

Key and References:

Analysis of STEM Occupations by SOC Detailed Occupation Codes and Titles

Color Key

Blue	Census classification of “STEM-related” occupations (63 STEM-related detailed occupations)
Green	STEM occupations matched across all groups (42 matched detailed occupations)

STEM Occupation Classifications

Bureau of Labor Statistics (BLS)/Occupational Employment Statistics (OES)

As part of the OES publication series, the BLS highlights employment and wage statistics with emphasis on STEM occupations. The report includes a list of occupations used in the OES STEM definition. In total, 100 detailed occupations are considered STEM.

Watson, Audrey. (August 2014). “Spotlight on Statistics: BLS Statistics by Occupation, STEM occupations list.” Bureau of Labor Statistics, Occupational Employment Statistics (available at www.bls.gov/oes/publications.htm).

U.S. Census Bureau (Census)

The methodology for defining STEM occupations follows the SOCP recommendations. The STEM occupation list distinguishes between STEM and STEM-related jobs. The list includes STEM-related management and healthcare jobs, and social scientists, but excludes education occupations. In total, 163 detailed occupations are considered STEM or STEM-related.

U.S. Census Bureau. (2015). “STEM, STEM-related, and Non-STEM Occupation Code List 2010.” Industry and Occupation, Methodology (www.census.gov/people/io/methodology/).

Center on Education and the Workforce (CEW), Georgetown University

The CEW provides research on connections between education and training, the workforce, and labor market demands. The 2010 report defines STEM occupations based on computer and mathematical science occupations, architecture and engineering occupations, and life, physical, and social science occupations. The 2011 report uses the same set of occupations to define STEM, but it does not include social science jobs. In total, 96 and 85 detailed occupations are considered STEM in the 2010 and 2011 CEW reports, respectively.

Carnevale, Anthony P., Nicole Smith, and Jeff Stroh. (15 June 2010). “Help Wanted: Projections of Jobs and Education Requirements Through 2018.” Center on Education and the Workforce, Georgetown University (available at cew.georgetown.edu/report/help-wanted/).

Carnevale, Anthony P., Nicole Smith, and Michelle Melton. (20 October 2011). “STEM: Science, Technology, Engineering and Mathematics.” Center on Education and the Workforce, Georgetown University (available at cew.georgetown.edu/report/stem/).

U.S. Department of Commerce (Commerce)

The report expands on traditional STEM occupations to include professional and technical support jobs in STEM fields. It counts STEM-associated management occupations, but excludes education jobs and social scientists. STEM occupations are analyzed and determined from broad and detailed occupation codes. In total, 85 detailed occupations are considered STEM.

Langdon, David, George McKittrick, David Beede, Beethika Khan, and Mark Doms. (July 2011). “STEM: Good Jobs Now and for the Future.” U.S. Department of Commerce, Economics and Statistics Administration, Office of the Chief Economist (available at www.esa.doc.gov/reports/stem-good-jobs-now-and-future).

Florida Department of Economic Opportunity (FLDEO)

Florida operates a state-specific list of occupations that defines STEM. In conjunction with BLS, the FLDEO created a STEM occupation list based on statewide industry priorities, among other things. The list matches SOC codes and occupations to state-specific codes and estimates of education level for entry. In total, 156 detailed occupations are considered STEM.

Florida Department of Economic Opportunity. (2015). "STEM Occupation List." Florida Labor Market Information (available at www.floridajobs.org/labor-market-information/products-and-services/stem).

National Science Foundation (NSF)

The NSF examines the science & engineering (S&E) workforce by including occupations that directly or indirectly use S&E skills and knowledge. Based on SOC, direct S&E jobs include computer and mathematical occupations, architecture and engineering occupations, life, physical, and social science occupations, and postsecondary S&E educators. Indirect S&E jobs include S&E managers and S&E technicians and technologists. STEM or STEM-related occupations were analyzed and determined from the NSF's classification of broad occupations. In total, 116 detailed occupations are considered STEM.

National Science Foundation. (2014). "Science and Engineering Indicators 2014." National Science Board, Arlington, VA. (available at www.nsf.gov/statistics/seind14/).

Occupational Information Network (O*Net) STEM Career Cluster & STEM Discipline

*The system uses a content-based framework to identify specific characteristics of individual occupation that can be applied across multiple sectors or industries. This framework includes six features: worker characteristics, worker requirements, experience requirements, occupational requirements, workforce characteristics, and occupation-specific information. O*Net Career Cluster outlines jobs in the same field that require similar skills. It includes jobs that require planning, managing, and providing scientific research and other technical professions. O*Net STEM Discipline organizes occupations by required STEM education and training. In total, 103 and 126 detailed occupations are considered STEM in the O*Net STEM Career Cluster and STEM Discipline, respectively.*

Occupational Information Network. (2015). "Find Occupations." (available at www.onetonline.org/find/).

Standard Occupational Classification Policy Committee (SOCPC)

The SOCPC developed recommendations for the Office of Management and Budget to define STEM occupations. The workgroup identified existing definitions and developed a STEM framework that includes occupations matched to SOC classification principles. The recommendations include social scientists, educational professions, and healthcare jobs. In total, 184 detailed occupations are considered STEM.

Bureau of Labor Statistics. (2015). "Attachment A: SOC Policy Committee recommendation to OMB." U.S. Department of Labor, 2010 SOC Crosswalks, Options for defining STEM occupations under the 2010 SOC (available at www.bls.gov/soc/).

Texas Workforce Commission (TWC) Strategic Workforce Assessment Program (SWAP)

Developed as a tool to understand occupational skills and training required for various industry clusters, SWAP provides skill profiles for individual or broad occupations. Among other things, SWAP offers employment and occupational characteristics data. Occupations can also be matched with associated certifications, and educational and job training information. In total, 134 detailed occupations are considered STEM.

Texas Workforce Commission. (2015). "Strategic Workforce Assessment Program." (available at www.texasindustryprofiles.com/apps/swap/index.asp).