

# Career Descriptions—F.S.I. Tranquility Base



## 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

# Career Descriptions—F.S.I. Tranquility Base



## ATMOSPHERIC AND SPACE SCIENTIST

### Description

Investigate atmospheric phenomena. Interpret data gathered by stations, satellites, and radar. Prepare reports and forecasts for public and other uses.

### Tasks

Broadcast weather conditions, forecasts, and severe weather warnings to the public using television, radio, and the Internet.

Study and interpret data, using computer models.

Prepare forecasts and briefings to meet the needs of industry, business, government, and other groups.

### Skills

**Critical Thinking** - Use logic to identify the strengths and weaknesses of different solutions to problems.

**Active Learning** - Understand the meaning of new information for decision making.

**Operation and Control** - Control operations of equipment or systems.

### Interests

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*below describe the career interests of people in this job.*

### Investigative

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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

**Communications and Media** - Knowledge of media production and communication methods. This includes knowing different ways to inform and entertain through written, oral, and visual media.

**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

\$60,200

### Job Needs

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

5



## 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.

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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.

**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

# Career Descriptions—F.S.I. Tranquility Base



## 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.

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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

**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

# Career Descriptions—F.S.I. Tranquility Base



## COMPUTER SOFTWARE ENGINEER, APPLICATION

### Description

Develop, create, and modify general computer applications, software, or programs. Analyze user needs and develop software solutions. May analyze and design databases.

### Tasks

Obtain and evaluate information on factors such as formats required, costs, and security needs.

Change existing software to correct errors.

Design and develop software systems, using scientific analysis and mathematical models.

Communicate with systems analysts, engineers, and programmers to design systems.

Analyze user needs and software requirements.

### Skills

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

**Mathematics** - Use mathematics to solve problems.

**Science** - Use scientific rules and methods to solve problems.

**Programming** - Write computer programs for various purposes.

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

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

### Interests

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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

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

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

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

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

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

**Education and Training** - Knowledge of principles and methods for curriculum and training design, teaching, and instruction for individuals and groups.

### Average Income

\$70,900

### Job Needs

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

349

# Career Descriptions—F.S.I. Tranquility Base



## COMPUTER SUPPORT SPECIALIST

### Description

Provide technical assistance to computer users. Answer questions or resolve computer problems for customers in person, by telephone, or from remote location. May provide help with computer hardware and software.

### Tasks

Answer users' questions about computer software and hardware operation.

Install and perform minor repairs to hardware, software, and equipment.

Oversee the daily performance of computer systems.

Set up equipment for use, performing proper installation of cable, operating systems, and appropriate software.

Read technical manuals and conduct computer tests to solve problems and to provide technical assistance and support.

### Skills

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

**Reading Comprehension** - Understand written sentences and paragraphs.

**Critical Thinking** - Use logic and reasoning to identify the

solutions, conclusions, or approaches to problems.

**Writing** - Communicate effectively in writing.

### Interests

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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

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

#### Customer and Personal

**Service** - Knowledge of processes for providing customer and personal services.

#### 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.

### Average Income

\$39,100

### Job Needs

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

402

# Career Descriptions—F.S.I. Tranquility Base



## ELECTRICAL DRAFTER

### Description

Develop instructions for installation of voltage transformers, overhead or underground cables, and related electrical equipment.

### Tasks

Explain drawings to production or construction teams and provide adjustments as necessary.

Study work order requests to determine type of service, such as lighting or power, demanded by installation.

Draw master electrical sketches to scale.

Draft working drawings, wiring diagrams, wiring connection specifications of underground cables, as required for instructions to installation crew.

### Skills

**Mathematics** - Use mathematics to solve problems.

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

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

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

### Judgment and Decision Making

**Making** - Consider the costs and benefits of potential actions to choose the most appropriate one.

### Complex Problem Solving

Identify complex problems and review information to develop options and solutions.

### Interests

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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

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

### Administration and Management

**Management** - Knowledge of business and management principles involved in strategic planning and coordination of people and resources.

### Building and Construction

Knowledge of materials, methods, and the tools involved in the construction or repair of houses, buildings, or other structures, such as highways and roads

**Physics** - Knowledge and prediction of physical principles.

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

### Engineering and Technology

Knowledge of the practical application of engineering science and technology.

### Average Income

\$55,157

### Job Needs

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

51

# Career Descriptions—F.S.I. Tranquility Base



## ELECTRICAL ENGINEERING TECHNICIAN

### Description

Apply electrical theory and related knowledge to test electrical machinery and control equipment. Usually work under direction of engineering staff.

### Tasks

Draw or modify diagrams and write engineering specifications.

Conduct inspections for quality control programs, reporting findings and recommendations.

Set up and operate test equipment to check performance of parts, assemblies, or systems.

Modify electrical parts, assemblies, and systems.

Build, maintain, troubleshoot, and repair electrical instruments or testing equipment.

Assemble electronic systems according to engineering data and knowledge of electrical principles.

### Skills

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

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

**Active Learning** - Understand the implications of new information for both current and

future problem solving and decision making.

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

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

### Interests

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#### Investigative

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#### Realistic

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#### Enterprising

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

### Knowledge

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

**Physics** - Knowledge and prediction of physical principles.

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

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

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

### Average Income

\$55,157

### Job Needs

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51



# Career Descriptions—F.S.I. Tranquility Base



## EMERGENCY MEDICAL TECHNICIAN

### Description

Assess injuries, administer emergency medical care, and rescue trapped individuals. Transport injured or sick persons to medical facilities.

### Tasks

Administer first aid treatment and life support care to sick or injured persons.

Operate equipment such as EKGs, defibrillators, and resuscitators in life support environments.

Determine extent of illness or injury and establish medical procedures.

Observe, record, and report to physician the patient's condition or injury and the treatment provided.

Perform emergency treatment procedures, such as stomach suction, airway management, and heart monitoring, during ambulance ride.

Administer drugs orally or by injection.

Comfort and reassure patients.

### Skills

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

### Reading Comprehension -

Understand written sentences and paragraphs.

**Active Listening** - Give full attention to what other people are saying.

**Speaking** - Talk to others to provide information effectively.

**Coordination** - Adjust actions in relation to others' actions.

### Interests

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#### Social

Helping, training, serving, or enriching the lives of other people, or working and learning with other people around you.

#### 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.

### Knowledge

#### Medicine and Dentistry -

Knowledge of the information and techniques needed to treat human injuries and diseases. This includes treatment and preventive health care measures.

### Customer and Personal

**Service** - Knowledge of processes for providing customer and personal services. This includes customer needs assessment, meeting quality standards for services, and evaluation of customer satisfaction.

### Education and Training -

Knowledge of principles and methods for curriculum and training, teaching for individuals and groups, and the measurement of training effects.

### Public Safety and Security -

Knowledge of equipment, policies, procedures, and strategies for effective local, state, or national security operations. Protect people, data, property, and institutions.

**Chemistry** - Knowledge of the chemical composition, structure, and properties of substances. This includes uses of chemicals and their interactions.

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

### Average Income

\$24,030

### Job Needs

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

145

# Career Descriptions—F.S.I. Tranquility Base



## FIRE INVESTIGATOR

### Description

Conduct investigations to determine causes of fires and explosions.

### Tasks

Test sites and materials to gather facts about burn patterns and flashpoints of materials.

Dust evidence of fire scenes for fingerprints.

Subpoena and interview witnesses, property owners, and building occupants to obtain information and sworn testimony.

Prepare and maintain reports of investigation results and records of convicted arsonists and arson suspects.

Photograph damage and evidence related to causes of fires or explosions.

Examine fire sites and collect evidence for determining the cause of a fire.

### Skills

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

**Reading Comprehension** - Understand written sentences and paragraphs.

**Active Listening** - Give full attention to what other people are saying. Take time to understand

the points being made. Ask questions as appropriate, and don't interrupt at inappropriate times.

**Speaking** - Talk to others to provide information effectively.

**Writing** - Communicate effectively in writing.

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

### Interests

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#### 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

**Public Safety and Security** - Knowledge of equipment, policies, procedures, and strategies for effective local, state, or national security operations. Protect people, data, property, and institutions.

**Law and Government** - Knowledge of laws, legal codes, court procedures, and the political process.

**Building and Construction** - Knowledge of materials, methods, and the tools involved in the construction or repair of houses, buildings, or other structures.

**Chemistry** - Knowledge of the chemical composition, structure, and properties of substances. This includes uses of chemicals and their interactions.

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

### Average Income

\$36,132

### Job Needs

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

124

# Career Descriptions—F.S.I. Tranquility Base



## FIRE PREVENTION AND PROTECTION ENGINEER

### Description

Research causes of fires, determine fire protection methods, and design materials or equipment to assist organizations in safeguarding against fire, explosion, and related hazards.

### Tasks

Conduct research on fire retardants and fire safety of materials to determine methods of fire prevention.

Evaluate fire departments, laws, and regulations affecting fire prevention or fire safety.

Design fire detection equipment, alarm systems, and fire extinguishing devices and systems.

Organize and train personnel to carry out fire protection programs.

Study buildings to evaluate fire prevention factors, resistance of construction, contents, water supply and delivery, and exits.

### Skills

**Speaking** - Talk to others to convey information effectively.

**Instructing** - Teach others how to do something.

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

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

**Technology Design** - Generate or adapt equipment and technology to serve user needs.

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

### Interests

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#### Enterprising

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

#### Conventional

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

#### Investigative

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

### Knowledge

**Public Safety and Security** - Knowledge of equipment, policies, procedures, and strategies for

effective local, state, or national security operations. Protect people, data, property, and institutions.

**Law and Government** - Knowledge of laws, legal codes, court procedures, and the political process.

**Medicine and Dentistry** - Knowledge of the information and techniques needed to diagnose and treat human injuries and diseases. This includes symptoms, treatments, drug interactions, and preventive health care measures.

**Education and Training** - Knowledge of principles and methods for curriculum and training, teaching and instruction for individuals and groups, and the measurement of training effects.

### Average Income

\$55,157

### Job Needs

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

51









