

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



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



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



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



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



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



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*