

*Florida Institute of Technology*



## YOUR COLLEGE DECISION

Considering a  
**STEM Degree?**

**What's the Job Outlook?**

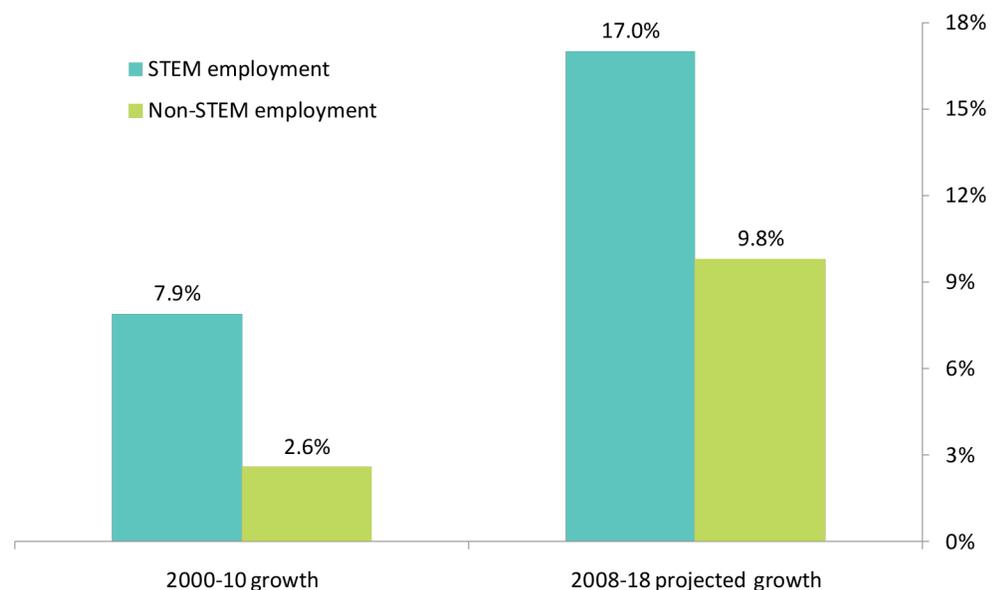


## STEM Positions Have Critical Need

There are exciting innovations, advancements and discoveries yet to be made. The research and work that will shape our present and enhance our future is waiting to be done—waiting for people who choose to study and work in the field of STEM—science, technology, engineering and math.

New ideas, advancements in medicine, space exploration—there's little debate that people who work in STEM make a tremendous contribution to our society, and the need for more STEM workers is critical. Experts agree that our future literally depends on it.

## Recent and Projected Growth in STEM and Non-STEM Employment



Source: ESA calculations using Current Population Survey public-use microdata and estimates from the Employment Projections Program of the Bureau of Labor Statistics.

# Good Jobs Now and for the Future

In its Occupational Outlook, the U.S. Bureau of Labor Statistics (BLS) forecast that by 2022, there would be nearly 1 million more jobs in STEM than in 2012.

But while all STEM jobs will experience growth, some fields in STEM are expanding more rapidly than others. In its report, the BLS listed the jobs that may offer the most employment opportunities (job openings) through 2022.

Topping the list are **SOFTWARE DEVELOPERS** with 218,500 job openings projected and a median annual wage of \$92,660, but **COMPUTER SYSTEMS ANALYSTS** aren't far behind with 209,600 job openings expected and an annual wage of \$81,190. Both of these careers typically require a bachelor's degree.

## Selected STEM Occupations With Many Job Openings, Projected 2012–2022

OCCUPATION	JOB OPENINGS, PROJECTED 2012–22	EMPLOYMENT		MEDIAN ANNUAL WAGE, MAY 2013	TYPICAL ENTRY-LEVEL EDUCATION <sup>1</sup>
		2012	PROJECTED 2022		
Software developers, applications	218,500	613,000	752,900	\$92,660	Bachelor's degree
Computer systems analysts	209,600	520,600	648,400	\$81,190	Bachelor's degree
Computer user support specialists <sup>2</sup>	196,900	547,700	658,500	\$46,620	Some college, no degree
Software developers, systems software	134,700	405,000	487,800	\$101,410	Bachelor's degree
Civil engineers	120,100	272,900	326,600	\$80,770	Bachelor's degree
Computer programmers	118,100	343,700	372,100	\$76,140	Bachelor's degree
Sales representatives, <i>wholesale and manufacturing, technical and scientific products</i> <sup>2</sup>	111,800	382,300	419,500	\$74,520	Bachelor's degree
Network and computer systems administrators	100,500	366,400	409,400	\$74,000	Bachelor's degree
Mechanical engineers	99,700	258,100	269,700	\$82,100	Bachelor's degree
Computer and information systems managers <sup>3</sup>	97,100	332,700	383,600	\$123,950	Bachelor's degree
Industrial engineers	75,400	223,300	233,400	\$80,300	Bachelor's degree
Architectural and engineering managers <sup>3</sup>	60,600	193,800	206,900	\$128,170	Bachelor's degree
Web developers	50,700	141,400	169,900	\$63,160	Associate degree
Electrical engineers	44,100	166,100	174,000	\$89,180	Bachelor's degree
Computer network architects <sup>3</sup>	43,500	143,400	164,300	\$95,380	Bachelor's degree

<sup>1</sup> Unless otherwise specified, occupations typically require neither work experience in a related occupation nor on-the-job training to obtain competency.

<sup>2</sup> In addition to the education specified, this occupation typically requires moderate-term on-the-job training for workers to obtain competency.

<sup>3</sup> In addition to the education specified, this occupation typically requires 5 years or more of work experience in a related occupation.

Source: U.S. Bureau of Labor Statistics, Employment Projections program (employment, projections and education data) and Occupational Employment Statistics survey (wage data).

Other positions expected to have **SUBSTANTIAL JOB OPENINGS BY 2022** include:

- Software developers, systems software
- Civil engineers
- Computer programmers
- Sales reps—wholesale and manufacturing, technical and scientific products
- Network and computer engineers
- Computer and information systems managers
- Industrial engineers
- Architectural and engineering managers
- Web developers
- Electrical engineers
- Computer network architects

# Education Level Influences Salary

Careers in STEM are profitable.

In 2014, BLS data put the median annual wage of a STEM worker at \$76,000—that's more than twice the \$35,080 for workers in non-STEM jobs.

In its 2011 Issue Brief, *STEM: Good Jobs Now and for the Future*, the U.S. Department of Commerce found that having a college degree bumps up salary potential substantially. For example, a STEM worker with a graduate degree on average earns \$40 per hour, as compared with the \$25 per hour average earned by a non-degreed STEM worker.

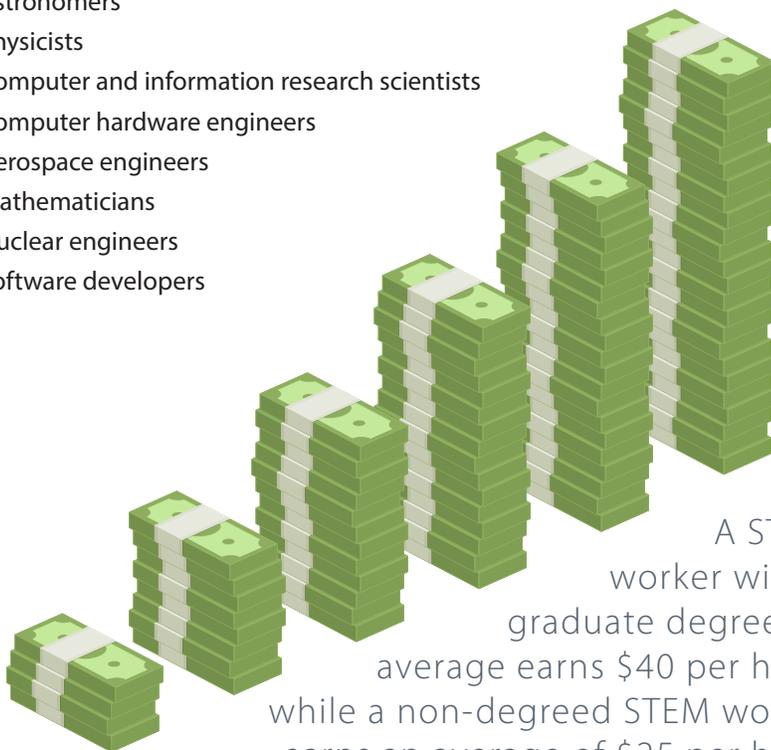
The majority of STEM workers (68 percent) do have a bachelor's degree—or higher.

In comparing four STEM fields—Computer and Math, Engineering, Physical and Life Sciences and STEM Managers, the brief's researchers found that those in occupations related to physical and life sciences were the most educated with close to 40 percent having a graduate degree.

In its Occupational Outlook, BLS research showed that certain high-paying STEM jobs (those with a \$100,000 or more median annual wage) do require bachelor's, doctoral or professional degrees.

Among them:

- Petroleum engineers
- Architectural and engineering managers
- Computer and information systems managers
- Natural science managers
- Astronomers
- Physicists
- Computer and information research scientists
- Computer hardware engineers
- Aerospace engineers
- Mathematicians
- Nuclear engineers
- Software developers



A STEM worker with a graduate degree on average earns \$40 per hour, while a non-degreed STEM worker earns an average of \$25 per hour.

**\$76,000**  
Median annual wage  
of a STEM worker

## Beyond the Bachelor's Degree

There are some jobs in STEM that typically do require a master's or doctoral degree. According to the Occupational Outlook, STEM occupations that typically require a master's degree include epidemiologists, hydrologists and statisticians. Occupations that require a doctoral degree include animal scientists, computer and information research scientists and physicists.

# Once You Have Your Degree, Where is the Best Place to Live?

Last year, San Francisco-based financial literacy site **NerdWallet** collected statistics including salaries, cost of living and unemployment rates from 354 of the largest metropolitan areas in the U.S. and compiled a list of the *Best Places for STEM Grads 2016*.

Topping their list was **Huntsville, Alabama**, with STEM workers averaging an annual wage of \$95,150. It's a hot spot for aerospace. The area is known as the "Rocket City" and home to NASA's Marshall Space Flight Center and Cummings Research Park.

Even though STEM workers in **San Jose, Sunnyvale** and **Santa Clara, California**, earn a higher average wage—\$122,398 annually—the area's higher cost of living put them in second place. This area includes Silicon Valley and has an abundance of tech companies.

If environmentally friendly technology is a passion, then NerdWallet says **Boulder, Colorado**, might be the perfect spot for you with more than 250 "clean tech" companies.



Other cities on the list included:

- **Seattle, Bellevue** and **Everett, Washington**
- **San Francisco, Redwood City** and **South San Francisco, California**
- **Kennewick** and **Richland, Washington**

Also on the list at number eight is **Palm Bay, Melbourne** and **Titusville, Florida**. Also known as the Space Coast, it's close to Kennedy Space Center and Cape Canaveral Air Force Station and home to high-tech companies including Lockheed

Martin Space Systems, United Launch Alliance, Rockwell Collins and Northrop Grumman.

Rounding out the list were **Trenton** and **Princeton, New Jersey**, followed by **Austin** and **Round Rock, Texas**.

The perks of a STEM career are abundant, including projections of robust job growth, higher wages than all other fields and the chance to make a difference in the world.



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