



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



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



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



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



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



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



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



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



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



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



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



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



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Counselors (e.g., educational, vocational, mental health, substance abuse)	435,000	224,000	10,000	208,000	77,000	134,000			
Social workers	327,000	167,000	5,000	157,000	34,000	127,000			
Sales and marketing occupations	1,467,000	1,053,000	84,000	178,000	54,000	614,000	123,000	186,000	228,000
Insurance, securities, real estate, and business services	406,000	294,000	19,000	47,000	10,000	192,000	25,000	48,000	64,000
Sales — commodities, except retail (e.g., industrial/ medical/ dental machinery, equipment, supplies)	216,000	156,000	10,000	49,000	7,000	67,000	23,000	33,000	26,000
Sales — retail (e.g., furnishings, clothing, motor vehicles, cosmetics)	345,000	259,000	28,000	40,000	27,000	133,000	31,000	49,000	37,000
Other marketing and sales occupations	501,000	345,000	27,000	42,000	10,000	222,000	44,000	56,000	100,000
Arts, humanities, and related occupations	331,000	224,000	20,000	27,000	11,000	143,000	23,000	32,000	75,000
Writers, editors, public relations specialists, artists, entertainers, broadcasters	328,000	222,000	19,000	27,000	11,000	141,000	23,000	32,000	74,000



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		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



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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)



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