

CHAPTER 3

Science and Engineering Labor Force

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APPENDIX TABLE 3-1

S&E occupations in the 1960 U.S. Census and 2015 American Community Survey

(List of S&E occupations)

Decennial Census, 1960	American Community Survey, 2015
Biological, agricultural, and environmental life scientists	Biological, agricultural, and environmental life scientists
Agricultural scientists	Agricultural and food scientists
Biological scientists	Biological scientists
Foresters and conservationists	Conservation scientists and foresters
	Medical scientists
	Life scientists, all other
Mathematical scientists	Computer and mathematical scientists
Mathematicians	Computer and information research scientists
Statisticians and actuaries	Computer network architects
	Computer support specialists
	Computer systems analysts
	Database administrators
	Information security analysts
	Network and computer systems administrators
	Operations research analysts
	Software developers, applications and systems software
	Web developers
	Computer occupations, all other
	Logisticians
	Mathematicians
	Operations research analysts
	Statisticians
	Miscellaneous mathematical science occupations
Physical scientists	Physical scientists
Chemists	Astronomers and physicists

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Decennial Census, 1960	American Community Survey, 2015
Geologists and geophysicists	Atmospheric and space scientists
Physicists	Chemists and materials scientists
Miscellaneous natural scientists	Environmental scientists and geoscientists
	Physical scientists, all other
Social scientists	Social scientists
Economists	Economists
Psychologists	Psychologists
Miscellaneous social scientists	Sociologists
	Survey researchers
	Urban and regional planners
	Miscellaneous social scientists and related workers
Engineers	Engineers
Aeronautical engineers	Aerospace engineers
Chemical engineers	Agricultural engineers
Civil engineers	Biomedical engineers
Electrical engineers	Chemical engineers
Industrial engineers	Civil engineers
Mechanical engineers	Computer hardware engineers
Metallurgical engineers and metallurgists	Electrical engineers
Mining engineers	Environmental engineers
Sales engineers	Industrial engineers, including health and safety engineers
Engineers nec	Marine engineers and naval architects
	Materials engineers
	Mechanical engineers
	Mining and geological engineers, including mining safety engineers
	Nuclear engineers
	Petroleum engineers

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Decennial Census, 1960	American Community Survey, 2015
	Sales engineers
	Engineers, all others

nec = not elsewhere classified.

Note(s)

The data reported here on the S&E employment levels for 1960 and 2015 were calculated using the Census Bureau's 1960 Decennial Census and 2015 American Community Survey (ACS) microdata, respectively, adjusted by the Integrated Public Use Microdata Series (IPUMS) from the University of Minnesota's Minnesota Population Center (<https://www.ipums.org/>). Computer occupations were not present in the occupational classification system used in 1960. For more information on how occupational classification systems have changed over time, see Wyatt and Hecker's report, "Occupational Changes During the 20th Century" (*Monthly Labor Review*, March 2006). S&E employment levels for 1960 and 2015 do not include S&E postsecondary teachers. Although the 1960 Census data allow for separate identification of S&E postsecondary teachers, the 2015 ACS data aggregate postsecondary teachers of both S&E and non-S&E fields into one occupation code.

Source(s)

National Science Foundation, National Center for Science and Engineering Statistics, based on 1960 Decennial Census and 2015 ACS, Census Bureau.

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APPENDIX TABLE 3-2

Bureau of Labor Statistics projections of occupational employment: 2014–24

(Thousands)

Occupation	BLS National Employment Matrix 2014 estimate	BLS projected 2024 employment	Job openings from growth and net replacements, 2014–24	10-year growth in total employment (%)	10-year job openings as % of 2014 employment
Total, all occupations	150,539.9	160,328.8	46,506.9	6.5	30.9
All S&E	6,261.7	6,956.7	1,880.5	11.1	30.0
Computer and mathematical scientists (excluding computer programmers)	3,714.1	4,267.7	1,063.8	14.9	28.6
Computer and information scientists, research	25.6	28.3	6.0	10.5	23.4
Computer and information analysts	650.7	784.1	217.1	20.5	33.4
Software and web developers	1,262.5	1,488.7	404.5	17.9	32.0
Network architects and database and systems administrators	648.8	705.0	150.1	8.7	23.1
Computer support specialists	766.9	855.7	187.4	11.6	24.4
Computer specialists, all other	233.0	240.8	37.7	3.3	16.2
Mathematicians	3.5	4.2	1.3	20.0	37.1
Operations research analysts	91.3	118.9	43.9	30.2	48.1
Statisticians	30.0	40.1	15.4	33.7	51.3
Mathematical scientists, all other	1.8	1.9	0.4	5.6	22.2
Engineers	1,636.3	1,701.2	510.7	4.0	31.2
Aerospace engineers	72.5	70.8	20.7	-2.3	28.6
Agricultural engineers	2.9	3.0	0.7	3.4	24.1

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Occupation	BLS National Employment Matrix 2014 estimate	BLS projected 2024 employment	Job openings from growth and net replacements, 2014–24	10-year growth in total employment (%)	10-year job openings as % of 2014 employment
Biomedical engineers	22.1	27.2	10.9	23.1	49.3
Chemical engineers	34.3	34.9	10.0	1.7	29.2
Civil engineers	281.4	305.0	106.7	8.4	37.9
Computer hardware engineers	77.7	80.1	18.4	3.1	23.7
Electrical and electronics engineers	315.9	315.7	71.4	-0.1	22.6
Electrical engineers	178.4	180.2	41.1	1.0	23.0
Electronics engineers, except computer	137.4	135.5	30.3	-1.4	22.1
Environmental engineers	55.1	62.0	22.4	12.5	40.7
Industrial engineers, including health and safety	266.3	270.0	81.8	1.4	30.7
Health and safety engineers, except mining safety engineers and inspectors	25.2	26.8	9.0	6.3	35.7
Industrial engineers	241.1	243.2	72.8	0.9	30.2
Marine engineers and naval architects	8.3	9.0	2.9	8.4	34.9
Materials engineers	25.3	25.6	9.2	1.2	36.4
Mechanical engineers	277.5	292.1	102.5	5.3	36.9
Mining and geological engineers, including mining safety engineers	8.3	8.8	2.7	6.0	32.5
Nuclear engineers	16.8	16.2	4.4	-3.6	26.2
Petroleum engineers	35.1	38.5	13.0	9.7	37.0
Engineers, all other	136.9	142.3	33.0	3.9	24.1

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Occupation	BLS National Employment Matrix 2014 estimate	BLS projected 2024 employment	Job openings from growth and net replacements, 2014–24	10-year growth in total employment (%)	10-year job openings as % of 2014 employment
Life scientists	310.9	330.0	116.6	6.1	37.5
Agricultural and food scientists	36.1	38.0	14.5	5.3	40.2
Animal scientists	2.9	3.2	1.2	10.3	41.4
Food scientists and technologists	15.4	16.0	5.9	3.9	38.3
Soil and plant scientists	17.7	18.9	7.3	6.8	41.2
Biological scientists	114.1	118.4	35.0	3.8	30.7
Biochemists and biophysicists	34.1	36.9	11.9	8.2	34.9
Microbiologists	22.4	23.2	6.8	3.6	30.4
Zoologists and wildlife biologists	21.3	22.2	6.6	4.2	31.0
Biological scientists, all other	36.4	36.2	9.7	-0.5	26.6
Conservation scientists and foresters	36.5	39.3	18.7	7.7	51.2
Conservation scientists	21.1	22.5	10.6	6.6	50.2
Foresters	15.5	16.8	8.0	8.4	51.6
Medical scientists	113.6	123.0	44.5	8.3	39.2
Epidemiologists	5.8	6.1	2.2	5.2	37.9
Medical scientists, except epidemiologists	107.9	116.8	42.4	8.2	39.3
All other life scientists	10.6	11.3	4.0	6.6	37.7
Physical scientists	296.8	316.6	92.7	6.7	31.2
Astronomers and physicists	20.0	21.4	5.3	7.0	26.5
Astronomers	1.9	1.9	0.4	0.0	21.1
Physicists	18.1	19.5	4.9	7.7	27.1

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Occupation	BLS National Employment Matrix 2014 estimate	BLS projected 2024 employment	Job openings from growth and net replacements, 2014–24	10-year growth in total employment (%)	10-year job openings as % of 2014 employment
Atmospheric and space scientists	11.8	12.9	3.3	9.3	28.0
Chemists and materials scientists	98.4	101.0	24.2	2.6	24.6
Chemists	91.1	93.5	22.4	2.6	24.6
Materials scientists	7.3	7.5	1.8	2.7	24.7
Environmental scientists and geoscientists	138.0	152.5	56.9	10.5	41.2
Environmental scientists and specialists, including health	94.6	104.8	39.3	10.8	41.5
Geoscientists, except hydrologists and geographers	36.4	40.2	15.0	10.4	41.2
Hydrologists	7.0	7.5	2.6	7.1	37.1
All other physical scientists	28.5	28.8	3.0	1.1	10.5
Social and related scientists (excluding historians)	303.6	341.2	96.7	12.4	31.9
Economists	21.5	22.7	7.0	5.6	32.6
Survey researchers	16.7	18.7	3.9	12.0	23.4
Psychologists	173.9	206.4	69.8	18.7	40.1
Clinical, counseling, and school psychologists	155.3	185.9	63.8	19.7	41.1
Industrial-organizational psychologists	2.0	2.3	0.8	15.0	40.0
Psychologists, all other	16.6	18.3	5.2	10.2	31.3
Sociologists	2.6	2.5	0.3	-3.8	11.5

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Occupation	BLS National Employment Matrix 2014 estimate	BLS projected 2024 employment	Job openings from growth and net replacements, 2014–24	10-year growth in total employment (%)	10-year job openings as % of 2014 employment
Urban and regional planners	38.0	40.4	9.4	6.3	24.7
Miscellaneous social scientists and related workers	50.9	50.3	6.3	-1.2	12.4
Anthropologists and archeologists	7.7	8.0	1.2	3.9	15.6
Geographers	1.4	1.4	0.2	0.0	14.3
Political scientists	6.2	6.0	0.7	-3.2	11.3
Social scientists and related workers, all other	35.6	34.9	4.2	-2.0	11.8
Selected other occupations					
S&E managers	918.7	1,034.2	308.1	12.6	33.5
Computer and information systems managers	348.5	402.2	94.8	15.4	27.2
Architectural and engineering managers	182.1	185.8	59.5	2.0	32.7
Medical and health services managers	333.0	389.3	140.5	16.9	42.2
Natural sciences managers	55.1	56.9	13.3	3.3	24.1
S&E technicians and technologists, except computer programmers	1,158.1	1,172.3	334.9	1.2	28.9
Agricultural and food science technicians	33.0	34.7	12.4	5.2	37.6
Biological technicians	79.3	83.5	26.3	5.3	33.2
Chemical technicians	66.5	67.7	21.1	1.8	31.7
Geological and petroleum technicians	16.5	18.5	8.0	12.1	48.5

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Occupation	BLS National Employment Matrix 2014 estimate	BLS projected 2024 employment	Job openings from growth and net replacements, 2014–24	10-year growth in total employment (%)	10-year job openings as % of 2014 employment
Nuclear technicians	6.8	6.4	2.8	-5.9	41.2
Social science research assistants	32.0	33.8	15.2	5.6	47.5
Miscellaneous life, physical, and social science technicians	161.4	172.2	80.2	6.7	49.7
Drafters	204.4	198.3	25.8	-3.0	12.6
Surveying and mapping technicians	57.3	52.9	6.5	-7.7	11.3
Aerospace engineering and operations technicians	11.4	11.8	3.2	3.5	28.1
Civil engineering technicians	74.0	77.6	21.6	4.9	29.2
Electrical and electronic engineering technicians	139.4	136.6	34.1	-2.0	24.5
Electro-mechanical technicians	14.7	14.8	3.7	0.7	25.2
Environmental engineering technicians	18.6	20.4	6.4	9.7	34.4
Industrial engineering technicians	66.5	63.5	16.3	-4.5	24.5
Mechanical engineering technicians	48.4	49.3	12.8	1.9	26.4
Engineering technicians, all other	70.1	69.9	17.1	-0.3	24.4
Mathematical technicians	1.2	1.1	0.2	-8.3	16.7
Surveyors, cartographers, photogrammetrists	56.6	59.3	21.2	4.8	37.5
Computer programmers	328.6	302.2	81.0	-8.0	24.7
Health care practitioners and technical occupations	8,236.5	9,584.6	3,161.6	16.4	38.4

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Occupation	BLS National Employment Matrix 2014 estimate	BLS projected 2024 employment	Job openings from growth and net replacements, 2014–24	10-year growth in total employment (%)	10-year job openings as % of 2014 employment
Health diagnosing and treating practitioners	5,132.4	5,994.7	2,073.4	16.8	40.4
Chiropractors	45.2	53.1	16.0	17.5	35.4
Dentists	151.5	178.2	57.6	17.6	38.0
Dietitians and nutritionists	66.7	77.6	16.0	16.3	24.0
Optometrists	40.6	51.6	25.5	27.1	62.8
Pharmacists	297.1	306.2	78.4	3.1	26.4
Physicians and surgeons	708.3	807.6	290.0	14.0	40.9
Physician assistants	94.4	123.2	50.0	30.5	53.0
Registered nurses	2,751.0	3,190.3	1,088.4	16.0	39.6
Nurse practitioners	126.9	171.7	74.7	35.3	58.9
Therapists	655.9	813.8	311.2	24.1	47.4
Veterinarians	78.3	85.2	19.0	8.8	24.3
Health diagnosing and treating practitioners, all other	116.5	136.2	46.6	16.9	40.0
Health technologists and technicians	2,946.6	3,416.1	1,040.4	15.9	35.3
Clinical laboratory technologists and technicians	328.2	380.3	130.5	15.9	39.8
Dental hygienists	200.5	237.9	70.3	18.7	35.1
Diagnostic-related technologists and technicians	363.9	412.4	117.3	13.3	32.2
Emergency medical technicians and paramedics	241.2	299.6	98.0	24.2	40.6

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Occupation	BLS National Employment Matrix 2014 estimate	BLS projected 2024 employment	Job openings from growth and net replacements, 2014–24	10-year growth in total employment (%)	10-year job openings as % of 2014 employment
Health practitioner support technicians	712.8	794.7	154.5	11.5	21.7
Licensed practical and licensed vocational nurses	719.9	837.2	322.2	16.3	44.8
Medical records and health information technicians	188.6	217.6	71.2	15.4	37.8
Opticians, dispensing	75.2	93.0	37.9	23.7	50.4
Health care technologists and technicians, all other	116.4	143.5	38.6	23.3	33.2
Other health care practitioners and technical occupations	157.4	173.8	47.8	10.4	30.4
Occupational health and safety specialists and technicians	85.5	89.6	21.3	4.8	24.9
Health care practitioners and technical workers, all other	72.0	84.1	26.5	16.8	36.8
Lawyers	778.7	822.5	157.7	5.6	20.3
Postsecondary teachers	1,869.4	2,088.8	550.6	11.7	29.5

BLS = Bureau of Labor Statistics.

Note(s)

Estimates of current and projected employment for the 2014–24 period are from BLS's National Employment Matrix. Data in the matrix are from the Occupational Employment Statistics (OES) survey and the Current Population Survey (CPS). Together, these sources cover paid workers, self-employed workers, and unpaid family workers in all industries, agriculture, and private households. Because the numbers are derived from multiple sources, data can often differ from employment data provided by the OES survey, CPS, or other employment surveys alone. BLS does not make projections for S&E occupations as a group; numbers in the table are based on the sum of BLS projections in occupations that the National Science Foundation considers S&E. Detail may not add to total because of rounding.



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Source(s)

National Science Foundation, National Center for Science and Engineering Statistics, special tabulations (2016) of BLS Employment Projections.

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 APPENDIX TABLE 3-3 
Scientists and engineers, by occupation and degree field: 2015

(Number)

Occupation	All employed scientists and engineers	Highest degree in S&E						S&E-related fields	Non-S&E fields
		All S&E highest degree	Computer and mathematical sciences	Biological, agricultural, and environmental life sciences	Physical and related sciences	Social and related sciences	Engineering		
All occupations	25,306,000	13,497,000	2,346,000	2,116,000	789,000	5,056,000	3,190,000	6,191,000	5,618,000
S&E occupations	6,407,000	4,854,000	1,350,000	624,000	386,000	660,000	1,834,000	367,000	1,186,000
Computer and mathematical scientists	3,156,000	2,178,000	1,280,000	116,000	67,000	203,000	512,000	157,000	820,000
Computer and information scientists	2,823,000	1,951,000	1,159,000	65,000	60,000	181,000	486,000	141,000	731,000
Computer and information scientists, research	64,000	50,000	31,000	s	s	s	6,000	s	10,000
Computer network architects	48,000	39,000	26,000	s	s	s	9,000	s	8,000
Computer support specialists	242,000	130,000	82,000	6,000	4,000	19,000	19,000	19,000	94,000
Computer system analysts	333,000	213,000	139,000	7,000	5,000	23,000	39,000	21,000	99,000
Database administrators	146,000	80,000	44,000	s	1,000	22,000	12,000	5,000	61,000
Information security analysts	69,000	49,000	38,000	s	s	s	7,000	s	18,000
Network and computer systems administrators	188,000	133,000	84,000	7,000	s	13,000	25,000	7,000	48,000

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Occupation	All employed scientists and engineers	Highest degree in S&E						S&E-related fields	Non-S&E fields
		All S&E highest degree	Computer and mathematical sciences	Biological, agricultural, and environmental life sciences	Physical and related sciences	Social and related sciences	Engineering		
Software developers — applications and systems software	623,000	485,000	288,000	10,000	23,000	27,000	137,000	21,000	117,000
Web developers	174,000	82,000	47,000	11,000	3,000	8,000	13,000	7,000	85,000
Other computer information science occupations	345,000	192,000	102,000	9,000	8,000	47,000	25,000	16,000	137,000
Computer engineers — software	592,000	499,000	279,000	7,000	8,000	11,000	194,000	38,000	55,000
Mathematical scientists	218,000	139,000	45,000	s	5,000	17,000	21,000	s	73,000
Mathematicians	7,000	7,000	6,000	s	s	s	s	s	s
Operations research analysts, including modeling	122,000	54,000	15,000	s	2,000	12,000	16,000	1,000	67,000
Statisticians	74,000	67,000	17,000	s	s	4,000	s	s	2,000
Other mathematical scientists	15,000	s	s	s	s	1,000	1,000	*	4,000
Postsecondary teachers — computer and mathematical sciences	114,000	89,000	76,000	1,000	s	5,000	5,000	10,000	15,000
Computer science	22,000	14,000	10,000	s	s	s	3,000	s	8,000

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Occupation	All employed scientists and engineers	Highest degree in S&E						S&E-related fields	Non-S&E fields
		All S&E highest degree	Computer and mathematical sciences	Biological, agricultural, and environmental life sciences	Physical and related sciences	Social and related sciences	Engineering		
Mathematics and statistics	92,000	75,000	66,000	s	s	4,000	1,000	10,000	8,000
Biological, agricultural, and environmental life scientists	631,000	496,000	4,000	422,000	37,000	19,000	13,000	72,000	63,000
Agricultural and food scientists	52,000	45,000	s	38,000	3,000	s	s	1,000	s
Biological and medical scientists	443,000	346,000	4,000	290,000	27,000	13,000	11,000	65,000	33,000
Biochemists and biophysicists	72,000	68,000	s	53,000	11,000	s	2,000	2,000	2,000
Biological scientists (e.g., botanists, ecologists, zoologists)	137,000	121,000	s	111,000	5,000	4,000	*	4,000	12,000
Medical scientists (excluding practitioners)	136,000	85,000	4,000	65,000	5,000	5,000	6,000	44,000	7,000
Other biological and life scientists	98,000	72,000	*	61,000	6,000	2,000	3,000	15,000	10,000
Forestry and conservation scientists	59,000	35,000	s	34,000	s	1,000	s	*	s
Postsecondary teachers — life and related sciences	78,000	69,000	s	60,000	6,000	2,000	1,000	6,000	3,000
Agriculture	5,000	5,000	s	3,000	s	s	s	s	s

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Occupation	All employed scientists and engineers	Highest degree in S&E						S&E-related fields	Non-S&E fields
		All S&E highest degree	Computer and mathematical sciences	Biological, agricultural, and environmental life sciences	Physical and related sciences	Social and related sciences	Engineering		
Biological sciences	62,000	57,000	s	55,000	s	s	s	3,000	2,000
Other natural sciences	11,000	8,000	s	2,000	5,000	s	s	s	s
Physical and related scientists	331,000	309,000	1,000	41,000	232,000	9,000	26,000	12,000	10,000
Chemists, except biochemists	105,000	96,000	s	15,000	74,000	1,000	5,000	6,000	3,000
Earth scientists, geologists, and oceanographers	66,000	64,000	s	3,000	55,000	2,000	3,000	s	2,000
Atmospheric and space scientists	15,000	14,000	s	s	12,000	s	1,000	s	1,000
Geologists, including earth scientists	48,000	46,000	s	3,000	40,000	1,000	2,000	s	2,000
Oceanographers	4,000	4,000	s	s	3,000	s	s	s	s
Physicists and astronomers	49,000	47,000	*	s	41,000	s	4,000	2,000	s
Astronomers	7,000	7,000	s	s	6,000	s	s	s	s
Physicists, except biophysicists	42,000	40,000	*	s	35,000	s	4,000	2,000	s
Other physical and related scientists	45,000	38,000	s	15,000	7,000	5,000	11,000	4,000	4,000

CHAPTER 3 | Science and Engineering Labor Force

Occupation	All employed scientists and engineers	Highest degree in S&E						S&E-related fields	Non-S&E fields
		All S&E highest degree	Computer and mathematical sciences	Biological, agricultural, and environmental life sciences	Physical and related sciences	Social and related sciences	Engineering		
Postsecondary teachers — physical and related sciences	65,000	64,000	s	6,000	55,000	*	2,000	s	s
Chemistry	28,000	28,000	s	1,000	26,000	s	s	s	s
Earth, environmental, and marine sciences	15,000	15,000	s	5,000	9,000	*	s	s	s
Physics	22,000	21,000	s	s	20,000	s	1,000	s	s
Social and related scientists	570,000	423,000	8,000	10,000	1,000	400,000	2,000	31,000	116,000
Economists	32,000	28,000	s	s	s	27,000	s	s	3,000
Political scientists	25,000	19,000	s	s	s	17,000	s	s	5,000
Psychologists, including clinical	213,000	189,000	s	s	s	187,000	s	4,000	21,000
Sociologists and anthropologists	31,000	24,000	s	*	s	23,000	s	s	s
Anthropologists	11,000	10,000	s	s	s	10,000	s	s	1,000
Sociologists	20,000	14,000	s	*	s	13,000	s	s	s
Other social and related scientists	108,000	57,000	3,000	6,000	1,000	45,000	2,000	21,000	29,000
Postsecondary teachers — social and related sciences	162,000	106,000	3,000	s	s	101,000	s	4,000	52,000
Economics	21,000	16,000	s	s	s	15,000	s	s	4,000

CHAPTER 3 | Science and Engineering Labor Force

Occupation	All employed scientists and engineers	Highest degree in S&E						S&E-related fields	Non-S&E fields
		All S&E highest degree	Computer and mathematical sciences	Biological, agricultural, and environmental life sciences	Physical and related sciences	Social and related sciences	Engineering		
Political science	21,000	18,000	s	s	s	18,000	s	s	s
Psychology	38,000	35,000	s	s	s	33,000	s	s	3,000
Sociology	14,000	12,000	s	s	s	12,000	s	s	2,000
Other social sciences	68,000	24,000	s	s	s	23,000	s	4,000	41,000
Engineers	1,719,000	1,448,000	56,000	34,000	48,000	28,000	1,281,000	94,000	176,000
Aerospace, aeronautical, or astronautical engineers	96,000	83,000	4,000	s	5,000	s	73,000	3,000	10,000
Chemical engineers	80,000	73,000	s	1,000	3,000	s	69,000	1,000	6,000
Civil, architectural, or sanitary engineers	251,000	217,000	3,000	3,000	3,000	5,000	204,000	17,000	17,000
Electrical or computer hardware engineers	360,000	321,000	23,000	s	10,000	s	281,000	13,000	26,000
Computer engineers, hardware	70,000	59,000	13,000	s	*	s	38,000	2,000	9,000
Electrical and electronics engineers	290,000	262,000	10,000	s	9,000	s	243,000	12,000	17,000
Industrial engineers	82,000	63,000	1,000	6,000	1,000	4,000	51,000	6,000	12,000
Mechanical engineers	337,000	292,000	8,000	s	2,000	s	280,000	15,000	30,000

CHAPTER 3 | Science and Engineering Labor Force

Occupation	All employed scientists and engineers	Highest degree in S&E						S&E-related fields	Non-S&E fields
		All S&E highest degree	Computer and mathematical sciences	Biological, agricultural, and environmental life sciences	Physical and related sciences	Social and related sciences	Engineering		
Other engineers	460,000	349,000	15,000	22,000	24,000	12,000	277,000	37,000	74,000
Agricultural engineers	7,000	7,000	s	s	s	s	5,000	s	s
Bioengineers or biomedical engineers	26,000	21,000	s	3,000	*	s	17,000	4,000	s
Environmental engineers	66,000	60,000	s	11,000	8,000	s	40,000	4,000	2,000
Marine engineers and naval architects	12,000	10,000	s	s	s	s	9,000	s	s
Materials and metallurgical engineers	31,000	27,000	s	s	2,000	s	24,000	s	3,000
Mining and geological engineers	5,000	5,000	s	s	*	s	4,000	s	s
Nuclear engineers	25,000	23,000	s	s	s	s	22,000	s	2,000
Petroleum engineers	19,000	17,000	s	s	3,000	s	12,000	s	s
Sales engineers	90,000	58,000	7,000	s	1,000	7,000	42,000	5,000	27,000
Other engineers	178,000	122,000	8,000	4,000	7,000	2,000	102,000	22,000	34,000
Postsecondary teachers — engineering	53,000	49,000	2,000	s	s	s	45,000	2,000	2,000
S&E-related occupations	7,867,000	1,953,000	326,000	600,000	160,000	390,000	477,000	4,437,000	1,478,000

CHAPTER 3 | Science and Engineering Labor Force

Occupation	All employed scientists and engineers	Highest degree in S&E						S&E-related fields	Non-S&E fields
		All S&E highest degree	Computer and mathematical sciences	Biological, agricultural, and environmental life sciences	Physical and related sciences	Social and related sciences	Engineering		
Health-related occupations	4,883,000	666,000	24,000	341,000	63,000	223,000	15,000	3,685,000	532,000
Diagnosing or treating practitioners (e.g., dentists, optometrists, physicians, psychiatrists, podiatrists, surgeons, veterinarians)	1,205,000	58,000	s	44,000	6,000	7,000	s	1,134,000	13,000
Registered nurses, pharmacists, dieticians, therapists, physician assistants, nurse practitioners	2,307,000	168,000	s	67,000	13,000	71,000	s	1,971,000	168,000
Health technologists and technicians (e.g., dental hygienists, health record technicians, licensed practical nurses, laboratory or radiology technicians)	513,000	205,000	2,000	130,000	33,000	37,000	2,000	197,000	111,000
Other health occupations	718,000	212,000	7,000	89,000	7,000	102,000	8,000	286,000	219,000
Postsecondary teachers — health and related sciences	140,000	22,000	s	12,000	s	6,000	s	97,000	20,000
S&E managers	967,000	477,000	99,000	56,000	26,000	54,000	242,000	281,000	208,000
Computer and information systems managers	229,000	144,000	85,000	3,000	s	22,000	30,000	11,000	74,000

CHAPTER 3 | Science and Engineering Labor Force

Occupation	All employed scientists and engineers	Highest degree in S&E						S&E-related fields	Non-S&E fields
		All S&E highest degree	Computer and mathematical sciences	Biological, agricultural, and environmental life sciences	Physical and related sciences	Social and related sciences	Engineering		
Engineering managers	362,000	244,000	13,000	5,000	11,000	7,000	208,000	53,000	65,000
Medical and health services managers	320,000	51,000	s	24,000	s	23,000	s	213,000	56,000
Natural sciences managers	55,000	38,000	s	23,000	11,000	s	2,000	4,000	13,000
S&E precollege teachers	1,029,000	269,000	63,000	103,000	33,000	62,000	7,000	233,000	526,000
Secondary — computer, mathematics, or sciences	729,000	224,000	63,000	103,000	33,000	18,000	7,000	200,000	304,000
Secondary — social sciences	300,000	45,000	s	s	s	44,000	s	34,000	222,000
S&E technicians and technologists	782,000	506,000	124,000	98,000	37,000	44,000	202,000	83,000	193,000
Technologists and technicians in the biological and life sciences	102,000	77,000	s	64,000	4,000	4,000	3,000	21,000	4,000
Computer programmers (business, scientific, process control)	166,000	130,000	87,000	7,000	5,000	4,000	28,000	10,000	26,000
Electrical, electronic, industrial, and mechanical technicians	243,000	125,000	6,000	4,000	8,000	5,000	102,000	22,000	96,000
Drafting occupations, including computer drafting	28,000	10,000	s	s	s	s	6,000	10,000	9,000

CHAPTER 3 | Science and Engineering Labor Force

Occupation	All employed scientists and engineers	Highest degree in S&E						S&E-related fields	Non-S&E fields
		All S&E highest degree	Computer and mathematical sciences	Biological, agricultural, and environmental life sciences	Physical and related sciences	Social and related sciences	Engineering		
Surveying and mapping technicians	15,000	10,000	s	1,000	s	3,000	3,000	s	s
Other engineering technologists and technicians	177,000	115,000	27,000	8,000	11,000	17,000	52,000	15,000	47,000
Surveyors, cartographers, photogrammetrists	11,000	9,000	s	s	s	6,000	2,000	s	s
Technologists and technicians in the mathematical sciences	3,000	2,000	s	s	s	s	s	s	s
Technologists and technicians in the physical sciences	37,000	28,000	s	14,000	6,000	s	4,000	s	7,000
Other S&E-related occupations	207,000	36,000	15,000	s	s	7,000	12,000	154,000	17,000
Architects	174,000	19,000	3,000	s	s	3,000	11,000	139,000	16,000
Actuaries	33,000	17,000	12,000	s	s	s	s	15,000	s
Non-S&E occupations	11,007,000	6,666,000	670,000	893,000	242,000	3,983,000	879,000	1,387,000	2,954,000
Non-S&E managers	1,818,000	1,105,000	138,000	124,000	48,000	494,000	301,000	201,000	513,000

CHAPTER 3 | Science and Engineering Labor Force

Occupation	All employed scientists and engineers	Highest degree in S&E						S&E-related fields	Non-S&E fields
		All S&E highest degree	Computer and mathematical sciences	Biological, agricultural, and environmental life sciences	Physical and related sciences	Social and related sciences	Engineering		
Top-level managers, executives, administrators (e.g., chief executive officer, chief operating officer, chief financial officer; president; district manager, general manager, provost)	1,092,000	688,000	89,000	71,000	35,000	283,000	210,000	137,000	267,000
Education administrators (e.g., registrar, dean, principal)	132,000	40,000	14,000	2,000	s	23,000	s	8,000	83,000
Other mid-level managers	593,000	376,000	35,000	50,000	12,000	187,000	91,000	55,000	162,000
Management-related occupations	2,085,000	1,345,000	197,000	161,000	40,000	770,000	177,000	207,000	532,000
Accountants, auditors, and other financial specialists	720,000	483,000	85,000	37,000	10,000	303,000	49,000	48,000	188,000
Personnel, training, and labor relations specialists	295,000	191,000	23,000	24,000	s	126,000	17,000	28,000	76,000
Other management-related occupations	1,070,000	671,000	89,000	101,000	29,000	340,000	111,000	131,000	269,000
Non-S&E precollege teachers	815,000	339,000	20,000	24,000	15,000	270,000	10,000	181,000	294,000
Prekindergarten and kindergarten	127,000	60,000	s	s	s	53,000	s	48,000	18,000
Elementary	377,000	168,000	15,000	9,000	13,000	126,000	4,000	68,000	141,000

CHAPTER 3 | Science and Engineering Labor Force

Occupation	All employed scientists and engineers	Highest degree in S&E						S&E-related fields	Non-S&E fields
		All S&E highest degree	Computer and mathematical sciences	Biological, agricultural, and environmental life sciences	Physical and related sciences	Social and related sciences	Engineering		
Secondary — other subjects	124,000	47,000	1,000	6,000	s	37,000	2,000	29,000	49,000
Special education — primary and secondary	138,000	40,000	*	2,000	s	35,000	s	21,000	77,000
Other precollegiate area	48,000	25,000	1,000	4,000	s	19,000	s	15,000	9,000
Non-S&E postsecondary teachers	179,000	65,000	8,000	2,000	s	51,000	4,000	29,000	84,000
Art, drama, and music	6,000	s	s	s	s	s	s	s	4,000
Business, commerce, and marketing	31,000	11,000	2,000	s	s	7,000	s	s	19,000
Education	30,000	11,000	1,000	s	s	8,000	s	9,000	11,000
English	28,000	13,000	s	s	s	12,000	s	s	15,000
Foreign language	9,000	7,000	s	s	s	4,000	s	s	2,000
History	9,000	4,000	s	s	s	4,000	s	s	5,000
Physical education	3,000	s	s	s	s	s	s	s	1,000
Other postsecondary fields	64,000	19,000	2,000	1,000	s	14,000	2,000	16,000	28,000
Social services and related occupations	883,000	429,000	8,000	21,000	s	391,000	7,000	115,000	338,000
Clergy and other religious workers	120,000	39,000	s	s	s	26,000	4,000	s	77,000

CHAPTER 3 | Science and Engineering Labor Force

Occupation	All employed scientists and engineers	Highest degree in S&E						S&E-related fields	Non-S&E fields
		All S&E highest degree	Computer and mathematical sciences	Biological, agricultural, and environmental life sciences	Physical and related sciences	Social and related sciences	Engineering		
Counselors (e.g., educational, vocational, mental health, substance abuse)	435,000	224,000	10,000	5,000	208,000	77,000	134,000		
Social workers	327,000	167,000	84,000	178,000	54,000	614,000	123,000	186,000	
Sales and marketing occupations	1,467,000	1,053,000	19,000	47,000	10,000	192,000	25,000	48,000	64,000
Insurance, securities, real estate, and business services	406,000	294,000	10,000	49,000	7,000	67,000	23,000	33,000	26,000
Sales — commodities, except retail (e.g., industrial/ medical/ dental machinery, equipment, supplies)	216,000	156,000	28,000	40,000	27,000	133,000	31,000	49,000	37,000
Sales — retail (e.g., furnishings, clothing, motor vehicles, cosmetics)	345,000	259,000	27,000	42,000	10,000	222,000	44,000	56,000	100,000
Other marketing and sales occupations	501,000	345,000	20,000	27,000	11,000	143,000	23,000	32,000	75,000
Arts, humanities, and related occupations	331,000	224,000	19,000	27,000	11,000	141,000	23,000	32,000	74,000
Writers, editors, public relations specialists, artists, entertainers, broadcasters	328,000	222,000							

CHAPTER 3 | Science and Engineering Labor Force

Occupation	All employed scientists and engineers	Highest degree in S&E						S&E-related fields	Non-S&E fields
		All S&E highest degree	Computer and mathematical sciences	Biological, agricultural, and environmental life sciences	Physical and related sciences	Social and related sciences	Engineering		
Historians	4,000	3,000	s	s	s	s	s	1,000	*
Other non-S&E occupations	3,430,000	2,105,000	195,000	355,000	71,000	1,251,000	233,000	435,000	890,000
Accounting clerks and bookkeepers	163,000	134,000	17,000	8,000	s	103,000	s	20,000	9,000
Secretaries, receptionists, typists	222,000	159,000	8,000	14,000	s	126,000	10,000	36,000	26,000
Other administrative (e.g., record clerks, telephone operators)	577,000	424,000	55,000	69,000	18,000	269,000	13,000	90,000	64,000
Farmers, foresters, and fishermen	99,000	76,000	2,000	59,000	s	9,000	3,000	12,000	12,000
Lawyers, judges	635,000	40,000	s	3,000	s	33,000	s	s	594,000
Librarians, archivists, curators	95,000	48,000	5,000	s	4,000	35,000	s	s	43,000
Food preparation and service (e.g., cooks, waitresses, bartenders)	136,000	100,000	3,000	21,000	s	61,000	13,000	29,000	7,000
Protective services (e.g., firefighters, police, guards, wardens, park rangers)	155,000	127,000	5,000	7,000	s	103,000	3,000	16,000	13,000

CHAPTER 3 | Science and Engineering Labor Force

Occupation	All employed scientists and engineers	Highest degree in S&E						S&E-related fields	Non-S&E fields
		All S&E highest degree	Computer and mathematical sciences	Biological, agricultural, and environmental life sciences	Physical and related sciences	Social and related sciences	Engineering		
Other service occupations, except health (e.g., probation officer, human services work)	380,000	265,000	29,000	43,000	2,000	174,000	16,000	65,000	50,000
Other teachers and instructors (e.g., private tutors, dance, flying, martial arts)	230,000	167,000	18,000	23,000	10,000	97,000	18,000	33,000	30,000
Construction and extraction occupations	88,000	59,000	s	22,000	s	16,000	17,000	23,000	5,000
Installation, maintenance, and repair occupations	127,000	104,000	12,000	12,000	s	40,000	37,000	20,000	3,000
Precision or production occupations (e.g., metal or wood workers, butchers, bakers, assemblers, tailors)	140,000	101,000	14,000	33,000	4,000	29,000	21,000	33,000	6,000
Transportation and material moving occupations	199,000	165,000	15,000	26,000	9,000	69,000	46,000	24,000	9,000
Other occupations	183,000	135,000	8,000	10,000	3,000	86,000	28,000	28,000	20,000

* = estimate < 500; s = suppressed for reasons of confidentiality and/or reliability.

Note(s)

CHAPTER 3 | Science and Engineering Labor Force

Scientists and engineers include those with one or more S&E or S&E-related degrees at the bachelor's level or higher or those who have only a non-S&E degree at the bachelor's level or higher and are employed in an S&E or S&E-related occupation. Detail may not add to total because of rounding. Numbers are rounded to the nearest 1,000.

Source(s)

National Science Foundation, National Center for Science and Engineering Statistics, National Survey of College Graduates (NSCG) (2015), <https://www.nsf.gov/statistics/srvygrads/>.

Science and Engineering Indicators 2018

CHAPTER 3 | Science and Engineering Labor Force

 APPENDIX TABLE 3-4 
Employment sector of S&E highest degree holders and workers in S&E occupations: 1993, 2003, and 2015

(Percent)

Employment sector	1993		2003		2015	
	Highest degree in S&E	S&E occupations	Highest degree in S&E	S&E occupations	Highest degree in S&E	S&E occupations
Total (number)	7,036,000	3,303,000	9,579,000	4,817,000	13,497,000	6,407,000
Business or industry	68.7	67.8	71.3	71.7	72.3	71.5
For-profit businesses	57.3	61.1	59.1	64.2	58.9	63.6
Nonprofit businesses	5.2	3.2	6.3	3.7	7.3	4.7
Self-employed, unincorporated businesses	6.2	3.5	5.9	3.9	6.1	3.2
Education	16.8	17.8	15.6	15.9	15.8	17.2
4-year institutions	9.1	14.3	8.5	12.9	8.8	14.2
2-year and precollege institutions	7.7	3.5	7.2	3.0	7.1	3.0
Government	14.5	14.4	13.1	12.4	11.9	11.3
Federal	6.9	8.4	5.3	5.9	5.3	5.8
State or local	7.7	5.9	7.8	6.5	6.5	5.5

Note(s)

Detail may not add to total because of rounding.

Source(s)



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National Science Foundation, National Center for Science and Engineering Statistics, Scientists and Engineers Statistical Data System (SESTAT) (1993 and 2003), <https://www.nsf.gov/statistics/sestat/>, and the National Survey of College Graduates (NSCG) (2015), <https://www.nsf.gov/statistics/srvygrads/>.

Science and Engineering Indicators 2018

CHAPTER 3 | Science and Engineering Labor Force

 APPENDIX TABLE 3-5 
Employment sector of S&E highest degree holders, by level and field of highest degree: 2015

(Percent distribution)

Highest degree field and level	Total (number)	Education (%)		Business or industry (%)			Government (%)	
		4-year institutions	2-year and precollege institutions	For-profit businesses	Self-employed, unincorporated businesses	Nonprofit businesses	Federal government	State or local government
All S&E highest degree holders	13,497,000	8.8	7.1	58.9	6.1	7.3	5.3	6.5
Computer and mathematical sciences	2,346,000	6.6	6.2	69.8	3.6	4.8	5.1	3.8
Biological, agricultural, and environmental life sciences	2,116,000	15.3	7.5	47.8	6.7	10.4	5.4	7.0
Physical and related sciences	789,000	17.7	8.5	54.8	4.3	3.7	5.4	5.4
Social and related sciences	5,056,000	8.1	10.8	48.0	8.6	11.0	4.7	8.8
Engineering	3,190,000	5.0	1.0	76.5	4.2	2.0	6.5	4.8
Highest degree: bachelor's	9,539,000	5.0	6.3	63.0	6.8	7.1	4.9	6.8
Computer and mathematical sciences	1,540,000	4.0	5.6	72.7	4.4	4.4	5.3	3.6
Biological, agricultural, and environmental life sciences	1,499,000	7.6	7.5	53.6	8.1	11.3	4.4	7.5
Physical and related sciences	454,000	9.0	9.0	61.7	5.3	2.6	4.4	7.9

CHAPTER 3 | Science and Engineering Labor Force

Highest degree field and level	Total (number)	Education (%)		Business or industry (%)			Government (%)	
		4-year institutions	2-year and precollege institutions	For-profit businesses	Self-employed, unincorporated businesses	Nonprofit businesses	Federal government	State or local government
Social and related sciences	3,826,000	5.0	8.9	54.1	8.7	10.0	4.3	8.9
Engineering	2,219,000	3.1	1.2	78.0	4.7	1.9	6.4	4.8
Highest degree: master's	2,934,000	10.6	10.6	53.6	4.0	8.0	6.3	6.9
Computer and mathematical sciences	719,000	7.6	7.9	66.8	2.4	6.0	4.3	4.9
Biological, agricultural, and environmental life sciences	345,000	24.9	11.3	36.8	2.9	8.1	8.1	7.8
Physical and related sciences	163,000	17.2	12.3	52.8	3.7	4.3	5.5	3.7
Social and related sciences	918,000	10.2	20.5	31.2	6.3	15.4	6.4	10.2
Engineering	788,000	6.0	0.9	75.1	3.0	2.3	7.4	5.3
Highest degree: doctorate	992,000	39.6	3.6	36.2	5.2	6.9	6.5	2.0
Computer and mathematical sciences	87,000	43.7	2.3	43.7	1.1	1.1	6.9	s
Biological, agricultural, and environmental life sciences	272,000	45.2	2.9	29.4	2.9	8.5	7.7	2.9
Physical and related sciences	171,000	40.9	3.5	38.6	2.3	5.8	8.2	0.6
Social and related sciences	278,000	42.8	6.8	20.9	11.5	10.1	5.0	2.9

CHAPTER 3 | Science and Engineering Labor Force

Highest degree field and level	Total (number)	Education (%)		Business or industry (%)			Government (%)	
		4-year institutions	2-year and precollege institutions	For-profit businesses	Self-employed, unincorporated businesses	Nonprofit businesses	Federal government	State or local government
Engineering	183,000	23.5	0.5	63.9	3.3	2.7	4.9	1.1

s = suppressed for reasons of confidentiality and/or reliability.

Note(s)

All S&E highest degree holders includes professional degree holders not reported separately. The 2-year and precollege institutions include 2-year colleges and community colleges or technical institutes and also preschool, elementary, middle, and secondary schools. The 4-year institutions include 4-year colleges or universities, medical schools, and university-affiliated research institutes. The education sector includes public and private institutions. Detail may not add to total because of rounding. Numbers are rounded to the nearest 1,000. Percentages are based on rounded numbers.

Source(s)

National Science Foundation, National Center for Science and Engineering Statistics, National Survey of College Graduates (NSCG) (2015), <https://www.nsf.gov/statistics/srvygrads/>.

Science and Engineering Indicators 2018

CHAPTER 3 | Science and Engineering Labor Force

 APPENDIX TABLE 3-6 
Scientists and engineers participating in work-related training, by labor force status, highest degree level, and sex: 2015

(Percent)

Labor force status and highest degree level	Total	Female	Male
All scientists and engineers	52.0	55.0	49.3
Employed	61.0	65.7	56.8
Bachelor's	55.5	59.5	52.2
Master's	66.5	73.3	59.2
Professional	78.6	76.9	79.9
Doctorate	56.5	64.6	51.6
Unemployed	32.5	36.2	28.6
Bachelor's	31.4	34.3	28.4
Master's	37.7	43.4	31.8
Professional	29.2	45.5	21.4
Doctorate	22.2	15.4	21.7
Not in labor force	10.6	12.4	8.3
Bachelor's	9.7	10.8	8.3
Master's	9.8	13.3	5.1
Professional	24.8	25.2	24.6
Doctorate	11.9	17.5	8.4

Note(s)

Scientists and engineers include those with one or more S&E or S&E-related degrees at the bachelor's level or higher or those who have only a non-S&E degree at the bachelor's level or higher and are employed in an S&E or S&E-related occupation. Unemployed individuals are those not working but who have looked for a job in the preceding 4 weeks. Not in labor force includes those neither working nor looking for work in the 4 weeks prior to February 2015. Detail may not add to total because of rounding.

Source(s)

National Science Foundation, National Center for Science and Engineering Statistics, National Survey of College Graduates (NSCG) (2015), <https://www.nsf.gov/statistics/srvygrads/>.

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APPENDIX TABLE 3-7

Most important reason for scientists and engineers to participate in work-related training, by labor force status: 2015

(Percent distribution)

Reason	Total	Labor force status		
		Employed	Unemployed	Not in labor force
All scientists and engineers engaged in work-related training (number)	16,243,000	15,431,000	282,000	530,000
All reasons	100.0	100.0	100.0	100.0
To improve skills or knowledge in current occupational field	52.3	53.3	35.5	33.8
To increase opportunities for promotion or advancement in current occupational field	6.0	5.9	17.7	3.8
For licensure or certification in current occupational field	19.7	19.3	15.2	34.3
To facilitate change to different occupational field	1.3	1.1	9.9	4.7
Required or expected by employer	18.7	18.9	16.3	13.4
For leisure or personal interest	1.4	1.2	s	7.5
Other reason	0.5	0.4	s	2.6

s = suppressed for reasons of reliability and/or confidentiality.

Note(s)

Scientists and engineers include those with one or more S&E or S&E-related degrees at the bachelor's level or higher or those who have only a non-S&E degree at the bachelor's level or higher and are employed in an S&E or S&E-related occupation. Unemployed individuals are those not working but who have looked for a job in the preceding 4 weeks. Not in labor force includes those neither working nor looking for work in the 4 weeks prior to February 2015. The question was not asked of those who never worked. Detail may not add to total because of rounding.

Source(s)

National Science Foundation, National Center for Science and Engineering Statistics, National Survey of College Graduates (NSCG) (2015), <https://www.nsf.gov/statistics/srvygrads/>.

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 APPENDIX TABLE 3-8 
Unemployment rates of scientists and engineers, by level of highest degree and broad occupational category: Selected years, 2003–15

(Percent)

Degree and occupation	2003	2006	2008	2010	2013	2015
All scientists and engineers	3.2	2.5	3.1	4.3	3.8	3.3
Highest degree level						
Bachelor's	3.4	2.9	3.5	4.9	4.2	4.0
Master's	3.4	2.3	2.9	4.1	3.7	2.8
Professional	1.9	1.1	1.8	2.7	2.3	1.1
Doctorate	2.3	1.6	2.0	2.6	2.3	2.6
Occupation						
Computer and mathematical scientists	3.7	2.5	3.0	3.7	3.1	2.7
Biological, agricultural, and environmental life scientists	2.4	2.2	2.4	3.7	3.3	4.1
Physical and related scientists	2.8	2.3	3.0	3.3	4.5	3.2
Social and related scientists	1.6	2.5	2.1	2.3	3.3	3.6
Engineers	3.8	2.4	2.8	4.6	2.8	2.1
S&E-related occupations	2.0	1.5	1.9	2.5	2.2	1.8
Non-S&E occupations	3.8	3.0	3.9	5.6	5.0	4.3

Note(s)

Scientists and engineers include those with one or more S&E or S&E-related degrees at the bachelor's level or higher or those who have only a non-S&E degree at the bachelor's level or higher and are employed in an S&E or S&E-related occupation. For data on unemployment rates by occupation, calculations assume that unemployed individuals are seeking further employment in their most recent occupation.

Source(s)

National Science Foundation, National Center for Science and Engineering Statistics, Scientists and Engineers Statistical Data System (SESTAT) (2003, 2006, 2008, 2010, 2013), <https://www.nsf.gov/statistics/sestat/>, and the National Survey of College Graduates (NSCG) (2015), <https://www.nsf.gov/statistics/srvygrads/>.

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APPENDIX TABLE 3-9

Median annual salaries for employed college-educated individuals, by broad field and level of highest degree and broad occupational category: 2015

(Current dollars)

Highest degree field	All occupations	S&E occupations	S&E-related occupations	Non-S&E occupations
All degrees	60,000	83,000	67,000	58,000
S&E	68,000	85,000	65,000	54,000
Bachelor's	60,000	85,000	60,000	50,000
Master's	80,000	87,000	75,000	66,000
Doctorate	98,000	90,000	124,000	114,000
Professional	65,000	72,000	s	51,000
S&E-related	68,000	75,000	74,000	45,000
Bachelor's	60,000	72,000	60,000	41,000
Master's	68,000	73,000	72,000	57,000
Doctorate	80,000	89,000	77,000	70,000
Professional	125,000	58,000	128,000	49,000
Non-S&E	55,000	75,000	54,000	75,000
Bachelor's	50,000	70,000	50,000	51,000
Master's	61,000	89,000	61,000	68,000
Doctorate	66,000	70,000	88,000	75,000
Professional	100,000	86,000	s	115,000

s = suppressed for reasons of confidentiality and/or reliability.

Note(s)

See Table 3-2 for definitions of S&E, S&E-related, and non-S&E degrees and occupations. Salaries are rounded to the nearest \$1,000.

Source(s)

National Science Foundation, National Center for Science and Engineering Statistics, National Survey of College Graduates (NSCG) (2015), <https://www.nsf.gov/statistics/srvygrads/>.

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APPENDIX TABLE 3-10

Postgraduation plans of doctorate recipients with definite commitments, by broad field of study: Selected years, 1975–2015

(Number and percent)

Definite commitment and plan	All fields	Life sciences ^a	Physical sciences and earth sciences	Mathematics and computer sciences	Psychology and social sciences	Engineering	Education	Humanities	Other ^b
All definite commitments (number)									
1975	22,925	3,713	2,564	755	4,458	2,050	5,286	2,937	1,162
1985	20,951	4,043	2,476	689	3,818	1,983	4,665	2,057	1,220
1995	24,977	5,141	2,686	1,275	4,095	3,068	4,374	2,749	1,589
2000	26,868	5,797	2,736	1,337	4,692	3,374	4,355	3,107	1,470
2005	27,416	5,999	2,863	1,565	4,649	3,732	4,049	2,979	1,580
2010	29,841	6,908	3,314	2,102	5,077	4,551	3,357	2,748	1,784
2015	30,393	6,679	3,271	2,376	5,408	5,168	2,920	2,723	1,848
Reported type of plan (number)									
1975	22,709	3,686	2,550	749	4,419	2,040	5,230	2,882	1,153
1985	20,867	4,037	2,469	686	3,801	1,977	4,639	2,044	1,214
1995	24,821	5,126	2,677	1,265	4,063	3,060	4,328	2,721	1,581
2000	26,744	5,765	2,724	1,332	4,676	3,358	4,329	3,096	1,464
2005	27,086	5,906	2,847	1,556	4,594	3,702	3,978	2,943	1,560
2010	28,995	6,768	3,268	2,063	4,900	4,445	3,213	2,644	1,694
2015	27,787	6,154	3,092	2,207	4,949	4,758	2,612	2,402	1,613

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Definite commitment and plan	All fields	Life sciences ^a	Physical sciences and earth sciences	Mathematics and computer sciences	Psychology and social sciences	Engineering	Education	Humanities	Other ^b
Employment (percent ^c)									
1975	83.0	53.0	52.6	89	91.4	88.6	98.1	96.3	98.4
1985	77.7	44.8	51.8	85	85.4	85.1	96.9	94.8	97.6
1995	70.3	35.6	35.2	76	78.7	75.1	96.1	93.0	96.5
2000	71.4	39.8	44.0	77	76.2	78.9	95.2	91.9	95.4
2005	64.5	33.1	33.3	65	70.7	67.2	93.8	88.9	94.4
2010	57.1	30.0	26.9	58	65.6	54.9	93.2	84.7	92.1
2015	60.3	36.7	35.7	66	62.5	64.4	91.2	79.9	91.1
Postdoctoral study (percent ^c)									
1975	17.0	47.0	47.4	11	8.6	11.4	1.9	3.7	1.6
1985	22.3	55.2	48.2	15	14.6	14.9	3.1	5.2	2.4
1995	29.7	64.4	64.8	24	21.3	24.9	3.9	7.0	3.5
2000	28.6	60.2	56.0	23	23.8	21.1	4.8	8.1	4.6
2005	35.5	66.9	66.7	35	29.3	32.8	6.2	11.1	5.6
2010	42.9	70.0	73.1	42	34.4	45.1	6.8	15.3	7.9
2015	39.7	63.3	64.3	34	37.5	35.6	8.8	20.1	8.9

^a Life sciences includes agricultural sciences and natural resources, biological and biomedical sciences, and health sciences.

^b Non-S&E fields are not shown separately.

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^c Percentages are based on the number of doctorate recipients reporting definite postgraduation commitments with response to type of plan (employment or postdoctoral study).

Source(s)

National Science Foundation, National Center for Science and Engineering Statistics, 2015 Survey of Earned Doctorates (SED), special tabulation (December 2016).

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APPENDIX TABLE 3-11

Age profile of employed scientists and engineers, by sex and field of highest degree: 2015

(Number and percent)

S&E highest degree field	Total				Female				Male			
	Number	Age younger than 30 (%)	Age 30-50 (%)	Age 51-75 (%)	Number	Age younger than 30 (%)	Age 30-50 (%)	Age 51-75 (%)	Number	Age younger than 30 (%)	Age 30-50 (%)	Age 51-75 (%)
Total	25,306,000	15.4	51.3	33.3	11,879,000	18.2	52.7	29.1	13,409,000	12.9	50.0	37.1
S&E fields	13,497,000	18.5	50.4	31.1	5,359,000	22.8	51.4	25.8	8,121,000	15.7	49.6	34.7
Computer and mathematical sciences	2,346,000	15.7	56.8	27.5	663,000	13.7	56.4	29.9	1,683,000	16.5	56.9	26.6
Computer and information sciences	1,826,000	15.3	60.4	24.4	456,000	12.1	60.4	27.4	1,370,000	16.4	60.3	23.4
Mathematics and statistics	520,000	17.1	44.2	38.7	206,000	17.5	47.6	35.4	314,000	16.9	42.0	40.8
Biological, agricultural, and environmental life sciences	2,116,000	22.5	46.5	31.0	1,072,000	27.1	46.0	27.0	1,044,000	17.8	47.0	35.2
Agricultural and food sciences	291,000	8.9	40.5	50.2	102,000	13.7	53.9	32.4	189,000	6.9	33.3	59.8
Biological sciences	1,632,000	26.0	45.5	28.5	896,000	29.4	43.2	27.3	736,000	21.7	48.4	29.8
Environmental life sciences	194,000	13.4	62.9	23.2	74,000	17.6	67.6	13.5	120,000	10.8	60.0	29.2
Physical and related sciences	789,000	18.0	46.3	35.6	270,000	29.6	51.5	18.5	519,000	11.9	43.5	44.5
Chemistry, except biochemistry	370,000	23.8	43.5	32.4	153,000	39.2	42.5	18.3	217,000	12.9	44.2	42.9

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S&E highest degree field	Total				Female				Male			
	Number	Age younger than 30 (%)	Age 30–50 (%)	Age 51–75 (%)	Number	Age younger than 30 (%)	Age 30–50 (%)	Age 51–75 (%)	Number	Age younger than 30 (%)	Age 30–50 (%)	Age 51–75 (%)
Earth, atmospheric, and ocean sciences	218,000	10.1	52.3	38.1	82,000	11.0	68.3	22.0	136,000	9.6	41.9	47.8
Physics and astronomy	187,000	16.0	44.9	39.0	3,000	36.7	50.0	13.3	157,000	12.1	43.3	44.6
Other physical sciences	14,000	14.3	50.0	35.7	5,000	20.0	s	s	9,000	11.1	44.4	33.3
Social and related sciences	5,056,000	19.7	49.2	31.1	2,864,000	22.5	51.0	26.5	2,175,000	16.3	46.4	37.3
Economics	817,000	18.4	46.1	35.5	232,000	21.1	50.0	29.3	578,000	17.5	44.1	38.4
Political and related sciences	908,000	22.7	49.9	27.4	424,000	23.3	54.5	22.2	485,000	22.3	45.8	32.0
Psychology	1,967,000	20.7	48.2	31.0	1,355,000	24.2	50.0	25.8	602,000	13.3	43.4	43.4
Sociology and anthropology	789,000	18.3	51.0	30.8	513,000	20.1	51.5	28.3	277,000	14.8	49.8	35.0
Other social sciences	574,000	15.7	53.1	31.2	341,000	19.1	50.4	30.2	233,000	10.7	57.1	32.6
Engineering	3,190,000	16.0	51.1	32.9	490,000	24.1	58.6	17.3	2,700,000	14.5	49.8	35.7
Aerospace, aeronautical, and astronautical engineering	135,000	20.0	45.9	34.1	19,000	15.8	63.2	s	116,000	21.6	43.1	35.3
Chemical engineering	211,000	16.1	40.3	43.6	46,000	23.9	50.0	23.9	165,000	13.9	37.6	48.5
Civil and architectural engineering	451,000	14.2	51.9	33.7	68,000	25.0	55.9	19.1	382,000	12.3	51.3	36.4

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S&E highest degree field	Total				Female				Male			
	Number	Age younger than 30 (%)	Age 30–50 (%)	Age 51–75 (%)	Number	Age younger than 30 (%)	Age 30–50 (%)	Age 51–75 (%)	Number	Age younger than 30 (%)	Age 30–50 (%)	Age 51–75 (%)
Electrical and computer engineering	1,112,000	13.4	57.6	29.1	138,000	18.1	65.9	15.9	974,000	12.6	56.4	31.0
Industrial engineering	201,000	13.4	51.2	35.3	59,000	22.0	59.3	20.3	141,000	9.9	48.2	42.6
Mechanical engineering	659,000	21.1	45.8	33.1	67,000	43.3	46.3	10.4	592,000	18.6	45.9	35.6
Other engineering	421,000	16.9	48.7	34.7	92,000	21.7	62.0	16.3	329,000	15.5	45.0	39.8
S&E-related fields	6,191,000	14.1	51.2	34.6	3,840,000	17.0	51.5	31.5	2,350,000	9.4	50.8	39.8
Health	4,933,000	14.3	51.9	33.8	3,384,000	17.0	52.3	30.7	1,549,000	8.5	51.1	40.4
Science and mathematics teacher education	404,000	10.4	47.8	41.8	239,000	11.3	46.9	42.3	165,000	9.1	49.1	41.8
Technology and technical fields	413,000	9.4	53.8	36.8	56,000	10.7	55.4	33.9	357,000	9.2	53.5	37.3
Other S&E-related fields	441,000	20.0	44.2	36.1	162,000	27.8	39.5	32.1	279,000	15.1	46.6	38.4
Non-S&E fields	5,618,000	9.4	53.6	37.0	2,680,000	10.7	57.2	32.2	2,937,000	8.1	50.4	41.5
Management and administration fields	1,800,000	4.8	55.8	39.4	591,000	6.3	56.7	37.1	1,208,000	4.1	55.5	40.5
Education, except science and mathematics teacher education	1,124,000	8.9	55.2	36.0	810,000	10.2	57.3	32.5	314,000	5.4	49.7	45.2

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S&E highest degree field	Total				Female				Male			
	Number	Age younger than 30 (%)	Age 30-50 (%)	Age 51-75 (%)	Number	Age younger than 30 (%)	Age 30-50 (%)	Age 51-75 (%)	Number	Age younger than 30 (%)	Age 30-50 (%)	Age 51-75 (%)
Social service and related fields	423,000	9.0	43.7	47.0	240,000	10.8	48.8	40.4	182,000	6.6	37.4	56.0
Sales and marketing fields	145,000	s	49.0	39.3	53,000	11.3	56.6	32.1	93,000	s	45.2	43.0
Arts and humanities fields	653,000	20.8	47.2	31.9	252,000	13.9	51.2	34.9	401,000	25.2	44.6	29.9
Other non-S&E fields	1,473,000	10.0	55.9	34.1	735,000	13.6	62.2	24.1	739,000	6.5	49.5	43.8

s = suppressed for reasons of confidentiality and/or reliability.

Note(s)

Scientists and engineers include those with one or more S&E or S&E-related degrees at the bachelor's level or higher or those who have only a non-S&E degree at the bachelor's level or higher and are employed in an S&E or S&E-related occupation. Detail may not add to total because of rounding. Numbers are rounded to the nearest 1,000. Percentages are based on rounded numbers.

Source(s)

National Science Foundation, National Center for Science and Engineering Statistics, National Survey of College Graduates (NSCG) (2015), <https://www.nsf.gov/statistics/srvygrads/>.

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 APPENDIX TABLE 3-12 
Employed scientists and engineers, by sex and occupation: 2015

(Number and percent)

Occupation	Total	Female		Male	
		Number	Percent	Number	Percent
All occupations	25,306,000	11,897,000	47.0	13,409,000	53.0
S&E occupations	6,407,000	1,818,000	28.4	4,590,000	71.6
Computer and mathematical scientists	3,156,000	833,000	26.4	2,323,000	73.6
Computer and information scientists	2,823,000	689,000	24.4	2,134,000	75.6
Computer and information scientists, research	64,000	23,000	35.9	41,000	64.1
Computer network architects	48,000	s	s	48,000	100.0
Computer support specialists	242,000	65,000	26.9	177,000	73.1
Computer system analysts	333,000	101,000	30.3	232,000	69.7
Database administrators	146,000	62,000	42.5	84,000	57.5
Information security analysts	69,000	23,000	33.3	46,000	66.7
Network and computer systems administrators	188,000	23,000	12.2	165,000	87.8
Software developers — applications and systems software	623,000	119,000	19.1	504,000	80.9
Web developers	174,000	38,000	21.8	137,000	78.7
Other computer information science occupations	345,000	138,000	40.0	207,000	60.0
Computer engineers — software	592,000	97,000	16.4	495,000	83.6
Mathematical scientists	218,000	94,000	43.1	124,000	56.9
Mathematicians	7,000	3,000	42.9	4,000	57.1
Operations research analysts, including modeling	122,000	34,000	27.9	88,000	72.1
Statisticians	74,000	s	s	23,000	s
Other mathematical scientists	15,000	5,000	33.3	s	s
Postsecondary teachers — computer and mathematical sciences	114,000	50,000	43.9	65,000	57.0
Computer science	22,000	9,000	40.9	14,000	63.6
Mathematics and statistics	92,000	41,000	44.6	51,000	55.4
Biological, agricultural, and environmental life scientists	631,000	302,000	47.9	329,000	52.1

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Occupation	Total	Female		Male	
		Number	Percent	Number	Percent
Agricultural and food scientists	52,000	25,000	48.1	27,000	51.9
Biological and medical scientists	443,000	236,000	53.3	207,000	46.7
Biochemists and biophysicists	72,000	31,000	43.1	41,000	56.9
Biological scientists (e.g., botanists, ecologists, zoologists)	137,000	65,000	47.4	72,000	52.6
Medical scientists (excluding practitioners)	136,000	76,000	55.9	60,000	44.1
Other biological and life scientists	98,000	64,000	65.3	34,000	34.7
Forestry and conservation scientists	59,000	12,000	20.3	47,000	79.7
Postsecondary teachers — life and related sciences	78,000	30,000	38.5	48,000	61.5
Agriculture	5,000	3,000	60.0	2,000	40.0
Biological sciences	62,000	24,000	38.7	38,000	61.3
Other natural sciences	11,000	3,000	27.3	8,000	72.7
Physical and related scientists	331,000	92,000	27.8	239,000	72.2
Chemists, except biochemists	105,000	34,000	32.4	71,000	67.6
Earth scientists, geologists, and oceanographers	66,000	15,000	22.7	51,000	77.3
Atmospheric and space scientists	15,000	4,000	26.7	10,000	66.7
Geologists, including earth scientists	48,000	10,000	20.8	38,000	79.2
Oceanographers	4,000	1,000	25.0	2,000	50.0
Physicists and astronomers	49,000	9,000	18.4	40,000	81.6
Astronomers	7,000	s	s	5,000	71.4
Physicists, except biophysicists	42,000	7,000	16.7	35,000	83.3
Other physical and related scientists	45,000	18,000	40.0	28,000	62.2
Postsecondary teachers — physical and related sciences	65,000	16,000	24.6	49,000	75.4
Chemistry	28,000	9,000	32.1	19,000	67.9
Earth, environmental, and marine sciences	15,000	5,000	33.3	10,000	66.7
Physics	22,000	s	s	20,000	90.9
Social and related scientists	570,000	341,000	59.8	229,000	40.2

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Occupation	Total	Female		Male	
		Number	Percent	Number	Percent
Economists	32,000	12,000	37.5	20,000	62.5
Political scientists	25,000	7,000	28.0	18,000	72.0
Psychologists, including clinical	213,000	155,000	72.8	58,000	27.2
Sociologists and anthropologists	31,000	21,000	67.7	10,000	32.3
Anthropologists	11,000	7,000	63.6	4,000	36.4
Sociologists	20,000	14,000	70.0	6,000	30.0
Other social and related scientists	108,000	63,000	58.3	44,000	40.7
Postsecondary teachers — social and related sciences	162,000	83,000	51.2	79,000	48.8
Economics	21,000	7,000	33.3	14,000	66.7
Political science	21,000	7,000	33.3	14,000	66.7
Psychology	38,000	20,000	52.6	18,000	47.4
Sociology	14,000	9,000	64.3	4,000	28.6
Other social sciences	68,000	39,000	57.4	29,000	42.6
Engineers	1,719,000	250,000	14.5	1,469,000	85.5
Aerospace, aeronautical, or astronautical engineers	96,000	12,000	12.5	84,000	87.5
Chemical engineers	80,000	18,000	22.5	63,000	78.8
Civil, architectural, or sanitary engineers	251,000	49,000	19.5	202,000	80.5
Electrical or computer hardware engineers	360,000	36,000	10.0	325,000	90.3
Computer engineers — hardware	70,000	5,000	7.1	65,000	92.9
Electrical and electronics engineers	290,000	31,000	10.7	260,000	89.7
Industrial engineers	82,000	15,000	18.3	67,000	81.7
Mechanical engineers	337,000	29,000	8.6	309,000	91.7
Other engineers	460,000	84,000	18.3	376,000	81.7
Agricultural engineers	7,000	*	*	6,000	85.7
Bioengineers or biomedical engineers	26,000	7,000	26.9	19,000	73.1
Environmental engineers	66,000	22,000	33.3	44,000	66.7

CHAPTER 3 | Science and Engineering Labor Force

Occupation	Total	Female		Male	
		Number	Percent	Number	Percent
Marine engineers and naval architects	12,000	3,000	25.0	10,000	83.3
Materials and metallurgical engineers	31,000	5,000	16.1	26,000	83.9
Mining and geological engineers	5,000	s	s	4,000	80.0
Nuclear engineers	25,000	5,000	20.0	19,000	76.0
Petroleum engineers	19,000	2,000	10.5	17,000	89.5
Sales engineers	90,000	12,000	13.3	78,000	86.7
Other engineers	178,000	28,000	15.7	151,000	84.8
Postsecondary teachers — engineering	53,000	8,000	15.1	45,000	84.9
S&E-related occupations	7,867,000	4,558,000	57.9	3,309,000	42.1
Health-related occupations	4,883,000	3,412,000	69.9	1,471,000	30.1
Diagnosing or treating practitioners (e.g., dentists, optometrists, physicians, psychiatrists, podiatrists, surgeons, veterinarians)	1,205,000	505,000	41.9	700,000	58.1
Registered nurses, pharmacists, dieticians, therapists, physician assistants, nurse practitioners	2,307,000	1,917,000	83.1	390,000	16.9
Health technologists and technicians (e.g., dental hygienists, health record technicians, licensed practical nurses, laboratory or radiology technicians)	513,000	378,000	73.7	135,000	26.3
Other health occupations	718,000	522,000	72.7	196,000	27.3
Postsecondary teachers — health and related sciences	140,000	90,000	64.3	50,000	35.7
S&E managers	967,000	305,000	31.5	661,000	68.4
Computer and information systems managers	229,000	70,000	30.6	160,000	69.9
Engineering managers	362,000	39,000	10.8	323,000	89.2
Medical and health services managers	320,000	179,000	55.9	141,000	44.1
Natural sciences managers	55,000	17,000	30.9	38,000	69.1
S&E precollege teachers	1,029,000	592,000	57.5	437,000	42.5
Secondary — computer, mathematics, or sciences	729,000	467,000	64.1	262,000	35.9
Secondary — social sciences	300,000	125,000	41.7	175,000	58.3
S&E technicians and technologists	782,000	188,000	24.0	594,000	76.0

CHAPTER 3 | Science and Engineering Labor Force

Occupation	Total	Female		Male	
		Number	Percent	Number	Percent
Technologists and technicians in the biological and life sciences	102,000	60,000	58.8	42,000	41.2
Computer programmers (business, scientific, process control)	166,000	43,000	25.9	123,000	74.1
Electrical, electronic, industrial, and mechanical technicians	243,000	13,000	5.3	229,000	94.2
Drafting occupations, including computer drafting	28,000	3,000	10.7	25,000	89.3
Surveying and mapping technicians	15,000	4,000	26.7	11,000	73.3
Other engineering technologists and technicians	177,000	48,000	27.1	129,000	72.9
Surveyors, cartographers, photogrammetrists	11,000	1000	s	10,000	90.9
Technologists and technicians in the mathematical sciences	3,000	s	s	3,000	100.0
Technologists and technicians in the physical sciences	37,000	14,000	37.8	22,000	59.5
Other S&E-related occupations	207,000	61,000	29.5	146,000	70.5
Architects	174,000	50,000	28.7	124,000	71.3
Actuaries	33,000	11,000	33.3	22,000	66.7
Non-S&E occupations	11,031,000	5,521,000	50.0	5,510,000	50.0
Non-S&E managers	1,825,000	503,000	27.6	1,322,000	72.4
Top-level managers, executives, administrators (e.g., chief executive officer, chief operating officer, chief financial officer; president; district, general manager, provost)	1,099,000	247,000	22.5	852,000	77.5
Education administrators (e.g., registrar, dean, principal)	132,000	63,000	47.7	69,000	52.3
Other mid-level managers	594,000	192,000	32.3	401,000	67.5
Management-related occupations	2,085,000	1,043,000	50.0	1,042,000	50.0
Accountants, auditors, and other financial specialists	720,000	301,000	41.8	419,000	58.2
Personnel, training, and labor relations specialists	295,000	197,000	66.8	97,000	32.9
Other management-related occupations	1,070,000	544,000	50.8	526,000	49.2
Non-S&E precollege teachers	825,000	692,000	83.9	134,000	16.2
Prekindergarten and kindergarten	129,000	125,000	96.9	s	s
Elementary	385,000	328,000	85.2	56,000	14.5
Secondary — other subjects	124,000	79,000	63.7	45,000	36.3

CHAPTER 3 | Science and Engineering Labor Force

Occupation	Total	Female		Male	
		Number	Percent	Number	Percent
Special education — primary and secondary	139,000	123,000	88.5	16,000	11.5
Other precollegiate area	48,000	37,000	77.1	11,000	22.9
Non-S&E postsecondary teachers	184,000	87,000	47.3	98,000	53.3
Art, drama, and music	6,000	4,000	66.7	2,000	33.3
Business, commerce, and marketing	31,000	9,000	29.0	22,000	71.0
Education	30,000	19,000	63.3	12,000	40.0
English	28,000	18,000	64.3	10,000	35.7
Foreign language	13,000	5,000	38.5	8,000	61.5
History	9,000	3,000	33.3	6,000	66.7
Physical education	3,000	s	s	2,000	66.7
Other postsecondary fields	65,000	29,000	44.6	36,000	55.4
Social services and related occupations	883,000	620,000	70.2	263,000	29.8
Clergy and other religious workers	120,000	27,000	22.5	93,000	77.5
Counselors (e.g., educational, vocational, mental health, substance abuse)	436,000	328,000	75.2	107,000	24.5
Social workers	327,000	264,000	80.7	63,000	19.3
Sales and marketing occupations	1,467,000	662,000	45.1	805,000	54.9
Insurance, securities, real estate, and business services	406,000	188,000	46.3	218,000	53.7
Sales — commodities, except retail (e.g., industrial, medical, dental machinery, equipment, supplies)	216,000	61,000	28.2	154,000	71.3
Sales — retail (e.g., furnishings, clothing, motor vehicles, cosmetics)	345,000	166,000	48.1	179,000	51.9
Other marketing and sales occupations	501,000	247,000	49.3	254,000	50.7
Arts, humanities, and related occupations	331,000	192,000	58.0	139,000	42.0
Writers, editors, public relations specialists, artists, entertainers, broadcasters	328,000	189,000	57.6	139,000	42.4
Historians	4,000	3,000	75.0	s	s
Other non-S&E occupations	3,430,000	1,723,000	50.2	1,707,000	49.8
Accounting clerks and bookkeepers	163,000	146,000	89.6	18,000	11.0

CHAPTER 3 | Science and Engineering Labor Force

Occupation	Total	Female		Male	
		Number	Percent	Number	Percent
Secretaries, receptionists, typists	222,000	210,000	94.6	12,000	5.4
Other administrative (e.g., record clerks, telephone operators)	577,000	377,000	65.3	200,000	34.7
Farmers, foresters, and fishermen	99,000	21,000	21.2	78,000	78.8
Lawyers, judges	635,000	251,000	39.5	384,000	60.5
Librarians, archivists, curators	95,000	79,000	83.2	16,000	16.8
Food preparation and service (e.g., cooks, waitresses, bartenders)	136,000	66,000	48.5	71,000	52.2
Protective services (e.g., firefighters, police, guards, wardens, park rangers)	155,000	45,000	29.0	111,000	71.6
Other service occupations, except health (e.g., probation officers, human services work)	380,000	198,000	52.1	182,000	47.9
Other teachers and instructors (e.g., private tutors, dance, flying, martial arts)	230,000	145,000	63.0	85,000	37.0
Construction and extraction occupations	88,000	s	s	77,000	87.5
Installation, maintenance, and repair occupations	127,000	8,000	6.3	119,000	93.7
Precision or production occupations (e.g., metal or wood workers, butchers, bakers, assemblers, tailors)	140,000	45,000	32.1	95,000	67.9
Transportation and material moving occupations	199,000	13,000	6.5	185,000	93.0
Other occupations	183,000	108,000	59.0	74,000	40.4

* = estimate < 500; s = suppressed for reasons of confidentiality and/or reliability.

Note(s)

Scientists and engineers include those with one or more S&E or S&E-related degrees at the bachelor's level or higher and those who have only a non-S&E degree at the bachelor's level or higher and are employed in an S&E or S&E-related occupation. Detail may not add to total because of rounding. Numbers are rounded to the nearest 1,000. Percentages are based on rounded numbers.

Source(s)

National Science Foundation, National Center for Science and Engineering Statistics, National Survey of College Graduates (NSCG) (2015), <https://www.nsf.gov/statistics/srvygrads/>.

Science and Engineering Indicators 2018

CHAPTER 3 | Science and Engineering Labor Force

 APPENDIX TABLE 3-13 
Employed S&E highest degree holders, by sex and field of degree: 2015

(Number and percent)

Field of S&E highest degree	Total	Female		Male	
		Number	Percent	Number	Percent
All S&E highest degree	13,497,000	5,376,000	39.8	8,121,000	60.2
Computer and mathematical sciences	2,346,000	663,000	28.3	1,683,000	71.7
Computer and information sciences	1,826,000	457,000	25.0	1,370,000	75.0
Computer and information sciences, general	340,000	99,000	29.1	241,000	70.9
Computer science	968,000	208,000	21.5	761,000	78.6
Computer systems analysis	49,000	13,000	26.5	36,000	73.5
Information services and systems	371,000	108,000	29.1	264,000	71.2
Other computer and information sciences	97,000	29,000	29.9	68,000	70.1
Mathematics and statistics	520,000	206,000	39.6	314,000	60.4
Applied mathematics	49,000	21,000	42.9	29,000	59.2
Mathematics, general	363,000	147,000	40.5	216,000	59.5
Operations research	34,000	7,000	20.6	27,000	79.4
Statistics	58,000	27,000	46.6	31,000	53.4
Other mathematics	16,000	s	s	11,000	68.8
Biological, agricultural, and environmental life sciences	2,116,000	1,072,000	50.7	1,044,000	49.3
Agricultural and food sciences	291,000	102,000	35.1	189,000	64.9
Animal sciences	102,000	41,000	40.2	61,000	59.8
Food sciences and technology	35,000	17,000	48.6	17,000	48.6
Plant sciences	92,000	38,000	41.3	53,000	57.6
Other agricultural sciences	62,000	5,000	8.1	57,000	91.9
Biological sciences	1,632,000	896,000	54.9	736,000	45.1
Biochemistry and biophysics	139,000	71,000	51.1	68,000	48.9
Biology, general	807,000	451,000	55.9	356,000	44.1
Botany	18,000	8,000	44.4	10,000	55.6

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Field of S&E highest degree	Total	Female		Male	
		Number	Percent	Number	Percent
Cell and molecular biology	95,000	44,000	46.3	51,000	53.7
Ecology	87,000	34,000	39.1	53,000	60.9
Genetics, animal and plant	20,000	8,000	40.0	13,000	65.0
Microbiological sciences and immunology	118,000	73,000	61.9	46,000	39.0
Nutritional sciences	71,000	62,000	87.3	9,000	12.7
Pharmacology, human and animal	26,000	12,000	46.2	14,000	53.8
Physiology and pathology, human and animal	58,000	25,000	43.1	33,000	56.9
Zoology, general	56,000	21,000	37.5	35,000	62.5
Other biological sciences	135,000	87,000	64.4	48,000	35.6
Environmental life sciences	194,000	74,000	38.1	120,000	61.9
Environmental science or studies	157,000	68,000	43.3	90,000	57.3
Forestry sciences	36,000	6,000	16.7	30,000	83.3
Physical and related sciences	789,000	270,000	34.2	519,000	65.8
Chemistry, except biochemistry	370,000	153,000	41.4	217,000	58.6
Earth, atmospheric, and ocean sciences	218,000	82,000	37.6	136,000	62.4
Atmospheric sciences and meteorology	35,000	17,000	48.6	18,000	51.4
Earth sciences	45,000	21,000	46.7	23,000	51.1
Geology	98,000	32,000	32.7	66,000	67.3
Geological sciences, other	32,000	9,000	28.1	23,000	71.9
Oceanography	9,000	3,000	33.3	6,000	66.7
Physics and astronomy	187,000	30,000	16.0	157,000	84.0
Astronomy and astrophysics	14,000	1,000	7.1	13,000	92.9
Physics	173,000	28,000	16.2	144,000	83.2
Other physical sciences	14,000	5,000	35.7	9,000	64.3
Social and related sciences	5,056,000	2,881,000	57.0	2,175,000	43.0
Economics	817,000	239,000	29.3	578,000	70.7

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Field of S&E highest degree	Total	Female		Male	
		Number	Percent	Number	Percent
Agricultural economics	63,000	17,000	27.0	46,000	73.0
Economics	754,000	222,000	29.4	533,000	70.7
Political and related sciences	908,000	424,000	46.7	485,000	53.4
Public policy studies	57,000	36,000	63.2	21,000	36.8
International relations	198,000	122,000	61.6	75,000	37.9
Political science and government	653,000	266,000	40.7	388,000	59.4
Psychology	1,967,000	1,364,000	69.3	602,000	30.6
Educational psychology	124,000	95,000	76.6	30,000	24.2
Clinical psychology	217,000	130,000	59.9	87,000	40.1
Counseling psychology	289,000	211,000	73.0	78,000	27.0
Experimental psychology	48,000	20,000	41.7	28,000	58.3
General psychology	896,000	631,000	70.4	265,000	29.6
Industrial/ organizational psychology	74,000	51,000	68.9	23,000	31.1
Social psychology	102,000	62,000	60.8	40,000	39.2
Other psychology	217,000	166,000	76.5	51,000	23.5
Sociology and anthropology	789,000	513,000	65.0	277,000	35.1
Anthropology and archaeology	156,000	100,000	64.1	57,000	36.5
Criminology	89,000	47,000	52.8	42,000	47.2
Sociology	544,000	366,000	67.3	178,000	32.7
Other social sciences	574,000	341,000	59.4	233,000	40.6
Area and ethnic studies	117,000	84,000	71.8	33,000	28.2
Linguistics	84,000	68,000	81.0	16,000	19.0
Philosophy of science	15,000	s	s	6,000	s
Geography	140,000	44,000	31.4	96,000	68.6
History of science	6,000	4,000	66.7	s	s
Other social sciences	212,000	133,000	62.7	79,000	37.3

CHAPTER 3 | Science and Engineering Labor Force

Field of S&E highest degree	Total	Female		Male	
		Number	Percent	Number	Percent
Engineering	3,190,000	490,000	15.4	2,700,000	84.6
Aerospace, aeronautical, and astronautical engineering	135,000	19,000	14.1	116,000	85.9
Chemical engineering	211,000	46,000	21.8	165,000	78.2
Civil and architectural engineering	451,000	68,000	15.1	382,000	84.7
Architectural engineering	27,000	4,000	14.8	23,000	85.2
Civil engineering	424,000	64,000	15.1	359,000	84.7
Electrical and computer engineering	1,112,000	138,000	12.4	974,000	87.6
Computer and systems engineering	297,000	44,000	14.8	253,000	85.2
Electrical, electronics, and communications engineering	815,000	94,000	11.5	721,000	88.5
Industrial and manufacturing engineering	201,000	59,000	29.4	141,000	70.1
Mechanical engineering	659,000	67,000	10.2	592,000	89.8
Other engineering	421,000	92,000	21.9	329,000	78.1
Agricultural engineering	26,000	5,000	19.2	22,000	84.6
Bioengineering and biomedical engineering	49,000	19,000	38.8	30,000	61.2
Engineering sciences, mechanics, and physics	29,000	4,000	13.8	26,000	89.7
Environmental engineering	53,000	15,000	28.3	37,000	69.8
Engineering, general	23,000	5,000	21.7	18,000	78.3
Geophysical and geological engineering	14,000	2,000	14.3	12,000	85.7
Materials engineering, including ceramics and textiles	52,000	12,000	23.1	40,000	76.9
Metallurgical engineering	10,000	s	s	7,000	70.0
Mining and minerals engineering	8,000	s	s	7,000	87.5
Naval architecture and marine engineering	15,000	s	s	14,000	93.3
Nuclear engineering	19,000	2,000	10.5	16,000	84.2
Petroleum engineering	28,000	7,000	25.0	21,000	75.0
Other engineering	96,000	16,000	16.7	80,000	83.3

s = suppressed for reasons of confidentiality and/or reliability.

CHAPTER 3 | Science and Engineering Labor Force

Note(s)

Detail may not add to total because of rounding. Numbers are rounded to the nearest 1,000. Percentages are based on rounded numbers.

Source(s)

National Science Foundation, National Center for Science and Engineering Statistics, National Survey of College Graduates (NSCG) (2015), <https://www.nsf.gov/statistics/srvygrads/>.

Science and Engineering Indicators 2018

CHAPTER 3 | Science and Engineering Labor Force

APPENDIX TABLE 3-14

Employed S&E highest degree holders, by sex, race, ethnicity, field of highest degree, and broad occupational category: 2015

(Percent)

Sex, race, ethnicity, and field of highest degree	S&E occupations			S&E-related occupations	Non-S&E occupations
	All S&E	In field	Out of field		
All employed S&E highest degree holders	36.0	26.8	9.2	14.5	49.6
Female					
All S&E fields	24.0	18.0	6.1	16.3	59.7
Computer and mathematical sciences	45.6	43.3	2.3	17.9	36.5
Biological, agricultural, and environmental life sciences	26.8	17.9	8.9	36.8	36.4
Physical and related sciences	34.4	20.0	14.1	29.3	36.7
Social and related sciences	12.0	8.6	3.4	7.4	80.6
Engineering	54.1	37.8	16.3	14.3	31.8
Male					
All S&E fields	43.9	32.6	11.2	13.3	42.9
Computer and mathematical sciences	62.3	59.0	3.3	12.3	25.4
Biological, agricultural, and environmental life sciences	32.3	22.0	10.2	19.6	48.2
Physical and related sciences	56.5	34.3	22.4	15.8	27.7
Social and related sciences	14.4	6.9	7.5	8.1	77.5
Engineering	58.1	40.6	17.5	15.1	26.8
Asian					
All S&E fields	55.3	36.6	18.8	14.3	30.4
Computer and mathematical sciences	70.7	67.2	3.7	10.0	19.4
Biological, agricultural, and environmental life sciences	47.0	26.3	s	29.2	24.2
Physical and related sciences	61.6	35.5	26.1	14.5	23.9

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Sex, race, ethnicity, and field of highest degree	S&E occupations			S&E-related occupations	Non-S&E occupations
	All S&E	In field	Out of field		
Social and related sciences	17.3	9.5	7.8	7.0	75.7
Engineering	64.7	31.1	33.5	15.3	19.9
American Indian or Alaska Native					
All S&E fields	22.5	15.0	s	20.0	60.0
Computer and mathematical sciences	s	s	s	*	s
Biological, agricultural, and environmental life sciences	28.6	s	*	s	42.9
Physical and related sciences	s	*	s	*	s
Social and related sciences	s	s	s	s	85.0
Engineering	22.2	22.2	s	44.4	33.3
Black					
All S&E fields	25.4	20.3	5.2	15.1	59.5
Computer and mathematical sciences	48.3	44.8	3.5	15.7	36.0
Biological, agricultural, and environmental life sciences	11.4	7.0	4.4	45.6	43.0
Physical and related sciences	60.0	36.0	24.0	16.0	28.0
Social and related sciences	10.8	7.6	3.2	7.1	82.2
Engineering	52.9	41.3	12.4	13.2	33.1
Hispanic, any race					
All S&E fields	27.8	20.9	6.9	14.0	58.1
Computer and mathematical sciences	47.1	44.9	2.2	15.4	37.5
Biological, agricultural, and environmental life sciences	21.3	14.9	6.3	27.6	51.1
Physical and related sciences	39.5	25.6	14.0	18.6	39.5
Social and related sciences	11.5	8.7	2.8	7.3	81.2
Engineering	50.5	34.7	15.9	15.9	33.6
White					

CHAPTER 3 | Science and Engineering Labor Force

Sex, race, ethnicity, and field of highest degree	S&E occupations			S&E-related occupations	Non-S&E occupations
	All S&E	In field	Out of field		
All S&E fields	33.9	26.1	7.8	14.5	51.6
Computer and mathematical sciences	55.0	52.1	2.8	14.8	30.2
Biological, agricultural, and environmental life sciences	28.4	20.1	8.2	27.1	44.5
Physical and related sciences	45.9	28.2	17.7	22.1	32.0
Social and related sciences	13.2	7.8	5.5	7.9	78.9
Engineering	56.2	43.9	12.3	14.5	29.2
Native Hawaiian or Other Pacific Islander					
All S&E fields	21.4	14.3	4.8	7.1	73.8
Computer and mathematical sciences	s	s	s	s	s
Biological, agricultural, and environmental life sciences	25.0	s	s	s	50.0
Physical and related sciences	s	s	s	s	s
Social and related sciences	s	*	s	s	87.5
Engineering	66.7	66.7	s	s	s
More than one race					
All S&E fields	32.5	25.5	6.7	16.9	50.6
Computer and mathematical sciences	57.1	54.8	2.4	s	21.4
Biological, agricultural, and environmental life sciences	36.4	30.3	6.1	27.3	36.4
Physical and related sciences	62.5	25.0	25.0	25.0	25.0
Social and related sciences	11.2	7.2	4.0	10.4	78.4
Engineering	60.9	47.8	13.0	21.7	17.4

* = estimate < 500; s = suppressed for reasons of reliability and/or confidentiality.

Note(s)

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Hispanic may be any race; American Indian or Alaska Native, Asian, black or African American, Native Hawaiian or Other Pacific Islander, white, and more than one race refer to individuals who are not of Hispanic origin. For each broad S&E highest degree field, S&E occupations in field includes individuals who report being in an occupation in the same broad category as their highest degree, and S&E occupations out of field includes those who report being in an occupation not in the same broad category as their highest degree. For example, for highest degree holders in computer and mathematical sciences, S&E occupations in field includes those who report computer and mathematical sciences as their occupation, and S&E occupations out of field includes those who report an S&E occupation other than computer and mathematical sciences occupations, that is, who report biological, agricultural, and environmental life sciences; physical sciences; social sciences; or engineering as their occupation. Detail may not add to total because of rounding. Percentages are based on rounded numbers.

Source(s)

National Science Foundation, National Center for Science and Engineering Statistics, National Survey of College Graduates (NSCG) (2015), <https://www.nsf.gov/statistics/srvygrads/>.

Science and Engineering Indicators 2018

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APPENDIX TABLE 3-15

Employed scientists and engineers, by race, ethnicity, and occupation: 2015

(Number and percent)

Occupation	Total	Asian		American Indian or Alaska Native		Black		Hispanic		White		Native Hawaiian or Other Pacific Islander		More than one race	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
All occupations	25,306,000	3,123,000	12.3	76,000	0.3	1,716,000	6.8	2,029,000	8.0	17,842,000	70.5	76,000	0.3	443,000	1.8
S&E occupations	6,407,000	1,321,000	20.6	10,000	0.2	308,000	4.8	387,000	6.0	4,267,000	66.6	12,000	0.2	103,000	1.6
Computer and mathematical scientists	3,156,000	813,000	25.8	2,000	0.1	162,000	5.1	159,000	5.0	1,965,000	62.3	6,000	0.2	50,000	1.6
Computer and information scientists	2,823,000	722,000	25.6	1,000	0.0	152,000	5.4	145,000	5.1	1,752,000	62.1	6,000	0.2	45,000	1.6
Computer and information scientists, research	64,000	23,000	35.9	s	s	s	s	s	s	39,000	60.9	s	s	s	s
Computer network architects	48,000	11,000	22.9	s	s	4,000	8.3	s	s	31,000	64.6	s	s	s	s
Computer support specialists	242,000	27,000	11.2	s	s	24,000	9.9	12,000	5.0	176,000	72.7	s	s	s	s
Computer system analysts	333,000	91,000	27.3	s	s	26,000	7.8	18,000	5.4	188,000	56.5	2,000.0	0.6	8,000	2.4
Database administrators	146,000	27,000	18.5	s	s	10,000	6.8	4,000	2.7	104,000	71.2	s	s	s	s
Information security analysts	69,000	13,000	18.8	s	s	9,000	13.0	s	s	37,000	53.6	s	s	s	s
Network and computer systems administrators	188,000	34,000	18.1	s	s	16,000	8.5	11,000	5.9	124,000	66.0	s	s	1,000	0.5
Software developers — applications and systems software	623,000	210,000	33.7	s	s	16,000	2.6	26,000	4.2	363,000	58.3	s	s	8,000	1.3
Web developers	174,000	21,000	12.1	s	s	3,000	1.7	9,000	5.2	137,000	78.7	s	s	3,000	1.7
Other computer information science occupations	345,000	39,000	11.3	s	s	25,000	7.2	15,000	4.3	255,000	73.9	s	s	10,000	2.9



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Occupation	Total	Asian		American Indian or Alaska Native		Black		Hispanic		White		Native Hawaiian or Other Pacific Islander		More than one race	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Computer engineers — software	592,000	224,000	37.8	s	s	18,000	3.0	42,000	7.1	300,000	50.7	s	s	7,000	1.2
Mathematical scientists	218,000	75,000	34.4	s	s	5,000	2.3	8,000	3.7	126,000	57.8	s	s	4,000	1.8
Mathematicians	7,000	s	s	s	s	s	s	s	s	5,000	71.4	s	s	s	s
Operations research analysts, including modeling	122,000	22,000	18.0	s	s	3,000	s	5,000	4.1	90,000	73.8	s	s	3,000.0	s
Statisticians	74,000	s	s	s	s	1,000	s	1,000	s	25,000	s	s	s	s	s
Other mathematical scientists	15,000	s	s	s	s	*	*	s	s	7,000	46.7	s	s	s	s
Postsecondary teachers — computer and mathematical sciences	114,000	16,000	14.0	s	s	5,000	4.4	5,000	4.4	86,000	75.4	s	s	s	s
Computer science	22,000	3,000	13.6	s	s	s	s	2,000	9.1	14,000	63.6	s	s	s	s
Mathematics and statistics	92,000	13,000	14.1	s	s	3,000	3.3	3,000	3.3	72,000	78.3	s	s	s	s
Biological, agricultural, and environmental life scientists	631,000	114,000	18.1	2,000	0.3	16,000	2.5	37,000	5.9	449,000	71.2	1,000	0.2	12,000	1.9
Agricultural and food scientists	52,000	8,000	15.4	s	s	2,000	3.8	3,000	5.8	38,000	73.1	s	s	*	*
Biological and medical scientists	443,000	98,000	22.1	1,000	0.2	11,000	2.5	28,000	6.3	296,000	66.8	*	*	10,000	2.3
Biochemists and biophysicists	72,000	28,000	38.9	s	s	1,000	1.4	4,000	5.6	37,000	51.4	s	s	1,000	1.4
Biological scientists (e.g., botanists, ecologists, zoologists)	137,000	17,000	12.4	s	s	3,000	2.2	7,000	5.1	105,000	76.6	s	s	6,000	4.4
Medical scientists (excluding practitioners)	136,000	34,000	25.0	s	s	4,000	2.9	7,000	5.1	90,000	66.2	s	s	1,000	0.7
Other biological and life scientists	98,000	19,000	19.4	s	s	3,000	3.1	10,000	10.2	64,000	65.3	s	s	2,000	2.0
Forestry and conservation scientists	59,000	*	*	s	s	*	*	3,000	s	55,000	93.2	s	s	s	s

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Occupation	Total	Asian		American Indian or Alaska Native		Black		Hispanic		White		Native Hawaiian or Other Pacific Islander		More than one race	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Postsecondary teachers — life and related sciences	78,000	7,000	9.0	s	s	3,000	3.8	4,000	5.1	61,000	78.2	s	s	2,000	2.6
Agriculture	5,000	s	s	s	s	s	s	*	*	5,000	100.0	s	s	s	s
Biological sciences	62,000	7,000	11.3	s	s	2,000	3.2	4,000	6.5	48,000	77.4	s	s	2,000	3.2
Other natural sciences	11,000	s	s	s	s	s	s	*	*	9,000	81.8	s	s	s	s
Physical and related scientists	331,000	64,000	19.3	1,000	0.3	13,000	3.9	17,000	5.1	233,000	70.4	s	s	3,000	0.9
Chemists, except biochemists	105,000	24,000	22.9	s	s	6,000	5.7	7,000	6.7	67,000	63.8	s	s	1,000	1.0
Earth scientists, geologists, and oceanographers	66,000	6,000	9.1	s	s	1,000	1.5	2,000	3.0	56,000	84.8	s	s	1,000	1.5
Atmospheric and space scientists	15,000	s	s	s	s	s	s	*	*	11,000	73.3	s	s	*	*
Geologists, including earth scientists	48,000	2,000	4.2	s	s	1,000	2.1	2,000	4.2	43,000	89.6	s	s	1,000	2.1
Oceanographers	4,000	s	s	s	s	s	s	s	s	2,000	50.0	s	s	s	s
Physicists and astronomers	49,000	16,000	32.7	s	s	s	s	2,000	4.1	29,000	59.2	s	s	s	s
Astronomers	7,000	2,000	28.6	s	s	s	s	s	s	5,000	71.4	s	s	s	s
Physicists, except biophysicists	42,000	14,000	33.3	s	s	s	s	1,000	2.4	25,000	59.5	s	s	s	s
Other physical and related scientists	45,000	6,000	13.3	s	s	1,000	2.2	3,000	6.7	34,000	75.6	s	s	s	s
Postsecondary teachers — physical and related sciences	65,000	12,000	18.5	s	s	4,000	6.2	3,000	4.6	46,000	70.8	s	s	s	s
Chemistry	28,000	7,000	25.0	s	s	3,000	10.7	2,000	7.1	17,000	60.7	s	s	s	s
Earth, environmental, and marine sciences	15,000	1,000	6.7	s	s	s	s	*	*	13,000	86.7	s	s	s	s

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Occupation	Total	Asian		American Indian or Alaska Native		Black		Hispanic		White		Native Hawaiian or Other Pacific Islander		More than one race	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Physics	22,000	4,000	18.2	s	s	s	s	s	s	16,000	72.7	s	s	s	s
Social and related scientists	570,000	51,000	8.9	2,000	0.4	42,000	7.4	55,000	9.6	407,000	71.4	s	s	11,000	1.9
Economists	32,000	5,000	15.6	s	s	2,000	6.3	4,000	12.5	20,000	62.5	s	s	*	*
Political scientists	25,000	s	s	s	s	s	s	s	s	19,000	76.0	s	s	s	s
Psychologists, including clinical	213,000	12,000	5.6	s	s	18,000	8.5	28,000	13.1	151,000	70.9	s	s	3,000	1.4
Sociologists and anthropologists	31,000	1,000	s	s	s	s	s	2,000	6.5	24,000	77.4	s	s	s	s
Anthropologists	11,000	s	s	s	s	s	s	*	*	9,000	81.8	s	s	s	s
Sociologists	20,000	s	s	s	s	s	s	2,000	s	15,000	75.0	s	s	s	s
Other social and related scientists	108,000	15,000	13.9	s	s	7,000	6.5	8,000	7.4	74,000	68.5	s	s	3,000	2.8
Postsecondary teachers — social and related sciences	162,000	16,000	9.9	s	s	13,000	8.0	9,000	5.6	120,000	74.1	s	s	4,000	2.5
Economics	21,000	4,000	19.0	s	s	2,000	9.5	1,000	4.8	15,000	71.4	s	s	s	s
Political science	21,000	s	s	s	s	1,000	4.8	1,000	4.8	17,000	81.0	s	s	s	s
Psychology	38,000	4,000	10.5	s	s	4,000	10.5	3,000	7.9	26,000	68.4	s	s	1,000	2.6
Sociology	14,000	1,000	7.1	s	s	s	s	1,000	7.1	10,000	71.4	s	s	1,000	7.1
Other social sciences	68,000	5,000	7.4	s	s	6,000	8.8	3,000	4.4	53,000	77.9	s	s	s	s
Engineers	1,719,000	279,000	16.2	4,000	0.2	74,000	4.3	120,000	7.0	1,213,000	70.6	4,000	0.2	27,000	1.6
Aerospace, aeronautical, or astronautical engineers	96,000	12,000	12.5	s	s	2,000	2.1	11,000	11.5	68,000	70.8	s	s	s	s

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Occupation	Total	Asian		American Indian or Alaska Native		Black		Hispanic		White		Native Hawaiian or Other Pacific Islander		More than one race	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Chemical engineers	80,000	13,000	16.3	s	s	s	s	4,000	5.0	59,000	73.8	s	s	2,000	2.5
Civil, architectural, or sanitary engineers	251,000	37,000	14.7	s	s	11,000	4.4	20,000	8.0	176,000	70.1	s	s	5,000	2.0
Electrical or computer hardware engineers	360,000	85,000	23.6	s	s	17,000	4.7	25,000	6.9	226,000	62.8	1,000	0.3	5,000	1.4
Computer engineers — hardware	70,000	24,000	34.3	s	s	1,000.0	1.4	4,000	5.7	40,000	57.1	s	s	s	s
Electrical and electronics engineers	290,000	62,000	21.4	s	s	16,000	5.5	21,000	7.2	186,000	64.1	1,000	0.3	4,000	1.4
Industrial engineers	82,000	13,000	15.9	s	s	7,000	8.5	7,000	8.5	55,000	67.1	s	s	*	*
Mechanical engineers	337,000	46,000	13.6	s	s	12,000	3.6	19,000	5.6	255,000	75.7	1,000	0.3	5,000	1.5
Other engineers	460,000	57,000	12.4	s	s	21,000	4.6	29,000	6.3	343,000	74.6	s	s	7,000	1.5
Agricultural engineers	7,000	s	s	s	s	s	s	s	s	6,000	85.7	s	s	s	s
Bioengineers or biomedical engineers	26,000	4,000	15.4	s	s	1,000	3.8	2,000	7.7	19,000	73.1	s	s	s	s
Environmental engineers	66,000	6,000	9.1	s	s	4,000	6.1	4,000	6.1	49,000	74.2	s	s	s	s
Marine engineers and naval architects	12,000	*	*	s	s	s	s	s	s	10,000	83.3	s	s	s	s
Materials and metallurgical engineers	31,000	3,000	9.7	s	s	s	s	2,000	6.5	23,000	74.2	s	s	s	s
Mining and geological engineers	5,000	s	s	s	s	s	s	s	s	3,000	60.0	s	s	s	s
Nuclear engineers	25,000	1,000	4.0	s	s	*	*	s	s	19,000	76.0	s	s	s	s
Petroleum engineers	19,000	3,000	15.8	s	s	s	s	1,000	5.3	14,000	73.7	s	s	s	s
Sales engineers	90,000	5,000	5.6	s	s	4,000	4.4	5,000	5.6	73,000	81.1	s	s	s	s

CHAPTER 3 | Science and Engineering Labor Force

Occupation	Total	Asian		American Indian or Alaska Native		Black		Hispanic		White		Native Hawaiian or Other Pacific Islander		More than one race	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Other engineers	178,000	33,000	18.5	s	s	8,000	4.5	8,000	4.5	126,000	70.8	s	s	3,000	1.7
Postsecondary teachers — engineering	53,000	16,000	30.2	s	s	1,000	1.9	3,000	5.7	32,000	60.4	s	s	s	s
S&E-related occupations	7,867,000	871,000	11.1	27,000	0.3	515,000	6.5	629,000	8.0	5,676,000	72.1	21,000	0.3	128,000	1.6
Health-related occupations	4,883,000	542,000	11.1	19,000	0.4	312,000	6.4	415,000	8.5	3,512,000	71.9	15,000	0.3	69,000	1.4
Diagnosing or treating practitioners (e.g., dentists, optometrists, physicians, psychiatrists, podiatrists, surgeons, veterinarians)	1,205,000	189,000	15.7	s	s	54,000	4.5	90,000	7.5	855,000	71.0	s	s	14,000	1.2
Registered nurses, pharmacists, dieticians, therapists, physician assistants, nurse practitioners	2,307,000	234,000	10.1	9,000	0.4	120,000	5.2	160,000	6.9	1,739,000	75.4	10,000	0.4	36,000	1.6
Health technologists and technicians (e.g., dental hygienists, health record technicians, licensed practical nurses, laboratory or radiology technicians)	513,000	47,000	9.2	s	s	57,000	11.1	41,000	8.0	356,000	69.4	s	s	9,000	1.8
Other health occupations	718,000	62,000	8.6	4,000	0.6	74,000	10.3	118,000	16.4	446,000	62.1	s	s	9,000	1.3
Postsecondary teachers — health and related sciences	140,000	10,000	7.1	s	s	7,000	5.0	7,000	5.0	116,000	82.9	s	s	s	s
S&E managers	967,000	124,000	12.8	5,000	0.5	63,000	6.5	60,000	6.2	701,000	72.5	s	s	11,000	1.1
Computer and information systems managers	229,000	55,000	24.0	s	s	21,000	9.2	10,000	4.4	142,000	62.0	s	s	2,000	0.9
Engineering managers	362,000	41,000	11.3	4,000	1.1	10,000	2.8	25,000	6.9	276,000	76.2	s	s	5,000	1.4
Medical and health services managers	320,000	23,000	7.2	s	s	29,000	9.1	23,000	7.2	239,000	74.7	s	s	4,000	1.3
Natural sciences managers	55,000	5,000	9.1	s	s	s	s	3,000	5.5	44,000	80.0	s	s	s	s

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Occupation	Total	Asian		American Indian or Alaska Native		Black		Hispanic		White		Native Hawaiian or Other Pacific Islander		More than one race	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
S&E precollege teachers	1,029,000	34,000	3.3	2,000	0.2	64,000	6.2	81,000	7.9	817,000	79.4	*	*	31,000	3.0
Secondary — computer, mathematics, or sciences	729,000	28,000	3.8	1,000.0	0.1	50,000	6.9	62,000	8.5	572,000	78.5	*	*	17,000	2.3
Secondary — social sciences	300,000	6,000	2.0	s	s	15,000	5.0	19,000	6.3	245,000	81.7	s	s	14,000	4.7
S&E technicians and technologists	782,000	145,000	18.5	s	s	70,000	9.0	57,000	7.3	489,000	62.5	s	s	16,000	2.0
Technologists and technicians in the biological and life sciences	102,000	22,000	21.6	s	s	8,000	7.8	10,000	9.8	61,000	59.8	s	s	1,000	1.0
Computer programmers (business, scientific, process control)	166,000	37,000	22.3	s	s	12,000	7.2	5,000	3.0	109,000	65.7	s	s	s	s
Electrical, electronic, industrial, and mechanical technicians	243,000	49,000	20.2	s	s	35,000	14.4	21,000	8.6	132,000	54.3	s	s	6,000	2.5
Drafting occupations, including computer drafting	28,000	3,000	10.7	s	s	s	s	2,000	7.1	17,000	60.7	s	s	s	s
Surveying and mapping technicians	15,000	s	s	s	s	s	s	s	s	11,000	73.3	s	s	s	s
Other engineering technologists and technicians	177,000	27,000	15.3	s	s	12,000	6.8	13,000	7.3	118,000	66.7	s	s	s	s
Surveyors, cartographers, photogrammetrists	11,000	s	s	s	s	s	s	s	s	9,000	81.8	s	s	s	s
Technologists and technicians in the mathematical sciences	3,000	*	*	s	s	s	s	s	s	2,000	66.7	s	s	s	s
Technologists and technicians in the physical sciences	37,000	3,000	8.1	s	s	s	s	s	s	30,000	81.1	s	s	s	s
Other S&E-related occupations	207,000	25,000	12.1	s	s	5,000	2.4	16,000	7.7	157,000	75.8	s	s	1,000	0.5
Architects	174,000	22,000	12.6	s	s	5,000	2.9	15,000	8.6	129,000	74.1	s	s	s	s
Actuaries	33,000	3,000	9.1	s	s	s	s	s	s	28,000	84.8	s	s	s	s
Non-S&E occupations	11,031,000	931,000	8.4	39,000	0.4	894,000	8.1	1,012,000	9.2	7,900,000	71.6	43,000	0.4	211,000	1.9

CHAPTER 3 | Science and Engineering Labor Force

Occupation	Total	Asian		American Indian or Alaska Native		Black		Hispanic		White		Native Hawaiian or Other Pacific Islander		More than one race	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Non-S&E managers	1,825,000	158,000	8.7	4,000	0.2	75,000	4.1	117,000	6.4	1,440,000	78.9	6,000	0.3	24,000	1.3
Top-level managers, executives, administrators (e.g., chief executive officer, chief operating officer, chief financial officer; president; district manager, general manager, provost)	1,099,000	92,000	8.4	2,000	0.2	28,000	2.5	62,000	5.6	899,000	81.8	5,000	0.5	10,000	0.9
Education administrators (e.g., registrar, dean, principal)	132,000	10,000	7.6	s	s	11,000	8.3	9,000	6.8	101,000	76.5	s	s	s	s
Other mid-level managers	594,000	57,000	9.6	2,000	0.3	36,000	6.1	46,000	7.7	440,000	74.1	*	*	13,000	2.2
Management-related occupations	2,085,000	220,000	10.6	5,000	0.2	193,000	9.3	196,000	9.4	1,431,000	68.6	12,000	0.6	28,000	1.3
Accountants, auditors, and other financial specialists	720,000	102,000	14.2	s	s	48,000	6.7	59,000	8.2	500,000	69.4	1,000	0.1	8,000	1.1
Personnel, training, and labor relations specialists	295,000	11,000	3.7	s	s	41,000	13.9	30,000	10.2	208,000	70.5	s	s	3,000	1.0
Other management-related occupations	1,070,000	106,000	9.9	s	s	104,000	9.7	106,000	9.9	724,000	67.7	10,000	0.9	17,000	1.6
Non-S&E precollege teachers	825,000	47,000	5.7	s	s	89,000	10.8	85,000	10.3	586,000	71.0	9,000	1.1	8,000	1.0
Prekindergarten and kindergarten	129,000	9,000	7.0	s	s	20,000	15.5	15,000	11.6	83,000	64.3	s	s	s	?
Elementary	385,000	20,000	5.2	s	s	46,000	11.9	42,000	10.9	273,000	70.9	s	s	4,000	1.0
Secondary — other subjects	124,000	s	s	s	s	7,000	5.6	12,000	9.7	88,000	71.0	s	s	1,000	0.8
Special education — primary and secondary	139,000	6,000	4.3	s	s	12,000	8.6	13,000	9.4	107,000	77.0	s	s	1,000	0.7
Other precollegiate area	48,000	4,000	8.3	s	s	5,000	10.4	4,000	8.3	34,000	70.8	s	s	s	s
Non-S&E postsecondary teachers	184,000	16,000	8.7	s	s	13,000	7.1	12,000	6.5	137,000	74.5	s	s	2,000	1.1
Arts, drama, and music	6,000	s	s	s	s	s	s	s	s	5,000	83.3	s	s	s	s

CHAPTER 3 | Science and Engineering Labor Force

Occupation	Total	Asian		American Indian or Alaska Native		Black		Hispanic		White		Native Hawaiian or Other Pacific Islander		More than one race	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Business, commerce, and marketing	31,000	6,000	19.4	s	s	2,000	6.5	1,000	3.2	22,000	71.0	s	s	s	s
Education	30,000	5,000	16.7	s	s	2,000	6.7	2,000	6.7	21,000	70.0	s	s	s	s
English	28,000	1,000	3.6	s	s	s	s	s	s	23,000	82.1	s	s	1,000	s
Foreign language	13,000	1,000	7.7	s	s	s	s	3,000	23.1	3,000	23.1	s	s	s	s
History	9,000	s	s	s	s	s	s	s	s	8,000	88.9	s	s	s	s
Physical education	3,000	s	s	s	s	s	s	s	s	3,000	100.0	s	s	s	s
Other postsecondary fields	65,000	3,000	4.6	s	s	4,000	6.2	4,000	6.2	52,000	80.0	s	s	1,000	1.5
Social services and related occupations	883,000	40,000	4.5	5,000	0.6	124,000	14.0	109,000	12.3	581,000	65.8	s	s	23,000	2.6
Clergy and other religious workers	120,000	11,000	9.2	s	s	9,000	7.5	10,000	8.3	88,000	73.3	s	s	s	s
Counselors (e.g., educational, vocational, mental health, substance abuse)	436,000	20,000	4.6	s	s	51,000	11.7	49,000	11.2	295,000	67.7	s	s	18,000	4.1
Social workers	327,000	9,000	2.8	s	s	64,000	19.6	50,000	15.3	198,000	60.6	s	s	5,000	1.5
Sales and marketing occupations	1,467,000	139,000	9.5	s	s	93,000	6.3	122,000	8.3	1,066,000	72.7	s	s	36,000	2.5
Insurance, securities, real estate, and business services	406,000	42,000	10.3	s	s	27,000	6.7	37,000	9.1	294,000	72.4	s	s	4,000	1.0
Sales — commodities except retail (e.g., industrial, medical, dental machinery, equipment, supplies)	216,000	9,000	4.2	s	s	8,000	3.7	21,000	9.7	176,000	81.5	s	s	2,000	0.9
Sales — retail (e.g., furnishings, clothing, motor vehicles, cosmetics)	345,000	42,000	12.2	s	s	19,000	5.5	32,000	9.3	234,000	67.8	s	s	17,000	4.9
Other marketing and sales occupations	501,000	46,000	9.2	s	s	39,000	7.8	32,000	6.4	361,000	72.1	s	s	13,000	2.6

CHAPTER 3 | Science and Engineering Labor Force

Occupation	Total	Asian		American Indian or Alaska Native		Black		Hispanic		White		Native Hawaiian or Other Pacific Islander		More than one race	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Arts, humanities, and related occupations	331,000	21,000	6.3	s	s	16,000	4.8	16,000	4.8	267,000	80.7	s	s	9,000	2.7
Writers, editors, public relations specialists, artists, entertainers, broadcasters	328,000	21,000	6.4	s	s	16,000	4.9	16,000	4.9	264,000	80.5	s	s	9,000	2.7
Historians	4,000	s	s	s	s	s	s	s	s	4,000	100.0	s	s	s	s
Other non-S&E occupations	3,430,000	290,000	8.5	11,000	0.3	291,000	8.5	355,000	10.3	2,391,000	69.7	10,000	0.3	81,000	2.4
Accounting clerks and bookkeepers	163,000	25,000	15.3	s	s	s	s	7,000	4.3	106,000	65.0	s	s	s	s
Secretaries, receptionists, typists	222,000	26,000	11.7	s	s	23,000	10.4	30,000	13.5	134,000	60.4	s	s	s	s
Other administrative (e.g., record clerks, telephone operators)	577,000	69,000	12.0	*	*	78,000	13.5	79,000	13.7	335,000	58.1	s	s	13,000	2.3
Farmers, foresters, and fishermen	99,000	2,000	2.0	s	s	s	s	s	s	90,000	90.9	s	s	*	*
Lawyers, judges	635,000	30,000	4.7	s	s	26,000	4.1	37,000	5.8	527,000	83.0	s	s	13,000	2.0
Librarians, archivists, curators	95,000	2,000	2.1	s	s	3,000	3.2	6,000	6.3	74,000	77.9	s	s	9,000	9.5
Food preparation and service (e.g., cooks, waitresses, bartenders)	136,000	19,000	14.0	s	s	4,000	2.9	13,000	9.6	93,000	68.4	s	s	7,000	5.1
Protective services (e.g., firefighters, police, guards, wardens, park rangers)	155,000	4,000	2.6	s	s	20,000	12.9	13,000	8.4	113,000	72.9	s	s	5,000	3.2
Other service occupations, except health (e.g., probation officer, human services work)	380,000	25,000	6.6	s	s	36,000	9.5	56,000	14.7	239,000	62.9	s	s	16,000	4.2
Other teachers and instructors (e.g., private tutors, dance, flying, martial arts)	230,000	13,000	5.7	s	s	25,000	10.9	15,000	6.5	173,000	75.2	s	s	3,000	1.3

CHAPTER 3 | Science and Engineering Labor Force

Occupation	Total	Asian		American Indian or Alaska Native		Black		Hispanic		White		Native Hawaiian or Other Pacific Islander		More than one race	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Construction and extraction occupations	88,000	s	s	s	s	3,000	3.4	5,000	5.7	70,000	79.5	s	s	s	s
Installation, maintenance, and repair occupations	127,000	8,000	6.3	s	s	s	s	12,000	9.4	104,000	81.9	s	s	s	s
Precision or production occupations (e.g., metal or wood workers, butchers, bakers, assemblers, tailors)	140,000	14,000	10.0	s	s	14,000	10.0	17,000	12.1	93,000	66.4	s	s	s	s
Transportation and material moving occupations	199,000	20,000	10.1	s	s	19,000	9.5	15,000	7.5	143,000	71.9	s	s	s	s
Other occupations	183,000	26,000	14.2	s	s	11,000	6.0	45,000	24.6	96,000	52.5	s	s	2,000	1.1

* = estimate < 500; s = suppressed for reasons of confidentiality and/or reliability.

Note(s)

Scientists and engineers include those with one or more S&E or S&E-related degrees at the bachelor's level or higher or those who have only a non-S&E degree at the bachelor's level or higher and are employed in an S&E or S&E-related occupation. Hispanic may be any race; American Indian or Alaska Native, Asian, black or African American, Native Hawaiian or Other Pacific Islander, white, and more than one race refer to individuals who are not of Hispanic origin. Detail may not add to total because of rounding. Numbers are rounded to the nearest 1,000. Percentages are based on rounded numbers.

Source(s)

National Science Foundation, National Center for Science and Engineering Statistics, National Survey of College Graduates (NSCG) (2015), <https://www.nsf.gov/statistics/srvygrads/>.

Science and Engineering Indicators 2018

CHAPTER 3 | Science and Engineering Labor Force

APPENDIX TABLE 3-16

Employed S&E highest degree holders, by race, ethnicity, and field of degree: 2015

(Number and percent)

Highest degree field	Total	Asian		American Indian or Alaska Native		Black		Hispanic		White		Native Hawaiian or Other Pacific Islander		More than one race	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
All S&E degrees	13,497,000	2,035,000	15.1	40,000	0.3	869,000	6.4	1,135,000	8.4	9,122,000	67.6	42,000	0.3	255,000	1.9
Computer and mathematical sciences	2,346,000	542,000	23.1	2,000	0.1	172,000	7.3	136,000	5.8	1,446,000	61.6	8,000	0.3	42,000	1.8
Computer and information sciences	1,826,000	462,000	25.3	2,000	0.1	146,000	8.0	109,000	6.0	1,069,000	58.5	2,000	0.1	36,000	2.0
Computer and information sciences, general	340,000	85,000	25.0	s	s	39,000	11.5	23,000	6.8	184,000	54.1	s	s	10,000	2.9
Computer science	968,000	306,000	31.6	s	s	54,000	5.6	54,000	5.6	537,000	55.5	s	s	17,000	1.8
Computer systems analysis	49,000	6,000	12.2	s	s	4,000	8.2	3,000	6.1	36,000	73.5	s	s	s	s
Information services and systems	371,000	52,000	14.0	s	s	36,000	9.7	26,000	7.0	248,000	66.8	s	s	7,000	1.9
Other computer and information sciences	97,000	14,000	14.4	s	s	13,000	13.4	4,000	4.1	64,000	66.0	s	s	s	s
Mathematics and statistics	520,000	79,000	15.2	*	*	26,000	5.0	27,000	5.2	377,000	72.5	s	s	6,000	1.2
Applied mathematics	49,000	11,000	22.4	s	s	s	s	2,000	4.1	35,000	71.4	s	s	s	s
Mathematics, general	363,000	38,000	10.5	*	*	20,000	5.5	17,000	4.7	283,000	78.0	s	s	4,000	1.1
Operations research	34,000	6,000	17.6	s	s	s	s	2,000	5.9	25,000	73.5	s	s	s	s
Statistics	58,000	23,000	39.7	s	s	s	s	3,000	5.2	28,000	48.3	s	s	1,000	1.7
Other mathematics	16,000	1,000	s	s	s	s	s	s	s	6,000	37.5	s	s	s	s
Biological, agricultural, and environmental life sciences	2,116,000	281,000	13.3	7,000	0.3	114,000	5.4	174,000	8.2	1,504,000	71.1	4,000	0.2	33,000	1.6

CHAPTER 3 | Science and Engineering Labor Force

Highest degree field	Total	Asian		American Indian or Alaska Native		Black		Hispanic		White		Native Hawaiian or Other Pacific Islander		More than one race	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Agricultural and food sciences	291,000	14,000	4.8	s	s	6,000	2.1	13,000	4.5	253,000	86.9	1,000	0.3	2,000	0.7
Animal sciences	102,000	s	s	s	s	1,000	s	6,000	5.9	92,000	90.2	s	s	1,000	1.0
Food sciences and technology	35,000	5,000	14.3	s	s	1,000	2.9	2,000	5.7	25,000	71.4	s	s	s	s
Plant sciences	92,000	6,000	6.5	s	s	s	s	4,000	4.3	79,000	85.9	s	s	s	s
Other agricultural sciences	62,000	3,000	4.8	s	s	s	s	s	s	57,000	91.9	s	s	s	s
Biological sciences	1,632,000	263,000	16.1	4,000	0.2	102,000	6.3	137,000	8.4	1,095,000	67.1	3,000	0.2	29,000	1.8
Biochemistry and biophysics	139,000	34,000	24.5	s	s	2,000	1.4	8,000	5.8	93,000	66.9	s	s	2,000	1.4
Biology, general	807,000	117,000	14.5	2,000	0.2	75,000	9.3	58,000	7.2	541,000	67.0	1,000	0.1	12,000	1.5
Botany	18,000	4,000	22.2	s	s	s	s	s	s	14,000	77.8	s	s	*	*
Cell and molecular biology	95,000	23,000	24.2	s	s	s	s	11,000	11.6	53,000	55.8	s	s	2,000	2.1
Ecology	87,000	2,000	2.3	s	s	s	s	s	s	72,000	82.8	s	s	s	s
Genetics, animal and plant	20,000	3,000	15.0	s	s	s	s	1,000	5.0	16,000	80.0	s	s	s	s
Microbiological sciences and immunology	118,000	19,000	16.1	s	s	s	s	14,000	11.9	78,000	66.1	s	s	1,000	0.8
Nutritional sciences	71,000	13,000	18.3	s	s	2,000	2.8	3,000	4.2	50,000	70.4	s	s	s	s
Pharmacology, human and animal	26,000	6,000	23.1	s	s	s	s	s	s	16,000	61.5	s	s	s	s
Physiology and pathology, human and animal	58,000	10,000	17.2	s	s	1,000	1.7	3,000	5.2	41,000	70.7	s	s	s	s
Zoology, general	56,000	10,000	17.9	s	s	1,000	1.8	3,000	5.4	42,000	75.0	s	s	s	s

CHAPTER 3 | Science and Engineering Labor Force

Highest degree field	Total	Asian		American Indian or Alaska Native		Black		Hispanic		White		Native Hawaiian or Other Pacific Islander		More than one race	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Other biological sciences	135,000	22,000	16.3	s	s	5,000	3.7	s	s	79,000	58.5	s	s	2,000	s
Environmental life sciences	194,000	5,000	2.6	1,000	0.5	6,000	3.1	24,000	12.4	156,000	80.4	s	s	2,000	1.0
Environmental science or studies	157,000	4,000	2.5	s	s	5,000	3.2	24,000	15.3	122,000	77.7	s	s	2,000	1.3
Forestry sciences	36,000	1,000	2.8	s	s	*	*	s	s	34,000	94.4	s	s	s	s
Physical and related sciences	789,000	138,000	17.5	s	s	25,000	3.2	43,000	5.4	571,000	72.4	s	s	8,000	1.0
Chemistry, except biochemistry	370,000	85,000	23.0	s	s	16,000	4.3	20,000	5.4	243,000	65.7	s	s	3,000	0.8
Earth, atmospheric, and ocean sciences	218,000	8,000	3.7	*	*	s	s	9,000	4.1	196,000	89.9	s	s	2,000	0.9
Atmospheric sciences and meteorology	35,000	4,000	11.4	s	s	s	s	s	s	27,000	77.1	s	s	*	*
Earth sciences	45,000	1,000	2.2	s	s	s	s	s	s	42,000	93.3	s	s	s	s
Geology	98,000	s	s	s	s	s	s	4,000	4.1	90,000	91.8	s	s	1,000	1.0
Geological sciences, other	32,000	2,000	6.3	s	s	s	s	1,000	3.1	29,000	90.6	s	s	s	s
Oceanography	9,000	s	s	s	s	s	s	s	s	8,000	88.9	s	s	s	s
Physics and astronomy	187,000	43,000	23.0	s	s	7,000	3.7	12,000	6.4	122,000	65.2	s	s	3,000	1.6
Astronomy and astrophysics	14,000	2,000	14.3	s	s	s	s	s	s	11,000	78.6	s	s	s	s
Physics	173,000	41,000	23.7	s	s	6,000	3.5	12,000	6.9	111,000	64.2	s	s	3,000	1.7
Other physical sciences	14,000	s	s	s	s	s	s	s	s	10,000	71.4	s	s	s	s
Other physical sciences	5,056,000	358,000	7.1	20,000	0.4	437,000	8.6	505,000	10.0	3,587,000	70.9	24,000	0.5	125,000	2.5

CHAPTER 3 | Science and Engineering Labor Force

Highest degree field	Total	Asian		American Indian or Alaska Native		Black		Hispanic		White		Native Hawaiian or Other Pacific Islander		More than one race	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Science, unclassified	817,000	110,000	13.5	s	s	62,000	7.6	51,000	6.2	570,000	69.8	s	s	18,000	2.2
Social and related sciences	63,000	2,000	3.2	s	s	*	*	s	s	57,000	90.5	s	s	s	s
Economics	754,000	108,000	14.3	s	s	62,000	8.2	49,000	6.5	513,000	68.0	s	s	16,000	2.1
Agricultural economics	908,000	69,000	7.6	4,000	0.4	55,000	6.1	94,000	10.4	669,000	73.7	s	s	16,000	1.8
Economics	57,000	7,000	12.3	s	s	6,000	10.5	10,000	17.5	33,000	57.9	s	s	*	*
Political and related sciences	198,000	21,000	10.6	s	s	8,000	4.0	15,000	7.6	145,000	73.2	s	s	8,000	4.0
Public policy studies	653,000	41,000	6.3	4,000	0.6	41,000	6.3	68,000	10.4	491,000	75.2	s	s	8,000	1.2
International relations	1,967,000	112,000	5.7	5,000	0.3	171,000	8.7	212,000	10.8	1,409,000	71.6	5,000	0.3	53,000	2.7
Political science and government	124,000	10,000	8.1	s	s	8,000	6.5	14,000	11.3	90,000	72.6	s	s	1,000	0.8
Psychology	217,000	10,000	4.6	s	s	18,000	8.3	32,000	14.7	148,000	68.2	s	s	6,000	2.8
Educational psychology	289,000	5,000	1.7	s	s	41,000	14.2	31,000	10.7	203,000	70.2	s	s	6,000	2.1
Clinical psychology	48,000	1,000	2.1	s	s	s	s	2,000	4.2	44,000	91.7	s	s	*	*
Counseling psychology	896,000	57,000	6.4	s	s	61,000	6.8	92,000	10.3	652,000	72.8	s	s	28,000	3.1
Experimental psychology	74,000	3,000	4.1	s	s	5,000	6.8	5,000	6.8	59,000	79.7	s	s	s	s
General psychology	102,000	s	s	s	s	3,000	2.9	10,000	9.8	79,000	77.5	s	s	2,000	2.0
Industrial and organizational psychology	217,000	18,000	8.3	s	s	33,000	15.2	25,000	11.5	133,000	61.3	s	s	7,000	3.2
Social psychology	789,000	37,000	4.7	s	s	108,000	13.7	89,000	11.3	520,000	65.9	11,000	1.4	20,000	2.5

CHAPTER 3 | Science and Engineering Labor Force

Highest degree field	Total	Asian		American Indian or Alaska Native		Black		Hispanic		White		Native Hawaiian or Other Pacific Islander		More than one race	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Other psychology	156,000	4,000	2.6	s	s	s	s	9,000	5.8	128,000	82.1	*	*	6,000	3.8
Sociology and anthropology	89,000	s	s	s	s	4,000	4.5	18,000	20.2	52,000	58.4	s	s	s	s
Anthropology and archaeology	544,000	24,000	4.4	s	s	95,000	17.5	62,000	11.4	340,000	62.5	10,000	1.8	7,000	1.3
Criminology	574,000	30,000	5.2	s	s	42,000	7.3	60,000	10.5	419,000	73.0	1,000	0.2	18,000	3.1
Sociology	117,000	9,000	7.7	s	s	13,000	11.1	13,000	11.1	77,000	65.8	s	s	4,000	3.4
Other social sciences	84,000	6,000	7.1	s	s	s	s	18,000	21.4	55,000	65.5	s	s	s	s
Area and ethnic studies	15,000	s	s	s	s	s	s	s	s	14,000	93.3	s	s	s	s
Linguistics	140,000	7,000	5.0	s	s	1,000	s	5,000	3.6	118,000	84.3	s	s	9,000	6.4
Philosophy of science	6,000	s	s	s	s	s	s	s	s	5,000.0	83.3	s	s	s	s
Geography	212,000	8,000	3.8	s	s	26,000	12.3	22,000	10.4	150,000	70.8	s	s	5,000	2.4
History of science	3,190,000	717,000	22.5	9,000	0.3	121,000	3.8	277,000	8.7	2,014,000	63.1	6,000	0.2	46,000	1.4
Other social sciences	135,000	22,000	16.3	s	s	2,000	1.5	11,000	8.1	98,000	72.6	s	s	s	s
Engineering	211,000	38,000	18.0	s	s	11,000	5.2	13,000	6.2	144,000	68.2	s	s	4,000	1.9
Aerospace, aeronautical, and astronautical engineering	451,000	79,000	17.5	s	s	13,000	2.9	39,000	8.6	313,000	69.4	s	s	4,000	0.9
Chemical engineering	27,000	s	s	s	s	s	s	s	s	21,000	77.8	s	s	s	s
Civil and architectural engineering	424,000	75,000	17.7	s	s	12,000	2.8	37,000	8.7	292,000	68.9	s	s	4,000	0.9
Architectural engineering	1,112,000	360,000	32.4	3,000	0.3	48,000	4.3	102,000	9.2	581,000	52.2	2,000	0.2	17,000	1.5

CHAPTER 3 | Science and Engineering Labor Force

Highest degree field	Total	Asian		American Indian or Alaska Native		Black		Hispanic		White		Native Hawaiian or Other Pacific Islander		More than one race	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Civil engineering	297,000	100,000	33.7	s	s	10,000	3.4	41,000	13.8	139,000	46.8	s	s	6,000	2.0
Electrical and computer engineering	815,000	259,000	31.8	3,000	0.4	39,000	4.8	61,000	7.5	442,000	54.2	1,000	0.1	11,000	1.3
Computer and systems engineering	201,000	28,000	13.9	s	s	10,000	5.0	30,000	14.9	131,000	65.2	s	s	1,000	0.5
Electrical, electronics, and communications engineering	201,000	28,000	13.9	s	s	10,000	5.0	30,000	14.9	131,000	65.2	s	s	1,000	0.5
Industrial and manufacturing engineering	659,000	118,000	17.9	5,000.0	0.8	19,000	2.9	58,000	8.8	448,000	68.0	s	s	11,000	1.7
Mechanical engineering	659,000	118,000	17.9	5,000	0.8	19,000	2.9	58,000	8.8	448,000	68.0	s	s	11,000	1.7
Other engineering	421,000	71,000	16.9	s	s	18,000	4.3	25,000	5.9	300,000	71.3	s	s	7,000	1.7
Agricultural engineering	26,000	1,000	3.8	s	s	s	s	2,000	7.7	22,000	84.6	s	s	s	s
Bioengineering and biomedical engineering	49,000	13,000	26.5	s	s	2,000	4.1	5,000	10.2	28,000	57.1	s	s	1,000	2.0
Engineering sciences, mechanics, and physics	29,000	8,000	27.6	s	s	1,000	3.4	2,000	6.9	18,000	62.1	s	s	s	s
Environmental engineering	53,000	5,000	9.4	s	s	s	s	4,000	7.5	41,000	77.4	s	s	s	s
Engineering, general	23,000	3,000	13.0	s	s	*	*	*	*	18,000	78.3	s	s	s	s
Geophysical and geological engineering	14,000	s	s	s	s	s	s	s	s	11,000	78.6	s	s	s	s
Materials engineering, including ceramics and textiles	52,000	14,000	26.9	s	s	1,000	1.9	2,000	3.8	35,000	67.3	s	s	s	s
Metallurgical engineering	10,000	1,000	10.0	s	s	s	s	s	s	8,000	80.0	s	s	s	s
Mining and minerals engineering	8,000	2,000	25.0	s	s	s	s	s	s	5,000	62.5	s	s	s	s
Naval architecture and marine engineering	15,000	s	s	s	s	s	s	s	s	12,000	80.0	s	s	s	s

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Highest degree field	Total	Asian		American Indian or Alaska Native		Black		Hispanic		White		Native Hawaiian or Other Pacific Islander		More than one race	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Nuclear engineering	19,000	1,000	s	s	s	s	s	*	*	17,000	89.5	s	s	s	s
Petroleum engineering	28,000	2,000	7.1	s	s	s	s	1,000	3.6	17,000	60.7	s	s	s	s
Other engineering	96,000	19,000	19.8	s	s	3,000	3.1	6,000	6.3	67,000	69.8	s	s	s	s

* = estimate < 500; s = suppressed for reasons of confidentiality and/or reliability.

Note(s)

Hispanic may be any race; American Indian or Alaska Native, Asian, black or African American, Native Hawaiian or Other Pacific Islander, white, and more than one race refer to individuals who are not of Hispanic origin. Detail may not add to total because of rounding. Numbers are rounded to the nearest 1,000. Percentages are based on rounded numbers.

Source(s)

National Science Foundation, National Center for Science and Engineering Statistics, National Survey of College Graduates (NSCG) (2015), <https://www.nsf.gov/statistics/srvygrads/>.

Science and Engineering Indicators 2018

CHAPTER 3 | Science and Engineering Labor Force

 APPENDIX TABLE 3-17 
Estimate and median salary of full-time workers with highest degree in S&E field, by sex and occupation: 2015

(Number and dollars)

Occupation	Total		Female		Male	
	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)
All occupations	11,555,000	75,000	4,222,000	57,000	7,334,000	86,000
S&E occupations	4,383,000	90,000	1,071,000	75,000	3,312,000	95,000
Computer and mathematical scientists	1,988,000	97,000	422,000	85,000	1,565,000	100,000
Computer and information scientists	1,836,000	98,000	368,000	86,000	1,468,000	100,000
Computer and information scientists, research	45,000	90,000	16,000	s	28,000	100,000
Computer network architect	39,000	115,000	s	s	38,000	115,000
Computer support specialists	120,000	60,000	27,000	51,000	94,000	65,000
Computer system analysts	205,000	87,000	59,000	79,000	145,000	90,000
Database administrators	69,000	82,000	23,000	s	46,000	100,000
Information security analysts	49,000	107,000	19,000	89,000	30,000	116,000
Network and computer systems administrators	124,000	83,000	13,000	84,000	111,000	81,000
Software developers — applications and systems software	455,000	103,000	68,000	94,000	387,000	105,000
Web developers	77,000	88,000	14,000	72,000	63,000	89,000
Other computer information science occupations	177,000	100,000	58,000	85,000	119,000	107,000
Computer engineers — software	477,000	107,000	72,000	99,000	405,000	109,000

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Occupation	Total		Female		Male	
	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)
Mathematical scientists	99,000	84,000	37,000	77,000	62,000	89,000
Mathematicians	6,000	99,000	2,000	98,000	4,000	95,000
Operations research analysts, including modeling	53,000	80,000	19,000	66,000	34,000	87,000
Statisticians	29,000	107,000	13,000	83,000	16,000	122,000
Other mathematical scientists	s	s	s	s	s	s
Postsecondary teachers — computer and mathematical sciences	52,000	67,000	18,000	61,000	35,000	69,000
Computer science	11,000	94,000	3,000	65,000	8,000	100,000
Mathematics and statistics	41,000	61,000	15,000	61,000	27,000	65,000
Biological, agricultural, and environmental life scientists	439,000	62,000	186,000	55,000	252,000	68,000
Agricultural and food scientists	44,000	64,000	20,000	63,000	24,000	64,000
Biological and medical scientists	304,000	58,000	142,000	50,000	162,000	61,000
Biochemists and biophysicists	66,000	53,000	28,000	56,000	38,000	49,000
Biological scientists (e.g., botanists, ecologists, zoologists)	105,000	57,000	47,000	45,000	58,000	64,000
Medical scientists (excluding practitioners)	80,000	64,000	39,000	55,000	41,000	65,000
Other biological and life scientists	54,000	56,000	29,000	56,000	25,000	55,000
Forestry and conservation scientists	34,000	77,000	5,000	51,000	29,000	89,000
Postsecondary teachers — life and related sciences	56,000	84,000	19,000	71,000	38,000	87,000

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Occupation	Total		Female		Male	
	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)
Agriculture	4,000	87,000	s	s	2,000	58,000
Biological sciences	47,000	80,000	16,000	70,000	31,000	87,000
Other natural sciences	6,000	86,000	1,000	s	4,000	88,000
Physical and related scientists	273,000	78,000	69,000	60,000	204,000	83,000
Chemists, except biochemists	91,000	69,000	28,000	55,000	64,000	77,000
Earth scientists, geologists, and oceanographers	59,000	88,000	13,000	77,000	47,000	88,000
Atmospheric and space scientists	13,000	91,000	3,000	90,000	9,000	96,000
Geologists, including earth scientists	43,000	84,000	8,000	71,000	35,000	88,000
Oceanographers	3,000	77,000	1000	s	2,000	64,000
Physicists and astronomers	41,000	59,000	7,000	s	33,000	86,000
Astronomers	6,000	30,000	s	s	4,000	s
Physicists, except biophysicists	34,000	70,000	5,000	54,000	29,000	92,000
Other physical and related scientists	35,000	70,000	11,000	61,000	24,000	77,000
Postsecondary teachers — physical and related sciences	47,000	90,000	10,000	76,000	37,000	90,000
Chemistry	21,000	77,000	5,000	67,000	16,000	79,000
Earth, environmental, and marine sciences	11,000	97,000	3,000	71,000	8,000	99,000
Physics	14,000	97,000	s	s	13,000	91,000

CHAPTER 3 | Science and Engineering Labor Force

Occupation	Total		Female		Male	
	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)
Social and related scientists	321,000	69,000	196,000	63,000	125,000	82,000
Economists	24,000	125,000	9,000	116,000	15,000	132,000
Political scientists	13,000	101,000	4,000	66,000	9,000	102,000
Psychologists, including clinical	149,000	64,000	108,000	61,000	41,000	71,000
Sociologists and anthropologists	20,000	39,000	15,000	30,000	5,000	60,000
Anthropologists	9,000	40,000	6,000	37,000	3,000	50,000
Sociologists	11,000	31,000	9,000	29,000	2,000	67,000
Other social and related scientists	49,000	79,000	28,000	69,000	21,000	85,000
Postsecondary teachers — social and related sciences	66,000	71,000	32,000	69,000	34,000	74,000
Economics	11,000	82,000	4,000	67,000	8,000	95,000
Political science	11,000	72,000	5,000	68,000	6,000	80,000
Psychology	21,000	66,000	9,000	63,000	12,000	70,000
Sociology	6,000	75,000	4,000	76,000	2,000	67,000
Other social sciences	16,000	70,000	10,000	69,000	6,000	78,000
Engineers	1,362,000	92,000	198,000	88,000	1,164,000	95,000
Aerospace, aeronautical, or astronautical engineers	81,000	107,000	11,000	98,000	70,000	110,000
Chemical engineers	70,000	104,000	14,000	94,000	56,000	112,000

CHAPTER 3 | Science and Engineering Labor Force

Occupation	Total		Female		Male	
	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)
Civil, architectural, or sanitary engineers	205,000	80,000	39,000	77,000	166,000	80,000
Electrical or computer hardware engineers	306,000	100,000	30,000	100,000	276,000	101,000
Computer engineer — hardware	57,000	99,000	5,000	105,000	52,000	99,000
Electrical and electronics engineers	249,000	102,000	25,000	99,000	224,000	103,000
Industrial engineers	62,000	74,000	12,000	90,000	50,000	72,000
Mechanical engineers	275,000	88,000	21,000	87,000	253,000	89,000
Other engineers	335,000	92,000	65,000	80,000	270,000	99,000
Agricultural engineers	6,000	90,000	s	s	6,000	90,000
Bioengineers or biomedical engineers	20,000	85,000	5,000	85,000	15,000	85,000
Environmental engineers	57,000	80,000	18,000	70,000	39,000	84,000
Marine engineers and naval architects	9,000	117,000	s	s	7,000	125,000
Materials and metallurgical engineers	26,000	90,000	5,000	89,000	22,000	90,000
Mining and geological engineers	4,000	98,000	s	s	4,000	101,000
Nuclear engineers	23,000	109,000	5,000	129,000	17,000	94,000
Petroleum engineers	16,000	133,000	2,000	91,000	14,000	138,000
Sales engineers	57,000	99,000	8,000	70,000	49,000	102,000
Other engineers	117,000	99,000	20,000	89,000	97,000	100,000

CHAPTER 3 | Science and Engineering Labor Force

Occupation	Total		Female		Male	
	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)
Postsecondary teachers — engineering	29,000	95,000	6,000	85,000	23,000	100,000
S&E-related occupations	1,678,000	73,000	707,000	56,000	972,000	90,000
Health-related occupations	468,000	55,000	329,000	55,000	139,000	51,000
Diagnosing or treating practitioners (e.g., dentists, optometrists, physicians, psychiatrists, podiatrists, surgeons, veterinarians)	51,000	73,000	24,000	60,000	26,000	142,000
Registered nurses, pharmacists, dieticians, therapists, physician assistants, nurse practitioners	117,000	63,000	95,000	68,000	22,000	51,000
Health technologists and technicians (e.g., dental hygienists, health record technicians, licensed practical nurses, laboratory or radiology technicians)	142,000	47,000	113,000	49,000	29,000	40,000
Other health occupations	141,000	43,000	91,000	43,000	50,000	38,000
Postsecondary teachers — health and related sciences	18,000	91,000	6,000	79,000	12,000	92,000
S&E managers	469,000	124,000	107,000	108,000	362,000	127,000
Computer and information systems managers	144,000	130,000	44,000	120,000	99,000	135,000
Engineering managers	241,000	126,000	24,000	128,000	217,000	126,000
Medical and health services managers	47,000	85,000	26,000	79,000	21,000	100,000
Natural sciences managers	37,000	100,000	12,000	92,000	25,000	100,000
S&E precollege teachers	239,000	50,000	146,000	50,000	93,000	55,000
Secondary — computer, mathematics, or sciences	200,000	50,000	134,000	50,000	66,000	56,000
Secondary — social sciences	39,000	54,000	12,000	54,000	27,000	54,000

CHAPTER 3 | Science and Engineering Labor Force

Occupation	Total		Female		Male	
	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)
S&E technicians and technologists	471,000	75,000	118,000	60,000	353,000	80,000
Technologists and technicians in the biological and life sciences	75,000	53,000	42,000	59,000	33,000	43,000
Computer programmers (business, scientific, process control)	119,000	90,000	28,000	85,000	91,000	90,000
Electrical, electronic, industrial, and mechanical technicians	119,000	77,000	8,000	59,000	111,000	80,000
Drafting occupations, including computer drafting	7,000	60,000	s	s	5,000	59,000
Surveying and mapping technicians	10,000	55,000	2,000.0	46,000.0	8,000	55,000
Other engineering technologists and technicians	107,000	74,000	25,000	55,000	81,000	80,000
Surveyors, cartographers, photogrammetrists	8,000	57,000	*	*	8,000	57,000
Technologists and technicians in the mathematical sciences	2,000	135,000	s	s	2,000	138,000
Technologists and technicians in the physical sciences	25,000	58,000	10,000	57,000	15,000	70,000
Other S&E-related occupations	31,000	97,000	7,000	90,000	24,000	98,000
Architects	16,000	119,000	3,000	76,000	12,000	120,000
Actuaries	15,000	85,000	s	s	12,000	85,000
Non-S&E occupations	5,471,000	60,000	2,427,000	50,000	3,044,000	75,000
Non-S&E managers	1,039,000	119,000	213,000	90,000	826,000	125,000
Top-level managers, executives, administrators (e.g., chief executive officer, chief operating officer, chief financial officer; president; district manager, general manager, provost)	631,000	130,000	100,000	97,000	531,000	148,000

CHAPTER 3 | Science and Engineering Labor Force

Occupation	Total		Female		Male	
	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)
Education administrators (e.g., registrar, dean, principal)	40,000	75,000	19,000	72,000	20,000	75,000
Other mid-level managers	368,000	100,000	93,000	90,000	274,000	104,000
Management-related occupations	1,232,000	74,000	573,000	60,000	659,000	85,000
Accountants, auditors, and other financial specialists	432,000	72,000	177,000	60,000	256,000	85,000
Personnel, training, and labor relations specialists	182,000	56,000	113,000	47,000	69,000	82,000
Other management-related occupations	618,000	75,000	283,000	72,000	335,000	85,000
Non-S&E precollege teachers	242,000	42,000	207,000	42,000	35,000	50,000
Prekindergarten and kindergarten	37,000	23,000	37,000	23,000	s	s
Elementary	124,000	42,000	114,000	42,000	11,000	42,000
Secondary — other subjects	45,000	46,000	26,000	39,000	19,000	69,000
Secondary — other subjects	28,000	45,000	24,000	45,000	3,000	47,000
Other precollegiate area	8,000	50,000	7,000	52,000	s	s
Non-S&E postsecondary teachers	46,000	75,000	19,000	69,000	27,000	75,000
Arts, drama, and music	s	s	s	s	s	s
Business, commerce, and marketing	9,000	140,000	s	s	8,000	137,000
Education	7,000	74,000	5,000	80,000	2,000	71,000.0
English	9,000	65,000	5,000	51,000	s	s

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Occupation	Total		Female		Male	
	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)
Foreign language	5,000	54,000	1,000	73,000	4,000	s
History	3,000	44,000	s	s	2,000	37000
Physical education	s	s	s	s	s	s
Other postsecondary fields	12,000	79,000	4,000	78,000	8,000	78,000
Social services and related occupations	328,000	42,000	234,000	41,000	93,000	47,000
Clergy and other religious workers	22,000	55,000	6000	39,000	16,000	56,000
Counselors (e.g., educational, vocational, mental health, substance abuse)	158,000	46,000	112,000	46,000	46,000	46,000
Social workers	148,000	39,000	117,000	39,000	31,000	40,000
Sales and marketing occupations	848,000	60,000	353,000	55,000	495,000	69,000
Insurance, securities, real estate, and business services	233,000	70,000	102,000	50,000	131,000	75,000
Sales — commodities except retail (e.g., industrial, medical, dental machinery, equipment, supplies)	145,000	83,000	37,000	70,000	108,000	85,000
Sales — retail (e.g., furnishings, clothing, motor vehicles, cosmetics)	174,000	38,000	60,000	39,000	114,000	35,000
Other marketing and sales occupations	296,000	65,000	154,000	60,000	142,000	68,000
Art, humanities, and related occupations	150,000	60,000	60,000	64,000	91,000	58,000
Writers, editors, public relations specialists, artists, entertainers, broadcasters	149,000	60,000	59,000	64,000	90,000	58,000
Historians	s	s	*	*	*	*
Other non-S&E occupations	1,586,000	42,000	768,000	40,000	818,000	48,000

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Occupation	Total		Female		Male	
	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)
Accounting clerks and bookkeepers	101,000	42,000	89,000	42,000	12,000	43,000
Secretaries, receptionists, typists	123,000	37,000	117,000	35,000	6,000	39,000
Other administrative (e.g., record clerks, telephone operators)	342,000	39,000	224,000	38,000	117,000	40,000
Farmers, foresters, and fishermen	69,000	40,000	13,000	36,000	56,000	41,000
Lawyers, judges	34,000	96,000	15,000	s	19,000	95,000
Librarians, archivists, curators	37,000	34,000	27,000	38,000	10,000	3,000
Food preparation and service (e.g., cooks, waitresses, bartenders)	53,000	37,000	16,000	39,000	37,000	36,000
Protective services (e.g., firefighters, police, guards, wardens, park rangers)	111,000	60,000	38,000	67,000	72,000	58,000
Other service occupations, except health (e.g., probation officer, human services work)	207,000	46,000	108,000	47,000	99,000	45,000
Other teachers and instructors (e.g., private tutors, dance, flying, martial arts)	64,000	42,000	34,000	38,000	30,000	65,000
Construction and extraction occupations	52,000	55,000	2,000	53,000	50,000	55,000
Installation, maintenance, and repair occupations	88,000	48,000	7,000	49,000	81,000	47,000
Precision or production occupations (e.g., metal or wood workers, butchers, bakers, assemblers, tailors)	88,000	34,000	18,000	39,000	69,000	31,000
Transportation and material moving occupations	122,000	42,000	3,000	42,000	119,000	42,000
Other occupations	97,000	57,000	56,000	s	41,000	59,000

* = estimate < 500; s = suppressed for reasons of confidentiality and/or reliability.



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Note(s)

Detail may not add to total because of rounding. Numbers are rounded to the nearest 1,000.

Source(s)

National Science Foundation, National Center for Science and Engineering Statistics, National Survey of College Graduates (NSCG) (2015), <https://www.nsf.gov/statistics/srvygrads/>.

Science and Engineering Indicators 2018

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APPENDIX TABLE 3-18

Estimate and median salary of full-time workers with highest degree in S&E field, by race, ethnicity, and occupation: 2015

(Number and dollars)

Occupation	Total		Asian		American Indian or Alaska Native		Black		Hispanic		White		Native Hawaiian or Other Pacific Islander		More than one race	
	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)
All occupations	11,555,000	75,000	1,744,000	85,000	35,000	62,000	748,000	55,000	991,000	59,000	7,778,000	78,000	38,000	74,000	222,000	61,000
S&E occupations	4,383,000	90,000	992,000	91,000	8,000	85,000	201,000	80,000	289,000	80,000	2,809,000	90,000	8,000	86,000	75,000	83,000
Computer and mathematical scientists	1,988,000	97,000	601,000	99,000	s	s	101,000	84,000	114,000	88,000	1,134,000	98,000	3,000	60,000	35,000	104,000
Computer and information scientists	1,836,000	98,000	563,000	100,000	s	s	98,000	83,000	104,000	90,000	1,038,000	100,000	3,000	60,000	31,000	99,000
Computer and information scientists, research	45,000	90,000	15,000	86,000	s	s	s	s	s	s	27,000	99,000	s	s	s	s
Computer network architects	39,000	115,000	10,000	114,000	s	s	4,000.0	93,000.0	s	s	24,000	118,000	s	s	s	s
Computer support specialists	120,000	60,000	17,000	60,000	s	s	13,000	40,000	6,000	72,000	82,000	65,000	s	s	s	s
Computer system analysts	205,000	87,000	67,000	88,000	s	s	15,000	92,000	9,000	71,000	108,000	87,000	s	s	s	s
Database administrators	69,000	82,000	19,000	106,000	s	s	4,000	85,000	s	s	43,000	70,000	s	s	s	s
Information security analysts	49,000	107,000	11,000	109,000	s	s	7,000	97,000	s	s	23,000	113,000	s	s	s	s
Network and computer systems administrators	124,000	83,000	31,000	78,000	s	s	13,000	80,000	9,000	85,000	70,000	84,000	s	s	1,000	70,000

CHAPTER 3 | Science and Engineering Labor Force

Occupation	Total		Asian		American Indian or Alaska Native		Black		Hispanic		White		Native Hawaiian or Other Pacific Islander		More than one race	
	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)
Software developers, applications and systems software	455,000	103,000	163,000	100,000	s	s	9,000	89,000	22,000	97,000	255,000	104,000	s	s	6,000	117,000
Web developers	77,000	88,000	17,000	69,000	s	s	2,000	50,000	3,000	41,000	52,000	92,000	s	s	s	s
Other computer information science occupations	177,000	100,000	26,000	101,000	s	s	18,000	55,000	9,000	69,000	117,000	104,000	s	s	5,000	s
Computer engineers — software	477,000	107,000	186,000	100,000	s	s	12,000	90,000	38,000	124,000	236,000	109,000	s	s	5,000	126,000
Mathematical scientists	99,000	84,000	31,000	87,000	s	s	2,000	87,000	6,000	60,000	56,000	84,000	s	s	4,000	114,000
Mathematicians	6,000	99,000	s	s	s	s	s	s	*	*	4,000	98,000	s	s	s	s
Operations research analysts, including modeling	53,000	80,000	14,000	88,000	s	s	s	s	3,000	60,000	32,000	75,000	s	s	3,000	s
Statisticians	29,000	107,000	9,000	114,000	s	s	1,000	87,000	1,000	100,000	17,000	110,000	s	s	s	s
Other mathematical scientists	s	s	s	s	s	s	s	s	s	s	3,000	67,000	s	s	s	s
Postsecondary teachers — computer and mathematical sciences	52,000	67,000	7,000	99,000	s	s	s	s	4,000	70,000	40,000	62,000	s	s	s	s
Computer science	11,000	94,000	3,000	101,000	s	s	s	s	s	s	5,000	93,000	s	s	s	s
Mathematics and statistics	41,000	61,000	4,000	70,000	s	s	1,000	73,000	2,000	70,000	35,000	58,000	s	s	s	s
Biological, agricultural, and environmental life scientists	439,000	62,000	82,000	50,000	2,000	39,000	9,000	59,000	29,000	45,000	307,000	68,000	s	s	9,000	57,000

CHAPTER 3 | Science and Engineering Labor Force

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Agricultural and food scientists	44,000	64,000	8,000	59,000	s	s	2,000	46,000.0	2,000	s	31,000	69,000	s	s	s	s
Biological and medical scientists	304,000	58,000	69,000	50,000	*	*	6,000	74,000	22,000	45,000	199,000	62,000	s	s	8,000	56,000
Biochemists and biophysicists	66,000	53,000	25,000	45,000	s	s	1,000	s	4,000	55,000	35,000	61,000	s	s	*	*
Biological scientists (e.g., botanists, ecologists, zoologists)	105,000	57,000	13,000	50,000	s	s	2,000	s	6,000	40,000	78,000	59,000	s	s	s	s
Medical scientists (excluding practitioners)	80,000	64,000	20,000	57,000	s	s	2,000	101,000	4,000	34,000	53,000	68,000	s	s	s	s
Other biological and life scientists	54,000	56,000	11,000	48,000	s	s	1,000	59,000	8,000	50,000	32,000	62,000	s	s	2,000	75,000
Forestry and conservation scientists	34,000	77,000	s	s	s	s	s	s	2,000	39,000	30,000	82,000	s	s	s	s
Postsecondary teachers — life and related sciences	56,000	84,000	5,000	79,000	s	s	1,000	s	3,000	44,000	47,000	85,000	s	s	1,000	s
Agriculture	4,000	87,000	s	s	s	s	s	s	s	s	4,000	88,000	s	s	s	s
Biological sciences	47,000	80,000	5,000	81,000	s	s	1,000	s	3,000	44,000	37,000	84,000	s	s	1,000	s
Other natural sciences	6,000	86,000	s	s	s	s	s	s	s	s	6,000	86,000	s	s	s	s
Physical and related scientists	273,000	78,000	51,000	50,000	*	*	10,000	50,000	13,000	65,000	195,000	83,000	s	s	3,000	90,000
Chemists, except biochemists	91,000	69,000	21,000	64,000	s	s	6,000	48,000	6,000	78,000	58,000	71,000	s	s	s	s
Earth scientists, geologists, and oceanographers	59,000	88,000	5,000	90,000	s	s	1,000	s	2,000	65,000	51,000	88,000	s	s	1,000	102,000

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Atmospheric and space scientists	13,000	91,000	s	s	s	s	s	s	*	*	9,000	85,000	s	s	*	*
Geologists, including earth scientists	43,000	84,000	1,000	58,000	s	s	s	s	2,000	63,000	39,000	84,000	s	s	1,000	s
Oceanographers	3,000	77,000	s	s	s	s	s	s	s	s	2,000	88,000	s	s	s	s
Physicists and astronomers	41,000	59,000	14,000	48,000	s	s	*	*	1,000	s	25,000	105,000	s	s	s	s
Astronomers	6,000	30,000	s	s	s	s	s	s	s	s	4,000	s	s	s	s	s
Physicists, except biophysicists	34,000	70,000	13,000	48,000	s	s	*	*	1,000	s	20,000	115,000	s	s	s	s
Other physical and related scientists	35,000	70,000	s	s	s	s	1,000	92,000	2,000	54,000	26,000	77,000	s	s	s	s
Postsecondary teachers — physical and related sciences	47,000	90,000	6,000	87,000	s	s	s	s	2,000	57,000	36,000	93,000	s	s	s	s
Chemistry	21,000	77,000	3,000	66,000	s	s	s	s	1,000	57,000	14,000	82,000	s	s	s	s
Earth, environmental, and marine sciences	11,000	97,000	*	*	s	s	s	s	s	s	10,000	97,000	s	s	s	s
Physics	14,000	97,000	2,000	95,000	s	s	s	s	s	s	11,000	101,000	s	s	s	s
Social and related scientists	321,000	69,000	30,000	60,000	s	s	25,000	53,000	36,000	66,000	222,000	72,000	*	*	7,000	62,000
Economists	24,000	125,000	4,000	s	s	s	1,000	75,000	4,000	128,000	15,000	126,000	s	s	*	*
Political scientists	13,000	101,000	s	s	s	s	s	s	1,000	s	11,000	102,000	s	s	s	s
Psychologists, including clinical	149,000	64,000	s	s	s	s	14,000	43,000	24,000	65,000	98,000	69,000	s	s	3,000	69,000

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Sociologists and anthropologists	20,000	39,000	*	*	s	s	*	*	2,000	40,000	17,000	38,000	s	s	s	s
Anthropologists	9,000	40,000	s	s	s	s	s	s	*	*	8,000	41,000	s	s	s	s
Sociologists	11,000	31,000	s	s	s	s	*	*	s	s	9,000	29,000	s	s	s	s
Other social and related scientists	49,000	79,000	8,000	83,000	s	s	5,000	54,000	s	s	32,000	79,000	s	s	s	s
Postsecondary teachers — social and related sciences	66,000	71,000	7,000	70,000	s	s	5,000	68,000	3,000	68,000	49,000	71,000	s	s	1,000	66,000
Economics	11,000	82,000	1,000	59,000	s	s	s	s	1,000	78,000	9,000	81,000	s	s	s	s
Political science	11,000	72,000	*	*	s	s	s	s	s	s	9,000	76,000	s	s	s	s
Psychology	21,000	66,000	3,000	70,000	s	s	2,000	67,000	1,000	70,000	15,000	60,000	s	s	s	s
Sociology	6,000	75,000	*	*	s	s	*	*	1,000	s	4,000	78,000	s	s	s	s
Other social sciences	16,000	70,000	1,000	s	s	s	1,000	s	*	*	12,000	70,000	s	s	s	s
Engineers	1,362,000	92,000	228,000	90,000	4,000	86,000	56,000	90,000	98,000	80,000	951,000	95,000	4,000	97,000	22,000	84,000
Aerospace, aeronautical, or astronautical engineers	81,000	107,000	10,000	82,000	s	s	1,000	130,000	7,000	89,000	59,000	115,000	s	s	s	s
Chemical engineers	70,000	104,000	11,000	106,000	s	s	s	s	3,000	79,000	51,000	111,000	s	s	s	s
Civil, architectural, or sanitary engineers	205,000	80,000	29,000	80,000	s	s	9,000	69,000	16,000	79,000	145,000	80,000	s	s	3,000	79,000
Electrical or computer hardware engineers	306,000	100,000	76,000	104,000	s	s	14,000	91,000	21,000	97,000	188,000	102,000	1,000	s	5,000	83,000

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Computer engineers — hardware	57,000	99,000	21,000	109,000	s	s	1,000.0	78,000.0	3,000	95,000	30,000	90,000	s	s	s	s
Electrical and electronics engineers	249,000	102,000	54,000	100,000	s	s	14,000	91,000	18,000	96,000	158,000	105,000	1,000	s	4,000	85,000
Industrial engineers	62,000	74,000	10,000	63,000	s	s	s	s	6,000	55,000	40,000	75,000	s	s	*	*
Mechanical engineers	275,000	88,000	39,000	80,000	*	*	10,000	98,000	17,000	77,000	204,000	90,000	1,000	s	4,000	82,000
Other engineers	335,000	92,000	45,000	85,000	s	s	12,000	92,000	25,000	73,000	245,000	98,000	s	s	6,000	102,000
Agricultural engineers	6,000	90,000	s	s	s	s	s	s	s	s	6,000	90,000	s	s	s	s
Bioengineers or biomedical engineers	20,000	85,000	4,000	s	s	s	1,000.0	83,000.0	2,000	s	13,000	86,000	s	s	s	s
Environmental engineers	57,000	80,000	6,000	66,000	s	s	3,000	87,000	3,000	71,000	42,000	80,000	s	s	s	s
Marine engineers and naval architects	9,000	117,000	*	*	s	s	s	s	s	s	8,000	107,000	s	s	s	s
Materials and metallurgical engineers	26,000	90,000	3,000	107,000	s	s	1,000	79,000	2,000	69,000.0	20,000	90,000	s	s	s	s
Mining and geological engineers	4,000	98,000	s	s	s	s	s	s	s	s	3,000	90,000	s	s	s	s
Nuclear engineers	23,000	109,000	1,000	s	s	s	*	*	s	s	17,000	136,000	s	s	s	s
Petroleum engineers	16,000	133,000	2,000	165,000	s	s	s	s	1,000	130,000	12,000	130,000	s	s	s	s
Sales engineers	57,000	99,000	4,000	116,000	s	s	s	s	4,000	84,000	45,000	98,000	s	s	s	s
Other engineers	117,000	99,000	24,000	74,000	s	s	5,000	83,000	7,000	86,000	79,000	104,000	s	s	2,000	93,000
Postsecondary teachers — engineering	29,000	95,000	7,000	97,000	s	s	1,000	101,000	1,000	91,000	19,000	100,000	s	s	s	s

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S&E-related occupations	1,678,000	73,000	257,000	85,000	7,000	72,000	118,000	60,000	147,000	55,000	1,111,000	75,000	3,000	64,000	36,000	50,000
Health-related occupations	468,000	55,000	59,000	59,000	2,000	s	53,000	54,000	40,000	38,000	301,000	55,000	s	s	12,000	47,000
Diagnosing or treating practitioners (e.g., dentists, optometrists, physicians, psychiatrists, podiatrists, surgeons, veterinarians)	51,000	73,000	11,000	61,000.0	s	s	s	s	s	s	29,000	s	s	s	s	s
Registered nurses, pharmacists, dieticians, therapists, physician assistants, nurse practitioners	117,000	63,000	12,000	74,000	s	s	5,000	58,000	11,000	60,000	87,000	61,000	s	s	s	s
Health technologists and technicians (e.g., dental hygienists, health record technicians, licensed practical nurses, laboratory or radiology technicians)	142,000	47,000	15,000	49,000	s	s	28,000	53,000	10,000	37,000	86,000	45,000	s	s	s	s
Other health occupations	141,000	43,000	19,000	45,000	s	s	17,000	s	15,000	31,000	85,000	48,000	s	s	s	s
Postsecondary teachers — health and related sciences	18,000	91,000	2,000	93,000	s	s	*	*	s	s	14,000	90,000	s	s	s	s
S&E managers	469,000	124,000	72,000	128,000	4,000	s	22,000	103,000	34,000	101,000	331,000	125,000	s	s	6,000	120,000
Computer and information systems managers	144,000	130,000	32,000	123,000	s	s	13,000	94,000	7,000	92,000	90,000	137,000	s	s	s	s
Engineering managers	241,000	126,000	31,000	135,000	4,000	s	4,000	110,000	20,000	116,000	177,000	125,000	s	s	3,000	119,000

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Medical and health services managers	47,000	85,000	5,000	88,000	s	s	s	s	5,000.0	62,000.0	34,000	80,000	s	s	s	s
Natural sciences managers	37,000	100,000	3,000	132,000	s	s	s	s	2,000	88,000	29,000	99,000	s	s	s	s
S&E precollege teachers	239,000	50,000	17,000	47,000	s	s	15,000	42,000	27,000	50,000	174,000	50,000	*	*	5,000	40,000
Secondary — computer, mathematics, or sciences	200,000	50,000	16,000	47,000	*	*	12,000	41,000	21,000	51,000	146,000	50,000	*	*	4,000	35,000
Secondary — social sciences	39,000	54,000	*	*	s	s	s	s	s	s	28,000	56,000	s	s	s	s
S&E technicians and technologists	471,000	75,000	103,000	85,000	s	s	28,000	68,000	45,000	55,000	281,000	78,000	s	s	13,000	s
Technologists and technicians in the biological and life sciences	75,000	53,000	14,000	52,000	s	s	s	s	10,000	39,000	44,000	56,000	s	s	1,000	36,000
Computer programmers (business, scientific, process control)	119,000	90,000	28,000	93,000	s	s	s	s	5,000	67,000	77,000	91,000	s	s	s	s
Electrical, electronic, industrial, and mechanical technicians	119,000	77,000	30,000	86,000	s	s	8,000	75,000	14,000	59,000	61,000	81,000	s	s	6,000	70,000.0
Drafting occupations, including computer drafting	7,000	60,000	3,000	74,000	s	s	s	s	s	s	3,000	64,000	s	s	s	s
Surveying and mapping technicians	10,000	55,000	s	s	s	s	s	s	s	s	6,000	56,000	s	s	s	s
Other engineering technologists and technicians	107,000	74,000	23,000	67,000	s	s	5,000	62,000	11,000	55,000	62,000	86,000	s	s	s	s

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Surveyors, cartographers, photogrammetrists	8,000	57,000	s	s	s	s	s	s	s	s	5,000	48,000	s	s	s	s
Technologists and technicians in the mathematical sciences	2,000.0	135,000	*	*	s	s	s	s	s	s	s	s	s	s	s	s
Technologists and technicians in the physical sciences	25,000	58,000	3,000	s	s	s	s	s	s	s	21,000	58,000	s	s	s	s
Other S&E-related occupations	31,000	97,000	6,000	114,000	s	s	s	s	s	s	24,000	92,000	s	s	s	s
Architects	16,000	119,000	5,000	117,000	s	s	s	s	s	s	10,000	106,000	s	s	s	s
Actuaries	15,000	85,000	s	s	s	s	s	s	s	s	14,000	86,000	s	s	s	s
Non-S&E occupations	5,494,000	60,000	495,000	60,000	20,000	52,000	429,000	45,000	555,000	50,000	3,858,000	65,000	27,000	74,000	110,000	50,000
Non-S&E managers	1,046,000	119,000	102,000	117,000	3,000	105,000	25,000	100,000	67,000	84,000	836,000	120,000	s	s	12,000	98,000
Top-level managers, executives, administrators (e.g., chief executive officer, chief operating officer, chief financial officer; president; district manager, general manager, provost)	638,000	129,000	56,000	148,000	s	s	9,000	150,000	36,000	84,000	526,000	134,000	s	s	7,000	93,000
Education administrators (e.g., registrar, dean, principal)	40,000	75,000	s	s	s	s	2,000	s	2,000	76,000	31,000	71,000	s	s	s	s
Other mid-level managers	368,000	100,000	40,000	101,000	s	s	15,000	79,000	29,000	81,000	278,000	107,000	*	*	4,000	97,000

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Management-related occupations	1,232,000	74,000	143,000	67,000	s	s	98,000	50,000	119,000	60,000	846,000	77,000	8,000	99,000	18,000	67,000
Accountants, auditors, and other financial specialists	432,000	72,000	72,000	59,000	s	s	27,000	46,000	44,000	76,000	284,000	79,000	s	s	5,000	63,000
Personnel, training, and labor relations specialists	182,000	56,000	7,000	60,000	s	s	22,000	47,000	17,000	55,000	133,000	58,000	s	s	3,000	44,000
Other management-related occupations	618,000	75,000	64,000	79,000	*	*	48,000	58,000	58,000	55,000	430,000	81,000	7,000	s	10,000	76,000
Non-S&E precollege teachers	252,000	42,000	8,000	25,000	s	s	32,000	38,000	38,000	48,000	163,000	42,000	s	s	2,000	27,000.0
Prekindergarten and kindergarten	39,000	23,000	s	s	s	s	s	s	10,000	s	18,000	23,000	s	s	s	s
Elementary	132,000	44,000	s	s	s	s	15,000	84,000	19,000	60,000	93,000	42,000	s	s	s	s
Secondary — other subjects	45,000	46,000	1,000	51,000	s	s	s	s	5,000	46,000	27,000	43,000	s	s	s	s
Special education — primary and secondary	28,000	45,000	s	s	s	s	2,000	36,000	4,000	49,000	20,000	44,000	s	s	s	s
Other precollegiate area	8,000	50,000	s	s	s	s	2,000	s	s	s	5,000	54,000	s	s	s	s
Non-S&E postsecondary teachers	51,000	74,000	6,000	89,000	s	s	6,000	52,000	2,000	s	32,000	76,000	s	s	s	s
Art, drama, and music	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s
Business, commerce, and marketing	9,000	139,000	s	s	s	s	s	s	s	s	7,000	144,000	s	s	s	s
Education	7,000	74,000	2,000	s	s	s	s	s	s	s	3,000	73,000	s	s	s	s
English	9,000	65,000	s	s	s	s	s	s	s	s	7,000	65,000	s	s	s	s

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Occupation	Total		Asian		American Indian or Alaska Native		Black		Hispanic		White		Native Hawaiian or Other Pacific Islander		More than one race	
	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)
Foreign language	9,000	69,000	s	s	s	s	s	s	s	s	1,000	s	s	s	s	s
History	3,000	44,000	s	s	s	s	s	s	s	s	3,000	44,000	s	s	s	s
Physical education	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s
Other postsecondary fields	14,000	70,000	s	s	s	s	s	s	*	*	10,000	80,000	s	s	s	s
Social services and related occupations	328,000	42,000	9,000	51,000	s	s	49,000	41,000	54,000	39,000	207,000	44,000	s	s	5,000	41,000
Clergy and other religious workers	22,000	55,000	s	s	s	s	s	s	s	s	17,000	57,000	s	s	s	s
Counselors (e.g., educational, vocational, mental health, substance abuse)	159,000	46,000	3,000	46,000	s	s	27,000	52,000	17,000	47,000	105,000	45,000	s	s	3,000	43,000
Social workers	148,000	39,000	4,000	52,000	s	s	20,000	40,000	37,000	36,000	85,000	39,000	s	s	1,000.0	32,000
Sales and marketing occupations	848,000	60,000	72,000	61,000	s	s	49,000	51,000	84,000	45,000	610,000	68,000	s	s	23,000	71,000
Insurance, securities, real estate, and business services	233,000	70,000	17,000	71,000	s	s	15,000	68,000	31,000	18,000	167,000	78,000	s	s	2,000	119,000
Sales, commodities except retail (e.g., industrial, medical, dental machinery, equipment, supplies)	145,000	83,000	7,000	93,000	s	s	5,000	50,000	16,000	67,000	116,000	85,000	s	s	2,000	s
Sales, retail (e.g., furnishings, clothing, motor vehicles, cosmetics)	174,000	38,000	18,000	s	s	s	8,000	44,000	20,000	s	114,000	34,000	s	s	13,000	66,000
Other marketing and sales occupations	296,000	65,000	30,000	59,000	s	s	21,000	51,000	18,000	50,000	213,000	70,000	s	s	6,000	69,000

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Occupation	Total		Asian		American Indian or Alaska Native		Black		Hispanic		White		Native Hawaiian or Other Pacific Islander		More than one race	
	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)
Arts, humanities, and related occupations	150,000	60,000	9,000	70,000	s	s	s	s	4,000	s	128,000	58,000	s	s	1,000	s
Writers, editors, public relations specialists, artists, entertainers, broadcasters	149,000	60,000	9,000	70,000	s	s	s	s	4,000	63,000	127,000	58,000	s	s	1,000	s
Historians	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s
Other non-S&E occupations	1,586,000	42,000	146,000	41,000	2,000	39,000	163,000	36,000	187,000	39,000	1,037,000	45,000	3,000	32,000	50,000	39,000
Accounting clerks and bookkeepers	101,000	42,000	12,000	47,000	s	s	s	s	3,000	40,000	66,000	42,000	s	s	*	*
Secretaries, receptionists, typists	123,000	37,000	12,000	37,000	s	s	11,000	32,000	17,000	28,000	77,000	40,000	s	s	s	s
Other administrative (e.g., record clerks, telephone operators)	342,000	39,000	37,000	38,000	s	s	53,000	36,000	50,000	39,000	188,000	41,000	s	s	12,000	41,000
Farmers, foresters, and fishermen	69,000	40,000	2,000	s	s	s	s	s	s	s	61,000	42,000	s	s	*	*
Lawyers, judges	34,000	96,000	3,000	122,000	s	s	s	s	s	s	26,000	s	s	s	s	s
Librarians, archivists, curators	37,000	35,000	s	s	s	s	s	s	s	s	27,000	38,000	s	s	s	s
Food preparation and service (e.g., cooks, waitresses, bartenders)	53,000	37,000	8,000	48,000	s	s	1,000	s	6,000	s	37,000	37,000	s	s	s	s
Protective services (e.g., firefighters, police, guards, wardens, park rangers)	111,000	60,000	2,000	78,000	s	s	13,000	50,000	9,000	54,000	84,000	62,000	s	s	s	s

CHAPTER 3 | Science and Engineering Labor Force

Occupation	Total		Asian		American Indian or Alaska Native		Black		Hispanic		White		Native Hawaiian or Other Pacific Islander		More than one race	
	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)
Other service occupations, except health (e.g., probation officer, human services work)	207,000	46,000	13,000	30,000	s	s	23,000	39,000	26,000	53,000	130,000	50,000	s	s	13,000	48,000
Other teachers and instructors (e.g., private tutors, dance, flying, martial arts)	64,000	42,000	4,000	s	s	s	10,000	38,000	4,000	29,000	45,000	56,000	s	s	s	s
Construction and extraction occupations	52,000	55,000	s	s	s	s	s	s	3,000	53,000	46,000	54,000	s	s	s	s
Installation, maintenance, and repair occupations	88,000	48,000	7,000	58,000	s	s	s	s	9,000	s	69,000	47,000	s	s	s	s
Precision or production occupations (metal or wood workers, butchers, bakers, assemblers, tailors)	88,000	34,000	12,000	35,000	s	s	10,000	s	7,000	30,000	55,000	34,000	s	s	s	s
Transportation and material moving occupations	122,000	42,000	17,000	31,000	s	s	8,000	s	10,000	66,000	86,000	42,000	s	s	1,000	s
Other occupations	97,000	57,000	15,000	81,000	s	s	6,000	s	35,000	27,000	40,000	78,000	s	s	s	s

* = estimate < 500; s = suppressed for reasons of confidentiality and/or reliability.

Note(s)

Hispanic may be any race; American Indian or Alaska Native, Asian, black or African American, Native Hawaiian or Other Pacific Islander, white, and more than one race refer to individuals who are not of Hispanic origin. Detail may not add to total because of rounding. Numbers are rounded to the nearest 1,000.

Source(s)



CHAPTER 3 | Science and Engineering Labor Force

National Science Foundation, National Center for Science and Engineering Statistics, National Survey of College Graduates (NSCG) (2015), <https://www.nsf.gov/statistics/srvygrads/>.

Science and Engineering Indicators 2018

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 APPENDIX TABLE 3-19 

Race and ethnic distribution of workers in S&E occupations, by nativity: 2015

(Percent distribution)

Race and ethnicity	All	Foreign born	U.S. native born
Total (number)	6,407,000	1,923,000	4,484,000
American Indian or Alaska Native	0.2	s	0.2
Asian	20.6	61.4	3.1
Black	4.8	4.5	4.9
Hispanic	6.0	9.0	4.8
Native Hawaiian or Other Pacific Islander	0.2	0.3	0.1
White	66.6	23.9	84.9
More than one race	1.6	0.8	1.9

s = suppressed for reasons of confidentiality and/or reliability.

Note(s)

Hispanic may be any race; American Indian or Alaska Native, Asian, black or African American, Native Hawaiian or Other Pacific Islander, white, and more than one race refer to individuals who are not of Hispanic origin. Detail may not add to total because of rounding. Numbers are rounded to the nearest 1,000. Percentages are based on rounded numbers.

Source(s)

National Science Foundation, National Center for Science and Engineering Statistics, National Survey of College Graduates (NSCG) (2015), <https://www.nsf.gov/statistics/srvygrads/>.

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 APPENDIX TABLE 3-20 
Occupations of new H-1B visa recipients: FY 2016

(Number and percent)

Occupation	Number	Percent
Computer-related occupations	69,846	61.2
Administrative specializations, managers, officials	10,341	9.1
Education	9,414	8.2
Architecture, engineering, and surveying	10,243	9.0
Medicine and health	4,979	4.4
Other, including occupations unknown	2,237	2.0
Life sciences	1,533	1.3
Mathematics and physical sciences	2,786	2.4
Social sciences	1,502	1.3
Other professional, technical, and managerial	1,622	1.4

Note(s)

Percentages may not sum to 100% due to rounding.

Source(s)

Department of Homeland Security (DHS), *U.S. Citizenship and Immigration Services; Characteristics of H-1B Specialty Occupation Workers, Fiscal Year 2016 Annual Report to Congress* (May 5, 2017). <https://www.uscis.gov/sites/default/files/USCIS/Resources/Reports%20and%20Studies/H-1B/h-1B-FY16.pdf>.

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APPENDIX TABLE 3-21

Plans of foreign recipients of U.S. doctorates to stay in the United States, by field of doctorate and place of origin: 2004–15

(Number and percent)

Field and place of origin	Foreign S&E doctorate recipients			Plans to stay (%)			Definite plans to stay (%)		
	2004–07	2008–11	2012–15	2004–07	2008–11	2012–15	2004–07	2008–11	2012–15
All S&E fields	49,857	55,506	59,922	76.7	75.5	75.4	51.0	49.6	45.2
China	15,561	16,120	19,078	91.0	85.6	83.4	58.9	54.9	49.4
India	5,774	8,936	9,113	89.1	86.6	86.5	61.9	57.8	50.9
South Korea	4,735	4,836	4,303	69.5	68.1	65.7	43.7	44.7	40.5
Taiwan	1,925	2,275	2,430	65.0	69.9	74.6	38.1	41.8	42.3
Iran	513	773	2,100	92.0	90.3	89.9	62.4	59.1	53.0
Turkey	1,486	1,920	1,632	68.0	67.1	65.9	47.0	46.3	41.5
Canada	1,603	1,749	1,545	66.9	66.2	66.3	50.0	47.1	44.5
Thailand	1,064	959	877	26.4	31.6	27.3	14.6	14.2	14.6
Germany	723	802	764	69.2	66.8	61.6	52.4	51.7	43.7
Japan	894	902	752	58.4	57.6	58.4	40.4	39.4	35.8
Mexico	771	739	744	49.9	56.0	63.0	37.2	39.9	37.2
Colombia	384	599	710	62.0	64.3	65.8	40.1	42.2	41.1
Nepal	96	319	635	84.4	87.8	88.0	60.4	55.8	49.0
Brazil	594	580	586	47.0	52.2	55.3	33.3	37.2	35.8
Sri Lanka	241	342	541	80.5	84.2	80.0	51.0	54.7	42.5
Other	13,493	13,655	14,112	69.3	68.3	66.5	47.0	45.5	40.4
Agricultural sciences and natural resources	2,120	2,093	2,309	59.9	63.4	65.5	36.9	38.4	36.2
China	414	380	567	85.7	78.7	78.1	52.4	48.2	42.3
India	152	276	269	88.8	85.1	82.9	56.6	45.7	42.4
South Korea	181	181	110	72.9	69.1	60.0	43.1	42.5	36.4
Thailand	98	73	96	17.3	19.2	20.8	7.1	9.6	10.4

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Field and place of origin	Foreign S&E doctorate recipients			Plans to stay (%)			Definite plans to stay (%)		
	2004-07	2008-11	2012-15	2004-07	2008-11	2012-15	2004-07	2008-11	2012-15
Brazil	68	61	84	27.9	45.9	50.0	19.1	27.9	32.1
Mexico	108	94	81	31.5	36.2	55.6	21.3	21.3	33.3
Nepal	19	37	68	84.2	86.5	85.3	57.9	45.9	45.6
Taiwan	68	64	53	54.4	62.5	83.0	36.8	40.6	34.0
Canada	64	66	39	56.3	57.6	74.4	40.6	40.9	53.8
Colombia	30	39	37	53.3	59.0	59.5	26.7	48.7	40.5
Kenya	25	39	34	72.0	56.4	67.6	44.0	25.6	41.2
Sri Lanka	16	14	32	75.0	57.1	62.5	31.3	35.7	37.5
Philippines	24	38	31	50.0	52.6	67.7	37.5	42.1	41.9
Turkey	44	28	31	56.8	57.1	64.5	34.1	35.7	48.4
Ecuador	16	21	29	68.8	57.1	55.2	62.5	28.6	37.9
Other	793	682	748	49.7	55.9	56.3	30.0	34.8	30.6
Biological and biomedical sciences	8,135	10,092	10,204	84.7	82.7	81.0	58.6	54.9	47.7
China	2,859	3,277	3,155	93.9	88.6	84.6	62.3	56.6	49.6
India	1,073	1,807	2,101	92.3	90.4	89.1	65.6	58.8	49.5
Taiwan	344	508	569	82.3	80.9	83.8	53.8	53.7	50.3
South Korea	581	650	503	90.2	85.8	88.5	67.8	61.5	55.7
Canada	338	426	314	75.1	73.7	73.6	57.4	53.3	39.8
Turkey	135	164	170	79.3	79.3	79.4	60.0	59.8	50.6
Japan	112	153	154	78.6	77.1	76.0	59.8	54.9	44.2
Germany	125	151	146	81.6	72.8	72.6	64.8	52.3	39.0
Colombia	74	128	134	54.1	70.3	71.6	32.4	49.2	41.8
Brazil	116	135	129	53.4	58.5	64.3	39.7	43.0	37.2
Thailand	106	106	126	17.9	33.0	34.9	15.1	20.8	23.8
Mexico	104	108	114	61.5	64.8	70.2	51.9	45.4	38.6
Nepal	8	44	114	87.5	86.4	89.5	s	54.5	50.9

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Field and place of origin	Foreign S&E doctorate recipients			Plans to stay (%)			Definite plans to stay (%)		
	2004-07	2008-11	2012-15	2004-07	2008-11	2012-15	2004-07	2008-11	2012-15
Singapore	47	45	107	66.0	44.4	36.4	40.4	31.1	28.0
Iran	30	42	89	100.0	100.0	85.4	63.3	61.9	51.7
Other	2,083	2,348	2,279	77.1	76.7	74.4	s	51.5	45.9
Health sciences	1,941	2,105	2,227	65.8	71.7	70.8	41.3	44.4	40.1
India	308	425	454	91.6	88.2	87.2	58.4	53.9	45.2
China	337	382	439	88.7	83.2	82.9	60.2	54.7	51.0
South Korea	159	187	177	73.0	79.7	72.3	37.7	49.7	37.3
Taiwan	197	186	153	44.2	58.1	62.1	21.8	38.2	37.3
Canada	110	113	110	68.2	68.1	63.6	54.5	45.1	46.4
Thailand	120	89	73	11.7	18.0	11.0	5.8	s	s
Jordan	38	45	58	18.4	37.8	41.4	s	11.1	13.8
Saudi Arabia	31	17	46	s	s	19.6	0.0	0.0	s
Japan	45	51	44	64.4	47.1	68.2	44.4	29.4	34.1
Nigeria	18	25	42	77.8	92.0	85.7	61.1	32.0	33.3
Egypt	39	28	35	53.8	78.6	82.9	33.3	42.9	57.1
Brazil	46	35	34	47.8	45.7	73.5	26.1	31.4	41.2
Ghana	5	7	24	100.0	100.0	70.8	s	s	33.3
Nepal	s	13	21	s	84.6	90.5	0.0	38.5	57.1
Colombia	12	21	20	83.3	81.0	60.0	50.0	47.6	40.0
Germany	19	30	20	63.2	80.0	65.0	31.6	46.7	60.0
United Kingdom	27	28	20	66.7	85.7	70.0	51.9	67.9	45.0
Other	s	423	457	s	s	63.0	37.1	41.4	36.3
Physical and earth sciences	8,051	8,674	9,031	81.1	78.1	76.9	55.7	53.8	46.8
China	2,836	3,064	3,392	90.9	85.8	84.1	59.8	57.3	49.5
India	645	1,109	1,234	86.7	83.3	83.4	61.4	58.7	49.9
South Korea	579	549	450	80.8	74.5	64.4	57.0	57.6	42.0

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Field and place of origin	Foreign S&E doctorate recipients			Plans to stay (%)			Definite plans to stay (%)		
	2004-07	2008-11	2012-15	2004-07	2008-11	2012-15	2004-07	2008-11	2012-15
Taiwan	208	241	332	77.9	73.4	73.8	57.2	51.0	49.7
Sri Lanka	94	159	251	81.9	83.6	80.1	53.2	54.1	41.8
Nepal	20	110	200	100.0	87.3	88.5	80.0	60.9	52.5
Canada	283	246	177	66.1	63.8	65.5	50.2	48.8	51.4
Turkey	169	251	169	78.7	77.7	63.3	53.3	52.2	40.2
Russian Federation	330	209	159	81.8	82.3	83.6	57.6	58.9	52.8
Germany	142	143	153	66.9	58.0	57.5	48.6	46.2	42.5
Iran	62	47	136	85.5	83.0	81.6	59.7	48.9	50.0
Mexico	95	106	102	56.8	58.5	65.7	42.1	46.2	42.2
Japan	127	134	100	57.5	64.9	60.0	36.2	47.0	39.0
Colombia	54	72	98	70.4	58.3	72.4	57.4	33.3	46.9
Thailand	84	89	95	35.7	33.7	26.3	22.6	19.1	13.7
Other	2,323	2,145	1,983	74.7	71.8	69.4	52.3	49.1	43.0
Mathematics and computer sciences	5,807	6,700	7,851	78.4	76.9	79.4	56.3	53.3	52.9
China	2,101	2,443	3,300	91.3	86.0	87.0	65.1	58.6	56.9
India	638	976	970	86.4	84.4	84.6	64.7	60.5	58.8
South Korea	445	475	470	75.1	71.4	70.9	47.2	43.4	46.8
Taiwan	171	177	228	63.7	70.1	72.8	40.4	42.4	46.9
Turkey	169	237	206	69.2	62.4	74.3	53.8	46.4	49.0
Iran	60	57	196	83.3	77.2	89.3	60.0	47.4	62.2
Canada	130	141	144	65.4	59.6	68.8	53.8	48.9	59.0
Vietnam	21	62	139	81.0	71.0	79.1	66.7	53.2	51.8
Bangladesh	23	45	105	100.0	88.9	94.3	91.3	60.0	53.3
Thailand	68	104	93	17.6	27.9	28.0	10.3	12.5	16.1
Jordan	35	42	91	37.1	35.7	50.5	20.0	23.8	22.0
Greece	82	70	88	58.5	65.7	78.4	50.0	50.0	59.1

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Field and place of origin	Foreign S&E doctorate recipients			Plans to stay (%)			Definite plans to stay (%)		
	2004-07	2008-11	2012-15	2004-07	2008-11	2012-15	2004-07	2008-11	2012-15
Romania	213	161	85	87.3	85.1	87.1	67.6	65.2	62.4
Germany	101	107	84	62.4	57.0	65.5	47.5	45.8	46.4
Italy	50	64	81	64.0	62.5	64.2	60.0	45.3	42.0
Mexico	64	77	81	51.6	67.5	63.0	35.9	46.8	39.5
Other	1,436	1,462	1,490	66.9	69.9	69.1	47.3	49.7	46.9
Psychology and social sciences	6,730	7,589	7,578	59.7	57.6	56.1	42.5	39.4	35.8
China	811	1,104	1,320	77.9	69.6	62.7	57.6	47.5	40.5
South Korea	738	780	807	47.3	46.9	48.7	29.8	29.9	29.9
India	371	539	506	77.4	75.5	72.9	55.3	53.2	45.8
Canada	444	454	470	58.8	55.5	55.1	43.7	39.4	37.0
Turkey	307	464	340	49.8	46.1	41.8	36.8	32.1	27.1
Taiwan	278	281	296	42.4	44.8	45.3	24.5	23.8	23.6
Japan	373	373	284	47.7	50.4	47.9	35.7	33.8	30.3
Germany	199	239	213	65.8	65.7	59.6	52.3	54.0	48.4
Mexico	172	160	158	41.3	50.6	53.2	33.1	36.3	26.6
Brazil	133	130	134	44.4	43.1	42.5	34.6	30.8	25.4
Italy	151	130	133	64.9	54.6	55.6	53.6	43.8	43.6
United Kingdom	122	116	133	79.5	71.6	66.9	59.8	54.3	43.6
Argentina	128	122	132	68.0	56.6	59.8	55.5	45.9	50.0
Colombia	74	96	111	43.2	45.8	45.0	27.0	32.3	33.3
Russian Federation	150	107	94	74.0	70.1	61.7	48.7	42.1	37.2
Other	2,279	2,494	2,447	59.3	56.8	56.0	41.2	37.9	34.8
Engineering	17,073	18,253	20,722	80.1	79.1	79.2	49.5	49.5	45.2
China	6,203	5,470	6,905	91.7	87.5	85.2	55.5	52.9	48.0
India	2,587	3,804	3,579	90.4	87.8	88.6	61.4	58.3	52.0
South Korea	2,052	2,014	1,786	66.6	66.8	65.7	37.8	41.6	39.5

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Field and place of origin	Foreign S&E doctorate recipients			Plans to stay (%)			Definite plans to stay (%)		
	2004–07	2008–11	2012–15	2004–07	2008–11	2012–15	2004–07	2008–11	2012–15
Iran	321	576	1,581	93.8	91.1	91.5	64.2	61.3	52.5
Taiwan	659	818	799	69.0	73.8	81.5	34.1	38.5	40.7
Turkey	647	768	706	71.7	75.4	72.9	46.4	50.7	44.1
Thailand	465	360	310	33.5	40.3	31.9	17.2	16.1	16.5
Canada	234	303	291	74.8	77.6	75.6	49.6	49.8	48.1
Egypt	232	177	273	70.7	74.6	70.0	46.6	43.5	36.6
Colombia	114	192	260	77.2	71.4	71.9	50.0	41.1	41.9
Bangladesh	120	144	259	87.5	83.3	86.5	50.8	50.0	42.1
Mexico	208	176	191	56.7	59.7	69.1	38.9	41.5	42.4
Pakistan	83	122	184	75.9	61.5	54.3	42.2	40.2	30.4
Jordan	173	181	170	61.8	61.3	54.7	31.8	39.2	27.6
Vietnam	19	95	159	78.9	74.7	76.7	47.4	49.5	45.3
Other	2,956	3,053	3,269	70.2	69.6	67.7	44.4	44.4	38.7

s = suppressed for reasons of confidentiality and/or reliability.

Note(s)

For each broad field of doctorate, data are presented for the source countries with the largest numbers of U.S. doctorate recipients in that field in 2012–15. Data include foreign doctorate recipients who are on permanent or temporary visas and also those whose visa status is unknown. The information on a plan to stay or a definite plan to stay reflects intentions within the year after graduation as reported by the doctoral recipient around the graduation date. Recipients who plan to stay think they will locate in the United States; those with definite plans have a postdoctoral research appointment or a definite employment plan in the United States. Percentages are based on the total number of foreign S&E doctorate recipients, including those who did not report their postgraduate location plans or employment plans. The percentage of foreign S&E doctorate recipients who did not report postgraduate location plans ranged from 1.9% to 4.5% over the 2004–15 period, and the percentage who either did not report postgraduate location plans or did not report employment plans ranged from 3.3% to 6.8% over that period.

Source(s)

National Science Foundation, National Center for Science and Engineering Statistics, special tabulations (2016) of the Survey of Earned Doctorates (SED) (2015).

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 APPENDIX TABLE 3-22 
R&D personnel in selected regions or countries: 2000–15

(Thousands)

Year	EU	Japan	South Korea	China	Russia
2000	2,000	897	138	922	1,007
2001	2,033	869	166	956	1,008
2002	2,082	834	172	1,035	987
2003	2,101	859	186	1,095	973
2004	2,144	873	194	1,153	952
2005	2,202	897	215	1,365	920
2006	2,294	910	238	1,502	917
2007	2,370	912	269	1,736	912
2008	2,462	883	294	1,965	870
2009	2,486	878	309	2,291	846
2010	2,540	878	335	2,554	840
2011	2,613	870	361	2,883	839
2012	2,671	851	396	3,247	828
2013	2,711	866	401	3,533	827
2014	2,779	895	431	3,711	829
2015	2,869	875	442	3,759	834

EU = European Union.

Note(s)

Personnel are full-time equivalents. R&D personnel includes researchers, technicians, and other support staff. Counts for China before 2009 were not consistent with Organisation for Economic Co-operation and Development (OECD) standards. Counts for South Korea before 2007 exclude social sciences and humanities researchers.

Source(s)

OECD, Main Science and Technology Indicators (2017/1), <https://www.oecd.org/sti/msti.htm>.

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 APPENDIX TABLE 3-23 
Researchers as a share of total employment and GERD per researcher in selected regions, countries, or economies: 2015

(Percent and PPP thousands of constant 2010 dollars)

Region, country, or economy	Researchers (% of total employment)	GERD per researcher (PPP constant 2010 \$thousands)
Argentina	0.29	96.9
Austria	0.99	272.4
Belgium	1.20	204.8
Canada ^a	0.88	157.2
China	0.21	232.8
Czech Republic	0.74	160.1
Denmark	1.50	176.5
EU	0.80	188.2
Finland	1.50	160.7
France	1.01	196.3
Germany	0.90	262.1
Israel ^b	1.74	155.0
Italy	0.49	222.2
Japan	1.00	233.6
Mexico ^a	0.08	320.0
Netherlands	0.88	199.8
Norway	1.11	188.8
Poland	0.52	113.1
Portugal	0.86	89.0
Russian Federation	0.62	81.8
Singapore ^c	1.01	256.3
South Korea	1.37	206.8
Spain	0.66	147.3
Sweden	1.36	217.2

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Region, country, or economy	Researchers (% of total employment)	GERD per researcher (PPP constant 2010 \$thousands)
Taiwan	1.30	212.5
Turkey	0.36	164.9
United Kingdom	0.92	145.6
United States	0.91	335.3

EU = European Union; GERD = gross domestic expenditures on R&D; PPP = purchasing power parity.

^a 2015 data are not available for the region, country, or economy; 2013 data are shown.

^b 2015 data are not available for the region, country, or economy; 2012 data are shown.

^c 2015 data are not available for the region, country, or economy; 2014 data are shown.

Note(s)

Researchers are full-time equivalents. Quality of data and methods of collecting data can vary between and within regions, countries, or economies across years. Data are presented for regions, countries, or economies with 25,000 or more researchers according to the most recent estimates.

Source(s)

Organisation for Economic Co-operation and Development, Main Science and Technology Indicators (2017/1), <https://www.oecd.org/sti/msti.htm>, accessed 20 September 2017.

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