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Industrial Engineering Technologists and Technicians

17-3026.00

Updated 2025

Apply engineering theory and principles to problems of industrial layout or manufacturing production, usually under the direction of engineering staff. May perform time and motion studies on worker operations in a variety of industries for purposes such as establishing standard production rates or improving efficiency.

Sample of reported job titles: Business Process Analyst, Engineering Technician, Industrial Engineering Analyst, Industrial Engineering Technician, Manufacturing Coordinator, Manufacturing Technology Analyst, Quality Control Engineering Technician (QC Engineering Technician), Quality Management Coordinator, Quality Technician, Service Technician

Also see: [Nanotechnology Engineering Technologists and Technicians](#)

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Occupation-Specific Information

Tasks

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- Test selected products at specified stages in the production process for performance characteristics or adherence to specifications.
+
[Related occupations](#)
- Compile and evaluate statistical data to determine and maintain quality and reliability of products.
+
[Related occupations](#)
- Study time, motion, methods, or speed involved in maintenance, production, or other operations to establish standard production rate or improve efficiency.
+
[Related occupations](#)
- Read worker logs, product processing sheets, or specification sheets to verify that records adhere to quality assurance specifications.
+
[Related occupations](#)
- Verify that equipment is being operated and maintained according to quality assurance standards by observing worker performance.
+
[Related occupations](#)
- Aid in planning work assignments in accordance with worker performance, machine capacity, production schedules, or anticipated delays.
+
[Related occupations](#)
- Evaluate industrial operations for compliance with permits or regulations related to the

generation, storage, treatment, transportation, or disposal of hazardous materials or waste.



[Related occupations](#)

- Adhere to all applicable regulations, policies, and procedures for health, safety, and environmental compliance.



[Related occupations](#)

- Analyze, estimate, or report production costs.



[Related occupations](#)

- Assist engineers in developing, building, or testing prototypes or new products, processes, or procedures.



[Related occupations](#)

- Calibrate or adjust equipment to ensure quality production, using tools such as calipers, micrometers, height gauges, protractors, or ring gauges.



[Related occupations](#)

- Conduct statistical studies to analyze or compare production costs for sustainable and nonsustainable designs.



[Related occupations](#)

- Coordinate equipment purchases, installations, or transfers.



[Related occupations](#)

- Create or interpret engineering drawings, schematic diagrams, formulas, or blueprints for management or engineering staff.



[Related occupations](#)

- Design plant layouts or production facilities.



[Related occupations](#)

- Develop manufacturing infrastructure to integrate or deploy new manufacturing processes.



[Related occupations](#)

- Develop or implement programs to address problems related to production, materials, safety, or quality.



Related occupations

- Develop production, inventory, or quality assurance programs.



Related occupations

- Develop sustainable manufacturing technologies to reduce greenhouse gas emissions, minimize raw material use, replace toxic materials with non-toxic materials, replace non-renewable materials with renewable materials, or reduce waste.



Related occupations

- Identify opportunities for improvements in quality, cost, or efficiency of automation equipment.



Related occupations

- Monitor and adjust production processes or equipment for quality and productivity.



Related occupations

- Oversee equipment start-up, characterization, qualification, or release.



Related occupations

- Oversee or inspect production processes.



Related occupations

- Prepare layouts, drawings, or sketches of machinery or equipment, such as shop tooling, scale layouts, or new equipment design, using drafting equipment or computer-aided design (CAD) software.



Related occupations

- Prepare production documents, such as standard operating procedures, manufacturing batch records, inventory reports, or productivity reports.



Related occupations

- Provide advice or training to other technicians.



Related occupations

- Recommend corrective or preventive actions to assure or improve product quality or reliability.



Related

[occupations](#)

- Select cleaning materials, tools, or equipment.

[Related](#)[occupations](#)

- Select material quantities or processing methods needed to achieve efficient production.

[Related](#)[occupations](#)

- Set up and operate production equipment in accordance with current good manufacturing practices and standard operating procedures.

[Related](#)[occupations](#)[Find occupations related to multiple tasks](#) ➔[back to top](#)

Technology Skills

▼ ^ 5 of All 25 displayed (Show all Show top 5)

- **Analytical or scientific software** IBM SPSS Statistics [redacted]; Minitab; The MathWorks MATLAB [redacted]; Wilcox Associates PC-DMIS; [12 more](#)

[Related](#)[occupations](#)

- **Computer aided design CAD software** Autodesk AutoCAD [redacted]; Bentley MicroStation [redacted]; Dassault Systemes CATIA; Dassault Systemes SolidWorks [redacted]; [12 more](#)

[Related](#)[occupations](#)

- **Computer aided manufacturing CAM software** CNC Mastercam; Materilise Magics; Planit Alphacam; Rapid prototyping software; [6 more](#)

[Related](#)[occupations](#)

- **Data base user interface and query software** Data entry software; Database software; Microsoft Access [redacted]

[Related](#)

occupations

- Desktop communications software — Eko
 - + [Related occupations](#)
- Desktop publishing software
 - + [Related occupations](#)
- Development environment software — C ; Microsoft Visual Basic ; Microsoft Visual Studio ; National Instruments LabVIEW; [1 more](#)
 - + [Related occupations](#)
- Document management software — Microsoft SharePoint
 - + [Related occupations](#)
- Electronic mail software — Email software; IBM Notes; Microsoft Exchange; Microsoft Outlook
 - + [Related occupations](#)
- Enterprise application integration software — Extensible markup language XML
 - + [Related occupations](#)
- Enterprise resource planning ERP software — Management information systems MIS; Oracle JD Edwards EnterpriseOne; Plant maintenance software; SAP software ; [1 more](#)
 - + [Related occupations](#)
- Graphics or photo imaging software — Graphics editing software; Graphics software
 - + [Related occupations](#)
- Industrial control software — Programmable logic controller PLC software; Siemens SINUMERIK CNC; Supervisory control and data acquisition SCADA software; VIA Information Tools MAN-IT; [16 more](#)
 - + [Related occupations](#)
- Instant messaging software — Blink
 - + [Related occupations](#)
- Internet browser software — Microsoft Internet Explorer; Web browser software



[Related occupations](#)

- **Materials requirements planning logistics and supply chain software** â€” ABB CPM4Metals; Horizon Software MRP Plus; Materials requirement planning MRP software; Production planning software; [1 more](#)



[Related occupations](#)

- **Object or component oriented development software** â€” C++ ; G-code



[Related occupations](#)

- **Office suite software** â€” Microsoft Office software



[Related occupations](#)

- **Operating system software** â€” Microsoft Windows ; UNIX



[Related occupations](#)

- **Presentation software** â€” Microsoft PowerPoint



[Related occupations](#)

- **Process mapping and design software** â€” Microsoft Visio ; ProModel



[Related occupations](#)

- **Project management software** â€” Microsoft Project



[Related occupations](#)

- **Spreadsheet software** â€” Microsoft Excel



[Related occupations](#)

- **Video creation and editing software** â€” Loom



[Related occupations](#)

- **Word processing software** â€” Microsoft Word



[Related occupations](#)

Hot technology

Hot Technologies are requirements most frequently included across all employer job postings.

[See all 22 Hot Technologies for this occupation.](#)

In demand

In Demand skills are frequently included in employer job postings for this occupation.

[See all 2 In Demand skills for this occupation.](#)

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Occupational Requirements

Work Activities

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- **Making Decisions and Solving Problems** — Analyzing information and evaluating results to choose the best solution and solve problems.
 [Related occupations](#)
- **Drafting, Laying Out, and Specifying Technical Devices, Parts, and Equipment** — Providing documentation, detailed instructions, drawings, or specifications to tell others about how devices, parts, equipment, or structures are to be fabricated, constructed, assembled, modified, maintained, or used.
 [Related occupations](#)
- **Thinking Creatively** — Developing, designing, or creating new applications, ideas, relationships, systems, or products, including artistic contributions.
 [Related occupations](#)
- **Communicating with Supervisors, Peers, or Subordinates** — Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.
 [Related occupations](#)
- **Getting Information** — Observing, receiving, and otherwise obtaining information from all relevant sources.
 [Related occupations](#)
- **Updating and Using Relevant Knowledge** — Keeping up-to-date technically and applying new knowledge to your job.

Related occupations

- **Working with Computers** â€“ Using computers and computer systems (including hardware and software) to program, write software, set up functions, enter data, or process information.

Related occupations

- **Monitoring Processes, Materials, or Surroundings** â€“ Monitoring and reviewing information from materials, events, or the environment, to detect or assess problems.

Related occupations

- **Organizing, Planning, and Prioritizing Work** â€“ Developing specific goals and plans to prioritize, organize, and accomplish your work.

Related occupations

- **Inspecting Equipment, Structures, or Materials** â€“ Inspecting equipment, structures, or materials to identify the cause of errors or other problems or defects.

Related occupations

- **Documenting/Recording Information** â€“ Entering, transcribing, recording, storing, or maintaining information in written or electronic/magnetic form.

Related occupations

- **Analyzing Data or Information** â€“ Identifying the underlying principles, reasons, or facts of information by breaking down information or data into separate parts.

Related occupations

- **Identifying Objects, Actions, and Events** â€“ Identifying information by categorizing, estimating, recognizing differences or similarities, and detecting changes in circumstances or events.

Related occupations

- **Handling and Moving Objects** â€“ Using hands and arms in handling, installing, positioning, and moving materials, and manipulating things.

Related occupations

- **Establishing and Maintaining Interpersonal Relationships** â€“ Developing constructive and cooperative working relationships with others, and maintaining them over time.



[Related occupations](#)

- **Estimating the Quantifiable Characteristics of Products, Events, or Information** â€”

Estimating sizes, distances, and quantities; or determining time, costs, resources, or materials needed to perform a work activity.



[Related occupations](#)

- **Repairing and Maintaining Mechanical Equipment** â€” Servicing, repairing, adjusting, and testing machines, devices, moving parts, and equipment that operate primarily on the basis of mechanical (not electronic) principles.



[Related occupations](#)

- **Controlling Machines and Processes** â€” Using either control mechanisms or direct physical activity to operate machines or processes (not including computers or vehicles).



[Related occupations](#)

- **Processing Information** â€” Compiling, coding, categorizing, calculating, tabulating, auditing, or verifying information or data.



[Related occupations](#)

- **Evaluating Information to Determine Compliance with Standards** â€” Using relevant information and individual judgment to determine whether events or processes comply with laws, regulations, or standards.



[Related occupations](#)

- **Judging the Qualities of Objects, Services, or People** â€” Assessing the value, importance, or quality of things or people.



[Related occupations](#)

- **Training and Teaching Others** â€” Identifying the educational needs of others, developing formal educational or training programs or classes, and teaching or instructing others.



[Related occupations](#)

- **Communicating with People Outside the Organization** â€” Communicating with people outside the organization, representing the organization to customers, the public, government, and other external sources. This information can be exchanged in person, in writing, or by telephone or e-mail.



[Related occupations](#)

- **Developing Objectives and Strategies** — Establishing long-range objectives and specifying the strategies and actions to achieve them.
 - +
[Related occupations](#)
- **Performing General Physical Activities** — Performing general physical activities includes doing activities that require considerable use of your arms and legs and moving your whole body, such as climbing, lifting, balancing, walking, stooping, and handling materials.
 - +
[Related occupations](#)
- **Scheduling Work and Activities** — Scheduling events, programs, and activities, as well as the work of others.
 - +
[Related occupations](#)

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Detailed Work Activities

[▼](#) [▲](#) 5 of All 29 displayed (Show all Show top 5)

- Assess product or process usefulness.
 - +
[Related occupations](#)
- Test products for functionality or quality.
 - +
[Related occupations](#)
- Research human performance or health factors related to engineering or design activities.
 - +
[Related occupations](#)
- Monitor processes for compliance with standards.
 - +
[Related occupations](#)
- Inspect operational processes.
 - +
[Related occupations](#)

- Prepare detailed work plans.
+
[Related occupations](#)
- Develop technical methods or processes.
+
[Related occupations](#)
- Analyze costs and benefits of proposed designs or projects.
+
[Related occupations](#)
- Calibrate scientific or technical equipment.
+
[Related occupations](#)
- Design industrial processing systems.
+
[Related occupations](#)
- Select project materials.
+
[Related occupations](#)
- Create graphical representations of industrial production systems.
+
[Related occupations](#)
- Create physical models or prototypes.
+
[Related occupations](#)
- Design industrial equipment.
+
[Related occupations](#)
- Design structures or facilities.
+
[Related occupations](#)
- Determine operational methods.
+
[Related occupations](#)
- Direct industrial production activities.
+
[Related](#)

occupations

- Direct quality control activities.

Related occupations

- Estimate operational costs.

Related occupations

- Explain engineering drawings, specifications, or other technical information.

Related occupations

- Implement design or process improvements.

Related occupations

- Monitor activities affecting environmental quality.

Related occupations

- Monitor the productivity or efficiency of industrial operations.

Related occupations

- Operate industrial equipment.

Related occupations

- Prepare drawings or diagrams of products or services.

Related occupations

- Prepare operational reports.

Related occupations

- Purchase materials, equipment, or other resources.

Related occupations

- Recommend technical design or process changes to improve efficiency, quality, or performance.

Related occupations

- Train personnel on proper operational procedures.



[Related occupations](#)[Find occupations related to multiple detailed work activities](#) ➔[back to top](#)

Work Context

▼ ^ 5 of All 28 displayed (Show all Show top 5)

- **E-Mail** “ 95% responded “Every day.”
 - + [Related occupations](#)
- **Face-to-Face Discussions with Individuals and Within Teams** “ 84% responded “Every day.”
 - + [Related occupations](#)
- **Wear Common Protective or Safety Equipment such as Safety Shoes, Glasses, Gloves, Hearing Protection, Hard Hats, or Life Jackets** “ 78% responded “Every day.”
 - + [Related occupations](#)
- **Duration of Typical Work Week** “ 82% responded “More than 40 hours.”
 - + [Related occupations](#)
- **Telephone Conversations** “ 66% responded “Every day.”
 - + [Related occupations](#)
- **Indoors, Environmentally Controlled** “ 86% responded “Every day.”
 - + [Related occupations](#)
- **Contact With Others** “ 68% responded “Constant contact with others.”
 - + [Related occupations](#)
- **Work With or Contribute to a Work Group or Team** “ 64% responded “Extremely important.”
 - + [Related occupations](#)



Related occupations

- **Freedom to Make Decisions** “ 55% responded “A lot of freedom.”

Related occupations
- **Importance of Being Exact or Accurate** “ 43% responded “Extremely important.”

Related occupations
- **Impact of Decisions on Co-workers or Company Results** “ 45% responded “Important results.”

Related occupations
- **Determine Tasks, Priorities and Goals** “ 51% responded “Some freedom.”

Related occupations
- **Frequency of Decision Making** “ 50% responded “Every day.”

Related occupations
- **Exposed to Sounds, Noise Levels that are Distracting or Uncomfortable** “ 48% responded “Every day.”

Related occupations
- **Coordinate or Lead Others in Accomplishing Work Activities** “ 49% responded “Very important.”

Related occupations
- **Time Pressure** “ 45% responded “Once a month or more but not every week.”

Related occupations
- **Exposed to Contaminants** “ 49% responded “Every day.”

Related occupations
- **Importance of Repeating Same Tasks** “ 49% responded “Very important.”

Related occupations
- **Work Outcomes and Results of Other Workers** “ 29% responded “Moderate”

responsibility.â€□



[Related occupations](#)

- **Written Letters and Memos** â€” 37% responded â€œOnce a week or more but not every day.â€□



[Related occupations](#)

- **Health and Safety of Other Workers** â€” 33% responded â€œModerate responsibility.â€□



[Related occupations](#)

- **Consequence of Error** â€” 34% responded â€œExtremely serious.â€□



[Related occupations](#)

- **Exposed to Hazardous Equipment** â€” 38% responded â€œNever.â€□



[Related occupations](#)

- **Spend Time Standing** â€” 47% responded â€œLess than half the time.â€□



[Related occupations](#)

- **Conflict Situations** â€” 32% responded â€œOnce a month or more but not every week.â€□



[Related occupations](#)

- **Physical Proximity** â€” 43% responded â€œI work with others but not closely (e.g., private office).â€□



[Related occupations](#)

- **Spend Time Sitting** â€” 39% responded â€œLess than half the time.â€□



[Related occupations](#)

- **Spend Time Using Your Hands to Handle, Control, or Feel Objects, Tools, or Controls** â€” 28% responded â€œLess than half the time.â€□



[Related occupations](#)

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Experience Requirements

Job Zone

Title

Job Zone Three: Medium Preparation Needed

Education

Most occupations in this zone require training in vocational schools, related on-the-job experience, or an associate's degree.

Related Experience

Previous work-related skill, knowledge, or experience is required for these occupations. For example, an electrician must have completed three or four years of apprenticeship or several years of vocational training, and often must have passed a licensing exam, in order to perform the job.

Job Training

Employees in these occupations usually need one or two years of training involving both on-the-job experience and informal training with experienced workers. A recognized apprenticeship program may be associated with these occupations.

Job Zone Examples

These occupations usually involve using communication and organizational skills to coordinate, supervise, manage, or train others to accomplish goals. Examples include hydroelectric production managers, desktop publishers, electricians, agricultural technicians, barbers, court reporters and simultaneous captioners, and medical assistants.

SVP Range

(6.0 to < 7.0)

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Training & Credentials

State training

 Go

Local training

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Certifications

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Apprenticeship Opportunities

[^ All 5 displayed](#)

Example apprenticeship titles for this occupation:

- 3d Printing Technician
- Additive Manufacturing Technician
- Industrial Engineering Technician
- Industrial Manufacturing Technician
- Quality Control Technician

Specific title(s) listed above are vetted by industry and approved by the U.S. Department of Labor for use in a Registered Apprenticeship Program.

Start your career and build your skillset. Visit [Apprenticeship.gov](#) [external site] to learn about opportunities related to this occupation.

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Worker Requirements

Skills

[▼ ^ 5 of All 17 displayed](#) (Show all Show top 5)

- **Reading Comprehension** — Understanding written sentences and paragraphs in work-related documents.
 [Related occupations](#)
- **Active Listening** — Giving full attention to what other people are saying, taking time to understand the points being made, asking questions as appropriate, and not interrupting at inappropriate times.
 [Related occupations](#)
- **Critical Thinking** — Using logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.
 [Related occupations](#)
- **Complex Problem Solving** — Identifying complex problems and reviewing related information to develop and evaluate options and implement solutions.



Related occupations

- **Monitoring** — Monitoring/Assessing performance of yourself, other individuals, or organizations to make improvements or take corrective action.

Related occupations
- **Speaking** — Talking to others to convey information effectively.

Related occupations
- **Systems Analysis** — Determining how a system should work and how changes in conditions, operations, and the environment will affect outcomes.

Related occupations
- **Systems Evaluation** — Identifying measures or indicators of system performance and the actions needed to improve or correct performance, relative to the goals of the system.

Related occupations
- **Time Management** — Managing one's own time and the time of others.

Related occupations
- **Judgment and Decision Making** — Considering the relative costs and benefits of potential actions to choose the most appropriate one.

Related occupations
- **Mathematics** — Using mathematics to solve problems.

Related occupations
- **Operations Analysis** — Analyzing needs and product requirements to create a design.

Related occupations
- **Writing** — Communicating effectively in writing as appropriate for the needs of the audience.

Related occupations
- **Active Learning** — Understanding the implications of new information for both current and future problem-solving and decision-making.

Related

[occupations](#)

- **Instructing** â€” Teaching others how to do something.

[Related occupations](#)

- **Quality Control Analysis** â€” Conducting tests and inspections of products, services, or processes to evaluate quality or performance.

[Related occupations](#)

- **Technology Design** â€” Generating or adapting equipment and technology to serve user needs.

[Related occupations](#)[back to top](#)

Knowledge

▼ ^ 5 of All 10 displayed (Show all Show top 5)

- **Mechanical** â€” Knowledge of machines and tools, including their designs, uses, repair, and maintenance.
 [Related occupations](#)
- **Engineering and Technology** â€” Knowledge of the practical application of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and production of various goods and services.
 [Related occupations](#)
- **Production and Processing** â€” Knowledge of raw materials, production processes, quality control, costs, and other techniques for maximizing the effective manufacture and distribution of goods.
 [Related occupations](#)
- **Mathematics** â€” Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.
 [Related occupations](#)

- **Design** â€” Knowledge of design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.
[+ Related occupations](#)
- **English Language** â€” Knowledge of the structure and content of the English language including the meaning and spelling of words, and rules of composition and grammar.
[+ Related occupations](#)
- **Computers and Electronics** â€” Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.
[+ Related occupations](#)
- **Physics** â€” Knowledge and prediction of physical principles, laws, their interrelationships, and applications to understanding fluid, material, and atmospheric dynamics, and mechanical, electrical, atomic and sub-atomic structures and processes.
[+ Related occupations](#)
- **Public Safety and Security** â€” Knowledge of relevant equipment, policies, procedures, and strategies to promote effective local, state, or national security operations for the protection of people, data, property, and institutions.
[+ Related occupations](#)
- **Customer and Personal Service** â€” Knowledge of principles and processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.
[+ Related occupations](#)

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Education

How much education does a new hire need to perform a job in this occupation? Respondents said:

- 37%

responded: Some college, no degree required  [more info](#)

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Worker Characteristics

Abilities

  5 of All 21 displayed (Show all Show top 5)

- **Deductive Reasoning** â€“ The ability to apply general rules to specific problems to produce answers that make sense.
 [Related occupations](#)
- **Inductive Reasoning** â€“ The ability to combine pieces of information to form general rules or conclusions (includes finding a relationship among seemingly unrelated events).
 [Related occupations](#)
- **Oral Comprehension** â€“ The ability to listen to and understand information and ideas presented through spoken words and sentences.
 [Related occupations](#)
- **Problem Sensitivity** â€“ The ability to tell when something is wrong or is likely to go wrong. It does not involve solving the problem, only recognizing that there is a problem.
 [Related occupations](#)
- **Near Vision** â€“ The ability to see details at close range (within a few feet of the observer).
 [Related occupations](#)
- **Written Comprehension** â€“ The ability to read and understand information and ideas presented in writing.
 [Related occupations](#)
- **Oral Expression** â€“ The ability to communicate information and ideas in speaking so others will understand.
 [Related occupations](#)

- **Category Flexibility** â€” The ability to generate or use different sets of rules for combining or grouping things in different ways.
 - +
[Related occupations](#)
- **Information Ordering** â€” The ability to arrange things or actions in a certain order or pattern according to a specific rule or set of rules (e.g., patterns of numbers, letters, words, pictures, mathematical operations).
 - +
[Related occupations](#)
- **Fluency of Ideas** â€” The ability to come up with a number of ideas about a topic (the number of ideas is important, not their quality, correctness, or creativity).
 - +
[Related occupations](#)
- **Originality** â€” The ability to come up with unusual or clever ideas about a given topic or situation, or to develop creative ways to solve a problem.
 - +
[Related occupations](#)
- **Selective Attention** â€” The ability to concentrate on a task over a period of time without being distracted.
 - +
[Related occupations](#)
- **Speech Recognition** â€” The ability to identify and understand the speech of another person.
 - +
[Related occupations](#)
- **Visualization** â€” The ability to imagine how something will look after it is moved around or when its parts are moved or rearranged.
 - +
[Related occupations](#)
- **Written Expression** â€” The ability to communicate information and ideas in writing so others will understand.
 - +
[Related occupations](#)
- **Mathematical Reasoning** â€” The ability to choose the right mathematical methods or formulas to solve a problem.
 - +
[Related occupations](#)
- **Number Facility** â€” The ability to add, subtract, multiply, or divide quickly and correctly.
 - +
[Related occupations](#)

[Related occupations](#)

- **Perceptual Speed** â€” The ability to quickly and accurately compare similarities and differences among sets of letters, numbers, objects, pictures, or patterns. The things to be compared may be presented at the same time or one after the other. This ability also includes comparing a presented object with a remembered object.

[Related occupations](#)

- **Speech Clarity** â€” The ability to speak clearly so others can understand you.

[Related occupations](#)

- **Far Vision** â€” The ability to see details at a distance.

[Related occupations](#)

- **Flexibility of Closure** â€” The ability to identify or detect a known pattern (a figure, object, word, or sound) that is hidden in other distracting material.

[Related occupations](#)[back to top](#)

Interests

[^ All 3 displayed](#)Interest code: **RCI**

Want to discover your interests? Take the [O*NET Interest Profiler](#) at My Next Move.

- **Realistic** â€” Work involves designing, building, or repairing of equipment, materials, or structures, engaging in physical activity, or working outdoors. Realistic occupations are often associated with engineering, mechanics and electronics, construction, woodworking, transportation, machine operation, agriculture, animal services, physical or manual labor, athletics, or protective services.

[Related occupations](#)

- **Conventional** â€” Work involves following procedures and regulations to organize information or data, typically in a business setting. Conventional occupations are often associated with office work, accounting, mathematics/statistics, information technology, finance, or human resources.



[Related occupations](#)

- **Investigative** – Work involves studying and researching non-living objects, living organisms, disease or other forms of impairment, or human behavior. Investigative occupations are often associated with physical, life, medical, or social sciences, and can be found in the fields of humanities, mathematics/statistics, information technology, or health care service.

[Related occupations](#)[back to top](#)

Work Values

[^ All 3 displayed](#)

- **Support** – Occupations that satisfy this work value offer supportive management that stands behind employees. Corresponding needs are Company Policies, Supervision: Human Relations and Supervision: Technical.

[Related occupations](#)

- **Achievement** – Occupations that satisfy this work value are results oriented and allow employees to use their strongest abilities, giving them a feeling of accomplishment. Corresponding needs are Ability Utilization and Achievement.

[Related occupations](#)

- **Independence** – Occupations that satisfy this work value allow employees to work on their own and make decisions. Corresponding needs are Creativity, Responsibility and Autonomy.

[Related occupations](#)[back to top](#)

Work Styles

▼ ^ 5 of All 16 displayed (Show all Show top 5)

- **Attention to Detail** â€” Job requires being careful about detail and thorough in completing work tasks.
+
[Related occupations](#)
- **Dependability** â€” Job requires being reliable, responsible, and dependable, and fulfilling obligations.
+
[Related occupations](#)
- **Analytical Thinking** â€” Job requires analyzing information and using logic to address work-related issues and problems.
+
[Related occupations](#)
- **Stress Tolerance** â€” Job requires accepting criticism and dealing calmly and effectively with high-stress situations.
+
[Related occupations](#)
- **Cooperation** â€” Job requires being pleasant with others on the job and displaying a good-natured, cooperative attitude.
+
[Related occupations](#)
- **Integrity** â€” Job requires being honest and ethical.
+
[Related occupations](#)
- **Initiative** â€” Job requires a willingness to take on responsibilities and challenges.
+
[Related occupations](#)
- **Self-Control** â€” Job requires maintaining composure, keeping emotions in check, controlling anger, and avoiding aggressive behavior, even in very difficult situations.
+
[Related occupations](#)
- **Independence** â€” Job requires developing one's own ways of doing things, guiding oneself with little or no supervision, and depending on oneself to get things done.
+
[Related occupations](#)
- **Achievement/Effort** â€” Job requires establishing and maintaining personally challenging achievement goals and exerting effort toward mastering tasks.



Related occupations

- **Persistence** â€” Job requires persistence in the face of obstacles.

Related occupations
- **Adaptability/Flexibility** â€” Job requires being open to change (positive or negative) and to considerable variety in the workplace.

Related occupations
- **Concern for Others** â€” Job requires being sensitive to others' needs and feelings and being understanding and helpful on the job.

Related occupations
- **Innovation** â€” Job requires creativity and alternative thinking to develop new ideas for and answers to work-related problems.

Related occupations
- **Leadership** â€” Job requires a willingness to lead, take charge, and offer opinions and direction.

Related occupations
- **Social Orientation** â€” Job requires preferring to work with others rather than alone, and being personally connected with others on the job.

Related occupations

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Workforce Characteristics

Wages & Employment Trends

Median wages (2024)

\$31.15 hourly, \$64,790 annual

State wages

Select a State



Go

Local wages

ZIP Code Go

Employment (2024)

74,600 employees

Projected growth (2024-2034)

 Slower than average (1% to 2%)

Projected job openings (2024-2034)

6,300

State trends

Select a State Go

Top industries (2024)

[Manufacturing](#)

[Professional, Scientific, and Technical Services](#)

Source: Bureau of Labor Statistics [2024 wage data](#) external site and [2024-2034 employment projections](#) external site. "Projected growth" represents the estimated change in total employment over the projections period (2024-2034). "Projected job openings" represent openings due to growth and replacement.

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Job Openings on the Web

State job openings

Select a State Go

Local job openings

ZIP Code Go

[back to top](#)

More Information

Related Occupations

5 of All 10 displayed (Show all>Show top 5)

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- Bright Outlook
- 17-3027.01 [Automotive Engineering Technicians](#)
- 17-3028.00 [Calibration Technologists and Technicians](#)

- 17-3023.00 [Electrical and Electronic Engineering Technologists and Technicians](#)
- 17-3024.00 [Electro-Mechanical and Mechatronics Technologists and Technicians](#)
- 17-2112.00 [Industrial Engineers](#)
- 17-2112.03 [Manufacturing Engineers](#)
- 17-3027.00 [Mechanical Engineering Technologists and Technicians](#)
- 17-3026.01 [Nanotechnology Engineering Technologists and Technicians](#)
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Professional Associations

Disclaimer: Sources are listed to provide additional information on related jobs, specialties, and/or industries. Links to non-DOL Internet sites are provided for your convenience and do not constitute an endorsement.

O*NET Ally



Actively assisted with the O*NET data collection, helping to identify occupational experts who can be surveyed about their work in the occupation.

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National Associations

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- [American Society of Mechanical Engineers](#) ↗ external site
- [Institute for Supply Management](#) ↗ external site
- [Institute of Industrial and Systems Engineers](#) ↗ external site
- [SAE International](#) ↗ external site
- [Society of Manufacturing Engineers](#) ↗ external site
- [Society of Plastics Engineers](#) ↗ external site
- [Society of Women Engineers](#) ↗ external site
- [Surface Mount Technology Association](#) ↗ external site

Accreditation, Certification, & Unions

- [Accreditation Board for Engineering and Technology](#) ↗ external site

- [National Institute for Certification in Engineering Technologies](#) External site

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