

## Science, Technology, Engineering, and Mathematics Jobs in California

Workers in the academic disciplines of science, technology, engineering, and mathematics (STEM) develop innovative products and solve complex problems. The Bureau of Labor Statistics (BLS) forecasts that by 2022 employment related to STEM will account for 13 percent of the projected 161 million jobs in the nation. In 2014, STEM jobs held 6.2 percent of total employment and STEM-related occupations in the U.S. had an annual wage of nearly \$76,000, more than double the salary for wage and hourly workers on the whole (\$35,080).

**BLS forecasts that, by 2022, California will have the largest STEM workforce in the nation.**

California will have more than 1.4 million STEM jobs by 2022, having gained 200,000 in employment, more than any other state. Other large increases in the nation during this period include Texas at 160,000 STEM jobs, and Florida, Illinois, and Virginia at between 40,000 to 60,000 jobs each.

**In May 2015, there were two STEM-related online job postings for every unemployed person with STEM skills.**

The ratio of unemployed persons to jobs posted online is a method to estimate supply and demand conditions in the labor market<sup>1</sup>. Ratios above 1:1 indicate that there are more unemployed persons available to fill jobs than there are jobs posted online, or an excess labor supply. In California, the ratio of unemployed persons to the number of online job postings was nearly 2:1 in May 2015. Conversely, the ratio of STEM-related job postings to unemployed persons with STEM backgrounds was 1:2 in May 2015<sup>2</sup>. This indicates that there were two STEM-related jobs available for every unemployed person with STEM skills, demonstrating that job seekers with STEM skills have more job opportunities available to them than those without STEM skills.

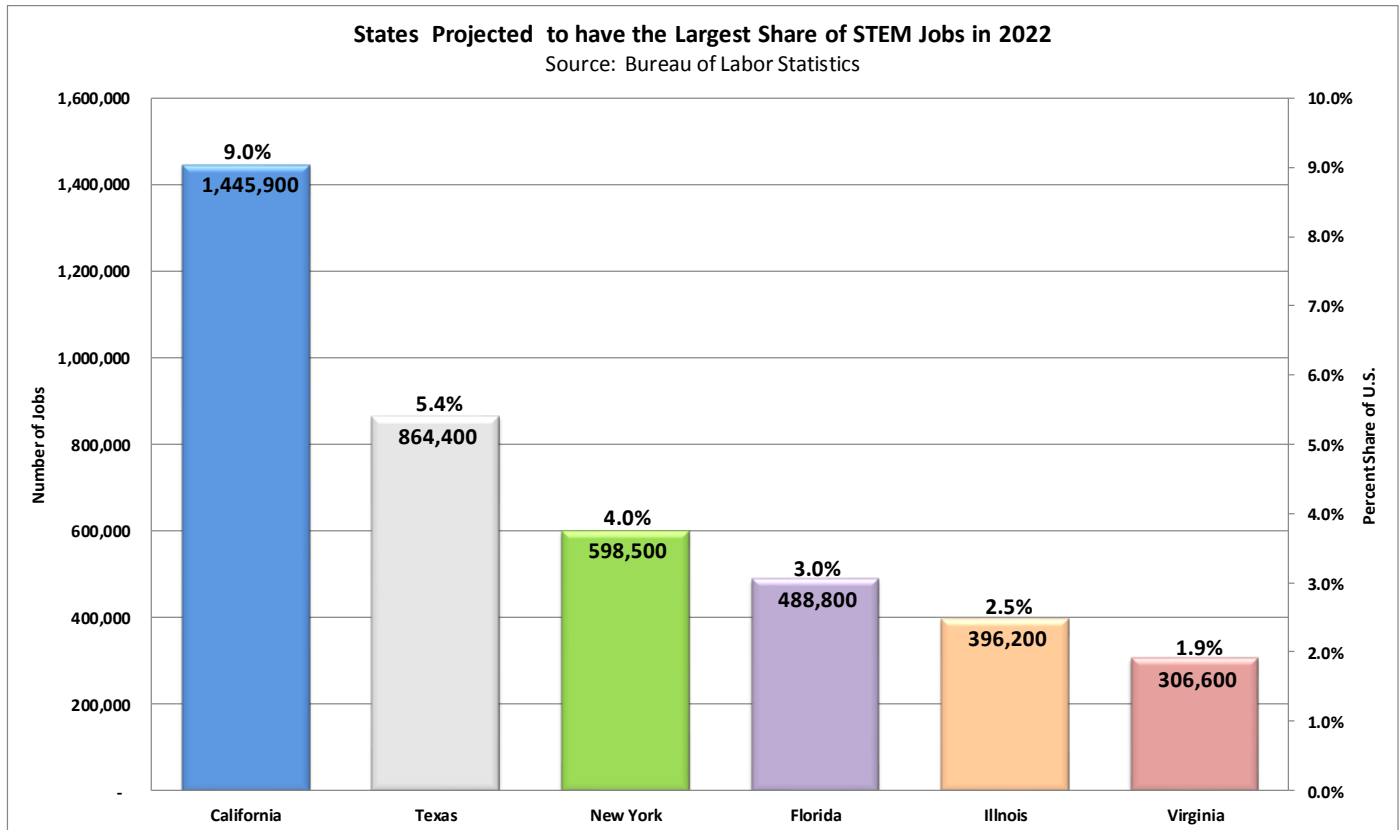
California's Fastest-Growing STEM Occupations				
Occupational Title <sup>3</sup>	Jobs in California		Net Change	Percent Change
	2012	2022		
Software Developers, Applications	95,100	123,100	28,000	29.4%
Market Research Analysts and Marketing Specialists	70,900	99,400	28,500	40.2%
Computer User Support Specialists	60,800	76,100	15,300	25.2%
Cost Estimators	24,800	32,800	8,000	32.3%
Environmental Scientists and Specialists, Including Health	14,900	19,300	4,400	29.5%
Health Specialties Teachers, Postsecondary	11,900	16,300	4,400	37.0%
Environmental Engineers	7,300	9,100	1,800	24.7%
Biomedical Engineers	5,400	7,700	2,300	42.6%

Source: EDD-LMID, Projections of Employment by Occupation, 2012-2022

<sup>1</sup>The Conference Board Help Wanted OnLine™ job postings and the number of unemployed individuals from the Current Population Survey of Households for May 2015 were used to create the ratios in this report.

<sup>2</sup>Supply /Demand Rate. Please note that the Supply/Demand rate only provides a measure of relative tightness of the labor market and does not suggest that job advertisements align with the education, training, and skills of the unemployed.

<sup>3</sup>The occupations in the table above were selected from a BLS list of STEM-related occupations.



#### Attributes of Science, Technology, Engineering, and Mathematics (STEM) Jobs<sup>4</sup>

- Science - workers study scientific methods, test hypotheses, and theories. Once the data matches the theory's predictions and hypothesis, the experiment supports that theory. For example, science workers inform public policy such as providing data to support limits on the use of toxic chemicals.
- Technology – use of science and engineering to create and troubleshoot computer and information systems. For example, tech workers develop software applications and build and maintain computer network and databases.
- Engineering – use of science, technology, and mathematics to solve real-world problems. Their work involves designing and developing systems, structures, products, or materials. For example, a civil engineer will design a new train to accommodate more passengers.
- Mathematics – use of numerical, spatial, and logical relationships to study and solve problems. One example would be research scientist - model atmospheric conditions to gain insight into the effect of changing emissions from cars, trucks, power plants, and factories; apply these models in the development of alternative fuels.

<sup>4</sup>Source: Bureau of Labor Statistics

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## State of California

### Labor and Workforce Development Agency

### Employment Development Department

The EDD is an equal opportunity employer/program. Auxiliary aids and services are available upon request to individuals with disabilities. Requests for services, aids, and/or alternate forms need to be made by calling 916-262-2166 (voice). TTY users, please call the California Relay Service at 711.