

# Be a Part of STEM





## **Build Your Future and The World's Future: Careers in Science, Technology, Engineering and Mathematics (STEM) with Emerging Technologies and Green Jobs**

Scientists, technologists, engineers and mathematicians in both traditional and emerging “green” industries will be needed in the future for tasks such as the following:

- Making tools to clean up the environment
- Creating new ways of generating and using power that does not pollute
- Developing advances in new transportation and in communication
- Building new vehicles and devices that conserve energy



## The STEM Career Cluster

The STEM Career Cluster is divided into the following four majors:

- Science
- Technology
- Engineering
- Mathematics

## Emerging Technologies and Green Jobs

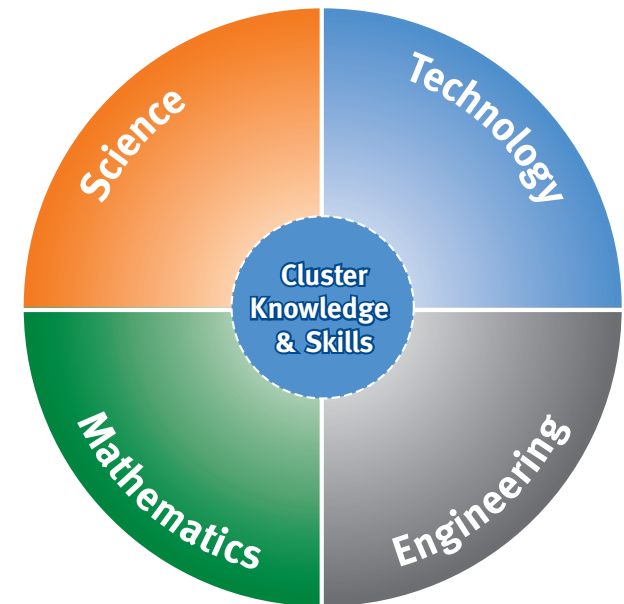
Emerging Technologies and Green Jobs are divided into two areas:

- Hydrogen and Fuel Cell Technology
- Alternative Energy/Renewable Energy

## Exploring STEM and Emerging Technologies and Green Jobs in South Carolina

There are various education resources in South Carolina for those looking to pursue studies and start a career in STEM and/or Emerging Technologies and Green Jobs, including the following:

- Numerous high school programs focus on science and technologies in many communities.
- Sixteen technical colleges operate throughout the state in support of STEM. Many of the technical colleges teach specific areas of expertise such as fuel cell technology, electronics, mechanical technologies and nuclear technologies.
- Universities are developing their own areas of specialization – such as the University of South Carolina in fuel cell technologies and Clemson University in advanced textile materials and automotives.





SCIENCE





**Life Science:** Life science is the science of human beings, animals and plants. Biomedical and life systems technologies, such as developing new tissue technology and medical imaging techniques, include diverse areas such as zoology and genetics.

**If You Choose Biological Science as Your Career Major,  
You May be a Part of:**

- Researching and controlling animal selection and breeding practices to increase production efficiency and improve animal quality
- Reviewing, approving or interpreting genetic laboratory results
- Developing new methods to study mechanisms of biological processes
- Attending clinical conferences and reading scientific literature to stay up to date on technological advances and current genetic research findings

**Sample Careers**

**Associate's/Certificate/  
High School Diploma**  
**Annual Salary Range**  
**\$30,000-\$50,000**

- Agricultural and Food Science Technicians
- Environmental Science and Protection Technicians

**Bachelor's Degree**  
**Annual Salary Range**  
**\$50,000-\$100,000**

- Biological Technician
- Zoologist
- Wildlife Biologist
- Food Scientist Technologist
- Agricultural Engineer

**Bachelor's Degree +  
Graduate Degrees and/or  
Certifications**  
**Annual Salary Range**  
**\$75,000-\$150,000+**

- Fisheries Director
- Epidemiologists
- Research and Development Director

Career	Entry-Level Education	Annual Median Salary & Hourly Pay (2020)	Job Outlook (2018-28)	Responsibilities	Skills
<b>Environmental Science and Protection Technicians</b>	Associate's Degree	<b>\$45,490/year</b> <b>\$21.87/hour</b>	<b>12%</b> (Faster than average)	<ul style="list-style-type: none"> <li>Inspect establishments, including public places and businesses, to ensure that there are no environmental, health, or safety hazards</li> <li>Set up and maintain equipment used to monitor pollution levels, such as remote sensors that measure emissions from smokestacks</li> <li>Collect samples of air, soil, water, and other materials for laboratory analysis</li> <li>Use equipment, such as microscopes, to evaluate and analyze samples for the presence of pollutants or other contaminants</li> </ul>	<ul style="list-style-type: none"> <li>Analytical skills</li> <li>Critical thinking</li> <li>Communication</li> <li>Interpersonal</li> </ul>
<b>Microbiologists</b>	Bachelor's Degree	<b>\$69,960/year</b> <b>\$33.64/hour</b>	<b>8%</b> (Average)	<ul style="list-style-type: none"> <li>Plan and conduct complex research projects, such as improving sterilization procedures or developing new drugs to combat infectious diseases</li> <li>Perform laboratory experiments that are used in the diagnosis and treatment of illnesses</li> <li>Identify and classify microorganisms found in specimens collected from humans, plants, animals, or the environment</li> <li>Prepare technical reports, publish research papers, and make recommendations based on their research findings</li> <li>Present research findings to scientists, nonscientist executives, engineers, other colleagues, and the public</li> </ul>	<ul style="list-style-type: none"> <li>Communication</li> <li>Detail oriented</li> <li>Interpersonal skills</li> <li>Logical thinking</li> <li>Math skills</li> <li>Observation</li> <li>Perseverance</li> <li>Problem solving</li> <li>Time management</li> </ul>
<b>Biochemists and Biophysicists</b>	Doctoral or Professional Degree	<b>\$91,190/year</b> <b>\$43.84/hour</b>	<b>11%</b> (Faster than average)	<ul style="list-style-type: none"> <li>Study the chemistry of living processes, such as cell development, breathing and digestion, or living energy changes, such as growth, aging or death</li> <li>Isolate, analyze or synthesize vitamins, hormones, allergens, minerals or enzymes and determine their effects on body functions</li> <li>Study the mutations in organisms that lead to cancer or other diseases</li> <li>Review literature and other research. Present to scientists</li> </ul>	<ul style="list-style-type: none"> <li>Time management</li> <li>Perseverance</li> <li>Analytical skills</li> <li>Critical thinking</li> <li>Communication</li> <li>Problem solving</li> <li>Math skills</li> </ul>





**Geoscience:** Geoscience focuses on earth, water and sky, which involves studying the impact of natural forces and human activity as well as how to best use available natural resources, such as minerals and water.

**If You Choose Geoscience as Your Career Major,  
You May be a Part of:**

- Assembling, operating and maintaining field and laboratory testing, measuring and mechanical equipment, working as part of a crew when required
- Gathering data from sources such as surface or upper air stations, satellites, weather bureaus or radar for use in meteorological reports or forecasts
- Creating or modifying maps, graphs or diagrams using geographical information software and related equipment

**Sample Careers**

**Associate's/Certificate/  
High School Diploma**  
**Annual Salary Range**  
**\$30,000-\$50,000**

- Conservator
- Museum Technician
- Conservation Technician

**Bachelor's Degree**  
**Annual Salary Range**  
**\$50,000-\$100,000**

- Chief Meteorologist
- Science and Operations Officer
- Geophysical Data Technician
- Climate Change Analyst
- Hydrologist

**Bachelor's Degree +  
Graduate Degrees and/or  
Certifications**  
**Annual Salary Range**  
**\$75,000-\$150,000+**

- Mineral and Aggregate Resources Planner

Career	Entry-Level Education	Annual Median Salary & Hourly Pay (2020)	Job Outlook (2018-28)	Responsibilities	Skills
<b>Surveying and Mapping Technicians</b>	High School Diploma or Equivalent	<b>\$43,340/year</b> <b>\$20.84/hour</b>	<b>11%</b> (Average)	<ul style="list-style-type: none"> <li>Surveying technicians: Visit sites to record survey measurements, and operate surveying instruments to collect data on a location</li> <li>Surveying technicians: Set out stakes and marks to conduct surveys and enter collected data into computers</li> <li>Mapping technicians: Select needed information from databases to create maps, then edit and process images collected in the field</li> <li>Mapping technicians: Produce maps showing boundaries, water locations, elevation, and other features of the terrain</li> </ul>	<ul style="list-style-type: none"> <li>Decision-making skills</li> <li>Detail oriented</li> <li>Listening skills</li> <li>Physical stamina</li> <li>Problem-solving skills</li> </ul>
<b>Geological and Petroleum Technicians</b>	Associate's Degree	<b>\$54,190/year</b> <b>\$26.05/hour</b>	<b>16%</b> (Much faster than average)	<ul style="list-style-type: none"> <li>Gather and compile geographic data from sources including censuses, field observations, satellite imagery, aerial photographs and existing maps</li> <li>Use equipment, such as seismic instruments, to gather geological data and determine contents and characteristics</li> <li>Determine a new site's potential for further exploration and development or focus on monitoring the current and future productivity of existing sites</li> <li>May work with environmental scientists and technicians to monitor the environmental impact of drilling and other activities</li> </ul>	<ul style="list-style-type: none"> <li>Analytical skills</li> <li>Communication skills</li> <li>Critical thinking skills</li> <li>Interpersonal skills</li> <li>Physical stamina</li> </ul>
<b>Environmental Engineers</b>	Bachelor's Degree	<b>\$86,800/year</b> <b>\$41.73/hour</b>	<b>8%</b> (Average)	<ul style="list-style-type: none"> <li>Conduct hazardous-waste management studies in which they evaluate the significance of a hazard and advise on treating and containing it</li> <li>Prepare, review, and update environmental investigation reports</li> <li>Design projects that lead to environmental protection, such as water reclamation facilities or air pollution control systems</li> <li>Inspect industrial and municipal facilities and programs in order to ensure compliance with environmental regulations</li> </ul>	<ul style="list-style-type: none"> <li>Imagination</li> <li>Interpersonal skills</li> <li>Problem-solving skills</li> <li>Reading skills</li> <li>Writing skills</li> </ul>
<b>Geoscientists</b>	Bachelor's Degree	<b>\$89,850/year</b> <b>\$43.20/hour</b>	<b>14%</b> (Faster than average)	<ul style="list-style-type: none"> <li>Analyze and interpret geological, geochemical or geophysical information from sources such as survey data, well logs, bore holes or aerial photos</li> <li>Prepare geological maps, cross-sectional diagrams, charts or reports concerning mineral extraction, land use or resource management using results of fieldwork or laboratory research</li> <li>Communicate geological findings by writing research papers, participating in conferences or teaching geological science at universities and colleges</li> </ul>	<ul style="list-style-type: none"> <li>Communication skills</li> <li>Critical thinking skills</li> <li>Outdoor skills</li> <li>Physical stamina</li> <li>Problem-solving skills</li> </ul>





**Environmental Science:** Environmental scientists work to find solutions for pollution and other environmental problems, such as determining what pollution is in the air, water and soil and advising on how best to create a clean environment.

**If You Choose Environmental Science as Your Career Major, You May be a Part of:**

- Identifying or developing strategies or methods to minimize the environmental impact of industrial production processes
- Investigating complaints and suspected violations regarding illegal dumping, pollution, pesticides, product quality or labeling laws
- Providing advice on proper standards and regulations or developing policies, strategies or codes of practice for environmental management
- Examining and analyzing material for presence and concentration of contaminants, such as asbestos, using a variety of microscopes

**Sample Careers**

**Associate's/Certificate/  
High School Diploma**  
**Annual Salary Range**  
**\$30,000-\$50,000**

- Environmental Technician
- Sanitarian Specialist
- Process Laboratory Specialist
- Industrial Pretreatment Program Specialist

**Bachelor's Degree**  
**Annual Salary Range**  
**\$50,000-\$100,000**

- Occupational Health and Safety Specialist
- Climate Change Analyst
- Associate Professor of Environmental Science

**Bachelor's Degree +  
Graduate Degrees and/or  
Certifications**  
**Annual Salary Range**  
**\$75,000-\$150,000+**

- Environmental Consultant

Career	Entry-Level Education	Annual Median Salary & Hourly Pay (2020)	Job Outlook (2018-28)	Responsibilities	Skills
<b>Environmental Science and Protection Technicians</b>	Associate's Degree	<b>\$45,490/year</b> <b>\$21.87/hour</b>	<b>12%</b> (Faster than average)	<ul style="list-style-type: none"> <li>Collect samples of gases, soils, water, industrial wastewater or asbestos products to conduct tests on pollutant levels or identify sources of pollution</li> <li>Maintain files such as hazardous waste databases, chemical usage data, personnel exposure information or diagrams showing equipment locations</li> <li>Work on teams with scientists, engineers, and technicians in other fields to solve complex problems related to environmental degradation and public health</li> <li>Verify compliance with regulations that help prevent pollution</li> </ul>	<ul style="list-style-type: none"> <li>Analytical skills</li> <li>Communication</li> <li>Critical thinking</li> <li>Interpersonal skills</li> </ul>
<b>Environmental Scientists and Specialists</b>	Bachelor's Degree	<b>\$69,400/year</b> <b>\$33.37/hour</b>	<b>11%</b> (Faster than average)	<ul style="list-style-type: none"> <li>Collect, synthesize, analyze, manage and report environmental data such as pollution emission measurements, atmospheric monitoring measurements, meteorological or mineralogical information or soil and water samples</li> <li>Conduct environmental audits, inspections or investigations of violations</li> <li>Prepare charts or graphs from data samples providing summary information on the environmental relevance of the data</li> <li>Design or direct studies to obtain technical environmental information about planned projects</li> </ul>	<ul style="list-style-type: none"> <li>Active listening</li> <li>Critical thinking</li> <li>Problem solving</li> <li>Reading comprehension</li> <li>Speaking</li> <li>Writing</li> </ul>
<b>Climatologist (Climate Change Analyst)</b>	Bachelor's Degree	<b>\$89,260/year</b> <b>\$42.91/hour</b>	<b>10%</b> (Average)	<ul style="list-style-type: none"> <li>Analyze and interpret data obtained from meteorological stations, radar and satellite imagery, and computer models</li> <li>Research influencers that affect climate change</li> <li>Explain and illustrate how climate may impact wetland ecology, biodiversity, and human health</li> <li>Communicate research findings to the international scientific community and the public</li> </ul>	<ul style="list-style-type: none"> <li>Active listening</li> <li>Critical thinking</li> <li>Problem solving</li> <li>Reading comprehension</li> <li>Speaking</li> </ul>
<b>Environmental Psychologists (Eco-psychologist)</b>	Master's Degree	<b>\$91,140/year</b> <b>\$43.82/hour</b>	<b>14%</b> (Average)	<ul style="list-style-type: none"> <li>Environmental psychologists often study how the built or physical environment affects human behavior</li> <li>Collaborate with others, such as landscape designers, urban planners, environmental scientists, policy makers, architects, and engineers, to create safe, healthy, and inviting spaces in schools, prisons, cities, offices, industrial facilities, and homes</li> <li>Include nature, wilderness, or outdoor therapy as part of clinical practice</li> <li>Design, conduct, and analyze research. Share research results by publishing scholarly articles and presenting at conferences</li> </ul>	<ul style="list-style-type: none"> <li>Active listening</li> <li>Communication</li> <li>Critical thinking</li> <li>Math skills</li> <li>Problem solving</li> </ul>





**Chemistry:** Chemists work in research and development, studying how materials and substances are created and how they interact. They strive to develop new fibers, drugs, lubricants, paint, cosmetics and thousands of other products and processes to make our environment safer and cleaner.

**If You Choose Chemistry as Your Career Major,  
You May be a Part of:**

- Analyzing organic or inorganic compounds to determine chemical or physical properties, composition, structure, relationships or reactions using chromatography, spectroscopy or spectrophotometry techniques
- Setting up and conducting chemical experiments, tests and analyses using physical or chemical separation techniques
- Completing documentation needed to support testing procedures including data capture forms, equipment logbooks or inventory forms

**Sample Careers**

**Associate's/Certificate/  
High School Diploma**  
**Annual Salary Range**  
**\$30,000-\$50,000**

- Laboratory Technician
- Research and Development Technician
- Laboratory Tester
- Environmental Lab Technician

**Bachelor's Degree**  
**Annual Salary Range**  
**\$50,000-\$100,000**

- Air Quality Chemist
- Chemical Laboratory Scientist
- Forensic Chemist
- Quality Control Chemist

**Bachelor's Degree +  
Graduate Degrees and/or  
Certifications**  
**Annual Salary Range**  
**\$75,000-\$150,000+**  
• Air Quality Chemist

Career	Entry-Level Education	Annual Median Salary & Hourly Pay (2020)	Job Outlook (2018-28)	Responsibilities	Skills
<b>Chemical Technicians</b>	Associate's Degree or On-the-Job Training	<b>\$48,160/year</b> <b>\$23.15/hour</b>	<b>4%</b> (Slower than average)	<ul style="list-style-type: none"> <li>Conduct chemical and physical laboratory tests to assist scientists in making qualitative and quantitative analyses of solids, liquids and gaseous materials for research and development of new products or processes, quality control or maintenance of environmental standards</li> <li>Prepare chemical solutions for products or processes following standardized formulas or create experimental formulas</li> <li>Write technical reports or prepare graphs or charts to document experimental results</li> <li>Provide technical support or assistance to chemists or engineers</li> </ul>	<ul style="list-style-type: none"> <li>Ability to use technology</li> <li>Analytical skills</li> <li>Communication skills</li> <li>Interpersonal skills</li> <li>Observation skills</li> <li>Time management</li> </ul>
<b>Chemistry Teachers, Postsecondary</b>	Doctoral Degree	<b>\$77,190/year</b> <b>\$37.11/hour</b>	<b>14%</b> (Faster than average)	<ul style="list-style-type: none"> <li>Teach courses pertaining to the chemical and physical properties and compositional changes of substances</li> <li>Provide instruction in the methods of qualitative and quantitative chemical analysis</li> <li>Evaluate and grade students' class work, laboratory performance, assignments and papers</li> <li>Prepare course materials such as syllabi, homework assignments and handouts</li> </ul>	<ul style="list-style-type: none"> <li>Critical thinking</li> <li>Interpersonal skills</li> <li>Resourcefulness</li> <li>Speaking skills</li> <li>Writing skills</li> </ul>
<b>Chemical Engineers</b>	Bachelor's Degree	<b>\$104,910/year</b> <b>\$50.44/hour</b>	<b>8%</b> (Average)	<ul style="list-style-type: none"> <li>Conduct research to develop new and improved manufacturing processes and establish safety procedures for those working with dangerous chemicals</li> <li>Develop processes for separating components of liquids and gases, or for generating electrical currents by using controlled chemical processes</li> <li>Conduct tests and monitor the performance of processes throughout production</li> <li>Evaluate equipment and processes to ensure compliance with safety and environmental regulations</li> </ul>	<ul style="list-style-type: none"> <li>Active listening</li> <li>Critical thinking</li> <li>Problem solving</li> <li>Reading comprehension</li> <li>Speaking</li> <li>Writing</li> </ul>
<b>Quality Control Systems Managers</b>	Bachelor's Degree	<b>\$103,720/year</b> <b>\$49.87/hour</b>	<b>-4%</b> (Slowly or moderately declining)	<ul style="list-style-type: none"> <li>Collect and analyze production samples to evaluate quality quality of materials or products</li> <li>Analyze quality control test results and provide feedback and interpretation to production management or staff</li> <li>Monitor performance of quality control systems to ensure effectiveness and efficiency</li> <li>Communicate quality control information to all relevant organizational departments, outside vendors, or contractors</li> </ul>	<ul style="list-style-type: none"> <li>Active listening</li> <li>Analytical skills</li> <li>Monitoring/ Observational skills</li> <li>Judgment decision making</li> <li>Reading Comprehension</li> </ul>





**Materials Science:** Materials scientists work with the structures and chemical properties of various natural and manufactured materials, including metals, alloys, rubber, ceramics, semiconductors, polymers and glass.

**If You Choose Materials Science as Your Career Major,  
You May be a Part of:**

- Conducting or supervising tests on raw materials or finished products to ensure their quality
- Preparing detailed reports or design statements based on results of validation and qualification tests or reviews of procedures and protocol
- Determining scientific or technical goals within broad outlines provided by top management and making detailed plans to accomplish these goals
- Researching methods of processing, forming and firing materials to develop such products as ceramic dental fillings, unbreakable dinner plates and telescope lenses

**Sample Careers**

**Bachelor's Degree**

**Annual Salary Range  
\$50,000-\$100,000**

- Mechanical Systems  
Device Scientist
- Polymer Materials  
Consultant
- Vice President of Research

**Bachelor's Degree +  
Graduate Degrees and/or  
Certifications**

**Annual Salary Range  
\$75,000-\$150,000+**

- Coastal Management  
Planner
- Project Manager

Career	Entry-Level Education	Annual Median Salary & Hourly Pay (2020)	Job Outlook (2018-28)	Responsibilities	Skills
<b>Materials Engineers</b>	Bachelor's Degree	<b>\$92,390/year</b> <b>\$44.42/hour</b>	<b>2%</b> (Slower than average)	<ul style="list-style-type: none"> <li>Evaluate materials and develop machinery and processes to manufacture materials for use in products that must meet specialized design and performance specifications</li> <li>Review new product plans and make recommendations for material selection based on design objectives, such as strength, weight, heat resistance, electrical conductivity and cost</li> <li>Supervise the work of technologists, technicians and other engineers and scientists</li> <li>Analyze product failure data and laboratory test results to determine causes of problems and develop solutions</li> </ul>	<ul style="list-style-type: none"> <li>Analytical skills</li> <li>Math skills</li> <li>Problem solving</li> <li>Speaking</li> <li>Writing skills</li> </ul>
<b>Materials Scientists</b>	Bachelor's Degree	<b>\$99,530/year</b> <b>\$47.85/hour</b>	<b>7%</b> (Average)	<ul style="list-style-type: none"> <li>Research and study the structures and chemical properties of various natural and synthetic or composite materials, including metals, alloys, rubber, ceramics, semiconductors, polymers and glass</li> <li>Determine ways to strengthen or combine materials or develop new materials with new or specific properties for use in a variety of products and applications</li> <li>Confer with customers to determine how to tailor materials to their needs</li> </ul>	<ul style="list-style-type: none"> <li>Critical thinking</li> <li>Decision making</li> <li>Judgment</li> <li>Problem solving</li> <li>Reading comprehension</li> <li>Speaking</li> <li>Writing</li> </ul>
<b>Validation Engineers</b>	Bachelor's Degree	<b>\$92,030/year</b> <b>\$44.24/hour</b>	<b>9%</b> (Slower than average)	<ul style="list-style-type: none"> <li>Design or plan protocols for equipment or processes to produce products meeting internal and external purity, safety and quality requirements</li> <li>Coordinate the implementation or scheduling of validation testing with affected departments and personnel</li> <li>Study product characteristics or customer requirements and confer with management to determine validation objectives and standards</li> <li>Create, populate or maintain databases for tracking validation activities, test results or validated systems</li> </ul>	<ul style="list-style-type: none"> <li>Attention to detail</li> <li>Analytical thinking</li> <li>Integrity</li> <li>Cooperation</li> <li>Dependability</li> </ul>
<b>Natural Sciences Managers</b>	Master's or Professional Degree	<b>\$123,860/year</b> <b>\$59.55/hour</b>	<b>10%</b> (Faster than average)	<ul style="list-style-type: none"> <li>Plan, direct or coordinate activities in such fields as life sciences, physical sciences, mathematics, statistics and research and development in these fields</li> <li>Develop client relationships and communicate with clients to explain proposals, present research findings, establish specifications or discuss project status</li> <li>Hire, supervise or evaluate engineers, technicians, researchers or other staff</li> </ul>	<ul style="list-style-type: none"> <li>Active listening</li> <li>Critical thinking</li> <li>Judgment</li> <li>Problem solving</li> <li>Reading comprehension</li> <li>Speaking</li> </ul>





**Physics/Astronomy:** Physicists and astronomers work to understand space and subatomic particles, as they study the properties of the natural world that may lead to new technologies.

**If you Choose Physics/Astronomy as Your Career Major,  
You May be a Part of:**

- Directing or coordinating activities of engineering or technical personnel involved in designing, fabricating, modifying or testing of aircraft or aerospace products
- Studying celestial phenomena using a variety of ground-based and space-borne telescopes and scientific instruments
- Collaborating with other scientists in the design, development and testing of experimental, industrial or medical equipment, instrumentation and procedures
- Supervising undergraduate or graduate teaching, internship and research work

**Sample Careers**

**Bachelor's Degree  
Annual Salary Range  
\$50,000-\$100,000**

- Lunar and Planetary Institute Director
- Astrophysicist
- Astronomy Professor
- Physics Teacher, Postsecondary

**Bachelor's Degree +  
Graduate Degrees and/or  
Certifications**

**Annual Salary Range  
\$75,000-\$150,000+**

- Aeronautical Engineer
- Flight Test Engineer
- Aerospace Stress Engineer
- Biophysics Scientist

Career	Entry-Level Education	Annual Median Salary & Hourly Pay (2020)	Job Outlook (2018-28)	Responsibilities	Skills
<b>Atmospheric, Earth, Marine and Space Sciences Teachers-Postsecondary</b>	Doctoral or Professional Degree	<b>\$87,380/year</b> <b>\$42.01/hour</b>	<b>14%</b> (Faster than average)	<ul style="list-style-type: none"> <li>Teach courses in the physical sciences, such as structural geology, micrometeorology and atmospheric thermodynamics</li> <li>Conduct research in a particular field of knowledge and publish findings in professional journals, books or electronic media</li> <li>Supervise laboratory work and fieldwork</li> <li>Write grant proposals to procure external research funding</li> </ul>	<ul style="list-style-type: none"> <li>Active listening</li> <li>Critical thinking</li> <li>Reading comprehension</li> <li>Speaking</li> <li>Writing</li> </ul>
<b>Astronomers</b>	Doctoral or Professional Degree	<b>\$100,590/year</b> <b>\$48.36/hour</b>	<b>14%</b> (Faster than average)	<ul style="list-style-type: none"> <li>Observe, research and interpret astronomical phenomena to increase basic knowledge or apply such information to practical problems</li> <li>Develop theories based on personal observations or on observations and theories of other astronomers</li> <li>Present research findings at scientific conferences and in papers written for scientific journals</li> <li>Measure radio, infrared, gamma and x-ray emissions from extraterrestrial sources</li> </ul>	<ul style="list-style-type: none"> <li>Critical thinking</li> <li>Decision making</li> <li>Judgment</li> <li>Problem solving</li> <li>Reading comprehension</li> <li>Speaking</li> <li>Writing</li> </ul>
<b>Aerospace Engineers</b>	Bachelor's Degree	<b>\$113,030/year</b> <b>\$54.34/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>Formulate mathematical models or other methods of computer analysis to develop, evaluate, or modify design according to customer engineering requirements</li> <li>Plan or conduct experimental, environmental, operational, or stress tests on models or prototypes of aircraft or aerospace systems or equipment</li> <li>Formulate conceptual design of aeronautical or aerospace products or systems to meet customer requirements or conform to environmental regulations</li> <li>Write technical reports such as handbooks or bulletins, for use by engineering staff, management, or customers</li> </ul>	<ul style="list-style-type: none"> <li>Active listening</li> <li>Critical thinking</li> <li>Problem solving</li> <li>Reading comprehension</li> <li>Speaking</li> <li>Writing</li> </ul>
<b>Physicists</b>	Doctoral or Professional Degree	<b>\$119,580/year</b> <b>\$57.49/hour</b>	<b>14%</b> (Faster than average)	<ul style="list-style-type: none"> <li>Develop scientific theories and models that attempt to explain the properties of the natural world, such as the force of gravity or the formation of sub-atomic particles</li> <li>Plan and conduct scientific experiments and studies to test theories</li> <li>Write proposals and apply for funding to conduct research</li> <li>Perform complex mathematical calculations to analyze physical data, as well as design new scientific equipment such as telescopes and lasers</li> </ul>	<ul style="list-style-type: none"> <li>Active listening</li> <li>Critical thinking</li> <li>Decision making</li> <li>Judgment</li> <li>Problem solving</li> <li>Reading comprehension</li> <li>Speaking</li> <li>Writing</li> </ul>





**Bioscience/Agricultural Science:** Bioscientists and agricultural scientists both play a crucial role in maintaining our nation's food supply. Bioscientists study the functions and/or problems of living organisms, and agricultural scientists search for improvements in soil, crop and livestock management and food processes.

**If You Choose Bioscience/Agricultural Science as Your Career Major, You May be a Part of:**

- Designing structures for crop storage, animal shelter and loading as well as animal and crop processing
- Conducting experiments to develop new or improved varieties of field crops, focusing on characteristics such as yield, quality, disease resistance, nutritional value or adaptation to specific soils or climates
- Checking raw ingredients for maturity or stability for processing and finished products for safety, quality and nutritional value

**Sample Careers**

**Associate's/Certificate/  
High School Diploma**

**Annual Salary Range  
\$30,000-\$50,000**

- Agricultural Research Technician
- Consumer Safety Inspector
- Seed Analyst
- County Extension Agent

**Bachelor's Degree + Graduate  
Degrees and/or Certifications**

**Annual Salary Range  
\$50,000-\$150,000**

- Research Agricultural Engineer
- Crop Nutrition Scientist
- Agronomist
- Conservation Engineer
- Agricultural Systems Specialist

Career	Entry-Level Education	Annual Median Salary & Hourly Pay (2020)	Job Outlook (2018-28)	Responsibilities	Skills
<b>Agricultural and Food Science Technicians</b>	Associate's Degree	<b>\$40,860/year</b> <b>\$19.65/hour</b>	<b>6%</b> (Average)	<ul style="list-style-type: none"> <li>Collect and prepare samples in accordance with established procedures</li> <li>Test food, food additives, and food containers to ensure that they comply with established safety standards</li> <li>Help food scientists with food research, development, and quality control</li> <li>Analyze chemical properties of food to determine ingredients and formulas</li> <li>Prepare charts, presentations, and reports describing test results</li> </ul>	<ul style="list-style-type: none"> <li>Analytical skills</li> <li>Communication</li> <li>Critical thinking skills</li> <li>Interpersonal skills</li> <li>Physical stamina</li> </ul>
<b>Agricultural and Food Scientists</b>	Bachelor's Degree	<b>\$64,020/year</b> <b>\$30.78/hour</b>	<b>7%</b> (Average)	<ul style="list-style-type: none"> <li>Conduct research and experiments to improve the productivity and sustainability of field crops and farm animals</li> <li>Create new food products and develop new and better ways to process, package, and deliver them</li> <li>Study the composition of soil as it relates to plant growth, and research ways to improve it</li> <li>Communicate research findings to the scientific community, food producers and the public</li> </ul>	<ul style="list-style-type: none"> <li>Active listening</li> <li>Critical thinking</li> <li>Problem solving</li> <li>Reading comprehension</li> <li>Speaking</li> <li>Writing</li> </ul>
<b>Soil and Plant Scientists</b>	Doctoral or Professional Degree	<b>\$62,430/year</b> <b>\$30.01/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>Conduct experiments to develop new or improved varieties of field crops</li> <li>Develop new or improved methods of controlling or eliminating weeds, crop diseases or insect pests</li> <li>Provide information or recommend ways farmers and landowners can best use land, promote plant growth, or avoid/correct problems such as erosion</li> <li>Communicate research or project results to other professionals, the public or teach related courses</li> </ul>	<ul style="list-style-type: none"> <li>Active listening</li> <li>Critical thinking</li> <li>Problem solving</li> <li>Reading comprehension</li> <li>Speaking</li> <li>Writing</li> </ul>
<b>Agricultural Engineers</b>	Bachelor's Degree	<b>\$77,110/year</b> <b>\$37.07/hour</b>	<b>8%</b> (Average)	<ul style="list-style-type: none"> <li>Apply knowledge of engineering technology and biological science to agricultural problems concerned with power and machinery, electrification, structures, soil and water conservation and processing of agricultural products</li> <li>Prepare reports, sketches, working drawings, specifications, proposals and budgets for proposed sites or systems</li> <li>Provide advice on water quality and issues related to pollution management, river control and ground and surface water resources</li> <li>Design agricultural machinery components and equipment using computer-aided design (CAD) technology</li> </ul>	<ul style="list-style-type: none"> <li>Analytical skills</li> <li>Communication skills</li> <li>Math skills</li> <li>Problem-solving skills</li> </ul>





TECHNOLOGY





**Computer Science:** Computer scientists work in an industry often referred to as information technology (IT), as they develop software, manage computer centers and apply computing technology to the solution of problems in all areas of life.

**If You Choose Computer Science as Your Career Major,  
You May be a Part of:**

- Consulting with researchers to analyze problems, recommend technology-based solutions or determine computational strategies
- Providing users with technical support for computer problems
- Encrypting data transmissions and erecting firewalls to conceal confidential information as it is being transmitted and to keep out tainted digital transfers
- Conducting logical analyses of business, scientific, engineering and other technical problems, formulating mathematical models of problems for solution by computers

**Sample Careers**

**Bachelor's Degree**

**Annual Salary Range**

**\$50,000-\$100,000**

- Information Systems Analyst
- Systems Engineer
- Computer Systems Consultant
- Computer Information Systems Instructor
- Cyber Security Specialist

**Bachelor's Degree + Graduate  
Degrees and/or Certifications**

**Annual Salary Range**

**\$100,000+**

- Scientific Programmer Analyst
- Information Technology Manager
- Data Processing Manager
- Director of Application Development
- Research Scientist



Career	Entry-Level Education	Annual Median Salary & Hourly Pay (2020)	Job Outlook (2018-28)	Responsibilities	Skills
<b>Bioinformatics Scientists</b>	Master's or Professional Degree	<b>\$76,690/year</b> <b>\$36.87/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>Conduct research using bioinformatics theory and methods in areas such as pharmaceuticals, medical technology, biotechnology, computational biology, proteomics, computer information science, biology and medical informatics</li> <li>Design databases and develop algorithms for processing and analyzing genomic information or other biological information</li> <li>Develop new software applications or customize existing applications to meet specific scientific project needs</li> <li>Communicate research results through conference presentations, scientific publications or project reports</li> </ul>	<ul style="list-style-type: none"> <li>Active listening</li> <li>Critical thinking</li> <li>Decision making</li> <li>Judgment</li> <li>Problem solving</li> <li>Reading comprehension</li> <li>Speaking</li> <li>Writing</li> </ul>
<b>Information Security Analysts</b>	Bachelor's Degree	<b>\$98,350/year</b> <b>\$47.28/hour</b>	<b>28%</b> (Much faster than average)	<ul style="list-style-type: none"> <li>Plan, implement, upgrade or monitor security measures for the protection of computer networks and information</li> <li>Ensure appropriate security controls are in place that will safeguard digital files and vital electronic infrastructure</li> <li>Perform risk assessments and execute tests of data processing systems to ensure functioning of data processing activities and security measures</li> <li>Coordinate implementation of computer system plans with establishment personnel and outside vendors</li> </ul>	<ul style="list-style-type: none"> <li>Active listening</li> <li>Analytical skills</li> <li>Critical thinking</li> <li>Detail-oriented</li> <li>Ingenuity</li> <li>Problem solving</li> <li>Reading comprehension</li> </ul>
<b>Computer and Information Research Scientists</b>	Master's Degree	<b>\$118,370/year</b> <b>\$56.91/hour</b>	<b>19%</b> (Much faster than average)	<ul style="list-style-type: none"> <li>Conduct research into fundamental computer and information science as theorists, designers or inventors</li> <li>Analyze problems to develop solutions involving computer hardware and software</li> <li>Apply theoretical expertise and innovation to create or apply new technology such as adapting principles for applying computers to new uses</li> <li>Meet with managers, vendors and others to solicit cooperation and resolve problems</li> </ul>	<ul style="list-style-type: none"> <li>Analytical skills</li> <li>Communication</li> <li>Critical thinking skills</li> <li>Detail-oriented</li> <li>Ingenuity</li> <li>Logical thinking</li> <li>Math skills</li> </ul>
<b>Computer and Information Systems Managers</b>	Bachelor's Degree	<b>\$142,530/year</b> <b>\$68.53/hour</b>	<b>12%</b> (Faster than average)	<ul style="list-style-type: none"> <li>Plan, direct or coordinate activities in such fields as electronic data processing, information systems, systems analysis and computer programming</li> <li>Develop computer information resources, providing for data security and control, strategic computing and disaster recovery</li> <li>Evaluate data processing proposals to assess project feasibility and requirements</li> <li>Consult with users, management, vendors and technicians to assess computing needs and system requirements</li> </ul>	<ul style="list-style-type: none"> <li>Analytical skills</li> <li>Business skills</li> <li>Decision-making</li> <li>Leadership</li> <li>Organizational skills</li> </ul>



**Geospatial Technology:** People who work in geospatial technology, also known as geomatics and geomatics engineering, gather, store, process and deliver geographic information or spatially referenced information.

### If You Choose Geospatial Technology as Your Career Major, You May be a Part of:

- Performing computer programming, data analysis or software development for Geographic Information Systems (GIS) applications, including the maintenance of existing systems or research and development of future enhancements
- Designing or preparing graphic representations or GIS data, using GIS hardware or software applications
- Participating in the planning or development of mapping projects
- Attending meetings or seminars or reading current literature to maintain knowledge of developments in the field of remote sensing

### Sample Careers

**Associate's/Certificate/  
High School Diploma**  
**Annual Salary Range**  
**\$30,000-\$50,000**

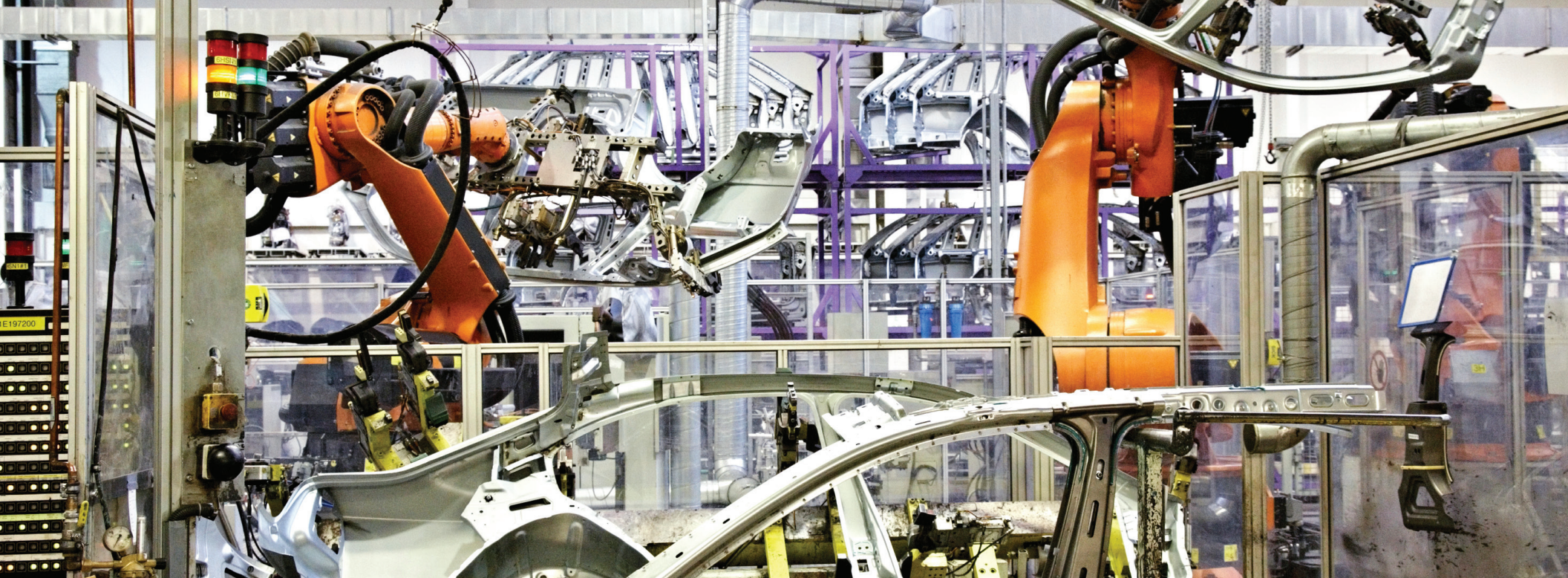
- Computer-Aided Design (CAD) Technician
- Digital Cartographic Technician
- Geospatial Extractor
- Research Associate

**Bachelor's Degree + Graduate  
Degrees and/or Certifications**  
**Annual Salary Range**  
**\$50,000-\$150,000**

- Geospatial Intelligence Analyst
- Remote Sensing Program Manager
- Sensor Specialist
- Cartographer
- Technical Support Specialist
- Project Manager



Career	Entry-Level Education	Annual Median Salary & Hourly Pay (2020)	Job Outlook (2018-28)	Responsibilities	Skills
<b>Remote Sensing Technicians</b>	Bachelor's Degree	<b>\$48,090/year</b> <b>\$23.12/hour</b>	<b>14%</b> (Faster than average)	<ul style="list-style-type: none"> <li>Collect geospatial data, using technologies such as aerial photography, light and radio wave detection systems, digital satellites, or thermal energy systems</li> <li>Consult with remote sensing scientists, surveyors, cartographers, or engineers to determine project needs</li> <li>Adjust remotely sensed images for optimum presentation by using software to select image displays, define set categories or choose processing routines</li> <li>Prepare documentation or presentations, including charts, photos, or graphs</li> </ul>	<ul style="list-style-type: none"> <li>Active Listening</li> <li>Critical Thinking</li> <li>Deductive Reasoning</li> <li>Mathematics</li> <li>Reading Comprehension</li> <li>Problem solving</li> <li>Speaking</li> </ul>
<b>Geographic Information Systems Technicians</b>	Bachelor's Degree	<b>\$88,510/year</b> <b>\$42.56/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>Assist scientists, technologists or related professionals in building, maintaining, modifying or using Geographic Information Systems (GIS) spatial or non-spatial databases</li> <li>Review existing or incoming data for currency, accuracy, usefulness, quality or completeness of documentation</li> <li>Enter data into GIS databases using techniques such as coordinate geometry, keyboard entry of tabular data, manual digitizing of maps, scanning or automatic conversion to vectors or conversion to other sources of digital data</li> <li>Interpret aerial or ortho photographs</li> </ul>	<ul style="list-style-type: none"> <li>Active listening</li> <li>Critical thinking</li> <li>Decision making</li> <li>Judgment</li> <li>Problem solving</li> <li>Reading comprehension</li> <li>Speaking</li> <li>Writing</li> </ul>
<b>Geospatial Information Scientists and Technologists</b>	Bachelor's Degree	<b>\$88,510/year</b> <b>\$42.56/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>Produce data layers, maps, tables or reports using spatial analysis procedures or GIS technology, equipment or systems</li> <li>Coordinate the development or administration of GIS projects, including the development of technical priorities, client reporting and interface or coordination and review of schedules and budgets</li> <li>Provide technical expertise in GIS technology to clients or users</li> <li>Lead, train or supervise technicians or related staff in the conduct of GIS analytical procedures</li> </ul>	<ul style="list-style-type: none"> <li>Active listening</li> <li>Critical thinking</li> <li>Decision making</li> <li>Problem solving</li> <li>Reading comprehension</li> <li>Speaking</li> <li>Writing</li> </ul>
<b>Remote Sensing Scientists and Technologists</b>	Master's or Professional Degree	<b>\$103,990/year</b> <b>\$49.99/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>Apply remote sensing principles and methods to analyze data and solve problems in areas such as natural resource management, urban planning or homeland security</li> <li>Develop new sensor systems, analytical techniques or new applications for existing systems</li> <li>Process aerial or satellite imagery to create products such as landcover maps</li> <li>Prepare or deliver reports or presentations of geospatial project information</li> </ul>	<ul style="list-style-type: none"> <li>Active listening</li> <li>Critical thinking</li> <li>Judgment</li> <li>Problem solving</li> <li>Reading comprehension</li> <li>Speaking</li> <li>Writing</li> </ul>



**Robotics/Manufacturing Automation:** Robotics and manufacturing automation is the development and maintenance of new robotic applications which can be found in a wide range of industries, including automotive, agriculture, mining, nuclear power, military applications and space exploration.

**If You Choose Robotics/Manufacturing Automation as Your Career Major, You May be a Part of:**

- Designing automated robotic systems to increase production volume or precision in operations such as automated ribonucleic acid (RNA) analysis or sorting, moving or stacking production materials
- Installing, programming or repairing programmable controllers, robot controllers, end-of-arm tools or conveyors
- Determining logistics support requirements such as facility details, staffing needs or safety or maintenance plans

**Sample Careers**

**Associate's/Certificate/  
High School Diploma**

**Annual Salary Range  
\$30,000-\$55,000**

- Electro-Mechanical Technician
- Automation Technician
- Instrument Specialist
- Field Service Technician

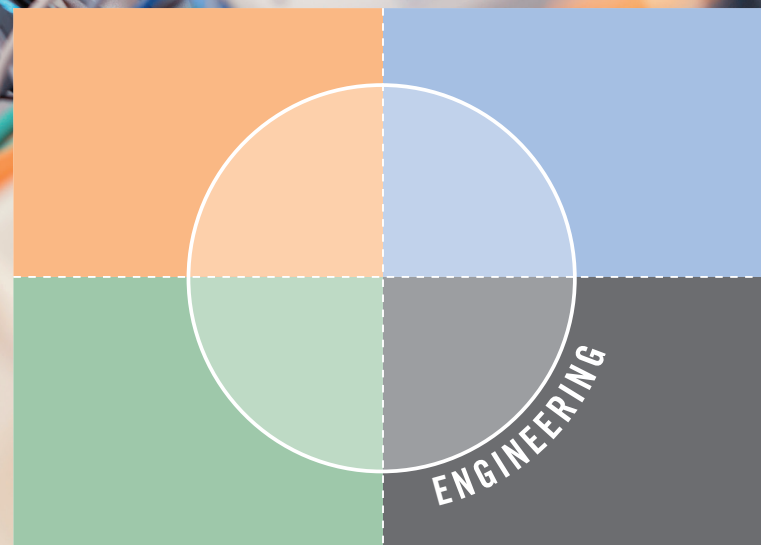
**Bachelor's Degree + Graduate  
Degrees and/or Certifications**

**Annual Salary Range  
\$55,000-\$150,000**

- Plant Floor Automation Manager
- Automation Engineer
- Systems Engineer
- Reliability Engineer
- Project Manager



Career	Entry-Level Education	Annual Median Salary & Hourly Pay (2020)	Job Outlook (2018-28)	Responsibilities	Skills
<b>Robotics Technicians</b>	Associate's Degree	<b>\$56,740/year</b> <b>\$27.28/hour</b>	<b>4%</b> (Slower than average)	<ul style="list-style-type: none"> <li>• Make repairs to robots or peripheral equipment, such as replacement of defective circuit boards, sensors, controllers, encoders, or servomotors</li> <li>• Install, program, or repair programmable controllers, robot controllers, end-of-arm tools, or conveyors</li> <li>• Evaluate the efficiency and reliability of industrial robotic systems, reprogramming or calibrating to achieve maximum quantity and quality</li> <li>• Train robots, using artificial intelligence software or interactive training techniques, to perform simple or complex tasks such as designing and carrying out a series of iterative tests of chemical samples</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Problem solving</li> <li>• Reading comprehension</li> <li>• Troubleshooting</li> </ul>
<b>Logistics Engineers</b>	Bachelor's Degree	<b>\$74,590/year</b> <b>\$35.86/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>• Design or analyze operational solutions for projects such as transportation optimization, network modeling, process and methods analysis, cost containment, capacity enhancement, routing and shipment optimization or information management</li> <li>• Review contractual commitments, customer specifications or related information to determine logistics or support requirements</li> <li>• Evaluate the use of inventory tracking technology, Web-based warehousing software or intelligent conveyor systems to maximize plant or distribution center efficiency</li> <li>• Direct the work of logistics analysts</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Decision making</li> <li>• Judgment</li> <li>• Problem solving</li> <li>• Reading comprehension</li> <li>• Time management</li> </ul>
<b>Robotics Engineers</b>	Master's or Professional Degree	<b>\$97,250/year</b> <b>\$46.75/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>• Design robotic systems, such as automatic vehicle control, autonomous vehicles, advanced displays, advanced sensing, robotic platforms, computer vision or telematics systems</li> <li>• Integrate robotics with peripherals, such as welders, controllers, or other equipment</li> <li>• Write algorithms or programming code for ad hoc robotic applications</li> <li>• Plan mobile robot paths and teach path plans to robots</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Judgment</li> <li>• Problem solving</li> <li>• Reading comprehension</li> </ul>
<b>Manufacturing Engineers</b>	Bachelor's Degree	<b>\$97,250/year</b> <b>\$46.75/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>• Troubleshoot new or existing product problems involving designs, materials or processes</li> <li>• Investigate or resolve operational problems, such as material use variances or bottlenecks</li> <li>• Evaluate manufactured products according to specifications and quality standards</li> <li>• Analyze the financial impacts of sustainable manufacturing processes or sustainable product manufacturing</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Decision making</li> <li>• Problem solving</li> <li>• Reading comprehension</li> <li>• Speaking</li> <li>• Time management</li> </ul>







**Biomedical Engineering:** Biomedical engineers work to develop life-saving new technologies and equipment. Specialties within biomedical engineering include biomaterials, biomechanics, medical imaging, rehabilitation engineering and orthopedic engineering.

**If You Choose Biomedical Engineering as Your Career Major, You May be a Part of:**

- Inspecting or testing malfunctioning medical or related equipment, following manufacturing specifications and using test and analysis instruments
- Documenting non-destructive testing (NDT) methods, processes or results
- Developing models or computer simulations of human biobehavioral systems to obtain data for measuring or controlling life processes
- Maintaining databases of experiment characteristics or results

**Sample Careers**

**Associate's/Certificate/  
High School Diploma**

**Annual Salary Range  
\$30,000-\$50,000**

- Biomedical Electronics Technician
- Laboratory Assistant
- Tissue Culture Technician
- Phlebotomist

**Bachelor's Degree**

**Annual Salary Range  
\$50,000-\$100,000**

- Biotechnologist
- Risk Manager
- Engineering Director
- Process Engineer

**Bachelor's Degree +  
Graduate Degrees and/or  
Certifications**

**Annual Salary Range  
\$100,000+**

- Senior Research Fellow
- College Professor
- Project Manager

Career	Entry-Level Education	Annual Median Salary & Hourly Pay (2020)	Job Outlook (2018-28)	Responsibilities	Skills
<b>Medical Equipment Repairers</b>	Associate's Degree/On-the-job training	<b>\$49,210/year</b> <b>\$23.66/hour</b>	<b>4%</b> (Slower than average)	<ul style="list-style-type: none"> <li>• Test, adjust or repair biomedical or electromedical equipment</li> <li>• Keep records of maintenance, repair and required updates of equipment</li> <li>• Disassemble malfunctioning equipment and remove, repair or replace defective parts such as motors, clutches or transformers</li> <li>• Plan and carry out work assignments using blueprints, schematic drawings, technical manuals, wiring diagrams or liquid or air flow sheets following prescribed regulations, directives or other instructions as required</li> </ul>	<ul style="list-style-type: none"> <li>• Critical thinking</li> <li>• Decision making</li> <li>• Judgment</li> <li>• Problem solving</li> <li>• Reading comprehension</li> </ul>
<b>Non-Destructive Testing Specialists</b>	High School Diploma or Equivalent	<b>\$63,200/year</b> <b>\$30.38/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>• Test the safety of structures, vehicles or vessels using x-ray, ultrasound, fiber optic or related equipment</li> <li>• Select, calibrate or operate equipment used in the non-destructive testing (NDT) of products or materials</li> <li>• Make radiographic images to detect flaws in objects while leaving objects intact</li> <li>• Prepare reports on non-destructive testing (NDT) results</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Decision making</li> <li>• Judgment</li> <li>• Problem solving</li> <li>• Reading comprehension</li> </ul>
<b>Biomedical Engineers</b>	Bachelor's Degree	<b>\$88,550/year</b> <b>\$42.57/hour</b>	<b>7%</b> (Average)	<ul style="list-style-type: none"> <li>• Apply knowledge of engineering, biology and biomechanical principles to the design, development and evaluation of biological and health systems and products, such as artificial organs, prostheses, instrumentation, medical information systems, health management and care delivery systems</li> <li>• Diagnose and interpret bioelectric data using signal processing techniques</li> <li>• Evaluate the safety, efficiency and effectiveness of biomedical equipment</li> <li>• Teach biomedical engineering or disseminate knowledge about this field through writing or consulting</li> </ul>	<ul style="list-style-type: none"> <li>• Analytical skills</li> <li>• Communication skills</li> <li>• Creativity</li> <li>• Math skills</li> <li>• Problem-solving skills</li> </ul>
<b>Biochemical Engineers</b>	Bachelor's Degree	<b>\$96,980/year</b> <b>\$46.62/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>• Develop usable, tangible products using knowledge of biology, chemistry or engineering</li> <li>• Solve problems related to materials, systems or processes that interact with humans, plants, animals, microorganisms or biological materials</li> <li>• Read current scientific or trade literature to stay abreast of scientific, industrial or technological advances</li> <li>• Confer with research and biomanufacturing personnel to ensure the compatibility of design and production</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Decision making</li> <li>• Judgment</li> <li>• Problem solving</li> <li>• Reading comprehension</li> <li>• Speaking</li> <li>• Writing</li> </ul>





**Chemical Engineering:** Chemical engineers design chemical plant equipment and develop processes for manufacturing chemicals and products, such as gasoline, synthetic rubber, plastics, detergents, cement, paper and pulp.

**If You Choose Chemical Engineering as Your Career Major,  
You May be a Part of:**

- Operating or tending equipment to control chemical changes or reactions in the processing of industrial or consumer products
- Drawing samples of products and conducting quality control tests to monitor processing and to ensure that standards are met
- Preparing estimates of production costs and production progress reports for management
- Coordinating the installation, maintenance and operation of mining and oil field equipment

**Sample Careers**

**Associate's/Certificate/  
High School Diploma**  
**Annual Salary Range**  
**\$30,000-\$55,000**

- Chemical Plant and System Operator
- Industrial Technician
- Production Associate
- Process Operator

**Bachelor's Degree**  
**Annual Salary Range**  
**\$55,000-\$100,000**

- Chemical Sales Engineer
- Industrial Chemist
- Chemical Production Engineer
- Control Room Operator
- Chemical Safety Engineer

**Bachelor's Degree +  
Graduate Degrees and/or  
Certifications**  
**Annual Salary Range**  
**\$100,000+**

- Reservoir Engineer
- Drilling Manager
- Petroleum Production Engineer
- Completions Engineer

Career	Entry-Level Education	Annual Median Salary & Hourly Pay (2020)	Job Outlook (2018-28)	Responsibilities	Skills
<b>Chemical Technicians</b>	Associate's Degree/On-the-job-training	<b>\$48,160/year</b> <b>\$23.15/hour</b>	<b>4%</b> (Slower than average)	<ul style="list-style-type: none"> <li>• Conduct chemical and physical laboratory tests to assist scientists in making qualitative and quantitative analyses of solids, liquids and gaseous materials for research and development of new products or processes</li> <li>• Monitor product quality to ensure compliance with standards and specifications</li> <li>• Prepare chemical solutions for products or processes, following standardized formulas or create experimental formulas</li> <li>• Provide technical support to chemists or engineers</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Reading comprehension</li> <li>• Speaking</li> <li>• Time management</li> <li>• Writing</li> </ul>
<b>Chemical Equipment Operators and Tenders</b>	High School Diploma or Equivalent	<b>\$48,770/year</b> <b>\$22.64/hour</b>	<b>-2%</b> (Declining slowly or moderately)	<ul style="list-style-type: none"> <li>• Adjust controls to regulate temperature, pressure, feed or flow of liquids or gases and times of prescribed reactions according to knowledge of equipment and processes</li> <li>• Monitor gauges, recording instruments, flowmeters or products to ensure that specified conditions are maintained</li> <li>• Measure, weigh and mix chemical ingredients according to specifications</li> <li>• Patrol work areas to detect leaks or equipment malfunctions or to monitor operating conditions</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Decision making</li> <li>• Judgment</li> <li>• Reading comprehension</li> <li>• Speaking</li> <li>• Time management</li> </ul>
<b>Chemical Engineers</b>	Bachelor's Degree	<b>\$104,910/year</b> <b>\$50.44/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>• Design chemical plant equipment and devise processes for manufacturing chemicals and products such as gasoline, synthetic rubber, plastics, detergents, cement, paper and pulp by applying principles and technology of chemistry, physics and engineering</li> <li>• Troubleshoot problems with chemical manufacturing processes</li> <li>• Conduct research to develop new and improved chemical manufacturing processes</li> <li>• Design and plan layout of equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Critical thinking</li> <li>• Decision making</li> <li>• Judgment</li> <li>• Problem solving</li> <li>• Reading comprehension</li> </ul>
<b>Petroleum Engineers</b>	Bachelor's Degree	<b>\$137,170/year</b> <b>\$65.95/hour</b>	<b>15%</b> (Much faster than average)	<ul style="list-style-type: none"> <li>• Devise methods to improve oil and gas extraction and production and determine the need for new or modified tool designs</li> <li>• Develop plans for oil and gas field drilling and for product recovery and treatment</li> <li>• Specify and supervise well modification and stimulation programs to maximize oil and gas recovery</li> <li>• Confer with scientific, engineering and technical personnel to resolve design, research and testing problems</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Decision making</li> <li>• Judgment</li> <li>• Problem solving</li> <li>• Reading comprehension</li> <li>• Speaking</li> <li>• Writing</li> </ul>





**Electrical/Electronic Engineering:** Although the terms “electrical” and “electronics” engineering often are used interchangeably, electrical engineers traditionally focus on the generation and supply of power, while electronics engineers work on applications of electricity to control systems or signal processing.

#### **If You Choose Electrical/Electronic Engineering as Your Career Major, You May be a Part of:**

- Reading blueprints, wiring diagrams, schematic drawings or engineering instructions for assembling electronics units, applying knowledge of electronic theory and components
- Calculating design specifications or cost, material and resource estimates and preparing project schedules and budgets
- Investigating customer or public complaints, determining nature and extent of problem and recommending remedial measures
- Inspecting electronic equipment, instruments, products or systems to ensure conformance to specifications, safety standards or applicable codes or regulations

#### **Sample Careers**

**Associate's/Certificate/  
High School Diploma**  
**Annual Salary Range**  
**\$30,000-\$50,000**

- Electronics Technician
- Field Testing Associate
- Laboratory Technician

**Bachelor's Degree + Graduate Degrees  
and/or Certifications**  
**Annual Salary Range**  
**\$50,000-\$150,000**

- Integrated Circuit Design Engineer
- Electrical Design Engineer
- Research and Development Engineer
- Circuits Engineer
- Project Manager
- R and D Director
- Senior Engineer

Career	Entry-Level Education	Annual Median Salary & Hourly Pay (2020)	Job Outlook (2018-28)	Responsibilities	Skills
<b>Electronics Engineering Technicians</b>	Associate's Degree/On-the-job-training	<b>\$64,330/year</b> <b>\$30.93/hour</b>	<b>4%</b> (Slower than average)	<ul style="list-style-type: none"> <li>• Read blueprints, wiring diagrams, schematic drawings, or engineering instructions for assembling electronics units, applying knowledge of electronic theory and components</li> <li>• Assemble, test, or maintain circuitry or electronic components, according to engineering instructions, technical manuals or knowledge of electronics, using hand power tools</li> <li>• Maintain system logs or manuals to document testing or operation of equipment</li> <li>• Fabricate parts, such as coils, terminal boards, or chassis, using bench lathes, drills or other machine tools</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Problem solving</li> <li>• Reading comprehension</li> <li>• Speaking</li> <li>• Troubleshooting</li> </ul>
<b>Electrical Engineering Technologists</b>	Associate's degree	<b>\$63,200/year</b> <b>\$30.38/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>• Assist electrical engineers in such activities as process control, electrical power distribution or instrumentation design</li> <li>• Prepare layouts of electrical transmission or distribution systems, supervise the flow of work, estimate project costs or participate in research studies</li> <li>• Participate in training or continuing education activities to stay abreast of engineering or industry advances</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Decision making</li> <li>• Judgment</li> <li>• Problem solving</li> <li>• Reading comprehension</li> </ul>
<b>Electrical Engineers</b>	Bachelor's Degree	<b>\$96,640/year</b> <b>\$46.46/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>• Research, design, develop, test or supervise the manufacturing and installation of electrical equipment, components or systems for commercial, industrial, military or scientific use</li> <li>• Operate computer-assisted engineering or design software or equipment to perform engineering tasks</li> <li>• Oversee project production efforts to assure projects are completed on time and within budget</li> <li>• Prepare specifications for purchases of materials or equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Decision making</li> <li>• Problem solving</li> <li>• Reading comprehension</li> <li>• Time management</li> <li>• Writing</li> </ul>
<b>Electronics Engineers</b>	Bachelor's Degree	<b>\$102,700/year</b> <b>\$49.37/hour</b>	<b>4%</b> (Slower than average)	<ul style="list-style-type: none"> <li>• Research, design, develop or test electronic components and systems for commercial, industrial, military or scientific use employing knowledge of electronic theory and materials properties</li> <li>• Design electronic circuits and components for use in fields such as telecommunications, aerospace guidance and acoustics</li> <li>• Operate computer-assisted engineering and design software and equipment to perform engineering tasks</li> <li>• Provide technical support and instruction to staff or customers regarding equipment standards, assisting with specific, difficult in-service engineering</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Decision making</li> <li>• Judgment</li> <li>• Problem solving</li> <li>• Reading comprehension</li> <li>• Speaking</li> <li>• Writing</li> </ul>





**Nuclear Engineering:** Nuclear engineers research and develop the processes, instruments and systems used to gain benefits from nuclear energy. These engineers work on problems in consumer and industrial power, space exploration, water supply, food supply, environment, pollution and transportation.

**If You Choose Nuclear Engineering as Your Career Major,  
You May be a Part of:**

- Monitoring or operating boilers, turbines, wells or auxiliary power plant equipment
- Writing operational instructions to be used in nuclear plant operation or nuclear fuel or waste handling and disposal
- Following policies and procedures for workers to ensure personnel safety
- Preparing construction project proposals that include cost estimates and discussing proposals with interested parties such as vendors, contractors and nuclear facility review boards

**Sample Careers**

**Associate's/Certificate/  
High School Diploma**  
**Annual Salary Range**  
**\$30,000-\$55,000**

- Nuclear Systems Technician
- Radiology Laboratory Technician
- Research Assistant

**Bachelor's Degree**  
**Annual Salary Range**  
**\$55,000-\$100,000**

- Nuclear Systems Engineer
- Nuclear Production Supervisor
- Nuclear Compliance Manager
- Nuclear Station Operator
- Nuclear Equipment Operation Technician

**Bachelor's Degree +  
Graduate Degrees and/or  
Certifications**  
**Annual Salary Range**  
**\$100,000+**

- Nuclear Safety Consultant
- Generation Engineer
- Criticality Safety Engineer
- System Engineer

Career	Entry-Level Education	Annual Median Salary & Hourly Pay (2020)	Job Outlook (2018-28)	Responsibilities	Skills
<b>Emergency Management Directors</b>	Bachelor's Degree	<b>\$74,420/year</b> <b>\$35.78/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>Plan and coordinate crisis management activities</li> <li>Develop and maintain liaisons with municipalities, county departments and similar entities to facilitate plan development, response effort coordination and exchanges of personnel and equipment</li> <li>Maintain and update all resource materials associated with emergency preparedness plans</li> <li>Develop and perform tests and evaluations of emergency management plans in accordance with state and federal regulations</li> </ul>	<ul style="list-style-type: none"> <li>Active listening</li> <li>Critical thinking</li> <li>Decision making</li> <li>Judgment</li> <li>Problem solving</li> <li>Reading comprehension</li> <li>Speaking</li> <li>Writing</li> </ul>
<b>Nuclear Monitoring Technicians</b>	Associate's Degree	<b>\$79,140/year</b> <b>\$38.05/hour</b>	<b>1%</b> (Little or no change)	<ul style="list-style-type: none"> <li>Collect and test samples to monitor results of nuclear experiments and contamination of facilities and environment</li> <li>Calculate safe radiation exposure times for personnel using plant contamination readings and prescribed safe levels of radiation</li> <li>Provide initial response to abnormal events or to alarms from radiation monitoring equipment</li> <li>Place radioactive waste, such as sweepings and broken sample bottles, into containers for disposal</li> </ul>	<ul style="list-style-type: none"> <li>Active listening</li> <li>Critical thinking</li> <li>Decision making</li> <li>Judgment</li> <li>Problem solving</li> <li>Reading comprehension</li> <li>Speaking</li> </ul>
<b>Nuclear Power Reactor Operators</b>	Associate's Degree	<b>\$94,350/year</b> <b>\$45.36/hour</b>	<b>-2%</b> (Decline)	<ul style="list-style-type: none"> <li>Operate or control nuclear reactors by moving control rods, start and stop equipment, monitor and adjust controls and record data in logs</li> <li>Respond to abnormalities, determine cause and recommend corrective action</li> <li>Dispatch orders or instructions to personnel through radiotelephone or intercommunication systems to coordinate auxiliary equipment operation</li> </ul>	<ul style="list-style-type: none"> <li>Active listening</li> <li>Critical thinking</li> <li>Monitoring</li> <li>Problem solving</li> <li>Reading comprehension</li> <li>Speaking</li> </ul>
<b>Nuclear Engineers</b>	Bachelor's Degree	<b>\$107,600/year</b> <b>\$51.73/hour</b>	<b>4%</b> (Average)	<ul style="list-style-type: none"> <li>Conduct research on nuclear engineering projects or apply principles and theory of nuclear science to problems concerned with release, control and use of nuclear energy and nuclear waste disposal</li> <li>Initiate corrective actions or order plant shutdowns in emergency situations</li> <li>Write operational instructions to be used in nuclear plant operation or nuclear fuel or waste handling and disposal</li> <li>Perform experiments that provide information about acceptable methods of nuclear material usage, nuclear fuel reclamation or waste disposal</li> </ul>	<ul style="list-style-type: none"> <li>Active listening</li> <li>Critical thinking</li> <li>Judgment</li> <li>Problem solving</li> <li>Reading comprehension</li> <li>Speaking</li> <li>Writing</li> </ul>





**Civil and Environmental Engineering:** Civil and environmental engineers work in one of the oldest, largest and most diverse areas of engineering. They help design and supervise the construction of roads, railways, buildings, airports, tunnels, dams, bridges, water supply and sewage systems — the nation's infrastructure.

**If You Choose Civil and Environmental Engineering as Your Career Major, You May be a Part of:**

- Inspecting facilities to monitor compliance with regulations governing substances such as asbestos, lead or wastewater
- Calculating dimensions, square footage, profile and component specifications and material quantities using a calculator or a computer
- Analyzing survey reports, maps, drawings, blueprints, aerial photography and other topographical or geologic data to plan projects
- Serving as liaison with federal, state or local agencies or officials on issues pertaining to solid or hazardous waste program requirements

**Sample Careers**

**Associate's/Certificate/  
High School Diploma**  
**Annual Salary Range**  
**\$30,000-\$50,000**

- Surveyor
- Environmental Specialist
- Design Technician
- Compliance Assistant
- Industrial Waste Technician

**Bachelor's Degree**  
**Annual Salary Range**  
**\$50,000-\$100,000**

- City Engineer
- Global Director
- Project Manager
- Environmental Analyst
- Highway Engineer

**Bachelor's Degree +  
Graduate Degrees and/or  
Certifications**  
**Annual Salary Range**  
**\$100,000+**

- Environmental Consultant
- Senior Agency Director

Career	Entry-Level Education	Annual Median Salary & Hourly Pay (2020)	Job Outlook (2018-28)	Responsibilities	Skills
<b>Environmental Engineering Technicians</b>	Associate's Degree	<b>\$50,560/year</b> <b>\$24.31/hour</b>	<b>14%</b> (Faster than average)	<ul style="list-style-type: none"> <li>• Apply theory and principles of environmental engineering to modify, test and operate equipment and devices used in the prevention, control and remediation of environmental problems</li> <li>• Perform laboratory work such as logging numerical and visual observations, preparing and packaging samples, recording test results and performing photo documentation</li> <li>• Receive, set up, test or decontaminate equipment</li> <li>• Assist in the cleanup of hazardous material spills</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Decision making</li> <li>• Judgment</li> <li>• Problem solving</li> <li>• Reading comprehension</li> <li>• Speaking</li> </ul>
<b>Civil Engineering Technicians</b>	Associate's Degree	<b>\$52,580/year</b> <b>\$25.28/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>• Apply theory and principles of civil engineering in planning, designing and overseeing construction and maintenance of structures and facilities under the direction of engineering staff or physical scientists</li> <li>• Prepare reports and document project activities and data</li> <li>• Respond to public suggestions and complaints</li> <li>• Read and review project blueprints and structural specifications to determine dimensions of structure or system and material requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Problem solving</li> <li>• Reading comprehension</li> <li>• Speaking</li> <li>• Time management</li> <li>• Writing</li> </ul>
<b>Civil Engineers</b>	Bachelor's Degree	<b>\$86,640/year</b> <b>41.65/hour</b>	<b>14%</b> (Faster than average)	<ul style="list-style-type: none"> <li>• Perform engineering duties in planning, designing and overseeing construction and maintenance of building structures and facilities, such as roads, railroads, airports, bridges, irrigation projects and power plants</li> <li>• Manage and direct staff members and the construction, operations or maintenance activities at project sites</li> <li>• Estimate quantities and cost of materials, equipment or labor to determine project feasibility</li> <li>• Test soils or materials to determine the adequacy and strength of foundations, concrete, asphalt or steel</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Decision making</li> <li>• Judgment</li> <li>• Problem solving</li> <li>• Reading comprehension</li> <li>• Speaking</li> <li>• Time management</li> </ul>
<b>Environmental Engineers</b>	Associate's Degree	<b>\$87,620/year</b> <b>\$42.13/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>• Design, or supervise the design of, systems, processes, or equipment for control, management or remediation of water, air, or soil quality</li> <li>• Obtain, update or maintain plans, permits or standard operating procedures</li> <li>• Advise corporations or government agencies of procedures to follow in cleaning up contaminated sites to protect people and the environment</li> <li>• Prepare, review or update environmental investigation or recommendation reports</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Judgment</li> <li>• Problem solving</li> <li>• Reading comprehension</li> <li>• Speaking</li> <li>• Writing</li> </ul>





**Computer Engineering:** Computer hardware and software engineers research, design, develop, test and oversee the manufacture and installation of computer hardware, computer chips, computer systems, printers, routers and software systems.

**If You Choose Computer Engineering as Your Career Major,  
You May be a Part of:**

- Building, testing and modifying product prototypes using working models or theoretical models constructed with computer simulation
- Reviewing and analyzing computer printouts and performance indicators to locate code problems and correct errors by correcting codes
- Providing advice on project costs, design concepts or design changes
- Developing or directing software system testing or validation procedures

**Sample Careers**

**Associate's/Certificate/  
High School Diploma**

**Annual Salary Range  
\$30,000-\$50,000**

- Field Service Technician
- Support Systems Specialist
- Help Desk Technician

**Bachelor's Degree**  
**Annual Salary Range**

**\$50,000-\$100,000**

- Systems Engineer
- Infrastructure Engineer
- Systems Coordinator
- Software Architect
- Cyber Security Specialist

**Bachelor's Degree +  
Graduate Degrees and/or  
Certifications**

**Annual Salary Range  
\$100,000+**

- Field Service Engineer
- Network Engineer
- Design Engineer
- Systems Integration Engineer

Career	Entry-Level Education	Annual Median Salary & Hourly Pay (2020)	Job Outlook (2018-28)	Responsibilities	Skills
<b>Computer Systems Analysts</b>	Bachelor's Degree	<b>\$88,740/year</b> <b>\$42.66/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>Analyze science, engineering, business and other data processing problems to implement and improve computer systems</li> <li>Determine computer software or hardware needed to set up or alter a system</li> <li>Provide staff and users with assistance solving computer related problems, such as malfunctions and program problems</li> <li>Develop, document and revise system design procedures, test procedures and quality standards</li> </ul>	<ul style="list-style-type: none"> <li>Active listening</li> <li>Critical thinking</li> <li>Judgment</li> <li>Problem solving</li> <li>Reading comprehension</li> <li>Speaking</li> <li>Writing</li> </ul>
<b>Computer Systems Engineers and Architects</b>	Bachelor's Degree	<b>\$90,270/year</b> <b>\$43.40/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>Develop system engineering, software engineering, system integration, or distributed system architectures</li> <li>Evaluate current or emerging technologies to consider factors such as cost, portability, compatibility, or usability</li> <li>Direct the analysis, development, and operation of complete computer systems</li> <li>Train system users in system operation or maintenance</li> </ul>	<ul style="list-style-type: none"> <li>Active listening</li> <li>Critical thinking</li> <li>Problem solving</li> <li>Reading comprehension</li> <li>Speaking</li> <li>Writing</li> </ul>
<b>Software Developers, Systems Software</b>	Bachelor's Degree	<b>\$110,000/year</b> <b>\$52.89/hour</b>	<b>14%</b> (Faster than average)	<ul style="list-style-type: none"> <li>Modify existing software to correct errors, to adapt it to new hardware, or to upgrade interfaces and improve performance</li> <li>Consult with customers or other departments on project status, proposals, or technical issues, such as software system design or maintenance</li> <li>Design or develop software systems, using scientific analysis and mathematical models to predict and measure outcome and consequences of design</li> <li>Store, retrieve, and manipulate data for analysis of system capabilities and requirements</li> </ul>	<ul style="list-style-type: none"> <li>Active listening</li> <li>Coordination</li> <li>Critical thinking</li> <li>Decision making</li> <li>Judgment</li> <li>Problem solving</li> <li>Reading comprehension</li> <li>Speaking</li> </ul>
<b>Computer Hardware Engineers</b>	Bachelor's Degree	<b>\$114,600/year</b> <b>\$55.10/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>Research, design, develop or test computer or computer-related equipment for commercial, industrial, military or scientific use</li> <li>Supervise the manufacturing and installation of computer equipment and components</li> <li>Update knowledge and skills to keep up with rapid advancements in computer technology</li> <li>Write detailed functional specifications that document the hardware development process and support hardware introduction</li> </ul>	<ul style="list-style-type: none"> <li>Active listening</li> <li>Critical thinking</li> <li>Judgment</li> <li>Problem solving</li> <li>Reading comprehension</li> <li>Speaking</li> <li>Writing</li> </ul>





**Mechanical Engineering:** Mechanical engineering is one of the broadest engineering career fields, as engineers in this major work on power-producing machines such as electric generators, industrial production equipment, refrigeration and air-conditioning equipment, elevators and escalators, robots used in manufacturing and agricultural production.

**If You Choose Mechanical Engineering as Your Career Major,  
You May be a Part of:**

- Devising, fabricating and assembling new or modified mechanical components for products such as industrial machinery or equipment
- Collaborating with engineers to implement electromechanical designs in industrial or other settings
- Researching, selecting or applying sensors, communication technologies or control devices for motion control, position sensing, pressure sensing or electronic communication
- Conducting research that tests or analyzes the feasibility, design, operation or performance of equipment, components or systems

**Sample Careers**

**Associate's/Certificate/  
High School Diploma**

**Annual Salary Range**  
**\$30,000-\$55,000**

- Engineering Technician
- Mechanical Designer
- Process Technician
- Research and Development Technician

**Bachelor's Degree + Graduate  
Degrees and/or Certifications**

**Annual Salary Range**  
**\$55,000-\$150,000**

- Automation Engineer
- Fabrication Engineer
- Senior Project Engineer
- Equipment Engineer
- Project Manager
- College Professor

Career	Entry-Level Education	Annual Median Salary & Hourly Pay (2020)	Job Outlook (2018-28)	Responsibilities	Skills
<b>Mechanical Engineering Technicians</b>	Associate's Degree	<b>\$56,250/year</b> <b>\$27.04/hour</b>	<b>5%</b> (Faster than average)	<ul style="list-style-type: none"> <li>• Apply theory and principles of mechanical engineering to modify, develop, test or calibrate machinery and equipment under direction of engineering staff or physical scientists</li> <li>• Read dials and meters to determine amperage, voltage, electrical output and input at specific operating temperature to analyze parts performance</li> <li>• Evaluate tool drawing designs by measuring drawing dimensions and comparing with original specifications for form and function using engineering skills</li> <li>• Operate drill press, grinders, engine lathe or other machines to modify parts tested or to fabricate experimental parts for testing</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Decision making</li> <li>• Judgment</li> <li>• Problem solving</li> <li>• Reading comprehension</li> <li>• Speaking</li> <li>• Writing</li> </ul>
<b>Electromechanical Engineering Technologists</b>	Associate's Degree	<b>\$64,330/year</b> <b>\$30.93/hour</b>	<b>2%</b> (Slower than average)	<ul style="list-style-type: none"> <li>• Assist electromechanical engineers in such activities as computer-based process control, instrumentation or machine design</li> <li>• Prepare layouts of machinery or equipment, plan the flow of work, conduct statistical studies or analyze production costs</li> <li>• Fabricate or assemble mechanical, electrical or electronic components or assemblies</li> <li>• Produce electrical, electronic or mechanical drawings or other related documents or graphics necessary for electromechanical design using computer-aided design (CAD) software</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Monitoring</li> <li>• Problem solving</li> <li>• Reading comprehension</li> <li>• Speaking</li> </ul>
<b>Mechanical Engineers</b>	Bachelor's Degree	<b>\$87,370/year</b> <b>\$42.00/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>• Perform engineering duties in planning and designing tools, engines, machines and other mechanically functioning equipment</li> <li>• Oversee installation, operation, maintenance and repair of equipment such as centralized heat, gas, water and steam systems</li> <li>• Read and interpret blueprints, technical drawings, schematics or computer-generated reports</li> <li>• Confer with engineers to implement operating procedures, resolve system malfunctions or provide technical information</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Monitoring</li> <li>• Problem solving</li> <li>• Reading comprehension</li> <li>• Speaking</li> <li>• Writing</li> </ul>
<b>Mechatronics Engineers</b>	Bachelor's Degree	<b>\$96,980/year</b> <b>\$46.62/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>• Research, design, develop or test automation, intelligent systems, smart devices or industrial systems control</li> <li>• Create mechanical design documents for parts, assemblies or finished products</li> <li>• Create mechanical models and tolerance analyses to simulate mechatronic design concepts</li> <li>• Publish engineering reports documenting design details or qualification test results</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Judgment</li> <li>• Problem solving</li> <li>• Reading comprehension</li> <li>• Speaking</li> <li>• Writing</li> </ul>





MATHEMATICS





**Mathematics:** Mathematicians use mathematical theory, computational techniques, algorithms and the latest computer technology to solve economic, scientific, engineering and business problems.

### If You Choose Mathematics as Your Career Major, You May be a Part of:

- Compiling, analyzing and reporting data to explain economic phenomena and forecasting market trends applying mathematical models and statistical techniques
- Preparing and delivering lectures to undergraduate or graduate students on topics such as linear algebra, differential equations and discrete mathematics
- Reducing raw data to meaningful terms using the most practical and accurate combination and sequence of computational methods
- Developing new principles and new relationships between existing mathematical principles to advance mathematical science

### Sample Careers

**Associate's/Certificate/  
High School Diploma**  
Annual Salary Range  
**\$30,000-\$50,000**

- Research Associate
- Quality Assurance Technician

**Bachelor's Degree**  
Annual Salary Range  
**\$50,000-\$100,000**

- Operations Research Analyst
- Mathematics Teacher/Professor
- Quality Assurance Engineer

**Bachelor's Degree +  
Graduate Degrees and/or  
Certifications**  
Annual Salary Range  
**\$100,000+**

- Senior Agency Mathematician
- Cryptographer
- Director of Quantitative Research



Career	Entry-Level Education	Annual Median Salary & Hourly Pay (2020)	Job Outlook (2018-28)	Responsibilities	Skills
<b>Mathematical Technicians</b>	Bachelor's Degree	<b>\$57,190/year</b> <b>\$27.50/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>• Apply standardized mathematical formulas, principles and methodology to technical problems in engineering and physical sciences in relation to specific industrial and research objectives, processes, equipment and products</li> <li>• Process data for analysis, using computers</li> <li>• Translate data into numbers, equations, flow charts or graphs</li> <li>• Confer with scientific or engineering personnel to plan projects</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Judgment</li> <li>• Problem solving</li> <li>• Reading comprehension</li> </ul>
<b>Mathematical Science Teachers, Postsecondary</b>	Doctoral or Professional Degree	<b>\$73,230/year</b> <b>\$35.21/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>• Teach courses pertaining to mathematical concepts, statistics and actuarial science and to the application of original and standardized mathematical techniques in solving specific problems and situations</li> <li>• Compile, administer and grade examinations</li> <li>• Prepare course materials such as syllabi, homework assignments and handouts</li> <li>• Collaborate with colleagues to address teaching and research issues</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Problem solving</li> <li>• Speaking</li> <li>• Writing</li> </ul>
<b>Economists</b>	Doctoral or Professional Degree	<b>\$104,340/year</b> <b>\$50.16/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>• Conduct research, prepare reports or formulate plans to address economic problems related to the production and distribution of goods and services or monetary and fiscal policy</li> <li>• Study economic and statistical data in areas of specialization, such as finance, labor or agriculture</li> <li>• Develop economic guidelines and standards and prepare points of view used in forecasting trends and formulating economic policy</li> <li>• Supervise research projects and students' study projects</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Decision making</li> <li>• Judgment</li> <li>• Reading comprehension</li> <li>• Speaking</li> <li>• Writing</li> </ul>
<b>Mathematicians</b>	Doctoral or Professional Degree	<b>\$101,900/year</b> <b>\$48.99/hour</b>	<b>15%</b> (Average)	<ul style="list-style-type: none"> <li>• Conduct research in fundamental mathematics or in application of mathematical techniques to science, management and other fields</li> <li>• Develop mathematical or statistical models of phenomena to be used for analysis or for computational simulation</li> <li>• Maintain knowledge in the field by reading professional journals, talking with other mathematicians and attending professional conferences</li> <li>• Design, analyze and decipher encryption systems designed to transmit military, political, financial or law-enforcement-related information in code</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Judgment</li> <li>• Problem solving</li> <li>• Reading comprehension</li> <li>• Writing</li> </ul>



**Statistical Modeling:** Statistical models are used to study the relationship between variables using mathematical techniques, such as surveys and polls as well as statements about the accuracy of scales and other measuring devices.

**If You Choose Statistical Modeling as Your Career Major,  
You May be a Part of:**

- Developing software applications or programming to use for statistical modeling and graphic analysis
- Constructing probability tables for events such as fires, natural disasters and unemployment based on analysis of statistical data and other pertinent information
- Computing and analyzing data using statistical formulas and computers or calculators
- Determining and specifying details of survey projects including sources of information, procedures to be used and the design of survey instruments and materials

**Sample Careers**

**Associate's Degree or Less**  
**Annual Salary Range**  
**\$30,000-\$50,000**

- Actuarial Assistant
- Data Analyst
- Product Operations Associate
- Actuarial Technician

**Bachelor's Degree**  
**Annual Salary Range**  
**\$50,000-\$100,000**

- Pricing Analyst
- Product Development Actuary
- Trend Investigator
- Clinical Statistics Manager

**Bachelor's Degree +  
Graduate Degrees and/or  
Certifications**  
**Annual Salary Range**  
**\$100,000+**

- Agent-Based Modeler
- Lead Simulation Modeling Engineer
- Senior Research Fellow



Career	Entry-Level Education	Annual Median Salary & Hourly Pay (2020)	Job Outlook (2018-28)	Responsibilities	Skills
<b>Statistical Assistants</b>	Bachelor's Degree	<b>\$48,330/year</b> <b>\$23.24/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>• Compile and compute data according to statistical formulas for use in statistical studies</li> <li>• Compile statistics from source materials, such as production or sales records, quality-control or test records, time sheets or survey sheets</li> <li>• Participate in the publication of data or information</li> <li>• Discuss data presentation requirements with clients</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Problem solving</li> <li>• Reading comprehension</li> <li>• Speaking</li> <li>• Writing</li> </ul>
<b>Survey Researchers</b>	Master's Degree	<b>\$57,700/year</b> <b>\$27.74/hour</b>	<b>2%</b> (Slower than average)	<ul style="list-style-type: none"> <li>• Plan, develop or conduct surveys</li> <li>• Consult with clients to identify survey needs and specific requirements, such as special samples</li> <li>• Analyze data from surveys, old records or case studies using statistical software</li> <li>• Prepare and present summaries and analyses of survey data including tables, graphs and fact sheets that describe survey techniques and results</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Reading comprehension</li> <li>• Speaking</li> <li>• Time management</li> <li>• Writing</li> </ul>
<b>Statisticians</b>	Master's Degree	<b>\$87,780/year</b> <b>\$42.20/hour</b>	<b>33%</b> (Much faster than average)	<ul style="list-style-type: none"> <li>• Develop or apply mathematical or statistical theory and methods to collect, organize, interpret and summarize numerical data to provide usable information</li> <li>• Report results of statistical analyses including information in the form of graphs, charts and tables</li> <li>• Process large amounts of data for statistical modeling and graphic analysis using computers</li> <li>• Test experimental designs, sampling techniques and analytical methods</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Decision making</li> <li>• Judgment</li> <li>• Problem solving</li> <li>• Reading comprehension</li> <li>• Speaking</li> </ul>
<b>Actuaries</b>	Bachelor's Degree	<b>\$102,880/year</b> <b>\$49.46/hour</b>	<b>15%</b> (Much faster than average)	<ul style="list-style-type: none"> <li>• Analyze statistical data, such as mortality, accident, sickness, disability and retirement rates</li> <li>• Collaborate with programmers, underwriters, accountants, claims experts and senior management to help companies develop plans for new lines of business or improving existing business</li> <li>• Testify before public agencies on proposed legislation affecting businesses</li> <li>• Provide advice to clients on a contract basis working as a consultant</li> </ul>	<ul style="list-style-type: none"> <li>• Critical thinking</li> <li>• Decision making</li> <li>• Judgment</li> <li>• Problem solving</li> <li>• Reading comprehension</li> <li>• Speaking</li> </ul>





EMERGING  
TECHNOLOGIES AND  
GREEN JOBS





**Biofuels and Fuel Cell Technology:** Biofuels and fuel cell technology focuses on the development of renewable fuel that will always be available. Biofuels, such as biodiesel and ethanol, are fuels that come from living organisms such as plants (soybeans, corn) and microalgae (algae found in water). Fuel cells, which commonly use hydrogen and methanol, convert chemical energy from a fuel into electricity, water vapor and heat.

**If You Choose Biofuels and Cell Technology as Your Career Major, You May be a Part of:**

- Assembling fuel cells or fuel cell stacks according to mechanical or electrical assembly documents or schematics
- Operating chemical processing equipment for the production of biofuels
- Designing or executing solvent or product recovery experiments in laboratory or field settings
- Identifying or defining vehicle and system integration challenges for fuel cell vehicles

**Sample Careers**

**Associate's/Certificate/  
High School Diploma**  
**Annual Salary Range**  
**\$30,000-\$50,000**

- Biomass Plant Technician
- Chemical Equipment Operator
- Operating Engineer
- Chemical Technician

**Bachelor's Degree + Graduate Degrees  
and/or Certifications**  
**Annual Salary Range \$50,000-\$150,000**

- Biofuel Production Engineer
- Biofuel Production Manager
- Chemist
- Biochemist/Biophysicist
- Fuel Cell Engineer
- Project Manager
- Senior Researcher
- College Professor

Career	Entry-Level Education	Annual Median Salary & Hourly Pay (2020)	Job Outlook (2018-28)	Responsibilities	Skills
<b>Biofuels Processing Technicians</b>	High School Diploma	<b>\$57,100/year</b> <b>\$27.45/hour</b>	<b>4%</b> (Slower than average)	<ul style="list-style-type: none"> <li>Operate biomass fuel-burning boiler or biomass fuel gasification system equipment in accordance with specifications or instructions</li> <li>Record or report operational data, such as readings on meters, instruments, and gauges</li> <li>Perform routine maintenance or make minor repairs to mechanical, electrical, or electronic equipment in biomass plants</li> <li>Calculate, measure load, or mix biomass feedstock for power generation</li> </ul>	<ul style="list-style-type: none"> <li>Active listening</li> <li>Critical thinking</li> <li>Decision making</li> <li>Judgment</li> <li>Problem solving</li> <li>Technical</li> </ul>
<b>Fuel Cell Technicians</b>	Associate's Degree	<b>\$63,200/year</b> <b>\$30.38/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>Assemble fuel cells or fuel cell stacks according to mechanical or electrical assembly documents or schematics</li> <li>Test fuel cells or fuel cell stacks, using complex electronic equipment</li> <li>Install or test spark ignition (SI) or compression ignition (CI) engines</li> <li>Conduct tests or provide technical support for tests of prototype fuel cell engines or thermal management systems</li> </ul>	<ul style="list-style-type: none"> <li>Active listening</li> <li>Critical thinking</li> <li>Decision making</li> <li>Problem solving</li> <li>Reading comprehension</li> <li>Technical</li> <li>Writing</li> </ul>
<b>Fuel Cell Engineers</b>	Bachelor's Degree	<b>\$87,370/year</b> <b>\$42.00/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>Design, evaluate, modify or construct fuel cell components or systems for transportation, stationary or portable applications</li> <li>Analyze fuel cell or related test data using statistical software</li> <li>Calculate the efficiency or power output of a fuel cell system or process</li> <li>Characterize component or fuel cell performances by generating operating maps, defining operating conditions, identifying design refinements or executing durability assessments</li> </ul>	<ul style="list-style-type: none"> <li>Active listening</li> <li>Analytical</li> <li>Critical thinking</li> <li>Decision making</li> <li>Judgment</li> <li>Reading comprehension</li> </ul>
<b>Biofuels/ Biodiesel Technology and Product Development Managers</b>	Master's or Doctoral Degree	<b>\$140,760/year</b> <b>\$67.67/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>Define, plan or execute biofuels/biodiesel research programs that evaluate alternative feedstock and process technologies with near-term commercial potential</li> <li>Analyze data from biofuels studies such as fluid dynamics, water treatments or solvent extraction and recovery processes</li> <li>Propose new biofuels products, processes, technologies or applications based on findings from applied biofuels or biomass research projects</li> <li>Oversee biodiesel/biofuels prototyping or development projects</li> </ul>	<ul style="list-style-type: none"> <li>Active listening</li> <li>Critical thinking</li> <li>Judgment</li> <li>Management</li> <li>Problem solving</li> <li>Reading comprehension</li> <li>Writing</li> </ul>





**Alternative/Renewable Energy:** Alternative energy, also known as renewable energy, is a form of energy that comes from a natural source, such as the sun, wind, ocean tides or ocean waves. There are numerous types of alternative energy, which includes hydroelectric power, as well as nuclear, geothermal, solar and wind energy.

**If You Choose Alternative/Renewable Energy as Your Career Major, You May be a Part of:**

- Conducting research on economic and environmental topics such as alternative fuel use, public and private land use, soil conservation, air and water pollution control and endangered species protection
- Developing sustainable project goals, objectives, initiatives or strategies in collaboration with other sustainability professionals
- Providing technical support for the design, construction or commissioning of wind farm projects
- Creating plans for solar energy system development, monitoring and evaluation activities

**Sample Careers**

**Associate's/Certificate/  
High School Diploma**

**Annual Salary Range  
\$30,000-\$50,000**

- Solar Photovoltaic Installer
- Nuclear Auxiliary Operator
- Energy Broker
- Solar Technicians

**Bachelor's Degree  
Annual Salary Range**

**\$50,000-\$100,000**

- Energy Efficiency Engineer
- Wind Turbine Design Engineer
- Senior Sustainability Advisor
- Energy Consultant
- Environmental Solutions Engineer

**Bachelor's Degree +  
Graduate Degrees and/or  
Certifications**

**Annual Salary Range  
\$100,000+**

- Project Manager
- Environmental Economist
- College Professor

Career	Entry-Level Education	Annual Median Salary & Hourly Pay (2020)	Job Outlook (2018-28)	Responsibilities	Skills
<b>Sustainability Specialists</b>	Bachelor's Degree	<b>\$70,530/year</b> <b>\$33.91/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>• Address organizational sustainability issues such as waste stream management, green building practices and green procurement plans</li> <li>• Assess or propose sustainability initiatives considering factors such as cost effectiveness, technical feasibility and acceptance</li> <li>• Monitor or track sustainability indicators such as energy usage, natural resource usage, waste generation and recycling</li> <li>• Collect information about waste stream management or green building practices to inform decision-makers</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Problem solving</li> <li>• Reading comprehension</li> <li>• Speaking</li> <li>• Writing</li> </ul>
<b>Environmental Economists</b>	Master's Degree	<b>\$104,340/year</b> <b>\$50.16/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>• Conduct research on economic and environmental topics, such as alternative fuel use, public and private land use, soil conservation, air and water pollution control, and endangered species protection</li> <li>• Collect and analyze data to compare the environmental implications of economic policy or practice alternatives</li> <li>• Prepare and deliver presentations to communicate economic and environmental study results, to present policy recommendations, or to raise awareness of environmental consequences</li> <li>• Develop programs or policy recommendations to promote sustainability and sustainable development</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Decision making</li> <li>• Judgment</li> <li>• Problem solving</li> <li>• Reading comprehension</li> <li>• Speaking</li> <li>• Writing</li> </ul>
<b>Hydroelectric Production Managers</b>	Associate's Degree/On-the-job-training	<b>\$103,380/year</b> <b>\$49.70/hour</b>	<b>1%</b> (Little or no change)	<ul style="list-style-type: none"> <li>• Direct operations, maintenance, or repair of hydroelectric power facilities</li> <li>• Check hydroelectric operations for compliance with prescribed operating limits, such as loads, voltages, temperatures, lines, or equipment</li> <li>• Supervise hydropower plant equipment installations, upgrades or maintenance</li> <li>• Operate energized high- or low-voltage hydroelectric power transmission system substations, according to procedures and safety requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Decision making</li> <li>• Judgment</li> <li>• Problem solving</li> <li>• Reading comprehension</li> <li>• Writing</li> </ul>
<b>Energy Project Managers</b>	Bachelor's Degree	<b>\$107,480/year</b> <b>\$51.67/hour</b>	<b>9%</b> (Average)	<ul style="list-style-type: none"> <li>• Coordinate or direct development, energy assessment, engineering, or construction activities to ensure that wind project needs and objectives are met</li> <li>• Update schedules, estimates, forecasts, or budgets for wind projects</li> <li>• Manage site assessments or environmental studies for wind fields</li> <li>• Prepare requests for proposals for wind project construction</li> </ul>	<ul style="list-style-type: none"> <li>• Active listening</li> <li>• Critical thinking</li> <li>• Decision making</li> <li>• Judgment</li> <li>• Problem solving</li> <li>• Reading comprehension</li> </ul>



# Online Resources

## COLLEGES AND UNIVERSITIES

Allen University  
[www.allenuniversity.edu](http://www.allenuniversity.edu)

Benedict College  
[www.benedict.edu](http://www.benedict.edu)

Clemson University  
[www.clemson.edu](http://www.clemson.edu)

Columbia College  
[www.columbiasc.edu](http://www.columbiasc.edu)

Columbia International University  
[www.ciu.edu](http://www.ciu.edu)

Limestone College-Extended Campus  
[www.limestone.edu/extended-campus](http://www.limestone.edu/extended-campus)

Midlands Technical College  
[www.midlandstech.edu](http://www.midlandstech.edu)

SC State University  
[www.scsu.edu](http://www.scsu.edu)

South University  
[www.southuniversity.edu/columbia](http://www.southuniversity.edu/columbia)

Southern Wesleyan University  
[www.swu.edu](http://www.swu.edu)

University of South Carolina  
[www.sc.edu](http://www.sc.edu)

Webster University  
[www.webster.edu](http://www.webster.edu)

## EDUCATION DEPARTMENTS, ALLIANCES AND RESOURCES

Bureau of Labor Statistics  
[www.bls.gov](http://www.bls.gov)

CTE: Career Technical Education  
[www.careertech.org](http://www.careertech.org)

Mapping Your Future  
[www.mappingyourfuture.org](http://www.mappingyourfuture.org)

Midlands Education and Business Alliance (MEBA)  
[www.mebasc.com](http://www.mebasc.com)

O\*NET OnLine (MREC)  
[www.onetonline.org](http://www.onetonline.org)

SC State Department of Education  
[www.ed.sc.gov](http://www.ed.sc.gov)

SC Independent Colleges & Universities  
[www.scicu.org](http://www.scicu.org)

SC Career Information System  
[sccis.intocareers.org](http://sccis.intocareers.org)

SC Technical College System  
[www.sctechsystem.com](http://www.sctechsystem.com)

## STEM RESOURCES

American Mathematical Society  
[www.ams.org](http://www.ams.org)

American Nuclear Society  
[www.ans.org](http://www.ans.org)

American Society of Civil Engineers  
[www.asce.org](http://www.asce.org)

Association for Computing Machinery  
[www.acm.org](http://www.acm.org)

Association for Women in Mathematics  
[www.awm-math.org](http://www.awm-math.org)

Discover E  
[www.discovere.org](http://www.discovere.org)

Dream It, Do It South Carolina  
[www.dreamitdoitsc.com](http://www.dreamitdoitsc.com)

Greatest Engineering Achievements of the 20th Century  
[www.greatachievements.org](http://www.greatachievements.org)

How Stuff Works  
[www.howstuffworks.com](http://www.howstuffworks.com)

Microburst Learning – Micro Career Bursts  
[www.microburstlearning.org](http://www.microburstlearning.org)

National Science Foundation Board  
[www.nsf.gov/nsb/sei/edTool](http://www.nsf.gov/nsb/sei/edTool)

SC Geographic Alliance  
[artsandsciences.sc.edu/cege](http://artsandsciences.sc.edu/cege)

Society for Industrial and Applied Mathematics  
[www.siam.org](http://www.siam.org)

Statistical Modelling Society  
[www.statmod.org](http://www.statmod.org)

## MILITARY

Army Ed Space  
[www.armyedspace.com](http://www.armyedspace.com)

Peace Corps  
[www.peacecorps.gov](http://www.peacecorps.gov)

Today's Military  
[www.todaysmilitary.com](http://www.todaysmilitary.com)

US Air Force  
[www.airforce.com](http://www.airforce.com)

US Air Force Reserve  
[www.afreserve.com](http://www.afreserve.com)

US Army  
[www.goarmy.com](http://www.goarmy.com)

US Army National Guard  
[www.nationalguard.com](http://www.nationalguard.com)

US Army Reserve  
[www.goarmy.com/reserve](http://www.goarmy.com/reserve)

US Coast Guard  
[www.uscg.mil](http://www.uscg.mil)

US Coast Guard Reserve  
[www.uscg.mil/reserve](http://www.uscg.mil/reserve)

US Marines Corps Reserve  
[www.marines.com/eligibility/service-options/reserve](http://www.marines.com/eligibility/service-options/reserve)

US Marines Corps  
[www.marines.com](http://www.marines.com)

US Navy  
[www.navy.mil](http://www.navy.mil)

NOTE: Salary may differ according to industry, county, region and state.

SOURCES: [www.bls.gov](http://www.bls.gov), [www.onetonline.org](http://www.onetonline.org)

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