, RQ-4 (Air Force - Enlisted)
- 2A353E Tactical Aircraft Maintenance Journeyman, A-10/U-2 (Air Force - Enlisted)
- 2A353L Tactical Aircraft Maintenance Journeyman, F-15 (Air Force - Enlisted)
- 2A353M Tactical Aircraft Maintenance Journeyman (Air Force - Enlisted)
- 2A354A Fighter Aircraft Integrated Avionics Journeyman, A-10/U-2 Avionics (Air Force - Enlisted)
- 2A354B Fighter Aircraft Integrated Avionics Journeyman, F-15 Avionics (Air Force - Enlisted)
- 2A354C Fighter Aircraft Integrated Avionics Journeyman, F-16 Avionics (Air Force - Enlisted)
- 2A358A Remotely Piloted Aircraft Maintenance Journeyman, MQ-1/MQ-9 (Air Force - Enlisted)
- 2A358B Remotely Piloted Aircraft Maintenance Journeyman, RQ-4 (Air Force - Enlisted)
- 2A373 Tactical Aircraft Maintenance Craftsman (Air Force - Enlisted)

- 2A374 Fighter Aircraft Integrated Avionics Craftsman (Air Force - Enlisted)
- 2A378 Remotely Piloted Aircraft Maintenance Craftsman (Air Force - Enlisted)
- 2A3X3 Tactical Aircraft Maintenance (Air Force - Enlisted)
- 2A3X4 Fighter Aircraft Integrated Avionics (Air Force - Enlisted)
- 2A3X8 Remotely Piloted Aircraft Maintenance (Air Force - Enlisted)
- 2A511A Airlift/Special Mission Aircraft Maintenance Helper, C-20/C-21/C-22/C-37/C-40/E-4/VC-25 (Air Force - Enlisted)
- 2A511B Airlift/Special Mission Aircraft Maintenance Helper, C-130/C-27J (Air Force - Enlisted)
- 2A511C Aerospace Maintenance Helper, C-5 (Air Force - Enlisted)
- 2A511D Aerospace Maintenance Helper, C-17 (Air Force - Enlisted)
- 2A531A Airlift/Special Mission Aircraft Maintenance Apprentice, C-20/C-21/C-22/C-37/C-40/E-4/VC-25 (Air Force - Enlisted)
- 2A531B Airlift/Special Mission Aircraft Maintenance Apprentice, C-130/C-27J (Air Force - Enlisted)
- 2A531C Aerospace Maintenance Apprentice, C-5 (Air Force - Enlisted)
- 2A531D Aerospace Maintenance Apprentice, C-17 (Air Force - Enlisted)
- 2A551A Airlift/Special Mission Aircraft Maintenance Journeyman, C-20/C-21/C-22/C-37/C-40/E-4/VC-25 (Air Force - Enlisted)
- 2A551B Airlift/Special Mission Aircraft Maintenance Journeyman, C-130/C-27J (Air Force - Enlisted)
- 2A551C Airlift/Special Mission Aircraft Maintenance Journeyman, C-5 (Air Force - Enlisted)
- 2A551D Airlift/Special Mission Aircraft Maintenance Journeyman, C-17 (Air Force - Enlisted)
- 2A571 Airlift/Special Mission Aircraft Maintenance Craftsman (Air Force - Enlisted)
- 2A5X1 Airlift/Special Mission Aircraft Maintenance (Air Force - Enlisted)
- 2A611C Aerospace Propulsion Helper, TF33, CF6, F103, F108, F117, TFE-731, TF34, TF39, PW 2040, F138 Jet Engines (Air Force - Enlisted)
- 2A611D Aerospace Propulsion Helper, F100, F119, F135 Jet Engines (Air Force - Enlisted)
- 2A611E Aerospace Propulsion Helper, F101, F110, F118 Jet Engines (Air Force - Enlisted)
- 2A611H Aerospace Propulsion Helper, Turboprop And Turboshaft Propulsion (Air Force - Enlisted)
- 2A612 Aerospace Ground Equipment Helper (Air Force - Enlisted)
- 2A613 Aircrew Egress Systems Helper (Air Force - Enlisted)
- 2A614 Aircraft Fuel Systems Helper (Air Force - Enlisted)
- 2A615 Aircraft Hydraulic Systems Helper (Air Force - Enlisted)

- 2A616 Aircraft Electrical And Environmental Systems Helper (Air Force - Enlisted)
- 2A631C Aerospace Propulsion Apprentice, TF33, CF6, F103, F108, F117, TFE-731, TF34, TF39, PW 2040, F138 Jet Engines (Air Force - Enlisted)
- 2A631D Aerospace Propulsion Apprentice, F100, F119, F135 Jet Engines (Air Force - Enlisted)
- 2A631E Aerospace Propulsion Apprentice, F101, F110, F118 Jet Engines (Air Force - Enlisted)
- 2A631H Aerospace Propulsion Apprentice, Turboprop And Turboshaft Propulsion (Air Force - Enlisted)
- 2A632 Aerospace Ground Equipment Apprentice (Air Force - Enlisted)
- 2A633 Aircrew Egress Systems Apprentice (Air Force - Enlisted)
- 2A634 Aircraft Fuel Systems Apprentice (Air Force - Enlisted)
- 2A635 Aircraft Hydraulic Systems Apprentice (Air Force - Enlisted)
- 2A636 Aircraft Electrical And Environmental Systems Apprentice (Air Force - Enlisted)
- 2A651C Aerospace Propulsion Journeyman, TF33, CF6, F103, F108, F117, TFE-731, TF34, TF39, PW 2040, F138 Jet Engines (Air Force - Enlisted)
- 2A651F Aerospace Propulsion Journeyman, F100, F101, F110, F118, F119, F135 Jet Engines (Air Force - Enlisted)
- 2A651H Aerospace Propulsion Journeyman, Turboprop And Turboshaft Propulsion (Air Force - Enlisted)
- 2A652 Aerospace Ground Equipment Journeyman (Air Force - Enlisted)
- 2A653 Aircrew Egress Systems Journeyman (Air Force - Enlisted)
- 2A654 Aircraft Fuel Systems Journeyman (Air Force - Enlisted)
- 2A655 Aircraft Hydraulic Systems Journeyman (Air Force - Enlisted)
- 2A656 Aircraft Electrical And Environmental Systems Journeyman (Air Force - Enlisted)
- 2A671G Aerospace Propulsion Craftsman, Turbofan and Turbojet Propulsion (Air Force - Enlisted)
- 2A671H Aerospace Propulsion Craftsman, Turboprop And Turboshaft Propulsion (Air Force - Enlisted)
- 2A672 Aerospace Ground Equipment Craftsman (Air Force - Enlisted)
- 2A673 Aircrew Egress Systems Craftsman (Air Force - Enlisted)
- 2A674 Aircraft Fuel Systems Craftsman (Air Force - Enlisted)
- 2A675 Aircraft Hydraulic Systems Craftsman (Air Force - Enlisted)
- 2A676 Aircraft Electrical And Environmental Systems Craftsman (Air Force - Enlisted)
- 2A691 Aerospace Propulsion Superintendent (Air Force - Enlisted)
- 2A692 Aerospace Ground Equipment Superintendent (Air Force - Enlisted)

- 2A6X1 Aerospace Propulsion (Air Force - Enlisted)
- 2A6X2 Aerospace Ground Equipment (Air Force - Enlisted)
- 2A6X3 Aircrew Egress Systems (Air Force - Enlisted)
- 2A6X4 Aircraft Fuel Systems (Air Force - Enlisted)
- 2A6X5 Aircraft Hydraulic Systems (Air Force - Enlisted)
- 2A6X6 Aircraft Electrical And Environmental Systems (Air Force - Enlisted)
- 2A811A Mobility Air Forces Integrated Communication/Navigation/Mission Systems Helper, C-5 (Air Force - Enlisted)
- 2A811B Mobility Air Forces Integrated Communication/Navigation/Mission Systems Helper, C-17 (Air Force - Enlisted)
- 2A811C Mobility Air Forces Integrated Communication/Navigation/Mission Systems Helper, C-130/ WC-130 (except SOF/PR and EC-130) (Air Force - Enlisted)
- 2A811D Mobility Air Forces Integrated Communication/Navigation/Mission Systems Helper, C-12/21/27/32/37/38/39/40 (Air Force - Enlisted)
- 2A811F Mobility Air Forces Integrated Communication/Navigation/Mission Systems Helper, KC-10 (Air Force - Enlisted)
- 2A811G Mobility Air Forces Integrated Communication/Navigation/Mission Systems Helper, KC-135 (Air Force - Enlisted)
- 2A811H Mobility Air Forces Integrated Communication/Navigation/Mission Systems Helper, KC-46 (Air Force - Enlisted)
- 2A812A Mobility Air Forces Integrated Instrument and Flight Control Systems Helper, C-5 (Air Force - Enlisted)
- 2A812B Mobility Air Forces Integrated Instrument and Flight Control Systems Helper, C-17 (Air Force - Enlisted)
- 2A812C Mobility Air Forces Integrated Instrument and Flight Control Systems Helper, C-130/ WC-130 (except SOF/PR and EC-130) (Air Force - Enlisted)
- 2A812D Mobility Air Forces Integrated Instrument and Flight Control Systems Helper, C-12/21/27/32/37/38/39/40 (Air Force - Enlisted)
- 2A812F Mobility Air Forces Integrated Instrument and Flight Control Systems Helper, KC-10 (Air Force - Enlisted)
- 2A812G Mobility Air Forces Integrated Instrument and Flight Control Systems Helper, KC-135 (Air Force - Enlisted)
- 2A812H Mobility Air Forces Integrated Instrument and Flight Control Systems Helper, KC-46 (Air Force - Enlisted)

- 2A831A Mobility Air Forces Integrated Communication/Navigation/Mission Systems Apprentice, C-5 (Air Force - Enlisted)
- 2A831B Mobility Air Forces Integrated Communication/Navigation/Mission Systems Apprentice, C-17 (Air Force - Enlisted)
- 2A831C Mobility Air Forces Integrated Communication/Navigation/Mission Systems Apprentice, C-130/ WC-130 (except SOF/PR and EC-130) (Air Force - Enlisted)
- 2A831D Mobility Air Forces Integrated Communication/Navigation/Mission Systems Apprentice, C-12/21/27/32/37/38/39/40 (Air Force - Enlisted)
- 2A831F Mobility Air Forces Integrated Communication/Navigation/Mission Systems Apprentice, KC-10 (Air Force - Enlisted)
- 2A831G Mobility Air Forces Integrated Communication/Navigation/Mission Systems Apprentice, KC-135 (Air Force - Enlisted)
- 2A831H Mobility Air Forces Integrated Communication/Navigation/Mission Systems Apprentice, KC-46 (Air Force - Enlisted)
- 2A832A Mobility Air Forces Integrated Instrument and Flight Control Systems Apprentice, C-5 (Air Force - Enlisted)
- 2A832B Mobility Air Forces Integrated Instrument and Flight Control Systems Apprentice, C-17 (Air Force - Enlisted)
- 2A832C Mobility Air Forces Integrated Instrument and Flight Control Systems Apprentice, C-130/ WC-130 (except SOF/PR and EC-130) (Air Force - Enlisted)
- 2A832D Mobility Air Forces Integrated Instrument and Flight Control Systems Apprentice, C-12/21/27/32/37/38/39/40 (Air Force - Enlisted)
- 2A832F Mobility Air Forces Integrated Instrument and Flight Control Systems Apprentice, KC-10 (Air Force - Enlisted)
- 2A832G Mobility Air Forces Integrated Instrument and Flight Control Systems Apprentice, KC-135 (Air Force - Enlisted)
- 2A832H Mobility Air Forces Integrated Instrument and Flight Control Systems Apprentice, KC-46 (Air Force - Enlisted)
- 2A851A Mobility Air Forces Integrated Communication/Navigation/Mission Systems Journeyman, C-5 (Air Force - Enlisted)
- 2A851B Mobility Air Forces Integrated Communication/Navigation/Mission Systems Journeyman, C-17 (Air Force - Enlisted)
- 2A851C Mobility Air Forces Integrated Communication/Navigation/Mission Systems Journeyman, C-130/ WC-130 (except SOF/PR and EC-130) (Air Force - Enlisted)

- 2A851D Mobility Air Forces Integrated
Communication/Navigation/Mission Systems Journeyman, C-12/21/27/32/37/38/39/40 (Air Force - Enlisted)
- 2A851F Mobility Air Forces Integrated
Communication/Navigation/Mission Systems Journeyman, KC-10 (Air Force - Enlisted)
- 2A851G Mobility Air Forces Integrated
Communication/Navigation/Mission Systems Journeyman, KC-135 (Air Force - Enlisted)
- 2A851H Mobility Air Forces Integrated
Communication/Navigation/Mission Systems Journeyman, KC-46 (Air Force - Enlisted)
- 2A852A Mobility Air Forces Integrated Instrument and Flight Control Systems Journeyman, C-5 (Air Force - Enlisted)
- 2A852B Mobility Air Forces Integrated Instrument and Flight Control Systems Journeyman, C-17 (Air Force - Enlisted)
- 2A852C Mobility Air Forces Integrated Instrument and Flight Control Systems Journeyman, C-130/ WC-130 (except SOF/PR and EC-130) (Air Force - Enlisted)
- 2A852D Mobility Air Forces Integrated Instrument and Flight Control Systems Journeyman, C-12/21/27/32/37/38/39/40 (Air Force - Enlisted)
- 2A852F Mobility Air Forces Integrated Instrument and Flight Control Systems Journeyman, KC-10 (Air Force - Enlisted)
- 2A852G Mobility Air Forces Integrated Instrument and Flight Control Systems Journeyman, KC-135 (Air Force - Enlisted)
- 2A852H Mobility Air Forces Integrated Instrument and Flight Control Systems Journeyman, KC-46 (Air Force - Enlisted)
- 2A871E Mobility Air Forces Integrated
Communication/Navigation/Mission Systems Craftsman, Cargo Comm/Counter/Nav Systems (Air Force - Enlisted)
- 2A871J Mobility Air Forces Integrated
Communication/Navigation/Mission Systems Craftsman, Tanker Comm/Counter/Nav Systems (Air Force - Enlisted)
- 2A872E Mobility Air Forces Integrated Instrument and Flight Control Systems Craftsman, Cargo IFCS (Air Force - Enlisted)
- 2A872J Mobility Air Forces Integrated Instrument and Flight Control Systems Craftsman, Tanker IFCS (Air Force - Enlisted)
- 2A8X1 Mobility Air Forces Integrated
Communication/Navigation/Mission Systems (Air Force - Enlisted)
- 2A8X2 Mobility Air Forces Integrated Instrument and Flight Control Systems (Air Force - Enlisted)
- 2A911A Bomber/Special Integrated
Communication/Navigation/Mission Systems Helper, E-3 (Air Force - Enlisted)

- 2A911B Bomber/Special Integrated Communication/Navigation/Mission Systems Helper, E-4/VC-25 (Air Force - Enlisted)
- 2A911C Bomber/Special Integrated Communication/Navigation/Mission Systems Helper, E-8 (Air Force - Enlisted)
- 2A911D Bomber/Special Integrated Communication/Navigation/Mission Systems Helper, RC-135 (Air Force - Enlisted)
- 2A911E Bomber/Special Integrated Communication/Navigation/Mission Systems Helper, B-1 (Air Force - Enlisted)
- 2A911F Bomber/Special Integrated Communication/Navigation/Mission Systems Helper, B-2 (Air Force - Enlisted)
- 2A911G Bomber/Special Integrated Communication/Navigation/Mission Systems Helper, B-52 (Air Force - Enlisted)
- 2A912A Bomber/Special Integrated Instrument and Flight Control Systems Helper, E-3 (Air Force - Enlisted)
- 2A912B Bomber/Special Integrated Instrument and Flight Control Systems Helper, E-4/VC-25 (Air Force - Enlisted)
- 2A912C Bomber/Special Integrated Instrument and Flight Control Systems Helper, E-8 (Air Force - Enlisted)
- 2A912D Bomber/Special Integrated Instrument and Flight Control Systems Helper, RC-135 (Air Force - Enlisted)
- 2A912E Bomber/Special Integrated Instrument and Flight Control Systems Helper, B-1 (Air Force - Enlisted)
- 2A912F Bomber/Special Integrated Instrument and Flight Control Systems Helper, B-2 (Air Force - Enlisted)
- 2A912G Bomber/Special Integrated Instrument and Flight Control Systems Helper, B-52 (Air Force - Enlisted)
- 2A931A Bomber/Special Integrated Communication/Navigation/Mission Systems Apprentice, E-3 (Air Force - Enlisted)
- 2A931B Bomber/Special Integrated Communication/Navigation/Mission Systems Apprentice, E-4/VC-25 (Air Force - Enlisted)
- 2A931C Bomber/Special Integrated Communication/Navigation/Mission Systems Apprentice, E-8 (Air Force - Enlisted)
- 2A931D Bomber/Special Integrated Communication/Navigation/Mission Systems Apprentice, RC-135 (Air Force - Enlisted)

- 2A931E Bomber/Special Integrated Communication/Navigation/Mission Systems Apprentice, B-1 (Air Force - Enlisted)
- 2A931F Bomber/Special Integrated Communication/Navigation/Mission Systems Apprentice, B-2 (Air Force - Enlisted)
- 2A931G Bomber/Special Integrated Communication/Navigation/Mission Systems Apprentice, B-52 (Air Force - Enlisted)
- 2A932A Bomber/Special Integrated Instrument and Flight Control Systems Apprentice, E-3 (Air Force - Enlisted)
- 2A932B Bomber/Special Integrated Instrument and Flight Control Systems Apprentice, E-4/VC-25 (Air Force - Enlisted)
- 2A932C Bomber/Special Integrated Instrument and Flight Control Systems Apprentice, E-8 (Air Force - Enlisted)
- 2A932D Bomber/Special Integrated Instrument and Flight Control Systems Apprentice, RC-135 (Air Force - Enlisted)
- 2A932E Bomber/Special Integrated Instrument and Flight Control Systems Apprentice, B-1 (Air Force - Enlisted)
- 2A932F Bomber/Special Integrated Instrument and Flight Control Systems Apprentice, B-2 (Air Force - Enlisted)
- 2A932G Bomber/Special Integrated Instrument and Flight Control Systems Apprentice, B-52 (Air Force - Enlisted)
- 2A951A Bomber/Special Integrated Communication/Navigation/Mission Systems Journeyman, E-3 (Air Force - Enlisted)
- 2A951B Bomber/Special Integrated Communication/Navigation/Mission Systems Journeyman, E-4/VC-25 (Air Force - Enlisted)
- 2A951C Bomber/Special Integrated Communication/Navigation/Mission Systems Journeyman, E-8 (Air Force - Enlisted)
- 2A951D Bomber/Special Integrated Communication/Navigation/Mission Systems Journeyman, RC-135 (Air Force - Enlisted)
- 2A951E Bomber/Special Integrated Communication/Navigation/Mission Systems Journeyman, B-1 (Air Force - Enlisted)
- 2A951F Bomber/Special Integrated Communication/Navigation/Mission Systems Journeyman, B-2 (Air Force - Enlisted)
- 2A951G Bomber/Special Integrated Communication/Navigation/Mission Systems Journeyman, B-52 (Air Force - Enlisted)
- 2A952A Bomber/Special Integrated Instrument and Flight Control Systems Journeyman, E-3 (Air Force - Enlisted)

- 2A952B Bomber/Special Integrated Instrument and Flight Control Systems Journeyman, E-4/VC-25 (Air Force - Enlisted)
- 2A952C Bomber/Special Integrated Instrument and Flight Control Systems Journeyman, E-8 (Air Force - Enlisted)
- 2A952D Bomber/Special Integrated Instrument and Flight Control Systems Journeyman, RC-135 (Air Force - Enlisted)
- 2A952E Bomber/Special Integrated Instrument and Flight Control Systems Journeyman, B-1 (Air Force - Enlisted)
- 2A952F Bomber/Special Integrated Instrument and Flight Control Systems Journeyman, B-2 (Air Force - Enlisted)
- 2A952G Bomber/Special Integrated Instrument and Flight Control Systems Journeyman, B-52 (Air Force - Enlisted)
- 2A971 Bomber/Special Integrated Communication/Navigation/Mission Systems Craftsman (Air Force - Enlisted)
- 2A972 Bomber/Special Integrated Instrument and Flight Control Systems Craftsman (Air Force - Enlisted)
- 2A9X1 Bomber/Special Integrated Communication/Navigation/Mission Systems (Air Force - Enlisted)
- 2A9X2 Bomber/Special Integrated Instrument and Flight Control Systems (Air Force - Enlisted)
- 2M011A Missile And Space Systems Electronic Maintenance Helper, ICBM (Air Force - Enlisted)
- 2M011B Missile And Space Systems Electronic Maintenance Helper, ALCM (Air Force - Enlisted)
- 2M011 Missile And Space Systems Electronic Maintenance Helper (Air Force - Enlisted)
- 2M031A Missile And Space Systems Electronic Maintenance Apprentice, ICBM (Air Force - Enlisted)
- 2M031B Missile And Space Systems Electronic Maintenance Apprentice, ALCM (Air Force - Enlisted)
- 2M031 Missile And Space Systems Electronic Maintenance Apprentice (Air Force - Enlisted)
- 2M051 Missile And Space Systems Electronic Maintenance Journeyman (Air Force - Enlisted)
- 2M071 Missile And Space Systems Electronic Maintenance Craftsman (Air Force - Enlisted)
- 2M0X1 Missile And Space Systems Electronic Maintenance (Air Force - Enlisted)
- 2W011 Munitions Systems Helper (Air Force - Enlisted)
- 2W031 Munitions Systems Apprentice (Air Force - Enlisted)
- 2W051 Munitions Systems Journeyman (Air Force - Enlisted)
- 2W071 Munitions Systems Craftsman (Air Force - Enlisted)
- 2W091 Munitions Systems Superintendent (Air Force - Enlisted)
- 2W0X1 Munitions Systems (Air Force - Enlisted)

- 3043 Supply Chain Administration and Operations Specialist (Marine Corps - Enlisted)
- 5951 Aviation Meteorological Equipment Technician, OMA/IMA (Marine Corps - Enlisted)
- 6048 Flight Equipment Technician (Marine Corps - Enlisted)
- 6072 Aircraft Maintenance Support Equipment Hydraulic/Pneumatic/Structures Mechanic (Marine Corps - Enlisted)
- 6073 Aircraft Maintenance Support Equipment Electrician/Refrigeration Mechanic (Marine Corps - Enlisted)
- 6074 Cryogenics Equipment Operator (Marine Corps - Enlisted)
- 616 LDO - Ordnance, Surface (Navy - Commissioned Officer only)
- 6212 Fixed-Wing Aircraft Mechanic, AV-8/TAV-8 (Marine Corps - Enlisted)
- 6213 Fixed-Wing Aircraft Mechanic, EA-6 (Marine Corps - Enlisted)
- 6216 Fixed-Wing Aircraft Mechanic, KC-130 (Marine Corps - Enlisted)
- 6217 Fixed-Wing Aircraft Mechanic, F/A-18 (Marine Corps - Enlisted)
- 6218 Fixed-Wing Aircraft Mechanic, F-35B (Marine Corps - Enlisted)
- 6222 Fixed-Wing Aircraft Power Plants Mechanic, F-402 (Marine Corps - Enlisted)
- 6223 Fixed-Wing Aircraft Power Plants Mechanic, J-52 (Marine Corps - Enlisted)
- 6226 Fixed-Wing Aircraft Power Plants Mechanic, T-56 (Marine Corps - Enlisted)
- 6227 Fixed-Wing Aircraft Power Plants Mechanic, F-404 (Marine Corps - Enlisted)
- 6242 Fixed-Wing Aircraft Flight Engineer, KC-130 (Marine Corps - Enlisted)
- 6246 Fixed-Wing Transport Aircraft Specialist, C-20 (Marine Corps - Enlisted)
- 6251 Fixed-Wing Aircraft Airframe Mechanic-Trainee (Marine Corps - Enlisted)
- 6252 Fixed-Wing Aircraft Airframe Mechanic, AV-8/TAV-8 (Marine Corps - Enlisted)
- 6253 Fixed-Wing Aircraft Airframe Mechanic, EA-6 (Marine Corps - Enlisted)
- 6256 Fixed-Wing Aircraft Airframe Mechanic, KC-130 (Marine Corps - Enlisted)
- 6257 Fixed-Wing Aircraft Airframe Mechanic, F/A-18 (Marine Corps - Enlisted)
- 6258 Fixed-Wing Aircraft Airframe Mechanic, F-35B (Marine Corps - Enlisted)
- 626 LDO - Ordnance, Submarine (Navy - Commissioned Officer only)
- 6276 Fixed-Wing Aircraft Crew Chief, KC-130 (Marine Corps - Enlisted)

- 6281 Fixed-Wing Aircraft Safety Equipment Mechanic-Trainee (Marine Corps - Enlisted)
- 6282 Fixed-Wing Aircraft Safety Equipment Mechanic, AV-8/TAV-8 (Marine Corps - Enlisted)
- 6283 Fixed-Wing Aircraft Safety Equipment Mechanic, EA-6 (Marine Corps - Enlisted)
- 6286 Fixed-Wing Aircraft Safety Equipment Mechanic, KC-130/V-22 (Marine Corps - Enlisted)
- 6287 Fixed-Wing Aircraft Safety Equipment Mechanic, F/A-18 (Marine Corps - Enlisted)
- 6288 Fixed-Wing Aircraft Safety Equipment Mechanic, F-35B (Marine Corps - Enlisted)
- 6333 Aircraft Electrical Systems Technician, EA-6 (Marine Corps - Enlisted)
- 6336 Aircraft Electrical Systems Technician, KC-130 (Marine Corps - Enlisted)
- 6337 Aircraft Electrical Systems Technician, F/A-18 (Marine Corps - Enlisted)
- 636 LDO - Ordnance, Aviation (Navy - Commissioned Officer only)
- 6386 Aircraft Electronic Countermeasures Systems Technician, EA-6B (Marine Corps - Enlisted)
- 6432 Aircraft Electrical/Instrument/Flight Control Systems Technician, IMA (Marine Corps - Enlisted)
- 6483 Communication/Navigation/Cryptographic/Countermeasures Systems Technician, IMA (Marine Corps - Enlisted)
- 6499 Mobile Facility Technician (Marine Corps - Enlisted)
- 6531 Aircraft Ordnance Technician (Marine Corps - Enlisted)
- 6541 Aviation Ordnance Systems Technician (Marine Corps - Enlisted)
- 6672 Aviation Supply Specialist (Marine Corps - Enlisted)
- 6842 Meteorology and Oceanography (METOC) Analyst Forecaster (Marine Corps - Enlisted)
- 7011 Expeditionary Airfield Systems Technician (Marine Corps - Enlisted)
- 716 CWO - Ordnance Technician, Surface (Navy - Warrant Officer only)
- 726 CWO - Ordnance, Submarine (Navy - Warrant Officer only)
- 736 CWO - Ordnance, Aviation (Navy - Warrant Officer only)
- 91F Small Arms/Artillery Repairer (Army - Enlisted)
- 91G Fire Control Repairer (Army - Enlisted)
- 91P Self Propelled Artillery Systems Maintainer (Army - Enlisted)
- 923A Petroleum Technician (Army - Warrant Officer only)
- 92A Automated Logistical Specialist (Army - Enlisted)
- 92L Petroleum Laboratory Specialist (Army - Enlisted)
- 948B Electronic Systems Maintenance Warrant Officer (Army - Warrant Officer only)

- 94W Electronic Maintenance Chief (Army - Enlisted)
- 94Y Integrated Family of Test Equipment (IFTE) Operator and Maintainer (Army - Enlisted)
- ABE Aviation Boatswain's Mate, Launching and Recovery Equipment (Navy - Enlisted)
- AE Aviation Electrician's Mate (Navy - Enlisted)
- AG Aerographer's Mate (Navy - Enlisted)
- AME Aviation Structural Mechanic, Safety Equipment (Navy - Enlisted)
- AO Aviation Ordnanceman (Navy - Enlisted)
- AS Aviation Support Equipmentman (Navy - Enlisted)
- AT Aviation Electronics Technician (Navy - Enlisted)
- EM Electrician's Mate (Navy - Enlisted)
- ET(V) Electronics Technicians (Navigation) (Navy - Enlisted)
- FT Fire Control Technician (Navy - Enlisted)
- GM Gunner's Mate (Navy - Enlisted)
- HT Hull Maintenance Technician (Navy - Enlisted)
- IS Intelligence Specialist (Navy - Enlisted)
- ITS Information Systems Technician Submarines (Navy - Enlisted)
- IT Information Systems Technician (Navy - Enlisted)
- MN Mineman (Navy - Enlisted)
- MT Missile Technician (Navy - Enlisted)
- STS Sonar Technician (Submarine) (Navy - Enlisted)
- Program of Study: None
- NCAE/AFNR
 - Food Products and Processing Systems Pathway
 - Power, Structural, and Technical Systems Pathway
- Keystone
 - ALG1.1.1.1. Represent and/or use numbers in equivalent forms.
 - ALG1.1.1.2. Apply number theory concepts to show relationships between real numbers in problem-solving settings.
 - ALG1.1.1.4. Use estimation strategies in problem-solving situations.
 - BIO.A.1.2. Describe relationships between structure and functions at biological levels of organization.
 - BIO.B.4.1. Describe ecological levels of organization in the biosphere.
 - LIT.N.1.2. Use appropriate strategies to determine and clarify meaning of vocabulary in literature.
 - LIT.N.1.3. Use appropriate strategies to comprehend literature during the reading process.

Duties

- Inspect, test, or measure materials, products, installations, or work for conformance to specifications

- Measure of dimension of products to verify conformance to specifications
- Read blueprints, data, manuals, or other materials to determine specifications, inspection and testing procedures, adjustment methods, certification processes, formulas, or measuring instruments required
- Record inspection or test data
- Mark items with details such as grade or acceptance-rejection status

Knowledge

- Production and processing
- Mathematics
- English language

Skills

- Quality control analysis
- Active listening
- Critical thinking
- Monitoring
- Reading comprehension

Education, Training, and Certificates

- 52% have a High School Diploma or GED
- Higher Education
 - Quality Control Technology/Technician
 - Northampton County Community College (Associate's)

Top Compatible Occupations

- Electrical and Electronic Equipment Assemblers (51-2022) (96%) (\$15.45)
- Print Binding and Finishing Workers (51-5113) (96%) (\$15.85)
- Team Assemblers (51-2092) (96%) (\$14.52)
- Shipping, Receiving, and Traffic Clerks (43-5071) (95%)
- Solderers and Brazers (51-4121) (95%) (18.18)

Videos

- http://www.careerinfonet.org/occ_rep_vidpopup.asp?soccode=519061&matchVideo=51-9061.03

Industrial Machinery Mechanic

Repair, install, adjust, or maintain industrial production and processing machinery or refinery and pipeline distribution systems.

Related Job Titles: Fixer, Industrial Machinery Mechanic, Industrial Mechanic, Loom Fixer, Machine Adjuster, Maintenance Mechanic, Maintenance Technician, Master Mechanic, Mechanic, Overhauler

Vital Statistics

- SOC: [49-9041](#)
- CIP
 - 47.0000 Mechanics and Repairers, General
 - 47.0303 Industrial Mechanics and Maintenance Technology
 - 47.0399 Heavy and Industrial Equipment Maintenance Technologies, Other
 - 47.9999 Mechanic and Repair Technologies and Technicians, Other
- Median Hourly Earnings: \$22.60
- 2015 Jobs: 15,406
- Openings from 2015-2024: \$7,100
- WorkKeys (AM-LI-RI): 4-4-4
- Military Occupation Specialty (MOS)
 - 002068 Aircraft Launch and Recovery Equipment Maintenance and Administrative Operations Technician (Navy - Enlisted)
 - 0411 Maintenance Management Specialist (Marine Corps - Enlisted)
 - 15S OH-58D Helicopter Repairer (Army - Enlisted)
 - 2141 Assault Amphibious Vehicle (AAV) Repairer/Technician (Marine Corps - Enlisted)
 - 2146 Main Battle Tank (MBT) Repairer/Technician (Marine Corps - Enlisted)
 - 2147 Light Armored Vehicle (LAV) Repairer/Technician (Marine Corps - Enlisted)
 - 2161 Machinist (Marine Corps - Enlisted)
 - 2A614 Aircraft Fuel Systems Helper (Air Force - Enlisted)
 - 2A634 Aircraft Fuel Systems Apprentice (Air Force - Enlisted)
 - 2A654 Aircraft Fuel Systems Journeyman (Air Force - Enlisted)
 - 2A674 Aircraft Fuel Systems Craftsman (Air Force - Enlisted)
 - 2A6X4 Aircraft Fuel Systems (Air Force - Enlisted)
 - 2A712 Nondestructive Inspection Helper (Air Force - Enlisted)
 - 2A732 Nondestructive Inspection Apprentice (Air Force - Enlisted)
 - 2A752 Nondestructive Inspection Journeyman (Air Force - Enlisted)
 - 2A772 Nondestructive Inspection Craftsman (Air Force - Enlisted)

- 2A7X2 Nondestructive Inspection (Air Force - Enlisted)
- 2F011 Fuels Helper (Air Force - Enlisted)
- 2F031 Fuels Apprentice (Air Force - Enlisted)
- 2F051 Fuels Journeyman (Air Force - Enlisted)
- 2F071 Fuels Craftsman (Air Force - Enlisted)
- 2F091 Fuels Superintendent (Air Force - Enlisted)
- 2F0X1 Fuels (Air Force - Enlisted)
- 301 Machinery Repairman (Coast Guard - Enlisted)
- 3601 Lithographic Equipment Repairman (Navy - Enlisted)
- 3E111 Heating, Ventilation, Air Conditioning, and Refrigeration Helper (Air Force - Enlisted)
- 3E131 Heating, Ventilation, Air Conditioning, and Refrigeration Apprentice (Air Force - Enlisted)
- 3E151 Heating, Ventilation, Air Conditioning, and Refrigeration Journeyman (Air Force - Enlisted)
- 3E171 Heating, Ventilation, Air Conditioning, and Refrigeration Craftsman (Air Force - Enlisted)
- 3E1X1 Heating, Ventilation, Air Conditioning, and Refrigeration (Air Force - Enlisted)
- 3E412 Liquid Fuel Systems Maintenance Helper (Air Force - Enlisted)
- 3E432 Liquid Fuel Systems Maintenance Apprentice (Air Force - Enlisted)
- 3E452 Liquid Fuel Systems Maintenance Journeyman (Air Force - Enlisted)
- 4140 NAMTS Gas Turbine Repair (Navy - Enlisted)
- 4142 NAMTS Heat Exchanger Repair Technician (Navy - Enlisted)
- 4143 CG Smart Ship Engineering Control System Equipment (ECSE) Operator and Maintenance Technician (Navy - Enlisted)
- 4145 NAMTS Gas Turbine (Electrical) Repair Technician (Navy - Enlisted)
- 4222 NAMTS Pump Repair (Navy - Enlisted)
- 4225 NAMTS Boiler Repair Technician (Navy - Enlisted)
- 4226 Battle Force Intermediate Maintenance Activity (BFIMA) Boiler ACC Technician (Navy - Enlisted)
- 4227 NAMTS Pump Repair (Navy - Enlisted)
- 4229 NAMTS Heat Exchanger Repair Technician (Navy - Enlisted)
- 4231 SSN/SSBN Auxiliary Equipment Technician (Navy - Enlisted)
- 4233 SSN/SSBN Weapons Equipment Technician (Navy - Enlisted)
- 4234 SSN 774 Class Advanced Auxiliary Equipment Technician (Navy - Enlisted)
- 4253 Low Pressure Electrolyzer (LPE) Operator (Navy - Enlisted)
- 4291 Refrigeration and Air Conditioning Systems Technician (Navy - Enlisted)
- 4308 Causeway Section Powered/Side Loadable Warping Tug (CSP/SLWT) Engineer (Navy - Enlisted)

- 4314 Diesel Engine Inspector (Navy - Enlisted)
- 4316 MCM 1and2 Propulsion Technician (Navy - Enlisted)
- 4324 MCM Propulsion Technician (Navy - Enlisted)
- 4355 LAMPS MK III RAST Mechanical Maintenceman (Navy - Enlisted)
- 4366 LSD-41 Class Propulsion System Technician (Navy - Enlisted)
- 4509 Electronic Automatic Boiler Controls Maintenance Technician (Navy - Enlisted)
- 52X Special Purpose Equipment Repairer (Army - Enlisted)
- 6072 Aircraft Maintenance Support Equipment Hydraulic/Pneumatic/Structures Mechanic (Marine Corps - Enlisted)
- 6074 Cryogenics Equipment Operator (Marine Corps - Enlisted)
- 63J Quartermaster and Chemical Equipment Repairer (Army - Enlisted)
- 7022 Aviation Fuels Maintenance Technician (Navy - Enlisted)
- 7601 Support Equipment Cryogenic Mechanic (Navy - Enlisted)
- 7606 Support Equipment Gas Turbine Mechanic (Navy - Enlisted)
- 7612 SE Hydraulic Intermediate Maintenance Technician (Navy - Enlisted)
- 7613 Shore Based SE Hydraulic Equipment IMA Technician (Navy - Enlisted)
- 7614 Mobile Electric Power Plants Intermediate Maintenance Technician (Navy - Enlisted)
- 7615 Afloat Mobile Electric Power Plant Technician (Navy - Enlisted)
- 7616 Maintenance Crane Intermediate Maintenance Technician (Navy - Enlisted)
- 7617 Crash Equipment Technician (SEA) (Navy - Enlisted)
- 91A M1 Abrams Tank System Maintainer (Army - Enlisted)
- 91D Power Generation Equipment Repairer (Army - Enlisted)
- 91E Allied Trades Specialist (Army - Enlisted)
- 91J Quartermaster and Chemical Equipment Repairer (Army - Enlisted)
- 91L Construction Equipment Repairer (Army - Enlisted)
- 91P Self Propelled Artillery Systems Maintainer (Army - Enlisted)
- 91X Maintenance Supervisor (Army - Enlisted)
- 9594 Intermediate Maintenance Activity (IMA) Nuclear Worker (Navy - Enlisted)
- ABE Aviation Boatswain's Mate, Launching and Recovery Equipment (Navy - Enlisted)
- ABF Aviation Boatswain's Mate, Fuels (Navy - Enlisted)
- AS Aviation Support Equipmentman (Navy - Enlisted)
- EM Electrician's Mate (Navy - Enlisted)
- EN Engineman (Navy - Enlisted)
- FC Fire Controlman (Navy - Enlisted)
- GSE Gas Turbine System Technician (Electrical) (Navy - Enlisted)

- GSM Gas Turbine System Technician (Mechanical) (Navy - Enlisted)
- MM(NUC) Machinist's Mate (Nuclear) (Navy - Enlisted)
- MM Machinist's Mate (Navy - Enlisted)
- MR Machinery Repairman (Navy - Enlisted)
- Program of Study: None
- NCAE/AFNR
 - Food Products and Processing Systems Pathway
 - Power, Structural, and Technical Systems Pathway
- Keystone
 - ALG1.1.1.1. Represent and/or use numbers in equivalent forms.
 - ALG1.1.1.2. Apply number theory concepts to show relationships between real numbers in problem-solving settings.
 - ALG1.1.1.4. Use estimation strategies in problem-solving situations.
 - BIO.A.1.2. Describe relationships between structure and functions at biological levels of organization.
 - BIO.B.4.1. Describe ecological levels of organization in the biosphere.
 - LIT.N.1.2. Use appropriate strategies to determine and clarify meaning of vocabulary in literature.
 - LIT.N.1.3. Use appropriate strategies to comprehend literature during the reading process.

Duties

- Repair or maintain the operating condition of industrial production or processing machinery or equipment
- Repair or replace broken or malfunctioning components of machinery or equipment
- Disassemble machinery or equipment to remove parts and make repairs
- Observe and test the operation of machinery or equipment to diagnose malfunctions
- Reassemble equipment after completion of inspections, testing, or repairs

Knowledge

- Mechanical
- Engineering and technology
- Production and processing
- English language
- Mathematics

Skills

- Equipment maintenance
- Repairing

- Operation monitoring
- Troubleshooting
- Operation and control

Education, Training, and Certificates

- 48% have post-secondary training, 25% have a High School diploma or GED
- Higher Education
 - Industrial Mechanics and Maintenance Technology
 - McCann School of Business and Technology, Pottsville, PA (Associate's)
 - PA College of Technology, Williamsport, PA (Associate's)
 - Harrisburg Area Community College, Harrisburg, PA (Associate's)
 - Delaware County Community College, Media, PA (Associate's)
 - Reading Area Community College, Reading, PA (Associate's)
 - New Castle School of Trades, New Castle, PA
 - Community College of Allegheny County, Pittsburgh, PA
 - Lancaster County Career and Technology Center, Lancaster, PA
- Related Career and Technical Education Programs
 - Electrical/Electronics Maintenance and Repair Technology, Other (1)

Top Compatible Occupations

- Millwrights (49-9044) (96%) (\$26.10)
- Computer-Controlled Machine Tool Operators, Metal and Plastic (51-4011) (96%) (\$18.44)
- Mobile Heavy Equipment Mechanics (49-3042) (96%) (\$22.41)
- Automotive Master Mechanics (49-3023.01) (95%) (\$16.23)
- Machinist (51-4041) (95%) (\$19.14)

Videos

- http://www.careerinfonet.org/occ_rep_vidpopup.asp?soccode=499041&mat chVideo=49-9041.00

General Maintenance and Repair Workers

Perform work involving the skills of two or more maintenance or craft occupations to keep machines, mechanical equipment, or the structure of an establishment in repair.

Related Job Titles: Building Maintenance Mechanic, Building Mechanic, Equipment Engineering Technician, Facilities Manager, Maintenance Engineer, Maintenance Man, Maintenance Mechanic, Maintenance Supervisor, Maintenance Technician, Maintenance Worker

Vital Statistics

- SOC: [49-9071](#)
- CIP
 - 47.0000 Mechanics and Repairers, General
 - 47.9999 Mechanic and Repair Technologies and Technicians, Other
- Median Hourly Earnings: \$17.94
- 2015 Jobs: 60,220
- Openings from 2015-2024: 14,710
- WorkKeys (AM-LI-RI): 5-5-4
- Military Occupation Specialty (MOS)
 - 001085 Aviation Fuels Flight Deck Operations Technician (Navy - Enlisted)
 - 001519 Auxiliary Equipment Technician (Navy - Enlisted)
 - 001524 Auxiliary Equipment Operator (Navy - Enlisted)
 - 001537 Tactical Weapons Operator (Navy - Enlisted)
 - 001547 Tactical Weapons Technician (Navy - Enlisted)
 - 002093 Armorer (Navy - Enlisted)
 - 002687 Airman (Navy - Enlisted)
 - 002689 Fireman (Navy - Enlisted)
 - 003004 Hull Systems Maintainer (Navy - Enlisted)
 - 003177 Steam Plant Auxiliary Systems Technician (Navy - Enlisted)
 - 003763 Maintenance Technician (Navy - Enlisted)
 - 0411 Maintenance Management Specialist (Marine Corps - Enlisted)
 - 0811 Field Artillery Cannoneer (Marine Corps - Enlisted)
 - 0842 Field Artillery Radar Operator (Marine Corps - Enlisted)
 - 1141 Electrician (Marine Corps - Enlisted)
 - 1161 Refrigeration and Air Conditioning Technician (Marine Corps - Enlisted)
 - 1391 Bulk Fuel Specialist (Marine Corps - Enlisted)
 - 13R Field Artillery (FA) Firefinder Radar Operator (Army - Enlisted)
 - 13T Field Artillery Surveyor/Meteorological Crewmember (Army - Enlisted)

- 15H Aircraft Pneudraulics Repairer (Army - Enlisted)
- 15R AH-64 Attack Helicopter Repairer (Army - Enlisted)
- 15S OH-58D Helicopter Repairer (Army - Enlisted)
- 15V Observation/Scout Helicopter Repairer (RC) (Army - Enlisted)
- 2111 Small Arms Repairer/Technician (Marine Corps - Enlisted)
- 2131 Towed Artillery Systems Technician (Marine Corps - Enlisted)
- 2141 Assault Amphibious Vehicle (AAV) Repairer/Technician (Marine Corps - Enlisted)
- 2146 Main Battle Tank (MBT) Repairer/Technician (Marine Corps - Enlisted)
- 2147 Light Armored Vehicle (LAV) Repairer/Technician (Marine Corps - Enlisted)
- 2171 Electro-Optical Ordnance Repairer (Marine Corps - Enlisted)
- 2847 Ground Electronics Telecommunications and Information Technology Systems Maintainer (Marine Corps - Enlisted)
- 2862 Ground Electronics Systems Maintenance Technician (Marine Corps - Enlisted)
- 2874 Metrology Technician (Marine Corps - Enlisted)
- 2A318A Remotely Piloted Aircraft Maintenance Helper, MQ-1/MQ-9 (Air Force - Enlisted)
- 2A318B Remotely Piloted Aircraft Maintenance Helper, RQ-4 (Air Force - Enlisted)
- 2A338A Remotely Piloted Aircraft Maintenance Apprentice, MQ-1/MQ-9 (Air Force - Enlisted)
- 2A338B Remotely Piloted Aircraft Maintenance Apprentice, RQ-4 (Air Force - Enlisted)
- 2A358A Remotely Piloted Aircraft Maintenance Journeyman, MQ-1/MQ-9 (Air Force - Enlisted)
- 2A358B Remotely Piloted Aircraft Maintenance Journeyman, RQ-4 (Air Force - Enlisted)
- 2A378 Remotely Piloted Aircraft Maintenance Craftsman (Air Force - Enlisted)
- 2A3X8 Remotely Piloted Aircraft Maintenance (Air Force - Enlisted)
- 2A613 Aircrew Egress Systems Helper (Air Force - Enlisted)
- 2A614 Aircraft Fuel Systems Helper (Air Force - Enlisted)
- 2A615 Aircraft Hydraulic Systems Helper (Air Force - Enlisted)
- 2A616 Aircraft Electrical And Environmental Systems Helper (Air Force - Enlisted)
- 2A633 Aircrew Egress Systems Apprentice (Air Force - Enlisted)
- 2A634 Aircraft Fuel Systems Apprentice (Air Force - Enlisted)
- 2A635 Aircraft Hydraulic Systems Apprentice (Air Force - Enlisted)
- 2A636 Aircraft Electrical And Environmental Systems Apprentice (Air Force - Enlisted)
- 2A653 Aircrew Egress Systems Journeyman (Air Force - Enlisted)
- 2A654 Aircraft Fuel Systems Journeyman (Air Force - Enlisted)
- 2A655 Aircraft Hydraulic Systems Journeyman (Air Force - Enlisted)

- 2A656 Aircraft Electrical And Environmental Systems Journeyman (Air Force - Enlisted)
- 2A673 Aircrew Egress Systems Craftsman (Air Force - Enlisted)
- 2A674 Aircraft Fuel Systems Craftsman (Air Force - Enlisted)
- 2A675 Aircraft Hydraulic Systems Craftsman (Air Force - Enlisted)
- 2A676 Aircraft Electrical And Environmental Systems Craftsman (Air Force - Enlisted)
- 2A6X3 Aircrew Egress Systems (Air Force - Enlisted)
- 2A6X4 Aircraft Fuel Systems (Air Force - Enlisted)
- 2A6X5 Aircraft Hydraulic Systems (Air Force - Enlisted)
- 2A6X6 Aircraft Electrical And Environmental Systems (Air Force - Enlisted)
- 2A711 Aircraft Metals Technology Helper (Air Force - Enlisted)
- 2A713 Aircraft Structural Maintenance Helper (Air Force - Enlisted)
- 2A715 Low Observable Aircraft Structural Maintenance Helper (Air Force - Enlisted)
- 2A731 Aircraft Metals Technology Apprentice (Air Force - Enlisted)
- 2A733 Aircraft Structural Maintenance Apprentice (Air Force - Enlisted)
- 2A735 Low Observable Aircraft Structural Maintenance Apprentice (Air Force - Enlisted)
- 2A751 Aircraft Metals Technology Journeyman (Air Force - Enlisted)
- 2A753 Aircraft Structural Maintenance Journeyman (Air Force - Enlisted)
- 2A755 Low Observable Aircraft Structural Maintenance Journeyman (Air Force - Enlisted)
- 2A771 Aircraft Metals Technology Craftsman (Air Force - Enlisted)
- 2A773 Aircraft Structural Maintenance Craftsman (Air Force - Enlisted)
- 2A775 Low Observable Aircraft Structural Maintenance Craftsman (Air Force - Enlisted)
- 2A7X1 Aircraft Metals Technology (Air Force - Enlisted)
- 2A7X3 Aircraft Structural Maintenance (Air Force - Enlisted)
- 2A7X5 Low Observable Aircraft Structural Maintenance (Air Force - Enlisted)
- 2F011 Fuels Helper (Air Force - Enlisted)
- 2F031 Fuels Apprentice (Air Force - Enlisted)
- 2F051 Fuels Journeyman (Air Force - Enlisted)
- 2F071 Fuels Craftsman (Air Force - Enlisted)
- 2F091 Fuels Superintendent (Air Force - Enlisted)
- 2F0X1 Fuels (Air Force - Enlisted)
- 2W011 Munitions Systems Helper (Air Force - Enlisted)
- 2W031 Munitions Systems Apprentice (Air Force - Enlisted)
- 2W051 Munitions Systems Journeyman (Air Force - Enlisted)
- 2W071 Munitions Systems Craftsman (Air Force - Enlisted)
- 2W091 Munitions Systems Superintendent (Air Force - Enlisted)

- 2W0X1 Munitions Systems (Air Force - Enlisted)
- 2W111C Aircraft Armament Systems Helper, A10 (Air Force - Enlisted)
- 2W111D Aircraft Armament Systems Helper, F-4 (Air Force - Enlisted)
- 2W111E Aircraft Armament Systems Helper, F-15 (Air Force - Enlisted)
- 2W111F Aircraft Armament Systems Helper, F-16 (Air Force - Enlisted)
- 2W111H Aircraft Armament Systems Helper, F-111 (Air Force - Enlisted)
- 2W111J Aircraft Armament Systems Helper, F-35 (Air Force - Enlisted)
- 2W111K Aircraft Armament Systems Helper, B-52/B-2 (Air Force - Enlisted)
- 2W111L Aircraft Armament Systems Helper, B-1 (Air Force - Enlisted)
- 2W111N Aircraft Armament Systems Helper, F/A-22 (Air Force - Enlisted)
- 2W111Q Aircraft Armament Systems Helper, RPA (MQ-1/MQ-9) (Air Force - Enlisted)
- 2W111Z Aircraft Armament Systems Helper, All Other (Air Force - Enlisted)
- 2W131C Aircraft Armament Systems Apprentice, A10 (Air Force - Enlisted)
- 2W131D Aircraft Armament Systems Apprentice, F-4 (Air Force - Enlisted)
- 2W131E Aircraft Armament Systems Apprentice, F-15 (Air Force - Enlisted)
- 2W131F Aircraft Armament Systems Apprentice, F-16 (Air Force - Enlisted)
- 2W131H Aircraft Armament Systems Apprentice, F-111 (Air Force - Enlisted)
- 2W131J Aircraft Armament Systems Apprentice, F-35 (Air Force - Enlisted)
- 2W131K Aircraft Armament Systems Apprentice, B-52/B-2 (Air Force - Enlisted)
- 2W131L Aircraft Armament Systems Apprentice, B-1 (Air Force - Enlisted)
- 2W131N Aircraft Armament Systems Apprentice, F/A-22 (Air Force - Enlisted)
- 2W131Q Aircraft Armament Systems Apprentice, RPA (MQ-1/MQ-9) (Air Force - Enlisted)
- 2W131Z Aircraft Armament Systems Apprentice, All Other (Air Force - Enlisted)

- 2W151 Aircraft Armament Systems Journeyman (Air Force - Enlisted)
- 2W171 Aircraft Armament Systems Craftsman (Air Force - Enlisted)
- 2W191 Aircraft Armament Systems Superintendent (Air Force - Enlisted)
- 2W1X1 Aircraft Armament Systems (Air Force - Enlisted)
- 2W211 Nuclear Weapons Helper (Air Force - Enlisted)
- 2W231 Nuclear Weapons Apprentice (Air Force - Enlisted)
- 2W251 Nuclear Weapons Journeyman (Air Force - Enlisted)
- 2W271 Nuclear Weapons Craftsman (Air Force - Enlisted)
- 41E9 Gas Turbine Systems Technician (Electrical) (Navy - Enlisted)
- 41M9 Gas Turbine Systems Technician (Mechanical) (Navy - Enlisted)
- 4299 Machinist's Mate Basic (Navy - Enlisted)
- 5948 Aviation Radar Repairer (Marine Corps - Enlisted)
- 5953 Air Traffic Control Radar Technician (Marine Corps - Enlisted)
- 5954 Air Traffic Control Communications Technician (Marine Corps - Enlisted)
- 6048 Flight Equipment Technician (Marine Corps - Enlisted)
- 6072 Aircraft Maintenance Support Equipment Hydraulic/Pneumatic/Structures Mechanic (Marine Corps - Enlisted)
- 6073 Aircraft Maintenance Support Equipment Electrician/Refrigeration Mechanic (Marine Corps - Enlisted)
- 6074 Cryogenics Equipment Operator (Marine Corps - Enlisted)
- 6212 Fixed-Wing Aircraft Mechanic, AV-8/TAV-8 (Marine Corps - Enlisted)
- 6213 Fixed-Wing Aircraft Mechanic, EA-6 (Marine Corps - Enlisted)
- 6216 Fixed-Wing Aircraft Mechanic, KC-130 (Marine Corps - Enlisted)
- 6217 Fixed-Wing Aircraft Mechanic, F/A-18 (Marine Corps - Enlisted)
- 6218 Fixed-Wing Aircraft Mechanic, F-35B (Marine Corps - Enlisted)
- 6222 Fixed-Wing Aircraft Power Plants Mechanic, F-402 (Marine Corps - Enlisted)
- 6223 Fixed-Wing Aircraft Power Plants Mechanic, J-52 (Marine Corps - Enlisted)
- 6226 Fixed-Wing Aircraft Power Plants Mechanic, T-56 (Marine Corps - Enlisted)
- 6227 Fixed-Wing Aircraft Power Plants Mechanic, F-404 (Marine Corps - Enlisted)
- 6242 Fixed-Wing Aircraft Flight Engineer, KC-130 (Marine Corps - Enlisted)
- 6246 Fixed-Wing Transport Aircraft Specialist, C-20 (Marine Corps - Enlisted)
- 6251 Fixed-Wing Aircraft Airframe Mechanic-Trainee (Marine Corps - Enlisted)

- 6252 Fixed-Wing Aircraft Airframe Mechanic, AV-8/TAV-8 (Marine Corps - Enlisted)
- 6253 Fixed-Wing Aircraft Airframe Mechanic, EA-6 (Marine Corps - Enlisted)
- 6256 Fixed-Wing Aircraft Airframe Mechanic, KC-130 (Marine Corps - Enlisted)
- 6257 Fixed-Wing Aircraft Airframe Mechanic, F/A-18 (Marine Corps - Enlisted)
- 6258 Fixed-Wing Aircraft Airframe Mechanic, F-35B (Marine Corps - Enlisted)
- 6281 Fixed-Wing Aircraft Safety Equipment Mechanic-Trainee (Marine Corps - Enlisted)
- 6282 Fixed-Wing Aircraft Safety Equipment Mechanic, AV-8/TAV-8 (Marine Corps - Enlisted)
- 6283 Fixed-Wing Aircraft Safety Equipment Mechanic, EA-6 (Marine Corps - Enlisted)
- 6286 Fixed-Wing Aircraft Safety Equipment Mechanic, KC-130/V-22 (Marine Corps - Enlisted)
- 6287 Fixed-Wing Aircraft Safety Equipment Mechanic, F/A-18 (Marine Corps - Enlisted)
- 6288 Fixed-Wing Aircraft Safety Equipment Mechanic, F-35B (Marine Corps - Enlisted)
- 6332 Aircraft Avionics Technician, AV-8B (Marine Corps - Enlisted)
- 636 LDO - Ordnance, Aviation (Navy - Commissioned Officer only)
- 6511 Aircraft Ordnance Technician-Trainee (Marine Corps - Enlisted)
- 6531 Aircraft Ordnance Technician (Marine Corps - Enlisted)
- 6541 Aviation Ordnance Systems Technician (Marine Corps - Enlisted)
- 7011 Expeditionary Airfield Systems Technician (Marine Corps - Enlisted)
- 720 CWO - Diving Officer (Navy - Warrant Officer only)
- 736 CWO - Ordnance, Aviation (Navy - Warrant Officer only)
- 7399 Aircrew Survival Equipmentman Basic (Navy - Enlisted)
- 88T Railway Section Repairer (RC) (Army - Enlisted)
- 91B Wheeled Vehicle Repairer (Army - Enlisted)
- 91C Utilities Equipment Repairer (Army - Enlisted)
- 91D Power Generation Equipment Repairer (Army - Enlisted)
- 91E Allied Trades Specialist (Army - Enlisted)
- 91F Small Arms/Artillery Repairer (Army - Enlisted)
- 91G Fire Control Repairer (Army - Enlisted)
- 91H Tracked Vehicle Repairer (Army - Enlisted)
- 91J Quartermaster and Chemical Equipment Repairer (Army - Enlisted)
- 91L Construction Equipment Repairer (Army - Enlisted)
- 91M BRADLEY Fighting Vehicle System Maintainer (Army - Enlisted)

- 91P Self Propelled Artillery Systems Maintainer (Army - Enlisted)
- 91S STRYKER Systems Maintainer (Army - Enlisted)
- 92R Parachute Rigger (Army - Enlisted)
- ABE Aviation Boatswain's Mate, Launching and Recovery Equipment (Navy - Enlisted)
- ABF Aviation Boatswain's Mate, Fuels (Navy - Enlisted)
- AME Aviation Structural Mechanic, Safety Equipment (Navy - Enlisted)
- AS Aviation Support Equipmentman (Navy - Enlisted)
- CE Construction Electrician (Navy - Enlisted)
- DC Damage Controlman (Navy - Enlisted)
- EM Electrician's Mate (Navy - Enlisted)
- GSE Gas Turbine System Technician (Electrical) (Navy - Enlisted)
- GSM Gas Turbine System Technician (Mechanical) (Navy - Enlisted)
- MM(NUC) Machinist's Mate (Nuclear) (Navy - Enlisted)
- MM(SUB) Machinist's Mate (Submarine) (Navy - Enlisted)
- MM(SURF) Machinist's Mate (Surface) (Navy - Enlisted)
- MM Machinist's Mate (Navy - Enlisted)
- ND Navy Diver (Navy - Enlisted)
- PR Aircrew Survival Equipmentman (Navy - Enlisted)
- UT Utilitiesman (Navy - Enlisted)
- Program of Study: None
- NCAE/AFNR
 - Food Products and Processing Systems Pathway
 - Power, Structural, and Technical Systems Pathway
- Keystone
 - ALG1.1.1.1. Represent and/or use numbers in equivalent forms.
 - ALG1.1.1.2. Apply number theory concepts to show relationships between real numbers in problem-solving settings.
 - ALG1.1.1.4. Use estimation strategies in problem-solving situations.
 - BIO.A.1.2. Describe relationships between structure and functions at biological levels of organization.
 - BIO.B.4.1. Describe ecological levels of organization in the biosphere.
 - LIT.N.1.2. Use appropriate strategies to determine and clarify meaning of vocabulary in literature.
 - LIT.N.1.3. Use appropriate strategies to comprehend literature during the reading process.

Duties

- Inspect, operate, or test machinery or equipment to diagnose machine malfunctions
- Dismantle machines, equipment, or devices to access and remove defective parts

- Perform routine maintenance
- Diagnose mechanical problems and determine how to correct them
- Repair machinery, equipment, or structures

Knowledge

- Mechanical
- Building and construction
- Customer and personal service
- Public safety and security
- English language

Skills

- Equipment maintenance
- Repairing
- Troubleshooting
- Critical thinking
- Equipment selection

Education, Training, and Certificates

- 37% have High School diploma or GED; 30% have Post-Secondary Certificates
- Higher Education
 - Industrial Mechanics and Maintenance Technology
 - McCann School of Business Technology, Pottsville, PA (Associate's)
 - PA College of Technology, Williamsport, PA (Associate's)
 - Harrisburg Area Community College, Harrisburg, PA (Associate's)
 - Delaware County Community College, Media, PA (Associate's)
 - Reading Area Community College, Reading, PA (Associate's)
 - New Castle School of Trades
 - Community College of Allegheny County, Pittsburgh, PA
 - Lancaster County Career and Technology Center, Lancaster, PA
- Related Career and Technical Education Programs
 - Electrical/Electronics Maintenance and Repair Technology (1)

Top Compatible Occupations

- Automotive Body and Related Repairers (49-3021) (96%) (\$18.10)
- Helpers-Installation, Maintenance, and Repair Workers (49-9098) (96%) (\$12.07)

- Bus and Truck Mechanics and Diesel Engine Specialists (49-3031) (95%) (19.88)

Heavy and Tractor-Trailer Truck Driver

Drive a tractor-trailer combination or a truck with a capacity of at least 26,000 pounds Gross Vehicle Weight (GVW). May be required to unload truck. Requires commercial drivers' license.

Related Job Titles: Delivery Driver, Driver, Line Haul Driver, Log Truck Driver, Over the Road Driver (OTR Driver), Production Truck Driver, Road Driver, Semi Truck Driver, Tractor Trailer Operator, Truck Driver

Vital Statistics

- SOC: [53-3032](#)
- CIP
 - 49.0205 Heavy and Tractor-Trailer Truck Drivers
- Median Hourly Earnings: \$19.56
- 2015 Jobs: 78,327
- Openings from 2015-2024: 24,210
- WorkKeys (AM-LI-RI): 3-4-4
- Military Occupation Specialty (MOS)
 - 12C Bridge Crewmember (Army - Enlisted)
 - 12C Bridge Crewmember (Army - Enlisted)
 - 12N Horizontal Construction Engineer (Army - Enlisted)
 - 1345 Engineer Equipment Operator (Marine Corps - Enlisted)
 - 1371 Combat Engineer (Marine Corps - Enlisted)
 - 1372 Assault Breacher Vehicle (ABV)/Armored Vehicle Launched Bridge (AVLB) Crewman (Marine Corps - Enlisted)
 - 13F Fire Support Specialist (Army - Enlisted)
 - 13M Multiple Launch Rocket System (MLRS)/High Mobility Artillery Rocket System (HIMARS) Crewmember (Army - Enlisted)
 - 140E Air and Missile Defense (AMD) Systems Tactician/Technician (Army - Warrant Officer only)
 - 14T PATRIOT Launching Station Enhanced Operator/Maintainer (Army - Enlisted)
 - 1812 M1A1 Tank Crewman (Marine Corps - Enlisted)
 - 1833 Assault Amphibious Vehicle (AAV) Crewman (Marine Corps - Enlisted)
 - 1834 Amphibious Combat Vehicle (ACV) Crewman (Marine Corps - Enlisted)
 - 2T111 Vehicle Operations Helper (Air Force - Enlisted)
 - 2T131 Vehicle Operations Apprentice (Air Force - Enlisted)
 - 2T151 Vehicle Operations Journeyman (Air Force - Enlisted)
 - 2T211 Air Transportation Helper (Air Force - Enlisted)
 - 2T231 Air Transportation Apprentice (Air Force - Enlisted)
 - 2T251 Air Transportation Journeyman (Air Force - Enlisted)

- 2T271 Air Transportation Craftsman (Air Force - Enlisted)
- 2T291 Air Transportation Superintendent (Air Force - Enlisted)
- 2T2X1 Air Transportation (Air Force - Enlisted)
- 2W011 Munitions Systems Helper (Air Force - Enlisted)
- 2W031 Munitions Systems Apprentice (Air Force - Enlisted)
- 2W051 Munitions Systems Journeyman (Air Force - Enlisted)
- 2W071 Munitions Systems Craftsman (Air Force - Enlisted)
- 2W091 Munitions Systems Superintendent (Air Force - Enlisted)
- 2W0X1 Munitions Systems (Air Force - Enlisted)
- 3531 Motor Vehicle Operator (Marine Corps - Enlisted)
- 3533 Logistics Vehicle System Operator (Marine Corps - Enlisted)
- 3534 Semitrailer Refueler Operator (Marine Corps - Enlisted)
- 6074 Cryogenics Equipment Operator (Marine Corps - Enlisted)
- 64C Motor Transport Operator (Army - Enlisted)
- 88M Motor Transport Operator (Army - Enlisted)
- 91B Wheeled Vehicle Repairer (Army - Enlisted)
- 923A Petroleum Technician (Army - Warrant Officer only)
- 92F Petroleum Supply Specialist (Army - Enlisted)
- EO Equipment Operator (Navy - Enlisted)
- Program of Study: None
- NCAE/AFNR
 - Food Products and Processing Systems Pathway
 - Power, Structural, and Technical Systems Pathway
- Keystone
 - ALG1.1.1.1. Represent and/or use numbers in equivalent forms.
 - ALG1.1.1.2. Apply number theory concepts to show relationships between real numbers in problem-solving settings.
 - ALG1.1.1.4. Use estimation strategies in problem-solving situations.
 - BIO.A.1.2. Describe relationships between structure and functions at biological levels of organization.
 - BIO.B.4.1. Describe ecological levels of organization in the biosphere.
 - LIT.N.1.2. Use appropriate strategies to determine and clarify meaning of vocabulary in literature.
 - LIT.N.1.3. Use appropriate strategies to comprehend literature during the reading process.

Duties

- Check vehicles to ensure that mechanical, safety, and emergency equipment is in good working order
- Follow appropriate safety procedures for transporting dangerous goods
- Inspect loads to ensure that cargo is secure

- Maintain logs of working hours or of vehicle service or repair status, following applicable federal and state regulations
- Secure cargo for transport

Knowledge

- Transportation
- Public safety and security
- Customer and personal service
- English language
- Mechanical

Skills

- Operation and control
- Operation monitoring
- Time management
- Critical thinking
- Monitoring

Education, Training, and Certificates

- 56% have a High School diploma or GED
- Related Career and Technical Education Programs
 - Private and High School Career and Technology Education Providers (11)

Top Compatible Occupations

- Light Truck or Delivery Services Drivers (53-3033) (96%) (\$14.02)
- Excavating and Loading Machine and Dragline Operators (53-7032) (95%) (\$19.81)
- Locomotive Engineers (53-4011) (95%) (\$26.66)
- Helpers-Extraction Workers (47-5081) (95%) (\$17.32)
- Farmworkers, Farm, Ranch, and Aquacultural Animals (45-2092) (94%) (\$12.48)

Videos

- http://www.careerinfonet.org/occ_rep_vidpopup.asp?soccode=533032&matchVideo=53-3032.00

Industrial Truck and Tractor Operators

Operate industrial trucks or tractors equipped to move materials around a warehouse, storage yard, factory, construction site, or similar location.

Related Job Titles: Checker Loader, Fork Lift Technician, Fork Truck Driver, Forklift Driver, Forklift Operator, Lift Truck Operator, Shag Truck Driver, Spotter Driver, Tow Motor Operator, Truck Driver

Vital Statistics

- SOC: [53-7051](#)
- CIP:
 - 49.0206 Ground Transportation, Other
- Median Hourly Earnings: \$16.79
- 2015 Jobs: 27,061
- Openings from 2015-2024: 6,800
- WorkKeys (AM-LI-RI): 3-3-3
- Military Occupation Specialty (MOS)
 - 12N Horizontal Construction Engineer (Army - Enlisted)
 - 1345 Engineer Equipment Operator (Marine Corps - Enlisted)
 - 1371 Combat Engineer (Marine Corps - Enlisted)
 - 2T211 Air Transportation Helper (Air Force - Enlisted)
 - 2T231 Air Transportation Apprentice (Air Force - Enlisted)
 - 2T251 Air Transportation Journeyman (Air Force - Enlisted)
 - 2T271 Air Transportation Craftsman (Air Force - Enlisted)
 - 2T291 Air Transportation Superintendent (Air Force - Enlisted)
 - 2T2X1 Air Transportation (Air Force - Enlisted)
 - 2W011 Munitions Systems Helper (Air Force - Enlisted)
 - 2W031 Munitions Systems Apprentice (Air Force - Enlisted)
 - 2W051 Munitions Systems Journeyman (Air Force - Enlisted)
 - 2W071 Munitions Systems Craftsman (Air Force - Enlisted)
 - 2W091 Munitions Systems Superintendent (Air Force - Enlisted)
 - 2W0X1 Munitions Systems (Air Force - Enlisted)
 - 2W111C Aircraft Armament Systems Helper, A10 (Air Force - Enlisted)
 - 2W111E Aircraft Armament Systems Helper, F-15 (Air Force - Enlisted)
 - 2W111F Aircraft Armament Systems Helper, F-16 (Air Force - Enlisted)
 - 2W111J Aircraft Armament Systems Helper, F-35 (Air Force - Enlisted)
 - 2W111K Aircraft Armament Systems Helper, B-52/B-2 (Air Force - Enlisted)

- 2W111L Aircraft Armament Systems Helper, B-1 (Air Force - Enlisted)
- 2W111N Aircraft Armament Systems Helper, F/A-22 (Air Force - Enlisted)
- 2W111Q Aircraft Armament Systems Helper, RPA (MQ-1/MQ-9) (Air Force - Enlisted)
- 2W111Z Aircraft Armament Systems Helper, All Other (Air Force - Enlisted)
- 2W131C Aircraft Armament Systems Apprentice, A10 (Air Force - Enlisted)
- 2W131E Aircraft Armament Systems Apprentice, F-15 (Air Force - Enlisted)
- 2W131F Aircraft Armament Systems Apprentice, F-16 (Air Force - Enlisted)
- 2W131J Aircraft Armament Systems Apprentice, F-35 (Air Force - Enlisted)
- 2W131K Aircraft Armament Systems Apprentice, B-52/B-2 (Air Force - Enlisted)
- 2W131L Aircraft Armament Systems Apprentice, B-1 (Air Force - Enlisted)
- 2W131N Aircraft Armament Systems Apprentice, F/A-22 (Air Force - Enlisted)
- 2W131Q Aircraft Armament Systems Apprentice, RPA (MQ-1/MQ-9) (Air Force - Enlisted)
- 2W131Z Aircraft Armament Systems Apprentice, All Other (Air Force - Enlisted)
- 2W151 Aircraft Armament Systems Journeyman (Air Force - Enlisted)
- 2W171 Aircraft Armament Systems Craftsman (Air Force - Enlisted)
- 2W191 Aircraft Armament Systems Superintendent (Air Force - Enlisted)
- 2W1X1 Aircraft Armament Systems (Air Force - Enlisted)
- 3051 Warehouse Clerk (Marine Corps - Enlisted)
- 3052 Packaging Specialist (Marine Corps - Enlisted)
- 3536 Vehicle Recovery Operator (Marine Corps - Enlisted)
- 6074 Cryogenics Equipment Operator (Marine Corps - Enlisted)
- 6531 Aircraft Ordnance Technician (Marine Corps - Enlisted)
- 6541 Aviation Ordnance Systems Technician (Marine Corps - Enlisted)
- 7051 Aircraft Rescue and Firefighting Specialist (Marine Corps - Enlisted)
- 88T Railway Section Repairer (RC) (Army - Enlisted)
- 89B Ammunition Specialist (Army - Enlisted)
- ABH Aviation Boatswain's Mate, Aircraft Handling (Navy - Enlisted)
- AO Aviation Ordnanceman (Navy - Enlisted)
- EO Equipment Operator (Navy - Enlisted)

- Program of Study: None
- NCAE/AFNR
 - Food Products and Processing Systems Pathway
 - Power, Structural, and Technical Systems Pathway
- Keystone
 - ALG1.1.1.1. Represent and/or use numbers in equivalent forms.
 - ALG1.1.1.2. Apply number theory concepts to show relationships between real numbers in problem-solving settings.
 - ALG1.1.1.4. Use estimation strategies in problem-solving situations.
 - BIO.A.1.2. Describe relationships between structure and functions at biological levels of organization.
 - BIO.B.4.1. Describe ecological levels of organization in the biosphere.
 - LIT.N.1.2. Use appropriate strategies to determine and clarify meaning of vocabulary in literature.
 - LIT.N.1.3. Use appropriate strategies to comprehend literature during the reading process.

Duties

- Moves levers or controls that operate lifting devices to load, unload, transport or stack material
- Inspect product load for accuracy and safely move it around the warehouse or facility to ensure timely and complete delivery
- Manually or mechanically load or unload materials from pallets, skids, platforms, cars, lifting devices or other transport vehicles
- Position lifting devices under, over, or around pallets, skids, or boxes and secure material or products for transport to designated areas
- Weigh materials or products and record weight or other production data on tags or labels

Knowledge

- Public safety and security
- English language
- Customer and personal service
- Production and processing

Skills

- Operation and control
- Operation monitoring
- Coordination
- Equipment maintenance
- Time management

Education, Training, and Certificates

- 84% have High School diplomas or GED
- Credential
 - [Manufacturing Skills Standard Council](#) offers the [Certified Logistics Associate](#) credential which is offered as a part of some Career and Technical Education programs and as a non-credit offering at some Community Colleges

Top Compatible Occupations

- Laborers and Hand Freight, Stock, and Material Movers (53-7062) (97%) (\$13.33)
- Light Truck or Delivery Services Drivers (53-3033) (96%) (\$14.02)
- Hoist and Winch Operators (53-7041) (96%) (\$21.81)
- Packaging and Filling Machine Operators and Tenders (51-9111) (96%) (\$15.77)
- Machine Feeders and Offbearers (53-7063) (95%) (\$15.80)

Videos

- http://www.careerinfonet.org/occ_rep_vidpopup.asp?soccode=537051&matchVideo=53-7051.00

Forestry, Lumber, and Wood Products

Fallers

Use axes or chainsaws to fell trees using knowledge of tree characteristics and cutting techniques to control direction of fall and minimize tree damage.

Related Job Titles: Cutter Operator, Logger, Sawyer, Timber Cutter, Timber Faller, Tree Faller, Tree Feller, Tree Topper

Vital Statistics

- SOC: [45-4021](#)
- CIP
 - 03.0510 Forest Resource Production and Management
 - 03.0511 Forest Technology and Technician
 - 03.0599 Forestry, Other
- Median Hourly Earnings: \$18.47
- 2015 Jobs: 146
- Openings from 2015-2024: 20
- WorkKeys: None
- Military Occupation Specialty (MOS): None
- Program of Study: None
- NCAE/AFNR
 - Natural Resource Systems Pathway
 - Plant Systems Pathway
 - Power, Structural, and Technical Systems Pathway
- Keystone
 - ALG1.1.1.1. Represent and/or use numbers in equivalent forms.
 - ALG1.1.1.2. Apply number theory concepts to show relationships between real numbers in problem-solving settings.
 - ALG1.1.1.4. Use estimation strategies in problem-solving situations.
 - BIO.A.1.2. Describe relationships between structure and functions at biological levels of organization.
 - BIO.B.4.1. Describe ecological levels of organization in the biosphere.
 - BIO.B.4.2. Describe interactions and relationships in an ecosystem.
 - LIT.N.1.2. Use appropriate strategies to determine and clarify meaning of vocabulary in literature.
 - LIT.N.1.3. Use appropriate strategies to comprehend literature during the reading process.

Duties

- Appraise trees for certain characteristics and gauge amount and direction of lean to determine how to control the direction of a tree's fall

- Saw back-cuts, leaving sufficient sound wood to control direction of fall
- Clear brush from work areas and escape routes and cut saplings and other trees from direction of falls
- Measure felled trees and cut them into specific log lengths

Knowledge

- No knowledge met the minimum score

Skills

- Operation and control
- Critical thinking
- Monitoring
- Operation monitoring
- Judgment and decision-making

Education, Training, and Certificates

- 56% have less than a High School diploma or GED
- Related Career and Technical Education Programs
 - Forestry Technology (1)

Top Compatible Occupations

- Hand Laborers and Freight, Stock, and Material Movers (53-7062) (94%) (\$13.33)
- Sawing Machine Setters, Operators, and Tenders, Wood (51-7041) (94%) (\$12.73)
- Farmworkers and Laborers, Crop (45-2092.02) (94%) (\$11.13)
- Logging Equipment Operators (45-4022) (93%) (\$15.97)
- Industrial Truck and Tractor Operators (53-7051) (93%) (\$16.79)
- Packaging and Filling Machine Operators and Tenders (51-9111) (93%) (\$15.77)

Logging Equipment Operator

Drive logging tractor or wheeled vehicle equipped with one or more accessories such as bulldozer blade, frontal shear, grapple, logging arch, cable winches, hoisting rack, or crane boom, to fell tree; to skid, load, unload, or stack logs; or to pull stumps or clear brush.

Related Job Titles: Cutter Operator, Delimber Operator, Feller Buncher Operator, Grapple Skidder Operator, Loader Operator, Log Processor Operator, Logging Equipment Operator, Logging Shovel Operator, Skidder Driver, Skidder Operator

Vital Statistics

- SOC: [45-4022](#)
- CIP
 - 03.0510 Forest Resource Production and Management
 - 03.0511 Forest Technology and Technician
 - 03.0599 Forestry, Other
 - 49.0202 Construction, Heavy Equipment, Earthmoving Equipment Operation
- Median Hourly Earnings: \$15.97
- 2015 Jobs: 820
- Openings from 2015-2024: 210
- WorkKeys: None
- Military Occupation Specialty (MOS): None
- Program of Study: None
- NCAE/AFNR
 - Power, Structural, and Technical Systems Pathway
- Keystone
 - ALG1.1.1.1. Represent and/or use numbers in equivalent forms.
 - ALG1.1.1.2. Apply number theory concepts to show relationships between real numbers in problem-solving settings.
 - ALG1.1.1.4. Use estimation strategies in problem-solving situations.
 - BIO.A.1.2. Describe relationships between structure and functions at biological levels of organization.
 - BIO.B.4.1. Describe ecological levels of organization in the biosphere.
 - LIT.N.1.2. Use appropriate strategies to determine and clarify meaning of vocabulary in literature.
 - LIT.N.1.3. Use appropriate strategies to comprehend literature during the reading process.

Duties

- Inspect equipment for safety prior to use and perform necessary basic maintenance tasks
- Drive straight or articulated tractors to skid, load, unload, or stack logs, pull stumps, or clear brush
- Drive crawler or wheeled tractors to drag or transport logs from felling sites to log landing areas for processing and loading
- Drive tractors for the purpose of building or repairing logging and skid roads
- Grade logs according to characteristics such as knot size and straightness and according to established industry or company standards

Knowledge

- Mechanical

Skills

- Operation and control
- Operation monitoring
- Quality control analysis
- Equipment maintenance
- Complex problem-solving

Education, Training, and Certificates

- 61% have less than a High School diploma or GED
- Related Career and Technical Education Programs
 - Forestry Technology (1)
 - Construction/Heavy Equipment/Earthmoving Equipment Operation (3)

Top Compatible Occupations

- Hoist and Winch Operators (53-7041) (96%) (\$21.81)
- Sawing Machine Setters, Operators, and Tenders, Wood (51-7041) (95%) (\$12.73)
- Packaging and Filling Machine Operators and Tenders (51-9111) (95%) (\$15.77)
- Industrial Truck and Tractor Operators (53-7051) (95%) (\$16.79)
- Refractory Materials Repairers (49-9045) (95%) (\$19.63)

Videos

- http://www.careerinfonet.org/occ_rep_vidpopup.asp?soccode=454022&mat chVideo=45-4022.00

Sawing Machine Operator

Set up, operate, or tend wood sawing machines. May operate CNC equipment. Includes lead sawyers.

Related Job Titles: Bandmill Operator, Cut Off Saw Operator, Edgerman, Knot Saw Operator, Panel Saw Operator, Planer, Resaw Operator, Rip Saw Operator, Saw Operator, Sawyer

Vital Statistics

- SOC: [51-7041](#)
- CIP
 - 48.0000 Precision Production Trades, General
 - 48.0701 Woodworking, General
 - 48.0702 Furniture Design and Manufacturing
 - 48.0703 Cabinetmaking and Millwork
 - 48.0799 Woodworking, Other
 - 48.9999 Precision Production, Other
- Median Hourly Earnings: \$12.73
- 2015 Jobs: 3,122
- Openings from 2015-2024: 1,300
- WorkKeys (AM-LI-RI): 3-4-4
- Military Occupation Specialty (MOS): None
- Program of Study: None
- NCAE/AFNR
 - Plant Systems
 - Power, Structural, and Technical Systems Pathway
- Keystone
 - ALG1.1.1.1. Represent and/or use numbers in equivalent forms.
 - ALG1.1.1.2. Apply number theory concepts to show relationships between real numbers in problem-solving settings.
 - ALG1.1.1.4. Use estimation strategies in problem-solving situations.
 - BIO.A.1.2. Describe relationships between structure and functions at biological levels of organization.
 - BIO.B.4.1. Describe ecological levels of organization in the biosphere.
 - LIT.N.1.2. Use appropriate strategies to determine and clarify meaning of vocabulary in literature.
 - LIT.N.1.3. Use appropriate strategies to comprehend literature during the reading process.

Duties

- Inspect and measure workpieces to mark for cuts and to verify the accuracy of cuts
- Adjust saw blades
- Mount and bolt sawing blades or attachments to machine shafts
- Set up, operate, or tend saws or machines that cut or trim wood to specified dimensions
- Inspect stock for imperfections or to estimate grades or qualities of stock or workpieces

Knowledge

- Production and processing
- Mechanical

Skills

- Operation and control
- Operation monitoring
- Critical thinking
- Monitoring
- Quality control analysis

Education, Training, and Certificates

- 59% have High School Diploma or GED
- Higher Education
 - Thaddeus Stevens College of Technology, Lancaster, PA (Associates Degree)
- Related Career and Technical Education Programs
 - Cabinetmaking and Millwork (11)
- Credential
 - [Manufacturer's Skill Standards Council](#) offers the Certified Production Technician Certificate which is available at certain Career and Technology Centers and Community Colleges in the Commonwealth

Top Compatible Occupations

- Pipelayers (47-2151) (98%) (\$17.81)
- Molding, Coremaking, and Casting Machine Setters, Operator, and Tenders, Metal and Plastic (51-4072) (98%) (\$15.90)
- Pourers and Casters, Metal (51-4052) (97%) (\$16.98)
- Packaging and Filling Machine Operators and Tenders (51-9111) (97%) (\$15.77)
- Helpers-Production Workers (51-9198) (97%) (\$12.76)

- Paper Goods Machine Setters, Operators, and Tenders (51-9196) (97%) (\$18.29)

Team Assembler

Work as part of a team having responsibility for assembling an entire product or component of a product. Team assemblers can perform all tasks conducted by the team in the assembly process and rotate through all or most of them rather than being assigned to a specific task on a permanent basis. May participate in making management decisions affecting the work. Includes team leaders who work as part of the team.

Related Job Titles: Assembler, Assembly Associate, Assembly Line Machine Operator, Assembly Line Worker, Assembly Operator, Certified Composites Technician (CCT), Fabricator, Machine Operator, Operator Technician, Production Associate

Vital Statistics

- SOC: [51-2092](#)
- CIP
 - 48.0000 Precision Production Trades, General
 - 48.9999 Precision Production, Other
- Median Hourly Earnings: \$14.52
- 2015 Jobs: 36,059
- Openings from 2015-2024: 7,850
- WorkKeys: None
- Military Occupation Specialty (MOS)
 - 2A713 Aircraft Structural Maintenance Helper (Air Force - Enlisted)
 - 2A715 Low Observable Aircraft Structural Maintenance Helper (Air Force - Enlisted)
 - 2A733 Aircraft Structural Maintenance Apprentice (Air Force - Enlisted)
 - 2A735 Low Observable Aircraft Structural Maintenance Apprentice (Air Force - Enlisted)
 - 2A753 Aircraft Structural Maintenance Journeyman (Air Force - Enlisted)
 - 2A755 Low Observable Aircraft Structural Maintenance Journeyman (Air Force - Enlisted)
 - 2A773 Aircraft Structural Maintenance Craftsman (Air Force - Enlisted)
 - 2A775 Low Observable Aircraft Structural Maintenance Craftsman (Air Force - Enlisted)
 - 2A7X3 Aircraft Structural Maintenance (Air Force - Enlisted)
 - 2A7X5 Low Observable Aircraft Structural Maintenance (Air Force - Enlisted)
- Program of Study: None
- NCAE/AFNR

- Plant Systems
- Power, Structural, and Technical Systems Pathway
- Keystone
 - ALG1.1.1.1. Represent and/or use numbers in equivalent forms.
 - ALG1.1.1.2. Apply number theory concepts to show relationships between real numbers in problem-solving settings.
 - BIO.A.1.2. Describe relationships between structure and functions at biological levels of organization.
 - LIT.N.1.2. Use appropriate strategies to determine and clarify meaning of vocabulary in literature.
 - LIT.N.1.3. Use appropriate strategies to comprehend literature during the reading process.

Duties

- Rotate through all the tasks required in a particular production process
- Perform quality checks on products and parts
- Package finished products and prepare them for shipment
- Shovel, sweep, or otherwise clean work areas
- Review work orders and blueprints to ensure work is performed according to specifications

Knowledge

- Production and processing

Skills

- Coordination
- Monitoring
- Quality control analysis
- Active listening
- Critical thinking

Education, Training, and Certificates

- 86% had High School diplomas or GED
- Credential
 - [Manufacturer's Skill Standards Council](#) offers the Certified Production Technician Certificate which is available at certain Career and Technology Centers and Community Colleges in the Commonwealth

Top Compatible Occupations

- Print Binding and Finishing Workers (51-5113) (96%) (\$15.85)
- Packaging and Filling Machine Operators and Tenders (51-9111) (96%) (\$15.77)

- Sawing Machine Setters, Operators, and Tenders, Wood (51-7041) (96%) (\$12.73)
- Paper Goods Machine Setters, Operators, and Tenders (51-9196) (96%)
- Electrical and Electronic Equipment Assemblers (51-2022) (96%) (\$15.45)

Paper Goods Machine Setters, Operators, and Tenders

Set up, operate, or tend paper goods machines that perform a variety of functions, such as converting, sawing, corrugating, banding, wrapping, boxing, stitching, forming, or sealing paper or paperboard sheets into products.

Vital Statistics

- SOC: [51-9196](#)
- CIP
 - 48.0000 Precision Production Trades, General
 - 48.9999 Precision Production, Other
- Median Hourly Earnings: \$18.29
- 2015 Jobs: 7,612
- Openings from 2015-2024: 960
- WorkKeys (AM-LI-RI): 3-4-4
- Military Occupation Specialty (MOS): None
- Program of Study: None
- NCAE/AFNR
 - Power, Structural, and Technical Systems Pathway
- Keystone
 - ALG1.1.1.1. Represent and/or use numbers in equivalent forms.
 - ALG1.1.1.2. Apply number theory concepts to show relationships between real numbers in problem-solving settings.
 - ALG1.1.1.4. Use estimation strategies in problem-solving situations.
 - BIO.A.1.2. Describe relationships between structure and functions at biological levels of organization.
 - LIT.N.1.2. Use appropriate strategies to determine and clarify meaning of vocabulary in literature.
 - LIT.N.1.3. Use appropriate strategies to comprehend literature during the reading process.

Duties

- Examine completed work to detect defects and verify conformance to work orders and adjust machinery as necessary to correction production problems
- Start machines and move controls to regulate tension on pressure rolls, to synchronize speed of machine components, and to adjust temperatures of glue or paraffin
- Adjust guide assemblies, forming bars, and folding mechanisms according to specifications
- Install attachments to machines for gluing, folding, printing, or cutting

- Measure, space, and set saw blades, cutters, and perforators according to product specifications

Knowledge

- Production and processing
- English language
- Mechanical

Skills

- Operation management
- Monitoring
- Operation and control
- Coordination
- Critical thinking

Education, Training, and Certificates

- 75% have High School diploma or GED
- Credential
 - [Manufacturer's Skill Standards Council](#) offers the Certified Production Technician Certificate which is available at certain Career and Technology Centers and Community Colleges in the Commonwealth

Top Compatible Occupations

- Print Binding and Finishing Workers (51-5113) (98%) (\$15.85)
- Sawing Machine Setters, Operators, and Tenders, Wood (51-7041) (98%) (\$12.73)
- Welding, Soldering, and Brazing Machine Setters, Operators, and Tenders (51-4122) (97%) (\$16.04)
- Solderers and Brazers (51-4121.07) (97%) (\$18.18)
- Cutting and Slicing Machine Setters, Operators, and Tenders (51-9032) (97%) (\$16.07)

Sales Representative, Except Technical and Scientific Products

Sell goods for wholesalers or manufacturers to businesses or groups of individuals. Work requires substantial knowledge of items sold.

Related Job Titles: Account Executive, Account Manager, Outside Sales, Outside Sales Representative, Sales, Sales Consultant, Sales Director, Sales Rep, Sales Representative, Salesman

Vital Statistics

- SOC: [41-4012](#)
- CIP
 - 01.0105 Agricultural and Farm Supplies Retailing and Wholesaling
 - 01.0201 Agricultural Mechanization, General
 - 52.0208 E-Commerce and Electronic Commerce
 - 52.1801 Sales Distribution, and Marketing Operations, General
 - 52.1804 Selling Skills and Sales Operations
 - 52.1907 Vehicle and Vehicle Parts and Accessories Marketing Operations
 - 52.1909 Special Products Marketing Operations
 - 52.1999 Specialized Merchandising, Sales and Related Marketing Operations
- Median Hourly Earnings: \$26.87
- 2015 Jobs: 60,028
- Openings from 2015-2024: 14,180
- WorkKeys (AM-LI-RI): 4-5-5
- Military Occupation Specialty (MOS): None
- Program of Study
 - Sales, Distribution, and Marketing (52.1801)
- NCAE/AFNR
 - Agribusiness Systems Pathway
 - Power, Structural, and Technical Systems Pathway
- Keystone
 - ALG1.1.1.1. Represent and/or use numbers in equivalent forms.
 - ALG1.1.1.2. Apply number theory concepts to show relationships between real numbers in problem-solving settings.
 - ALG1.2.1.1. Analyze and/or use patterns or relations.
 - ALG1.2.3.2. Use data displays in problem-solving settings and/or to make predictions.

- LIT.N.2.1. Use appropriate strategies to make and support interpretations of literature.
- LIT.N.2.4. Use appropriate strategies to identify and analyze text organization and structure in literary nonfiction.
- LIT.N.2.5. Use appropriate strategies to identify and analyze essential and nonessential information in literary nonfiction.

Duties

- Contact regular and prospective customers to demonstrate products, explain product features, and solicit orders
- Recommend products to customers based on customers' needs and interests
- Answer customers' questions about products, prices, availability, product uses, and credit terms
- Estimate or quote prices, credit or contract terms, warranties, and delivery dates
- Consult with clients after sales or contract signings to resolve problems and to provide ongoing support

Knowledge

- Sales and marketing
- Customer and personal service
- English language
- Administration and management

Skills

- Active listening
- Speaking
- Persuasion
- Social perceptiveness
- Critical thinking

Education, Training, and Certificates

- 77% require Bachelor's degree
- Higher Education
 - General Sales, Distribution, and Marketing Operations
 - West Chester University (Bachelor's)
 - Westmoreland County Community College (Associate's)
 - Harrisburg Area Community College (Associate's)
 - Montgomery County Community College (Associate's)
 - Community College of Philadelphia (Associate's)
 - Special Products Marketing Operations

- St. Joseph's University, Philadelphia, PA (Master's and Bachelor's)
- Related Career and Technical Education Programs
 - General Sales, Distribution and Marketing Operations (32)

Top Compatible Occupations

- Insurance Sales Agents (41-3021) (96%) (\$25.71)
- Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products (41-4011) (96%) (\$41.78)
- Retail Salespersons (41-2031) (96%) (\$39.45)
- Customer Service Representatives (43-4051) (95%) (\$15.66)
- Copy Writers (27-3043) (95%) (\$20.37)

Conservation and Natural Resources

Soil and Water Conservationists

Plan or develop coordinated practices for soil erosion control, soil or water conservation, or sound land use.

Related Job Titles: Conservationist, Environmental Analyst, Erosion Control Specialist, Land Manager, Land Reclamation Specialist, Land Resource Specialist, Resource Conservation Specialist, Resource Conservationist, Soil Conservationist, Watershed Program Manager

Vital Statistics

- SOC: [19-1031.01](#)
- CIP
 - 01.0308 Agroecology and Sustainable Agriculture
 - 03.0101 Natural Resources/Conservation, General
 - 03.0199 Natural Resources Conservation and Research, Other
- Median Hourly Earnings: \$26.15
- 2015 Jobs: 630
- Openings from 2015-2024: 200
- WorkKeys: None
- Military Occupation Specialty (MOS): None
- Program of Study: None
- NCAE/AFNR
 - Animal/Plant Systems
 - Environmental Service Systems
 - Natural Resource Systems
 - Power, Structural, and Technical Systems
- Keystone Assessment Anchors
 - BIO.A.2.1. Describe how the unique properties of water support life on Earth.
 - BIO.B.4.1. Describe ecological levels of organization in the biosphere.
 - BIO.B.4.2. Describe interactions and relationships in an ecosystem.
 - LIT.N.2.1. Use appropriate strategies to make and support interpretations of literature.
 - LIT.N.2.4. Use appropriate strategies to identify and analyze text organization and structure in literary nonfiction.
 - LIT.N.2.5. Use appropriate strategies to identify and analyze essential and nonessential information in literary nonfiction.
 - ALG1.1.1.4. Use estimation strategies in problem-solving situations.
 - ALG1.2.2.1. Describe, compute, and/or use the rate of change (slope) of a line.

- ALG1.2.3.2. Use data displays in problem-solving settings and/or to make predictions.

Duties

- Implement soil or water management techniques in accordance with conservation plans
- Monitor projects during or after construction to ensure projects conform to design specifications
- Visit areas affected by erosion problems to identify causes or determine solutions
- Advise land users on plans, problems, or alternative conservation solutions
- Develop or maintain working relationships with local government staff or board members

Knowledge

- Customer and personal service
- English language
- Biology
- Engineering and technology
- Geography

Skills

- Active listening
- Reading comprehension
- Complex problem-solving
- Critical thinking
- Speaking

Education, Training, and Certificates

- 67% have a Bachelor's degree
- Higher Education
 - General Natural Resources/Conservation
 - Slippery Rock University, Slippery Rock, PA (Master's)
 - University of Pennsylvania, Philadelphia, PA (Master's)
 - Penn State University, State College, PA (Bachelor's)
 - Natural Resources Management and Policy, Other
 - Drexel University, Philadelphia, PA (Master's)
 - Lehigh University, Bethlehem, PA (Master's)
 - Carnegie-Mellon University, Pittsburgh, PA (
- High School Agriculture Programs
 - Natural Resources Management and Policy, Other (2)

Top Compatible Occupations

- Environmental Restoration Planners (19-2041.02) (97%) (\$32.65)
- Zoologists and Wildlife Biologists (19-1023) (95%) (\$25.27)
- Soil and Plant Scientists (19-1013) (94%) (\$24.36)
- Occupational Health and Safety Technicians (29-9012) (94%) (\$22.70)
- Energy Auditors (13-1199.01) (93%) (\$35.01)

Videos

- http://www.careerinfonet.org/occ_rep_vidpopup.asp?soccode=191031&matchVideo=19-1031.00

Agriculture Technician

Set up or maintain laboratory equipment and collect samples from crops or animals. Prepare specimens or record data to assist scientists in biology or related life science experiments.

Related Job Titles: Agricultural Research Technician, Agricultural Research Technologist, Agricultural Technician, Laboratory Technician (Lab Tech), Research Assistant, Research Associate, Research Specialist, Research Technician, Seed Analyst, Senior Agricultural Assistant

Vital Statistics

- SOC: [19-4011.01](#)
- CIP
 - 01.0101 Agricultural Business and Management, General
 - 01.0302 Animal/Livestock Husbandry and Production
 - 01.0304 Crop Production
 - 01.0901 Animal Sciences, General
 - 01.0902 Agriculture Animal Breeding
 - 01.0903 Animal Health
 - 01.0904 Animal Nutrition
 - 01.0905 Dairy Science
 - 01.0907 Poultry Science
 - 01.0999 Animal Sciences, Other
 - 01.1001 Food Science
 - 01.1002 Food Technology and Processing
 - 01.1099 Food Science and Technology, Other
 - 01.1101 Plant Sciences, General
 - 01.1102 Agronomy and Crop Science
 - 01.1199 Plant Science, Other
 - 01.1201 Soil Science and Agronomy, General
 - 01.1203 Soil Chemistry and Physics
 - 01.1203 Soil Microbiology
 - 01.1299 Soil Sciences, Other
 - 41.0399 Physical Science Technologies/Technicians, Other
 - 41.9999 Science Technologies/Technicians, Other
- Median Hourly Earnings: \$18.86
- 2015 Jobs: 459
- Openings from 2015-2024: 220
- WorkKeys: None
- Military Occupation Specialty (MOS): None

- Program of Study: None
- NCAE/AFNR
 - Animal Systems
 - Biotechnology Systems
 - Food Products and Processing Systems
 - Plant Systems
- Keystone
 - BIO.A.2.2. Describe and interpret relationships between structure and function at various levels of biochemical organization.
 - BIO.B.2.4. Apply scientific thinking, processes, tools, and technologies in the study of genetics.
 - BIO.B.3.3. Apply scientific thinking, processes, tools, and technologies in the study of the theory of evolution.
 - LIT.N.1.2. Use appropriate strategies to comprehend literature during the reading process.
 - LIT.N.2.1. Use appropriate strategies to make and support interpretations of literature.
 - LIT.N.2.5. Use appropriate strategies to identify and analyze essential and nonessential information in literary nonfiction.
 - ALG1.1.1.2. Apply number theory concepts to show relationships between real numbers in problem-solving settings.
 - ALG1.2.3.1. Use measures of dispersion to describe a set of data.
 - ALG1.2.3.2. Use data displays in problem-solving settings and/or to make predictions.

Duties

- Record data pertaining to experimentation, research, or animal care
- Measure or weigh ingredients used in laboratory testing
- Prepare data summaries, reports, or analyses that include results, charts, or graphs to document research findings
- Set up laboratory or field equipment as required for site testing
- Prepare laboratory samples for analysis, following proper protocols to ensure that they will be stored, prepared, and disposed of efficiently and effectively

Knowledge

- Mathematics
- Biology
- Chemistry
- Administration and management

- English language

Skills

- Reading comprehension
- Active listening
- Complex problem-solving
- Critical thinking
- Writing

Education, Training, and Certificates

- 32% have Master's degree; 29% have Bachelor's degree; 18% have Associates degree
- Higher Education
 - Penn State University
 - General Animal Sciences (Doctoral, Master's, and Bachelor's)
 - Food Science (Doctor's, Master's, and Bachelor's)
 - Agronomy and Crop Science (Doctoral, Master's, and Bachelor's)
 - Delaware Valley University
 - General Animal Sciences (Bachelor's)
 - Dairy Science (Bachelor's)
 - Food Science (Bachelor's)
 - Temple University
 - Food Science (Master's)
- High School Agriculture Programs
 - General Agriculture (30)
 - General Agricultural Production Operations (50)
 - General Animal Sciences (7)

Top Compatible Occupations

- Environmental Science and Protection Technicians including Health (19-4091) (94%) (\$19.71)
- Environmental Restoration Planners (19-2041.02) (93%) (\$32.65)
- Food Science Technicians (19-4011.02) (92%) (\$18.86)
- Geophysical Data Technicians (19-4041.01) (92%) (\$26.75)
- Precision Agriculture Technicians (19-4099.02) (92%) (\$22.47)

Animal Health and Veterinary Services

Veterinarians

Diagnose, treat, or research diseases and injuries of animals. Includes veterinarians who conduct research and development, inspect livestock, or care for pets and companion animals.

Related Job Titles: Associate Veterinarian, Doctor of Veterinary Medicine (DVM), Emergency Veterinarian, Equine Vet (Equine Veterinarian), Mixed Animal Veterinarian, Small Animal Veterinarian, Staff Veterinarian, Veterinarian (VET), Veterinary Medicine Doctor (DVM), Veterinary Surgeon

Vital Statistics

- SOC: [29-1131](#)
- CIP
 - 01.0901 Animal Sciences, General
 - 51.0000 Health Services/Allied Health/Health Sciences, General
 - 51.1104 Pre-Veterinary Studies
- Median Hourly Earnings: \$50.21
- 2015 Jobs: 3,356
- Openings from 2015-2024: 1,560
- WorkKeys: None
- Military Occupation Specialty (MOS)
 - 43V1E Veterinary Clinician, Laboratory Animal (Air Force - Commissioned Officer only)
 - 43V3E Veterinary Clinician, Laboratory Animal (Air Force - Commissioned Officer only)
 - 43V4E Veterinary Clinician, Laboratory Animal (Air Force - Commissioned Officer only)
 - 64A Field Veterinary Service (Army - Commissioned Officer only)
 - 64B Veterinary Preventive Medicine (Army - Commissioned Officer only)
 - 64B Veterinary Staff Officer (Army - Commissioned Officer only)
 - 64C Veterinary Laboratory Animal Medicine (Army - Commissioned Officer only)
 - 64C Veterinary Laboratory Animal Medicine Officer (Army - Commissioned Officer only)
 - 64D Veterinary Pathology (Army - Commissioned Officer only)
 - 64D Veterinary Pathologist (Army - Commissioned Officer only)
 - 64E Veterinary Comparative Medicine (Army - Commissioned Officer only)
 - 64E Veterinary Microbiologist (Army - Commissioned Officer only)
 - 64F Veterinary Clinical Medicine (Army - Commissioned Officer only)

- 64F Veterinary Comparative Medicine Officer (Army - Commissioned Officer only)
- 64Z Senior Veterinarian (Immaterial) (Army - Commissioned Officer only)
- 75B Veterinary Preventive Medicine (Army - Commissioned Officer only)
- 75C Veterinary Laboratory Animal Medicine (Army - Commissioned Officer only)
- 75D Veterinary Pathology (Army - Commissioned Officer only)
- 75F Veterinary Comparative Medicine (Army - Commissioned Officer only)
- Program of Study: None
- NCAE/AFNR
 - Agribusiness Systems Pathway
 - ABS.02.01. Apply fundamental accounting principles, systems, tools and applicable laws and regulations to record, track and audit AFNR business transactions (e.g., accounts, debits, credits, assets, liabilities, equity, etc.).
 - Animal Systems Pathway
 - AS.03.01. Analyze the nutritional needs of animals.
 - AS.04.01. Evaluate animals for breeding readiness and soundness.
 - Career Ready Practices
 - CRP.06.01. Synthesize information, knowledge and experience to generate original ideas and challenge assumptions in the workplace and community.
- Keystone
 - A1.2.1.1. Analyze a set of data for the existence of a pattern and represent the pattern algebraically and/or graphically.
 - A1.2.2.2. Draw, identify, find, and/or write an equation for a line of best fit for a scatter plot.
 - BIO.A.3.2. Identify and describe how organisms obtain and transform energy for their life processes.
 - BIO.B.2.4. Apply scientific thinking, processes, tools, and technologies in the study of genetics.
 - LIT.N.2.1.1. Make inferences and/or draw conclusions based on analysis of a text.
 - LIT.N.2.2.3. Explain, interpret, compare, describe, analyze, and/or evaluate connections between texts.
 - LIT.N.2.5.1. Differentiate between fact and opinion.

Duties

- Examine animals to detect and determine the nature of diseases or injuries
- Treat sick or injured animals by prescribing medication, setting bones, dressing wounds, or performing surgery
- Collect body tissue, feces, blood, urine, or other body fluids for examination and analysis
- Inoculate animals against various diseases such as rabies or distemper
- Counsel owners about euthanasia decisions for the animal

Knowledge

- Medicine and dentistry
- Biology
- Customer and personal service
- Mathematics

Skills

- Science
- Complex problem solving
- Critical thinking
- Reading comprehension
- Speaking

Education, Training, and Certificates

- 75% have a Doctoral degree
- Veterinary Medicine
 - University of Pennsylvania, Philadelphia, PA (Doctors)
- Pre-Veterinary Studies
 - Penn State University – Main Campus (Bachelors)
 - Drexel University – Postbaccalaureate Certificate

Top Compatible Occupations

- Orthodontists (29-1023) (96%) (\$96.90)
- Obstetricians and Gynecologists (29-1064) (94%) (\$94.42)
- Physician Assistants (29-1071) (94%) (\$42.91)
- Nurse Midwives (29-1161) (93%) (\$44.13)
- Veterinary Technologists and Technicians (29-2056) (91%) (\$16.44)
- Zoologists and Wildlife Biologists (19-1023) (90%) (\$25.27)

Videos

- https://www.youtube.com/watch?v=tBuD_P-bqOI&index=40&list=PLirgxJFbtsml2Ak2p3HhK7q2vsq1uyFRB

- http://www.careerinfonet.org/occ_rep_vidpopup.asp?soccode=291131&matchVideo=29-1131.00

Veterinary Technologists and Technicians

Perform medical tests in a laboratory environment for use in the treatment and diagnosis of diseases in animals. Prepare vaccines and serums for prevention of diseases. Prepare tissue samples, take blood samples, and execute laboratory tests, such as urinalysis and blood counts. Clean and sterilize instruments and materials and maintain equipment and machines. May assist a veterinarian during surgery.

Related Job Titles: Certified Veterinary Technician (CVT), Emergency Veterinary Technician, Internal Medicine Veterinary Technician, Licensed Veterinary Technician (LVT), Medical Technologist, Registered Veterinary Technician (RVT), Veterinary Assistant, Veterinary Laboratory Technician (Veterinary Lab Tech), Veterinary Nurse, Veterinary Technician (Vet Tech)

Vital Statistics

- SOC: [29-2056](#)
- CIP
 - 01.0901 Animal Sciences, General
 - 51.0000 Health Services/Allied Health/Health Sciences, General
 - 51.0808 Veterinary/Animal Health Technology and Veterinary Assistant
- Median Hourly Earnings: \$16.44
- 2015 Jobs: 4,545
- Openings from 2015-2024: 1,611
- WorkKeys (AM-LI-RI): 3-3-4
- Military Occupation Specialty (MOS)
 - 68T Animal Care Specialist (Army - Enlisted)
- Program of Study: None
- NCAE/AFNR
 - Animal Systems Pathway
 - AS.03.03. Utilize industry tools to make animal nutrition decisions.
 - Biotechnology Systems Pathway
 - BS.02.02. Implement standard operating procedures for the proper maintenance, use and sterilization of equipment in a laboratory.
 - Career Ready Practices
 - CRP.02.02. Use strategic thinking to connect and apply technical concepts to solve problems in the workplace and community.
- Keystone

- A1.1.2.1. Write, solve, and/or apply a linear equation (including problem situations).
- BIO.A.4.2. Explain mechanisms that permit organisms to maintain biological balance between their internal and external environments.
- BIO.B.4.1. Describe ecological levels of organization in the biosphere.
- LIT.N.2.1.1. Make inferences and/or draw conclusions based on analysis of a text.
- LIT.N.2.2.3. Explain, interpret, compare, describe, analyze, and/or evaluate connections between texts.
- LIT.N.2.5.1. Differentiate between fact and opinion.

Duties

- Care for and monitor the condition of animals recovering from surgery
- Maintain controlled drug inventory and related log books
- Administer anesthesia to animals under the direction of an veterinarian and monitor animals' responses so that dosages can be adjusted
- Restrain animals during exams or procedures
- Administer emergency first aid as required

Knowledge

- Customer and personal service
- English language
- Biology
- Mathematics
- Medicine and dentistry

Skills

- Active listening
- Critical thinking
- Reading comprehension
- Speaking
- Monitoring

Education, Training, and Certificates

- 68% have an Associate's Degree
- Higher Education
 - Veterinary/Animal Health Technology/Technician and Veterinary Assistant
 - Great Lakes Institute of Technology, Erie, PA (Associate's)
 - Lancaster County Career and Technology Center, Lancaster, PA (Associate's)

- Vet Tech Institute, Pittsburgh (Associate's)
- Sanford-Brown Institute, Pittsburgh, PA (Associate's)
- Harcum College, Bryn Mawr, PA (Associate's)
- Manor College, Jenkintown, PA (Associate's)
- Johnson College, Scranton, PA (Associate's)
- Lehigh Carbon Community College, Schnecksville, PA (Associate's)
- Northampton County Community College, Bethlehem, PA (Associate's)
- Wilson College (Bachelor's)
- Related Career and Technical Education Programs
 - General Animal Sciences (7)
 - Veterinary/Animal Health Technology/Technician and Veterinary Assistant (8)

Top Compatible Occupations

- Surgical Technologists (29-2055) (96%) (\$19.41)
- Medical and Clinical Laboratory Technicians (29-2012) (96%) (\$18.35)
- Dental Assistants (31-9091) (95%) (\$15.92)
- Veterinary Assistants and Laboratory Animal Caretakers (31-9096) (95%) (\$11.10)
- Medical Assistants (31-9092) (94%) (\$14.36)

Videos

- http://www.careerinfonet.org/occ_rep_vidpopup.asp?soccode=292056&matchVideo=29-2056.00

Veterinary Assistants and Laboratory Animal Caretaker

Feed, water, and examine pets and other nonfarm animals for signs of illness, disease, or injury in laboratories and animal hospitals and clinics. Clean and disinfect cages and work areas, and sterilize laboratory and surgical equipment. May provide routine post-operative care, administer medication orally or topically, or prepare samples for laboratory examination under the supervision of veterinary or laboratory animal technologists or technicians, veterinarians, or scientists.

Related Job Titles: Animal Care Provider, Animal Caregiver, Avian Keeper, Emergency Veterinary Assistant, Research Animal Attendant, Small Animal Caretaker, Technician Assistant, Veterinarian Assistant, Veterinary Assistant (Vet Assistant), Veterinary Technician Assistant (Vet Tech Assistant)

Vital Statistics

- SOC: [31-9096](#)
- CIP
 - 51.0000 Health Services/Allied Health/Health Sciences, General
 - 51.0808 Veterinary/Animal Health Technology and Veterinary Assistant
- Median Hourly Earnings: \$11.10
- 2015 Jobs: 2,672
- Openings from 2015-2024: 870
- WorkKeys: None
- Military Occupation Specialty (MOS)
 - 68T Animal Care Specialist (Army - Enlisted)
 - 91T Animal Care Specialist (Army - Enlisted)
- Program of Study: None
- NCAE/AFNR
 - Animal Systems Pathway
 - AS.04.01. Evaluate animals for breeding readiness and soundness.
 - AS.03.01. Analyze the nutritional needs of animals.
 - Career Ready Practices
 - CRP.02.02. Use strategic thinking to connect and apply technical concepts to solve problems in the workplace and community.
- Keystone
 - A1.2.3.2. Estimate or calculate to make predictions based on a circle, line, bar graph, measure of central tendency, or other representation.

- BIO.A.4.2. Explain mechanisms that permit organisms to maintain biological balance between their internal and external environments.
- BIO.B.4.1. Describe ecological levels of organization in the biosphere.
- LIT.N.2.1.1. Make inferences and/or draw conclusions based on analysis of a text.
- LIT.N.2.2.3. Explain, interpret, compare, describe, analyze, and/or evaluate connections between texts.
- LIT.N.2.5.1. Differentiate between fact and opinion.

Duties

- Hold or restrain animals during veterinary procedures
- Clean and maintain kennels, animal holding areas, examination or operating rooms, or animal loading or unloading facilities to control the spread of disease
- Fill medication prescriptions
- Assist veterinarians in examining animals to determine the nature of illnesses or injuries
- Monitor animals recovering from surgery and notify veterinarians of any unusual changes or symptoms

Knowledge

- Customer and personal service
- Biology
- English language
- Mathematics
- Sales and marketing

Skills

- Active listening
- Monitoring
- Service orientation
- Active learning
- Complex problem-solving

Education, Training, and Certificates

- 34% have a High School diploma or GED, 33% have an Associate's degree
- Higher Education
 - Veterinary/Animal Health Technology/Technician and Veterinary Assistant
 - Great Lakes Institute of Technology, Erie, PA (Associate's)

- Lancaster County Career and Technology Center, Lancaster, PA (Associate's)
- Vet Tech Institute, Pittsburgh (Associate's)
- Sanford-Brown Institute, Pittsburgh, PA (Associate's)
- Harcum College, Bryn Mawr, PA (Associate's)
- Manor College, Jenkintown, PA (Associate's)
- Johnson College, Scranton, PA (Associate's)
- Lehigh Carbon Community College, Schnecksville, PA (Associate's)
- Northampton County Community College, Bethlehem, PA (Associate's)
- Wilson College (Bachelor's)
- Related Career and Technical Education Programs
 - General Animal Sciences (7)
 - Veterinary/Animal Health Technology/Technician and Veterinary Assistant (8)

Top Compatible Occupations

- Cooks, Institution and Cafeteria (35-2012) (95%) (\$12.28)
- Pharmacy Technicians (29-2052) (95%) (\$13.87)
- Dental Assistants (31-9091) (95%) (\$15.92)
- Cashiers (41-2011) (95%) (\$9.06)
- Home Health Aides (31-1011) (95%) (\$9.93)

Videos

- http://www.careerinfonet.org/occ_rep_vidpopup.asp?soccode=319096&matchVideo=31-9096.00

Medical and Clinical Laboratory Technicians

Perform routine medical laboratory tests for the diagnosis, treatment, and prevention of disease.

Related Job Titles: Certified Clinical Laboratory Technician, Clinical Laboratory Scientist, Clinical Laboratory Technician (Clinical Lab Technician), Laboratory Assistant (Lab Assistant), Laboratory Supervisor, Laboratory Technician, Medical Laboratory Technician (MLT), Medical Laboratory Technicians (Medical Lab Technician), Medical Technician

Vital Statistics

- SOC: [29-2012](#)
- CIP
 - 51.0000 Health Services, Allied Health, Health Sciences, General
 - 51.0802 Clinical, Medical Laboratory Assistant
 - 51.1099 Clinical, Medical Laboratory Science and Allied Professions, Other
- Median Hourly Earnings: \$18.35
- 2015 Jobs: 9,302
- Openings from 2015-2024: 4,070
- WorkKeys (AM-LI-RI): 5-5-5
- Military Occupation Specialty (MOS)
 - 001359 Histopathology Technician (Navy - Enlisted)
 - 001382 Medical Laboratory Technician (Navy - Enlisted)
 - 001394 Urology Technician (Navy - Enlisted)
 - 18D Special Forces Medical Sergeant (Army - Enlisted)
 - 4T011 Medical Laboratory Helper (Air Force - Enlisted)
 - 4T031 Medical Laboratory Apprentice (Air Force - Enlisted)
 - 4T051 Medical Laboratory Journeyman (Air Force - Enlisted)
 - 4T071 Medical Laboratory Craftsman (Air Force - Enlisted)
 - 4T0X1 Medical Laboratory (Air Force - Enlisted)
 - 68K Medical Laboratory Specialist (Army - Enlisted)
 - 8503 Histopathology Technician (Navy - Enlisted)
- Program of Study; None
- NCAE/AFNR
 - Biotechnology Systems
 - BS.02.02. Assemble, interpret and analyze financial information and reports to monitor AFNR business performance and support decision-making (e.g., income statements, balance sheets, cash-flow analysis, inventory reports, break-even analysis, return on investment, taxes, etc.).

- BS.02.03. Apply standard operating procedures for the safe handling of biological and chemical materials in a laboratory.
 - Career Ready Practices
 - CRP.06.02. Assess a variety of workplace and community situations to identify ways to add value and improve the efficiency of processes and procedures.
- Keystone
 - A1.2.2.1. Describe, compute, and/or use the rate of change (slope) of a line.
 - BIO.A.4.2. Explain mechanisms that permit organisms to maintain biological balance between their internal and external environments.
 - BIO.B.4.1. Describe ecological levels of organization in the biosphere.
 - LIT.N.2.1.1. Make inferences and/or draw conclusions based on analysis of a text.
 - LIT.N.2.2.3. Explain, interpret, compare, describe, analyze, and/or evaluate connections between texts.
 - LIT.N.2.5.1. Differentiate between fact and opinion.

Duties

- Conduct chemical analyses of body fluids to detect abnormalities or diseases
- Analyze the results of tests or experiments to ensure conformity to specifications
- Set up, maintain, calibrate, clean, and test sterility of medical laboratory equipment
- Prepare standard volumetric solutions or reagents to be combined with sample following standardized formulas or experimental procedures
- Collect blood or tissue samples from patients

Knowledge

- Biology
- Chemistry
- English language
- Mathematics
- Customer and personal service

Skills

- Active listening
- Reading comprehension
- Critical thinking
- Speaking
- Science

Education, Training, and Certificates

- 46% have a Bachelor's degree, 31% have an Associate's degree
- Higher Education
 - Clinical/Medical Laboratory Assistant
 - Fortis Institute, Scranton, PA (Associate's)
 - Star Career Academy, Philadelphia, PA
 - Clinical/Medical Laboratory Technician
 - Clarion University, Clarion, PA (Bachelor's)
 - Mansfield University, Mansfield, PA (Bachelor's)
 - McCann School of Business and Technology, Pottsville, PA (Associate's)
 - Community College of Allegheny County, Pittsburg, PA (Associate's)
 - Harrisburg Area Community College, Harrisburg, PA (Associate's)
 - Penn State, Hazleton, PA (Associate's)
 - Reading Area Community College, Reading, PA (Associate's)
 - Laurel Technical Institute, Sharon, PA (Associate's)
 - Montgomery County Community College, Blue Bell, PA (Associate's)
 - Laurel Business Institute, Uniontown, PA (Associate's)
 - Mt. Aloysius College, Cresson, PA (Associate's)
 - Harcum College, Bryn Mawr, PA (Associate's)
 - Mercyhurst University, North East, PA (Associate's)

Top Compatible Occupations

- Nuclear Medicine Technologists (29-2033) (97%) (\$32.21)
- Cardiovascular Technologists and Technicians (29-2056) (96%) (\$25.01)
- Quality Control Analyst (19-4099.01) (96%) (\$22.47)
- Veterinary Technologists and Technicians (29-2056) (95%) (16.44)
- Endoscopy Technicians (31-9099.02) (95%) (\$19.67)

Videos

- http://www.careerinfonet.org/occ_rep_vidpopup.asp?soccode=292012&mat chVideo=29-2012.00

Questions or Comments

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