



# TORQ Analysis of Electrical Engineering Technicians to Avionics Technicians

## INPUT SECTION:

Transfer	Title	O* NET	Filters		
From Title:	Electrical Engineering Technicians	17-3023.03	Abilities:	Importance Level: 50	Weight: 1
To Title:	Avionics Technicians	49-2091.00	Skills:	Importance Level: 69	Weight: 1
Labor Market Area:	Maine Statewide		Knowledge:	Importance Level: 69	Weight: 1

## OUTPUT SECTION:

<b>Grand TORQ:</b>		88
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Ability TORQ		Skills TORQ		Knowledge TORQ	
Level	86	Level	89	Level	89

Gaps To Narrow if Possible				Upgrade These Skills				Knowledge to Add			
Ability	Level	Gap	Impt	Skill	Level	Gap	Impt	Knowledge	Level	Gap	Impt
Control Precision	48	14	53	Installation	72	13	80	No Knowledge Upgrades Required!			
Finger Dexterity	51	9	65	Equipment Maintenance	67	10	71				
Problem Sensitivity	53	5	75	Troubleshooting	70	3	89				
Manual Dexterity	48	2	59	Repairing	64	2	80				
				Equipment Selection	63	1	77				

LEVEL and IMPT (IMPORTANCE) refer to the Target Avionics Technicians. GAP refers to level difference between Electrical Engineering Technicians and Avionics Technicians.

## ASK ANALYSIS

Ability Level Comparison - Abilities with importance scores over 50

Description	Electrical Engineering Technicians	Avionics Technicians	Importance
Problem Sensitivity	48 	 53	 75
Oral Comprehension	62 	 59	 72
Oral Expression	62 	 55	 68
Written Comprehension	60 	 53	 65
Written Expression	60 	 50	 65
Deductive Reasoning	59 	 51	 65
Inductive Reasoning	51 	 50	 65

Information Ordering	57	53	65
Finger Dexterity	42	51	65
Near Vision	57	53	62
Visualization	53	53	59
Manual Dexterity	46	48	59
Speech Recognition	41	41	56
Arm-Hand Steadiness	46	42	53
Control Precision	34	48	53
Speech Clarity	42	39	53

Skill Level Comparison - Abilities with importance scores over 69

Description	Electrical Engineering Technicians	Avionics Technicians	Importance
Troubleshooting	67	70	89
Installation	59	72	80
Repairing	62	64	80
Equipment Selection	62	63	77
Critical Thinking	67	61	75
Reading Comprehension	66	65	71
Active Listening	60	54	71
Equipment Maintenance	57	67	71
Service Orientation	58	58	70
Active Learning	68	68	69

Knowledge Level Comparison - Knowledge with importance scores over 69

Description	Electrical Engineering Technicians	Avionics Technicians	Importance
Computers and Electronics	73	63	74

Experience & Education Comparison

Related Work Experience Comparison			Required Education Level Comparison		
Description	Electrical Engineering Technicians	Avionics Technicians	Description	Electrical Engineering Technicians	Avionics Technicians
10+ years	0%	0%	Doctoral	0%	0%
8-10 years	2%	0%	Professional Degree	0%	0%
6-8 years	19%	33%	Post-Masters Cert	2%	0%
4-6 years	14%	1%	Master's Degree	0%	1%
2-4 years	28%	0%			



1-2 years	23%	39%	Post-Secondary Cert	0%	0%
6-12 months	0%	17%	Bachelors	21%	0%
3-6 months	0%	5%	AA or Equiv	24%	64%
1-3 months	0%	0%	Some College	32%	6%
0-1 month	0%	0%	Post-Secondary Certificate	19%	11%
None	12%	1%	High School Diploma or GED	0%	16%
			No HSD or GED	0%	0%

Electrical Engineering Technicians	Avionics Technicians
<b>Most Common Educational/Training Requirement:</b>	
Associate degree	Postsecondary vocational award
<b>Job Zone Comparison</b>	
3 - Job Zone Three: Medium Preparation Needed	3 - Job Zone Three: Medium Preparation Needed
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.	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.
Most occupations in this zone require training in vocational schools, related on-the-job experience, or an associate's degree. Some may require a bachelor's degree.	Most occupations in this zone require training in vocational schools, related on-the-job experience, or an associate's degree. Some may require a bachelor's degree.
Employees in these occupations usually need one or two years of training involving both on-the-job experience and informal training with experienced workers.	Employees in these occupations usually need one or two years of training involving both on-the-job experience and informal training with experienced workers.

## Tasks

Electrical Engineering Technicians	Avionics Technicians
Core Tasks	Core Tasks
Generalized Work Activities: <ul style="list-style-type: none"> <li>Inspecting Equipment, Structures, or Material - Inspecting equipment, structures, or materials to identify the cause of errors or other problems or defects.</li> <li>Identifying Objects, Actions, and Events - Identifying information by categorizing, estimating, recognizing differences or similarities, and detecting changes in circumstances or events.</li> <li>Communicating with Supervisors, Peers, or Subordinates - Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.</li> <li>Updating and Using Relevant Knowledge - Keeping up-to-date technically and applying new knowledge to your job.</li> <li>Processing Information - Compiling, coding, categorizing, calculating, tabulating, auditing, or verifying information or data.</li> </ul>	Generalized Work Activities: <ul style="list-style-type: none"> <li>Repairing and Maintaining Electronic Equipment - Servicing, repairing, calibrating, regulating, fine-tuning, or testing machines, devices, and equipment that operate primarily on the basis of electrical or electronic (not mechanical) principles.</li> <li>Getting Information - Observing, receiving, and otherwise obtaining information from all relevant sources.</li> <li>Documenting/Recording Information - Entering, transcribing, recording, storing, or maintaining information in written or electronic/magnetic form.</li> <li>Evaluating Information to Determine Compliance with Standards - Using relevant information and individual judgment to determine whether events or processes comply with laws, regulations, or standards.</li> <li>Making Decisions and Solving Problems - Analyzing information and evaluating results to choose the best solution and solve problems.</li> </ul>
Specific Tasks	Specific Tasks
Occupation Specific Tasks:	Specific Tasks



- Analyze and interpret test information to resolve design-related problems.
- Assemble electrical and electronic systems and prototypes according to engineering data and knowledge of electrical principles, using hand tools and measuring instruments.
- Build, calibrate, maintain, troubleshoot and repair electrical instruments or testing equipment.
- Collaborate with electrical engineers and other personnel to identify, define, and solve developmental problems.
- Conduct inspections for quality control and assurance programs, reporting findings and recommendations.
- Draw or modify diagrams and write engineering specifications to clarify design details and functional criteria of experimental electronics units.
- Evaluate engineering proposals, shop drawings and design comments for sound electrical engineering practice and conformance with established safety and design criteria, and recommend approval or disapproval.
- Install and maintain electrical control systems and solid state equipment.
- Modify electrical prototypes, parts, assemblies, and systems to correct functional deviations.
- Perform supervisory duties such as recommending work assignments, approving leaves and completing performance evaluations.
- Plan method and sequence of operations for developing and testing experimental electronic and electrical equipment.
- Plan, schedule and monitor work of support personnel to assist supervisor.
- Prepare contracts and initiate, review and coordinate modifications to contract specifications and plans throughout the construction process.
- Prepare project cost and work-time estimates.
- Provide technical assistance and resolution when electrical or engineering problems are encountered before, during, and after construction.
- Review existing electrical engineering criteria to identify necessary revisions, deletions or amendments to outdated material.
- Set up and operate test equipment to evaluate performance of developmental parts, assemblies, or systems under simulated operating conditions, and record results.
- Visit construction sites to observe conditions impacting design and to identify solutions to technical design problems involving electrical systems equipment that arise during construction.

#### Occupation Specific Tasks:

- Adjust, repair, or replace malfunctioning components or assemblies, using hand tools and/or soldering irons.
- Assemble components such as switches, electrical controls, and junction boxes, using hand tools and soldering irons.
- Assemble prototypes or models of circuits, instruments, and systems so that they can be used for testing.
- Connect components to assemblies such as radio systems, instruments, magnetos, inverters, and in-flight refueling systems, using hand tools and soldering irons.
- Coordinate work with that of engineers, technicians, and other aircraft maintenance personnel.
- Fabricate parts and test aids as required.
- Install electrical and electronic components, assemblies, and systems in aircraft, using hand tools, power tools, and/or soldering irons.
- Interpret flight test data in order to diagnose malfunctions and systemic performance problems.
- Keep records of maintenance and repair work.
- Lay out installation of aircraft assemblies and systems, following documentation such as blueprints, manuals, and wiring diagrams.
- Operate computer-aided drafting and design applications to design avionics system modifications.
- Set up and operate ground support and test equipment to perform functional flight tests of electrical and electronic systems.
- Test and troubleshoot instruments, components, and assemblies, using circuit testers, oscilloscopes, and voltmeters.

#### Detailed Tasks

#### Detailed Work Activities:

- analyze operation of malfunctioning electrical or electronic equipment
- analyze test data
- calibrate or adjust electronic equipment or instruments to specification
- conduct performance testing
- conduct sequential tests to locate electronic malfunction
- construct or fabricate electrical parts or fixtures
- distinguish colors
- fabricate, assemble, or disassemble manufactured products by hand
- install electrical fixtures or components
- install electronic equipment, components, or systems



- write commissioning procedures for electrical installations.

#### Detailed Tasks

##### Detailed Work Activities:

- analyze engineering test data
- analyze technical data, designs, or preliminary specifications
- analyze test data
- calculate engineering specifications
- calibrate or adjust electronic equipment or instruments to specification
- communicate technical information
- confer with engineering, technical or manufacturing personnel
- develop plans for programs or projects
- draw prototypes, plans, or maps to scale
- estimate cost for engineering projects
- evaluate engineering data
- fabricate, assemble, or disassemble manufactured products by hand
- follow manufacturing methods or techniques
- follow statistical process control procedures
- inspect facilities or equipment for regulatory compliance
- install electronic equipment, components, or systems
- install, maintain, or repair electronics manufacturing equipment
- install/connect electrical equipment to power circuit
- manage contracts
- modify electrical or electronic equipment or products
- operate precision test equipment
- prepare technical reports or related documentation
- read blueprints
- read manufacturing outlines for electronic products
- read schematics
- read technical drawings
- repair computer controlled manufacturing systems
- repair electronic components, equipment, or systems
- resolve engineering or science problems
- solder electrical or electronic connections or components
- test equipment as part of engineering projects or processes
- troubleshoot electronics manufacturing equipment
- understand detailed electronic design specifications
- install electronic power, communication, control, or security equipment or systems
- install or replace meters, regulators, or related measuring or control devices
- install/connect electrical equipment to power circuit
- lay out machining, welding or precision assembly projects
- operate industrial or nondestructive testing equipment
- operate metal or plastic fabricating equipment/machinery
- perform safety inspections in industrial, manufacturing or repair setting
- read blueprints
- read schematics
- read tape measure
- read technical drawings
- repair electronic components, equipment, or systems
- repair or adjust measuring or control devices
- repair or replace electrical wiring, circuits, fixtures, or equipment
- replace electronic components
- set up electronic system test equipment
- solder electrical or electronic connections or components
- test electrical/electronic wiring, equipment, systems or fixtures
- test electronic or electrical circuit connections
- understand detailed electronic design specifications
- understand service or repair manuals
- understand technical information for electronic repair work
- understand technical operating, service or repair manuals
- use aviation electronics
- use electrical or electronic test devices or equipment
- use hand or power tools
- use knowledge of metric system
- use oscilloscopes in electronics repair
- use precision measuring tools or equipment
- use precision tools in electronics repair
- use soldering equipment
- use voltmeter, ammeter, or ohmmeter

#### Technology - Examples

##### Analytical or scientific software

- Avionics system testing software
- Computer diagnostic software



- understand engineering data or reports
- understand service or repair manuals
- understand technical information for electronic repair work
- understand technical operating, service or repair manuals
- use drafting or mechanical drawing techniques
- use electrical or electronic test devices or equipment
- use knowledge of metric system
- use precision measuring tools or equipment
- use robotics systems technology
- use scientific research methodology
- use technical information in manufacturing or industrial activities
- use technical regulations for engineering problems

Technology - Examples

Analytical or scientific software

- Mentor Graphics ModelSim
- Proportional integral derivative control PID software
- Root cause analysis software
- The Mathworks MATLAB

Computer aided design CAD software

- Autodesk AutoCAD software
- Cadence software
- Computer aided design CAD software
- MicroSim Pspice
- OrCAD Capture
- Prentice Hall Electronic Workbench MultiSim

Data base user interface and query software

- Database software
- Oracle software

Development environment software

- Assembler
- C
- Verilog

Document management software

- Adobe Systems Adobe Acrobat software

Graphics or photo imaging software

Data base user interface and query software

- Data entry software

Facilities management software

- Maintenance record software

Spreadsheet software

- Spreadsheet software

Word processing software

- Word processing software

Tools - Examples

- Adjustable wrenches
- Alignment tools
- Laboratory binocular microscopes
- Resistance bridges
- Vernier calipers
- Circuit testers
- Cold chisels
- Combination wrenches
- Desktop computers
- Diagonal cut pliers
- Protective ear muffs
- End cut pliers
- Duck bill pliers
- Spectrum analyzers
- Signal simulators
- Frequency counters
- Inspection mirrors
- Safety goggles
- Grounding equipment
- Ball peen hammers
- Allen wrenches
- Component test sets
- Ladders
- Powered lifts
- Longnose pliers



- Graphics software

## Industrial control software

- Rockwell RS Logix

- Rockwell RSView

## Internet browser software

- Microsoft Internet Explorer

## Object or component oriented development software

- Computer aided software engineering CASE tools

## Office suite software

- Microsoft Office

## Operating system software

- Emulators

## Spreadsheet software

- Microsoft Excel

- Spreadsheet software

## Word processing software

- Microsoft Word

## Tools - Examples

- Pliers

- Wrenches

- Dual power supplies

- Ammeters

- Wrist anti-static straps

- Microscopes

- Desktop computers

- Alternating current AC generators

- Digital cameras

- Direct current DC motors

- Dynamometers

- Frequency counters

- Nanosecond universal counters

- Current probes

- Harmonic analyzers

- Welding goggles

- Magnifiers

- Meggers

- Digital multimeters

- Needlenose pliers

- Laptop computers

- Nut drivers

- Ohmmeters

- Digital oscilloscopes

- Personal computers

- Power drills

- Audio power meters

- Data bus readers

- Center punches

- Time delay reflectometers TDR

- Respirators

- Riveting equipment

- Hacksaws

- Phillips head screwdrivers

- Programmable function generators

- Slip joint pliers

- Socket sets

- Socket wrenches

- Soldering irons

- Steel rules

- Wirestrippers

- Tension meters

- Torque wrenches

- Tweezers

- Utility knives

- Current meters

- Radio frequency RF wattmeters

- Crimping tools



- Anti-static heel grounders
- Impedance meters
- Transformers
- Logic analyzers
- Spectrum analyzers
- Laser printers
- Lasers
- Bench lathes
- Magnetic pickup tools
- Programmable logic controllers PLC
- Microcomputers
- Computerized numerical control CNC machines
- Multimeters
- Notebook computers
- Ohmmeters
- Oscilloscopes
- Personal computers
- Phase shifters
- Phase shift indicators
- Digital plotters
- Dataloggers
- Direct current DC potentiometers
- Drills
- Power meters
- Power screwdrivers
- Q meters
- Screwdrivers
- Function generators
- Soldering equipment
- Desoldering stations
- Stroboscopes
- Wire wrap guns



- Cameras
- Wire strippers
- Tachometers
- Digital voltmeters DVM
- Wattmeters
- Welders
- Welding hoods
- Wire cutters
- Crimping pliers

### Labor Market Comparison

Description	Electrical Engineering Technicians	Avionics Technicians	Difference
Median Wage	\$ 45,180	\$ 34,970	\$( 10,210)
10th Percentile Wage	\$ 25,770	\$ 27,730	\$ 1,960
25th Percentile Wage	N/A	N/A	N/A
75th Percentile Wage	\$ 61,600	\$ 41,340	\$( 20,260)
90th Percentile Wage	\$ 79,100	\$ 47,110	\$( 31,990)
Mean Wage	\$ 48,740	\$ 35,880	\$( 12,860)
Total Employment - 2007	430	20	-410
Employment Base - 2006	449	17	-432
Projected Employment - 2016	361	18	-343
Projected Job Growth - 2006-2016	-19.6 %	5.9 %	25.5 %
Projected Annual Openings - 2006-2016	9	0	-9

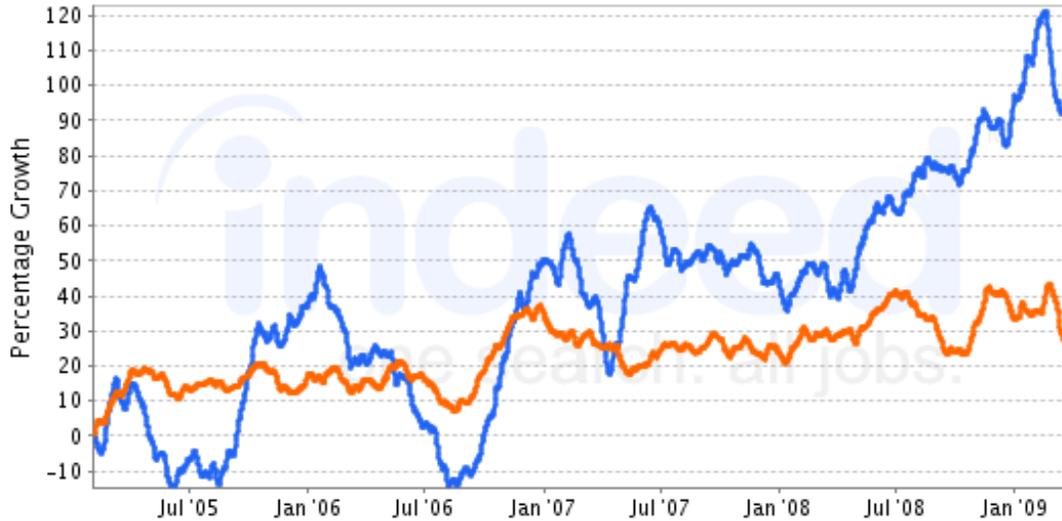
### National Job Posting Trends

Trend for Electrical Engineering Technicians

Trend for  
Avionics  
Technicians

**Job Trends from Indeed.com**

— Electrical Engineering Tech — Avionics Technician



Data from [Indeed](http://Indeed.com)

**Recommended Programs**

**Electrician**

Electrician. A program that prepares individuals to apply technical knowledge and skills to install, operate, maintain, and repair electric apparatus and systems such as residential, commercial, and industrial electric-power wiring; and DC and AC motors, controls, and electrical distribution panels. Includes instruction in the principles of electronics and electrical systems, wiring, power transmission, safety, industrial and household appliances, job estimation, electrical testing and inspection, and applicable codes and standards.

Institution	Address	City	URL
Eastern Maine Community College	354 Hogan Rd	Bangor	<a href="http://www.emcc.edu">www.emcc.edu</a>
Wasington County Community College	One College Drive	Calais	<a href="http://www.wccc.me.edu">www.wccc.me.edu</a>
Kennebec Valley Community College	92 Western Ave	Fairfield	<a href="http://www.kvcc.me.edu">www.kvcc.me.edu</a>
Kennebec Valley Community College	92 Western Ave	Fairfield	<a href="http://www.kvcc.me.edu">www.kvcc.me.edu</a>
Northern Maine Community College	33 Edgemont Dr	Presque Isle	<a href="http://www.nmcc.edu">www.nmcc.edu</a>
Northern Maine Community College	33 Edgemont Dr	Presque Isle	<a href="http://www.nmcc.edu">www.nmcc.edu</a>
Northern Maine Community College	33 Edgemont Dr	Presque Isle	<a href="http://www.nmcc.edu">www.nmcc.edu</a>
Southern Maine Community College	2 Fort Road	South Portland	<a href="http://www.smccME.edu">www.smccME.edu</a>

**Electrical and Electronics Equipment Installer and**

Electrical/Electronics Equipment Installation and Repair, General. A program that generally prepares individuals to apply technical knowledge and skills to operate, maintain, and repair electrical and electronic equipment. Includes instruction in electrical circuitry, simple gearing, linkages and lubrication of machines and appliances, and the use of testing equipment.

No schools available for the program

**Computer Installer and Repairer**

Computer Installation and Repair Technology/Technician. A program that prepares individuals to apply technical knowledge and skills to assemble, install, operate, maintain, and repair computers and related instruments. Includes instruction in power supplies, number systems, memory structure, buffers and registers, microprocessor design, peripheral equipment, programming, and networking.



Institution	Address	City	URL
Central Maine Community College	1250 Turner St	Auburn	<a href="http://www.cmcc.edu">www.cmcc.edu</a>
Eastern Maine Community College	354 Hogan Rd	Bangor	<a href="http://www.emcc.edu">www.emcc.edu</a>
Washington County Community College	One College Drive	Calais	<a href="http://www.wccc.me.edu">www.wccc.me.edu</a>
Washington County Community College	One College Drive	Calais	<a href="http://www.wccc.me.edu">www.wccc.me.edu</a>
Northern Maine Community College	33 Edgemont Dr	Presque Isle	<a href="http://www.nmcc.edu">www.nmcc.edu</a>
Northern Maine Community College	33 Edgemont Dr	Presque Isle	<a href="http://www.nmcc.edu">www.nmcc.edu</a>
Northern Maine Community College	33 Edgemont Dr	Presque Isle	<a href="http://www.nmcc.edu">www.nmcc.edu</a>

#### Industrial Electronics Installer and Repairer

Industrial Electronics Technology/Technician. A program that prepares individuals to apply technical knowledge and skills to assemble, install, operate, maintain, and repair electrical/electronic equipment used in industry and manufacturing. Includes instruction in installing, maintaining and testing various types of equipment.

No schools available for the program

#### Airframe Mechanics and Aircraft Maintenance Technology/Technician

Airframe Mechanics and Aircraft Maintenance Technology/Technician. A program that prepares individuals to apply technical knowledge and skills to repair, service, and maintain all aircraft components other than engines, propellers, avionics, and instruments. Includes instruction in layout and fabrication of sheet metal, fabric, wood, and other materials into structural members, parts, and fittings, and replacement of damaged or worn parts such as control cables and hydraulic units.

No schools available for the program

#### Aviation Systems and Avionics Main. Technologist/T

Avionics Maintenance Technology/Technician. A program that prepares individuals to apply technical knowledge and skills to repair, service, and maintain all types of aircraft operating, control, and electronic systems. Includes instruction in flight instrumentation, aircraft communications and homing systems, radar and other sensory systems, navigation aids, and specialized systems for various types of civilian and military aircraft.

No schools available for the program

### Maine Statewide Promotion Opportunities for Electrical Engineering Technicians

O* NET Code	Title	Grand TORQ	Job Zone	Employment	Median Wage	Difference	Growth	Annual Job Openings
17-3023.03	Electrical Engineering Technicians	100	3	430	\$45,180.00	\$0.00	-20%	9
17-3023.01	Electronics Engineering Technicians	89	3	430	\$45,180.00	\$0.00	-20%	9
17-3013.00	Mechanical Drafters	86	3	710	\$46,630.00	\$1,450.00	2%	22
27-1021.00	Commercial and Industrial Designers	84	4	140	\$49,170.00	\$3,990.00	5%	5
17-2072.00	Electronics Engineers, Except Computer	84	4	210	\$76,420.00	\$31,240.00	-26%	4
15-1021.00	Computer Programmers	83	4	720	\$58,240.00	\$13,060.00	-12%	16



51-4111.00	Tool and Die Makers	83	3	160	\$51,670.00	\$6,490.00	-11%	2
15-1051.00	Computer Systems Analysts	82	4	1,650	\$69,340.00	\$24,160.00	20%	78
15-1071.00	Network and Computer Systems Administrators	82	4	1,070	\$57,690.00	\$12,510.00	18%	44
49-2094.00	Electrical and Electronics Repairers, Commercial and Industrial Equipment	82	3	440	\$49,450.00	\$4,270.00	-19%	15
49-2095.00	Electrical and Electronics Repairers, Powerhouse, Substation, and Relay	82	5	20	\$60,790.00	\$15,610.00	5%	1
17-2071.00	Electrical Engineers	82	4	260	\$73,050.00	\$27,870.00	-10%	6
15-1031.00	Computer Software Engineers, Applications	81	4	1,060	\$63,750.00	\$18,570.00	30%	47
17-2131.00	Materials Engineers	81	4	40	\$70,250.00	\$25,070.00	-7%	1
15-1032.00	Computer Software Engineers, Systems Software	81	4	290	\$73,410.00	\$28,230.00	11%	8

### Top Industries for Avionics Technicians

Industry	NAICS	% in Industry	Employment	Projected Employment	% Change
Aerospace product and parts manufacturing	336400	25.86%	4,062	4,551	12.03%
Support activities for air transportation	488100	23.57%	3,702	4,472	20.80%
Federal government, excluding postal service	919999	13.79%	2,167	1,844	-14.92%
Scheduled air transportation	481100	9.89%	1,554	1,544	-0.63%
Navigational, measuring, electromedical, and control instruments manufacturing	334500	6.83%	1,073	1,027	-4.26%
Electronic and precision equipment repair and maintenance	811200	4.35%	684	621	-9.11%
Nonscheduled air transportation	481200	2.11%	332	376	13.22%
Technical and trade schools, public and private	611500	0.92%	145	157	8.65%
Other motor vehicle dealers	441200	0.56%	89	119	34.01%
Local government, excluding education and hospitals	939300	0.47%	74	83	12.34%



Employment services	561300	0.42%	65	83	26.55%
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### Top Industries for Electrical Engineering Technicians

Industry	NAICS	% in Industry	Employment	Projected Employment	% Change
Semiconductor and other electronic component manufacturing	334400	11.11%	18,927	16,543	-12.59%
Navigational, measuring, electromedical, and control instruments manufacturing	334500	7.00%	11,938	11,429	-4.26%
Employment services	561300	6.59%	11,227	14,209	26.56%
Wired telecommunications carriers	517100	5.49%	9,362	7,350	-21.49%
Federal government, excluding postal service	919999	5.23%	8,920	8,432	-5.47%
Postal service	491100	4.31%	7,344	7,476	1.80%
Electric power generation, transmission and distribution	221100	4.15%	7,078	6,510	-8.03%
Communications equipment manufacturing	334200	3.23%	5,503	5,547	0.79%
Research and development in the physical, engineering, and life sciences	541710	3.07%	5,233	5,583	6.69%
Electrical and electronic goods merchant wholesalers	423600	2.83%	4,829	5,693	17.90%
Computer and peripheral equipment manufacturing	334100	2.62%	4,464	2,922	-34.54%
Local government, excluding education and hospitals	939300	2.21%	3,764	4,228	12.34%
Computer systems design and related services	541500	1.90%	3,241	4,376	35.02%
Professional and commercial equipment and supplies merchant wholesalers	423400	1.69%	2,888	3,367	16.57%
Aerospace product and parts manufacturing	336400	1.59%	2,708	2,758	1.84%