AEROSPACE ENGINEER

Description

Perform engineering work in designing, constructing, and testing aircraft, missiles, and spacecraft. Conduct research on aircraft design. Recommend improvements in testing equipment and techniques.

Tasks

Design aeronautical or aerospace products to meet customer requirements.

Direct engineering of aircraft or aerospace products.

Plan and conduct experimental and stress tests on models and prototypes of aircraft and aerospace systems and equipment.

Skills

Time Management - Manage one's own time and the time of others.

Critical Thinking - Use logic and reasoning to identify approaches to problems.

Judgment and Decision Making - Consider the relative costs and benefits of actions to choose the most appropriate one.

Interests

More than 100,000 people in 1,600-plus jobs evaluated their work in six areas of career interests: realistic, investigative, artistic, social, enterprising, and conventional. The three categories below describe the career interests of people in this job.

Investigative

Working with ideas, doing an extensive amount of thinking, searching for facts, and figuring out problems mentally.

Realistic

Dealing with practical, hands-on problems and solutions, often involving plants, animals, and real-world materials like wood, tools, and machinery; often working outside without a lot of paperwork or working closely with others.

Conventional

Following set procedures and routines; working with data and details more than with ideas, usually with a clear line of authority to follow.

Knowledge

Design - Knowledge of design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.

Engineering and Technology - Knowledge of the design and production of various goods and services.

Physics - Knowledge of fluid, material, and atmospheric dynamics, and mechanical, electrical, atomic and sub atomic structures and processes.

Average Income

$72,750

Job Needs

Current jobs needs for the year 2012 for every 100,000 people:

45

AEROSPACE ENGINEERING AND OPERATIONS TECHNICIAN

Description

Operate, install, and maintain computer/communications systems, simulators, and other data instruments to launch, track, and evaluate air and space vehicles. May record and interpret test data.

Tasks

Exchange cooling system components in various vehicles.

Meet with engineering personnel regarding details of test procedures and results.

Test aircraft under simulated operational conditions.

Perform readiness tests and pre- and postoperational checkouts to establish design features.

Operate computer systems and devices.

Skills

Visualization – Imagine how something will look after it is moved around or when its parts are moved or rearranged.

Written Expression - Communicate information and ideas in writing so others will understand.

Inductive Reasoning - Combine pieces of information to form general rules or conclusions.

Interests

More than 100,000 people in 1,600-plus jobs evaluated their work in six areas of career interests: realistic, investigative, artistic, social, enterprising, and conventional. The three categories below describe the career interests of people in this job.

Investigative

Working with ideas, doing an extensive amount of thinking, searching for facts, and figuring out problems mentally.

Realistic

Dealing with practical, hands-on problems and solutions, often involving plants, animals, and real-world materials like wood, tools, and machinery; often working outside without a lot of paperwork or working closely with others.

Conventional

Following set procedures and routines; working with data and details more than with ideas, usually with a clear line of authority to follow.

Knowledge

Engineering and Technology - 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.

Physics - Knowledge and prediction of physical principles.

Mathematics - Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.

Computers and Electronics - Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software.

Mechanical - Knowledge of machines and tools, including their designs, uses, repair, and maintenance.

Average Income

$51,650

Job Needs

Current jobs needs for the year 2012 for every 100,000 people:

9

AIRLINE PILOT, COPILOT, and FLIGHT ENGINEER

Description

Pilot and navigate the flight of multiengine aircraft for the transport of passengers and cargo. Obtain a certification for the type of aircraft being flown.

Tasks

Instruct other pilots and student pilots in aircraft operations and the principles of flight.

Work as part of a flight team with other crew members, especially during takeoffs and landings.

Steer aircraft along planned routes with the assistance of autopilot and flight management computers.

Skills

Operation and Control - Control operations of equipment or systems.

Operation Monitoring - Watch gauges, dials, or other indicators to make sure a machine is working properly.

Active Listening - Give 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.

Interests

More than 100,000 people in 1,600-plus jobs evaluated their work in six areas of career interests: realistic, investigative, artistic, social, enterprising, and conventional. The three categories below describe the career interests of people in this job.

Investigative

Working with ideas, doing an extensive amount of thinking, searching for facts, and figuring out problems mentally.

Realistic

Dealing with practical, hands-on problems and solutions, often involving plants, animals, and real-world materials like wood, tools, and machinery; often working outside without a lot of paperwork or working closely with others.

Enterprising - Starting up and carrying out projects; leading people and making many decisions; taking risks and often dealing with business.

Knowledge

Transportation - Knowledge of principles and methods for moving people or goods by air, rail, sea, or road, including the relative costs and benefits.

Physics - Knowledge and prediction of physical principles, laws, their interrelationships, and applications to understanding fluid, material, and atmospheric dynamics, and mechanical, electrical, atomic and subatomic structures and processes.

Geography - Knowledge of principles and methods for describing the features of land, sea, and air masses, including their physical characteristics, locations, interrelationships, and distribution of plant, animal, and human life.

Average Income

$109,580

Job Needs

Current jobs needs for the year 2012 for every 100,000 people:

57

ASTRONOMER

Description

Observe, research, and interpret celestial and astronomical events. Increase basic knowledge about these events and apply it to practical problems.

Tasks

Study history, structure, and evolution of stars, stellar systems, and universe.

Analyze wavelengths of radiation from celestial bodies, as observed in all ranges of spectrum.

Develop mathematical tables giving positions of sun, moon, planets, and stars at given times for use by air and sea navigators.

Design optical, mechanical and electronic instruments for astronomical research.

Study celestial phenomena from ground or above atmosphere, using various optical devices, such as telescopes situated on ground or attached to satellites.

Compute positions of sun, moon, planets, stars, nebulae, and galaxies.

Calculate orbits and determine sizes, shapes, brightness, and motions of different celestial bodies.

Skills

Science - Use scientific rules and methods to solve problems.

Mathematics - Use mathematics to solve problems.

Reading Comprehension - Understand written sentences and paragraphs.

Critical Thinking - Use logic and reasoning.

Active Learning - Understand information for decision making.

Interests

More than 100,000 people in 1,600-plus jobs evaluated their work in six areas of career interests: realistic, investigative, artistic, social, enterprising, and conventional. The three categories below describe the career interests of people in this job.

Investigative

Working with ideas, doing an extensive amount of thinking, searching for facts, and figuring out problems mentally.

Realistic

Dealing with practical, hands-on problems and solutions, often involving plants, animals, and real-world materials like wood, tools, and machinery; often working outside without a lot of paperwork or working closely with others.

Artistic

Creating beautiful things, such as new ideas, art, music, or writing.

Knowledge

Engineering and Technology - Knowledge of engineering science and technology. This includes applying principles and procedures to the design of various goods and services.

Computers and Electronics - Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.

Mathematics - Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.

Physics - Knowledge and prediction of physical principles, laws, their interrelationships, and applications to understanding fluid, material, and atmospheric dynamics, and mechanical, electrical, atomic and subatomic structures and processes.

Average Income

$51,650

Job Needs

Current jobs needs for the year 2012 for every 100,000 people:

9

AVIONICS TECHNICIAN

Description

Install, inspect, test, adjust, or repair avionics equipment, such as radar, radio, navigation, and missile control systems in aircraft or space vehicles.

Tasks

Connect components to assemblies such as radio systems, instruments, and in-flight refueling systems, using hand tools and soldering irons.

Assemble components such as switches, electrical controls, and junction boxes, using hand tools and soldering irons.

Adjust, repair, or replace malfunctioning components or assemblies, using hand tools and/or soldering irons.

Set up and operate ground support and test equipment to perform functional flight tests of electrical and electronic systems.

Skills

Troubleshooting - Determine causes of operating errors and decide what to do about it.

Installation - Install equipment, machines, wiring, or programs to meet specifications.

Operation and Control - Control operations of equipment or systems.

Equipment Maintenance - Perform routine maintenance on equipment and determine when and what kind of maintenance is needed.

Repairing - Repair machines or systems, using the needed tools.

Interests

More than 100,000 people in 1,600-plus jobs evaluated their work in six areas of career interests: realistic, investigative, artistic, social, enterprising, and conventional. The three categories below describe the career interests of people in this job.

Investigative

Working with ideas, doing an extensive amount of thinking, searching for facts, and figuring out problems mentally.

Realistic

Dealing with practical, hands-on problems and solutions, often involving plants, animals, and real-world materials like wood, tools, and machinery; often working outside without a lot of paperwork or working closely with others.

Conventional

Following set procedures and routines; working with data and details more than with ideas, usually with a clear line of authority to follow.

Knowledge

Engineering and Technology - 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.

Physics - Knowledge and prediction of physical principles.

Mathematics - Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.

Computers and Electronics - Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software.

Mechanical - Knowledge of machines and tools, including their designs, uses, repair, and maintenance.

Average Income

$42,030

Job Needs

Current jobs needs for the year 2012 for every 100,000 people:

15

CALIBRATION AND INSTRUMENTATION TECHNICIAN

Description

Develop, test, calibrate, operate, and repair many types of instruments. Instruments include mechanical, electromechanical, and electrohydraulic measuring and recording instruments.

Tasks

Sketch plans for developing instruments and related equipment.

Disassemble and reassemble instruments and equipment, using hand tools.

Inspect instruments and equipment for defects.

Select sensing, telemetering, and recording instrumentation and circuitry.

Skills

Equipment Selection – Determine the kind of tools and equipment needed to do a job.

Equipment Maintenance - Perform routine maintenance on equipment and determine when and what kind of maintenance is needed.

Mathematics - Use mathematics to solve problems.

Quality Control Analysis – Conduct tests and inspections of products, services, or processes to evaluate quality or performance.

Interests

More than 100,000 people in 1,600-plus jobs evaluated their work in six areas of career interests: realistic, investigative, artistic, social, enterprising, and conventional. The three categories below describe the career interests of people in this job.

Investigative

Working with ideas, doing an extensive amount of thinking, searching for facts, and figuring out problems mentally.

Realistic

Dealing with practical, hands-on problems and solutions, often involving plants, animals, and real-world materials like wood, tools, and machinery; often working outside without a lot of paperwork or working closely with others.

Conventional

Following set procedures and routines; working with data and details more than with ideas, usually with a clear line of authority to follow.

Knowledge

Engineering and Technology - Knowledge of engineering science and technology. This includes applying principles and procedures to the design of various goods and services.

Mathematics - Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.

Computers and Electronics - Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software, including applications and programming.

Mechanical - Knowledge of machines and tools, including their designs, uses, repair, and maintenance.

Average Income

$55,157

Job Needs

Current jobs needs for the year 2012 for every 100,000 people:

51

CARTOGRAPHER AND PHOTOGRAMMETRIST

Description

Collect, analyze, and interpret geographic information provided by surveys, aerial photographs, and satellite data. Research, study, and prepare maps for legal, educational, and other purposes. May work with geographic information systems (GIS).

Tasks

Prepare and alter trace maps, charts, tables, detailed drawings, and three-dimensional optical models of terrain.

Analyze data from ground surveys, reports, aerial photographs, and satellite images in order to prepare topographic maps and related charts.

Revise existing maps and charts, making all necessary corrections and adjustments.

Skills

Mathematics - Use mathematics to solve problems.

Operations Analysis - Analyze needs and product requirements to create a design.

Equipment Selection - Determine the kind of tools and equipment needed to do a job.

Interests

More than 100,000 people in 1,600-plus jobs evaluated their work in six areas of career interests: realistic, investigative, artistic, social, enterprising, and conventional. The three categories below describe the career interests of people in this job.

Investigative

Working with ideas, doing an extensive amount of thinking, searching for facts, and figuring out problems mentally.

Realistic

Dealing with practical, hands-on problems and solutions, often involving plants, animals, and real-world materials like wood, tools, and machinery; often working outside without a lot of paperwork or working closely with others.

Conventional

Following set procedures and routines; working with data and details more than with ideas, usually with a clear line of authority to follow.

Knowledge

Geography - Knowledge of methods for describing the features of land, sea, and air masses, including their physical characteristics, and distribution of plant, animal, and human life.

Design - Knowledge of design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.

Mathematics - Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.

Average Income

$42,870

Job Needs

Current jobs needs for the year 2012 for every 100,000 people:

6

CHEMIST

Description

Conduct chemical analyses or experiments in laboratories for quality control or to develop new products or knowledge.

Tasks

Develop, improve, and customize products, equipment, formulas, processes, and analytical methods.

Analyze organic and inorganic compounds to determine chemical and physical properties.

Determine the composition, structure, and relationships of compounds, using chromatography techniques.

Prepare test solutions, compounds, and reagents for laboratory personnel to conduct test.

Skills

Quality Control Analysis - Conduct tests and inspections of products, services, or processes to evaluate quality or performance.

Complex Problem Solving - Identify complex problems and review related information to develop and evaluate options and implement solutions.

Reading Comprehension - Understand written sentences and paragraphs in work-related documents.

Interests

More than 100,000 people in 1,600-plus jobs evaluated their work in six areas of career interests: realistic, investigative, artistic, social, enterprising, and conventional. The three categories below describe the career interests of people in this job.

Investigative

Working with ideas, doing an extensive amount of thinking, searching for facts, and figuring out problems mentally.

Realistic

Dealing with practical, hands-on problems and solutions, often involving plants, animals, and real-world materials like wood, tools, and machinery; often working outside without a lot of paperwork or working closely with others.

Conventional

Following set procedures and routines; working with data and details more than with ideas, usually with a clear line of authority to follow.

Knowledge

Chemistry - Knowledge of the chemical composition, structure, and properties of substances. Understanding of the chemical processes and transformations that chemicals undergo.

Mathematics - Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.

Engineering and Technology - Knowledge of engineering science and technology. This includes applying principles, techniques, procedures, and equipment to the design and production of various goods and services

Average Income

$52,890

Job Needs

Current jobs needs for the year 2012 for every 100,000 people:

58

COMPUTER PROGRAMMER

Description

Convert statements and procedures to flow charts for coding into computer language. Develop and write computer programs. May program web sites.

Tasks

Correct errors by making appropriate computer changes.

Conduct trial runs of programs and software applications.

Compile and write documentation of program development.

Write, update, and maintain computer programs or software packages to handle specific jobs, such as tracking inventory, storing or retrieving data, or controlling other equipment.

Perform revision and repair of existing programs to increase operating efficiency.

Write, analyze, and review programs, using workflow chart and diagram.

Skills

Programming - Write computer programs for various purposes.

Critical Thinking - Use logic and reasoning to identify the strengths and weaknesses of solutions or conclusions to problems.

Complex Problem Solving - Identify complex problems and review information to develop options and solutions.

Active Learning - Understand the implications of new information for both current and future problem solving and decision making.

Learning Strategies - Select and use training/instructional methods and procedures when learning or teaching new things.

Interests

More than 100,000 people in 1,600-plus jobs evaluated their work in six areas of career interests: realistic, investigative, artistic, social, enterprising, and conventional. The three categories below describe the career interests of people in this job.

Investigative

Working with ideas, doing an extensive amount of thinking, searching for facts, and figuring out problems mentally.

Realistic

Dealing with practical, hands-on problems and solutions, often involving plants, animals, and real-world materials like wood, tools, and machinery; often working outside without a lot of paperwork or working closely with others.

Conventional

Following set procedures and routines; working with data and details more than with ideas, usually with a clear line of authority to follow.

Knowledge

Computers and Electronics - Knowledge of circuit boards, processors, chips, electronic equipment, and computer hardware and software.

Engineering and Technology - Knowledge of the practical application of engineering science and technology.

Telecommunications - Knowledge of transmission, broadcasting, switching, control, and operation of telecommunications systems.

Mathematics - Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.

English Language - Knowledge of the structure and content of the English language.

Design - Knowledge of design techniques, tools, and principles involved in production of technical plans, blueprints, drawings, and models.

Average Income

$60,290

Job Needs

Current jobs needs for the year 2012 for every 100,000 people:

347

GEOLOGICAL SAMPLE TECHNICIAN

Description

Look for petroleum, gas, or mineral gas by testing geological samples. Analyze the physical and chemical properties of petroleum products to determine the quality of the material.

Tasks

Supervise well exploration and drilling activities.

Participate in geological, oceanographic, and other surveys.

Compile and record test data for review and further analysis.

Skills

Science - Use scientific rules and methods to solve problems.

Quality Control Analysis - Conduct tests and inspections of products, services, or processes to determine quality or performance.

Operation and Control - Control operations of equipment or systems.

Interests

More than 100,000 people in 1,600-plus jobs evaluated their work in six areas of career interests: realistic, investigative, artistic, social, enterprising, and conventional. The three categories below describe the career interests of people in this job.

Investigative

Working with ideas, doing an extensive amount of thinking, searching for facts, and figuring out problems mentally.

Realistic

Dealing with practical, hands-on problems and solutions, often involving plants, animals, and real-world materials like wood, tools, and machinery; often working outside without a lot of paperwork or working closely with others.

Conventional

Following set procedures and routines; working with data and details more than with ideas, usually with a clear line of authority to follow.

Knowledge

Mechanical - Knowledge of machines and tools, including their designs, uses, repair, and maintenance.

Engineering and Technology - Knowledge of the techniques to design and produce various goods and services.

Mathematics - Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.

Average Income

$51,740

Job Needs

Current jobs needs for the year 2012 for every 100,000 people:

22

GEOLOGIST

Description

Study composition, structure, and history of the Earth's crust. Examine rocks, minerals, and fossil remains to study the development of the Earth. Apply knowledge of chemistry, physics, biology, and mathematics to explain geological processes. Locate mineral and petroleum deposits and underground water resources.

Tasks

Locate natural gas, oil, and mineral ore deposits and underground water resources, using aerial photographs, charts, and research and survey results.

Conduct geological studies to provide information for community development issues.

Study ground and surface water movement in order to provide advice on issues like waste management.

Skills

Mathematics - Use mathematics to solve problems.

Science - Use scientific rules and methods to solve problems.

Writing - Communicate effectively in writing as appropriate for the needs of the audience.

Interests

More than 100,000 people in 1,600-plus jobs evaluated their work in six areas of career interests: realistic, investigative, artistic, social, enterprising, and conventional. The three categories below describe the career interests of people in this job.

Investigative

Working with ideas, doing an extensive amount of thinking, searching for facts, and figuring out problems mentally.

Realistic

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Conventional

Following set procedures and routines; working with data and details more than with ideas, usually with a clear line of authority to follow.

Knowledge

Engineering and Technology - Knowledge of engineering science and technology. This includes applying principles and procedures to the design of various goods and services.

Physics - Knowledge and prediction of physical principles, laws, their interrelationships, and applications to understanding fluid, material, and atmospheric dynamics, and mechanical, electrical, atomic and subatomic structures and processes.

Chemistry - Knowledge of the chemical composition, structure, and properties of substances and of the chemical processes and transformations that they undergo. This includes uses of chemicals and their interactions, and disposal methods.

Average Income

$51,740

Job Needs

Current jobs needs for the year 2012 for every 100,000 people:

22

MATHEMATICIAN

Description

Conduct research in fundamental mathematics or in application of mathematical techniques to science, management, and other fields. Solve problems in various fields by mathematical methods.

Tasks

Apply mathematical theories and techniques to the solution of practical problems in business, engineering, or the sciences.

Address the relationships of quantities, magnitudes, and forms through the use of numbers and symbols.

Perform computations and apply methods of numerical analysis to data.

Conduct research to extend mathematical knowledge in traditional areas, such as algebra, geometry, probability, and logic.

Skills

Mathematics - Use mathematics to solve problems.

Active Learning - Understand the implications of new information for both current and future problem solving and decision making.

Critical Thinking - Use logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions, or approaches to problems.

Interests

More than 100,000 people in 1,600-plus jobs evaluated their work in six areas of career interests: realistic, investigative, artistic, social, enterprising, and conventional. The three categories below describe the career interests of people in this job.

Investigative

Working with ideas, doing an extensive amount of thinking, searching for facts, and figuring out problems mentally.

Artistic

Working with forms, designs, and patterns and often requiring self-expression and without following a clear set of rules.

Conventional

Following set procedures and routines; working with data and details more than with ideas, usually with a clear line of authority to follow.

Knowledge

Engineering and Technology - Knowledge of engineering science and technology. This includes applying principles and procedures to the design of various goods and services.

Geography - Knowledge of principles and methods for describing the features of land, sea, and air masses, including their physical characteristics, locations, interrelationships, and distribution of plant, animal, and human life.

Mathematics - Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.

Mechanical - Knowledge of machines and tools, including their designs, uses, repair, and maintenance.

Average Income

$76,470

Job Needs

Current jobs needs for the year 2012 for every 100,000 people:

2

MINING AND GEOLOGICAL ENGINEER, INCLUDING MINING SAFETY ENGINEER

Description

Determine the location and plan the extraction of coal, metallic ores, nonmetallic minerals, and building materials, such as stone and gravel. Conduct surveys of deposits or undeveloped mines and plan their development. Examine deposits or mines to determine whether they can be worked at a profit. Make geological and topographical surveys.

Tasks

Test air in ventilation shafts to detect toxic gases and recommend measures to remove them.

Select methods and equipment to transport waste materials and mineral products efficiently and economically.

Select or develop mineral location, extraction, and production methods, based on factors such as safety, cost, and deposit characteristics.

Prepare schedules, reports, and estimates of the costs involved in developing and operating mines.

Skills

Science - Use scientific rules and methods to solve problems.

Mathematics - Use mathematics to solve problems.

Critical Thinking - Use logic and reasoning to identify the strengths and weaknesses of alternative solutions, conclusions or approaches to problems.

Active Learning - Understand the implications of new information for both current and future problem solving and decision making.

Operations Analysis - Analyze the needs and product requirements to create a design to make sure a machine is working properly.

Quality Control Analysis - Conduct tests and inspections of products, services, or processes to evaluate quality or performance.

Interests

More than 100,000 people in 1,600-plus jobs evaluated their work in six areas of career interests: realistic, investigative, artistic, social, enterprising, and conventional. The three categories below describe the career interests of people in this job.

Investigative

Working with ideas, doing an extensive amount of thinking, searching for facts, and figuring out problems mentally.

Realistic

Dealing with practical, hands-on problems and solutions, often involving plants, animals, and real-world materials like wood, tools, and machinery; often working outside without a lot of paperwork or working closely with others.

Conventional

Following set procedures and routines; working with data and details more than with ideas, usually with a clear line of authority to follow.

Knowledge

Engineering and Technology - Knowledge of engineering science and technology. This includes applying principles and procedures to the design of various goods and services.

Design - Knowledge of design techniques, tools, and principles involved in production of precision technical plans, blueprints, drawings, and models.

Mathematics - Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.

Physics - Knowledge and prediction of physical principles, laws, their interrelationships, and applications to understanding fluid, material, and atmospheric dynamics, and mechanical, electrical, atomic and subatomic structures and processes.

Mechanical - Knowledge of machines and tools, including their designs, uses, repair, and maintenance.

Average Income

$61,770

Job Needs

Current jobs needs for the year 2012 for every 100,000 people:

3

STATISTICIAN

Description

Collect and interpret numerical data to provide useful information. Contribute to development of mathematical theory. Specialize in fields such as biostatistics, agricultural statistics, business statistics, or other fields.

Tasks

Analyze and interpret statistical data in order to identify significant differences in relationships among sources of information.

Adapt statistical methods in order to solve specific problems in many fields, such as economics, biology, and engineering.

Prepare data for processing by organizing information, checking for any inaccuracies, and adjusting and weighting the raw data.

Skills

Mathematics - Use mathematics to solve problems.

Active Learning - Understand new information for problem solving and decision making.

Complex Problem Solving - Identify complex problems and determine solutions.

Interests

More than 100,000 people in 1,600-plus jobs evaluated their work in six areas of career interests: realistic, investigative, artistic, social, enterprising, and conventional. The three categories below describe the career interests of people in this job.

Investigative

Working with ideas, doing an extensive amount of thinking, searching for facts, and figuring out problems mentally.

Realistic

Dealing with practical, hands-on problems and solutions, often involving plants, animals, and real-world materials like wood, tools, and machinery; often working outside without a lot of paperwork or working closely with others.

Conventional

Following set procedures and routines; working with data and details more than with ideas, usually with a clear line of authority to follow.

Knowledge

Clerical - Knowledge of procedures such as word processing, managing files and records, and other office procedures and terminology.

Mathematics - Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.

English Language - Knowledge of the structure and content of the English language, including the meaning and spelling of words, rules of composition, and grammar.

Average Income

$57,080

Job Needs

Current jobs needs for the year 2012 for every 100,000 people:

13

SURVEYING TECHNICIAN

Description

Adjust and operate surveying instruments. Compile notes, make sketches and enter data into computers.

Tasks

Record survey measurements and descriptive data, using notes, drawings, sketches, and inked tracings.

Position and hold the vertical rods, or targets, that survey technicians use for sighting in order to measure angles, distances, and elevations.

Place and hold measuring tapes when electronic distance-measuring equipment is not used.

Perform calculations to determine earth curvature corrections, atmospheric impacts on measurements, and other measurements.

Skills

Mathematics - Use mathematics to solve problems.

Reading Comprehension - Understand written sentences and paragraphs in work-related documents.

Writing – Communicate effectively in writing as appropriate for the needs of the audience.

Operation and Control - Control operations of equipment or systems.

Interests

More than 100,000 people in 1,600-plus jobs evaluated their work in six areas of career interests: realistic, investigative, artistic, social, enterprising, and conventional. The three categories below describe the career interests of people in this job.

Investigative

Working with ideas, doing an extensive amount of thinking, searching for facts, and figuring out problems mentally.

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Conventional

Following set procedures and routines; working with data and details more than with ideas, usually with a clear line of authority to follow.

Knowledge

Mathematics - Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.

Physics - Knowledge and prediction of physical principles, laws, their interrelationships, and applications to understanding fluid, material, and atmospheric dynamics, and mechanical, electrical, atomic and subatomic structures and processes.

English Language - Knowledge of the structure and content of the English language, including the meaning and spelling of words, rules of composition, and grammar.

Average Income

$55,157

Job Needs

Current jobs needs for the year 2012 for every 100,000 people:

51

SURVEYOR

Description

Make exact measurements and determine property boundaries. Determine the shape, elevation, or dimension of land. Use land information for engineering, mapmaking, mining, and other purposes.

Tasks

Prepare or supervise preparation of all data, charts, plots, maps, records, and documents related to surveys.

Prepare and maintain sketches and legal descriptions of surveys in order to certify and assume liability for work performed.

Plan and conduct ground surveys designed to establish baselines, elevations, and other measurements.

Skills

Writing - Communicate effectively in writing as appropriate for the needs of the audience.

Mathematics - Use mathematics to solve problems.

Science - Use scientific rules and methods to solve problems.

Interests

More than 100,000 people in 1,600-plus jobs evaluated their work in six areas of career interests: realistic, investigative, artistic, social, enterprising, and conventional. The three categories below describe the career interests of people in this job.

Investigative

Working with ideas, doing an extensive amount of thinking, searching for facts, and figuring out problems mentally.

Realistic

Dealing with practical, hands-on problems and solutions, often involving plants, animals, and real-world materials like wood, tools, and machinery; often working outside without a lot of paperwork or working closely with others.

Enterprising - Starting up and carrying out projects; leading people and making many decisions; taking risks and often dealing with business.

Knowledge

Geography - Understanding the methods for describing the features of land, sea, and air masses. Understanding their physical characteristics and distribution of plant, animal, and human life.

Physics - Understanding of fluid and atmospheric dynamics. Understand atomic and subatomic structures and processes.

Mathematics - Knowledge of arithmetic, algebra, geometry, calculus, statistics, and their applications.

Average Income

$39,970

Job Needs

Current jobs needs for the year 2012 for every 100,000 people:

35