

TABLE S3-2

Scientists and engineers, by occupation and degree field: 2017

(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	27,273,000	14,501,000	2,567,000	2,290,000	814,000	5,336,000	3,494,000	6,870,000	5,902,000
S&E occupations	6,769,000	5,085,000	1,437,000	633,000	366,000	679,000	1,970,000	382,000	1,301,000
Computer and mathematical scientists	3,419,000	2,365,000	1,373,000	95,000	62,000	234,000	601,000	180,000	874,000
Computer and information scientists	3,096,000	2,165,000	1,255,000	75,000	55,000	202,000	578,000	157,000	774,000
Computer and information scientists, research	93,000	69,000	39,000	s	3,000	10,000	13,000	s	22,000
Computer network architects	50,000	37,000	18,000	s	s	s	13,000	s	11,000
Computer support specialists	272,000	146,000	86,000	10,000	s	19,000	25,000	14,000	112,000
Computer system analysts	371,000	227,000	147,000	11,000	3,000	27,000	39,000	31,000	113,000
Database administrators	113,000	70,000	44,000	s	s	13,000	8,000	6,000	37,000
Information security analysts	106,000	76,000	54,000	s	s	8,000	14,000	s	28,000
Network and computer systems administrators	195,000	126,000	81,000	s	3,000	8,000	28,000	4,000	65,000
Software developers – applications and systems software	653,000	505,000	309,000	11,000	12,000	28,000	144,000	37,000	111,000
Web developers	164,000	81,000	43,000	8,000	2,000	17,000	11,000	4,000	79,000
Other computer information science occupations	337,000	198,000	103,000	17,000	3,000	49,000	26,000	21,000	117,000
Computer engineers – software	742,000	629,000	330,000	4,000	18,000	21,000	256,000	33,000	80,000
Mathematical scientists	209,000	112,000	47,000	17,000	4,000	30,000	14,000	10,000	87,000
Mathematicians	13,000	4,000	4,000	s	s	s	s	s	s
Operations research analysts, including modeling	125,000	51,000	20,000	5,000	3,000	15,000	9,000	4,000	70,000
Statisticians	46,000	39,000	20,000	5,000	1,000	9,000	4,000	4,000	2,000
Other mathematical scientists	26,000	17,000	3,000	s	s	6,000	1,000	1,000	s
Postsecondary teachers – computer and mathematical sciences	114,000	88,000	71,000	3,000	3,000	3,000	9,000	14,000	13,000
Computer science	32,000	23,000	15,000	s	s	s	7,000	s	8,000
Mathematics and statistics	82,000	64,000	56,000	3,000	s	2,000	s	13,000	5,000
Biological, agricultural, and environmental life scientists	610,000	506,000	4,000	416,000	38,000	18,000	30,000	71,000	33,000
Agricultural and food scientists	41,000	38,000	s	34,000	2,000	s	1,000	s	3,000
Biological and medical scientists	455,000	370,000	3,000	298,000	33,000	11,000	26,000	63,000	22,000

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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		
Biochemists and biophysicists	71,000	62,000	s	46,000	14,000	s	2,000	6,000	3,000
Biological scientists (e.g., botanists, ecologists, zoologists)	146,000	132,000	s	114,000	5,000	6,000	s	3,000	10,000
Medical scientists (excluding practitioners)	154,000	105,000	s	81,000	8,000	3,000	13,000	44,000	4,000
Other biological and life scientists	85,000	71,000	1,000	57,000	7,000	2,000	4,000	9,000	6,000
Forestry and conservation scientists	27,000	22,000	s	17,000	s	s	s	s	5,000
Postsecondary teachers – life and related sciences	87,000	76,000	s	67,000	3,000	s	4,000	8,000	3,000
Agriculture	5,000	4,000	s	3,000	s	s	s	s	s
Biological sciences	72,000	64,000	s	61,000	s	s	s	6,000	2,000
Other natural sciences	10,000	9,000	s	2,000	2,000	s	s	s	s
Physical and related scientists	366,000	330,000	2,000	81,000	217,000	8,000	22,000	12,000	24,000
Chemists, except biochemists	109,000	102,000	s	26,000	71,000	s	4,000	3,000	4,000
Earth scientists, geologists, and oceanographers	69,000	67,000	s	4,000	57,000	1,000	3,000	s	2,000
Atmospheric and space scientists	13,000	12,000	s	s	11,000	s	s	s	s
Geologists, including earth scientists	54,000	52,000	s	3,000	44,000	1,000	3,000	s	1,000
Oceanographers	2,000	2,000	s	s	s	s	s	s	s
Physicists and astronomers	42,000	41,000	s	s	33,000	s	6,000	1,000	s
Astronomers	4,000	4,000	s	s	4,000	s	s	s	s
Physicists, except biophysicists	38,000	37,000	s	s	29,000	s	6,000	1,000	s
Other physical and related scientists	65,000	42,000	s	23,000	8,000	3,000	8,000	6,000	17,000
Postsecondary teachers – physical and related sciences	81,000	79,000	s	27,000	48,000	s	2,000	s	s
Chemistry	41,000	41,000	s	22,000	19,000	s	s	s	s
Earth, environmental, and marine sciences	20,000	20,000	s	4,000	13,000	s	s	s	s
Physics	19,000	19,000	s	s	16,000	s	s	s	s
Social and related scientists	646,000	416,000	8,000	11,000	2,000	391,000	4,000	27,000	203,000
Economists	47,000	42,000	1,000	s	s	39,000	s	1,000	5,000
Political scientists	33,000	15,000	s	s	s	14,000	s	s	17,000

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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		
Psychologists, including clinical	199,000	170,000	s	3,000	s	166,000	s	8,000	21,000
Sociologists and anthropologists	24,000	21,000	s	s	s	21,000	s	s	2,000
Anthropologists	13,000	11,000	s	s	s	11,000	s	s	2,000
Sociologists	11,000	10,000	s	s	s	10,000	s	s	s
Other social and related scientists	159,000	42,000	5,000	3,000	s	29,000	3,000	16,000	101,000
Postsecondary teachers – social and related sciences	183,000	125,000	1,000	s	s	123,000	s	2,000	56,000
Economics	25,000	21,000	s	s	s	20,000	s	s	4,000
Political science	20,000	18,000	s	s	s	18,000	s	s	s
Psychology	51,000	45,000	s	s	s	45,000	s	s	5,000
Sociology	18,000	14,000	s	s	s	14,000	s	s	4,000
Other social sciences	70,000	26,000	s	s	s	26,000	s	2,000	41,000
Engineers	1,728,000	1,468,000	51,000	30,000	47,000	28,000	1,312,000	92,000	168,000
Aerospace, aeronautical, or astronautical engineers	132,000	108,000	5,000	s	6,000	s	94,000	5,000	18,000
Chemical engineers	93,000	86,000	s	1,000	5,000	s	80,000	s	5,000
Civil, architectural, or sanitary engineers	264,000	238,000	3,000	5,000	s	1,000	227,000	9,000	17,000
Electrical or computer hardware engineers	374,000	330,000	21,000	s	7,000	s	297,000	19,000	26,000
Computer engineers, hardware	69,000	56,000	13,000	s	s	s	40,000	8,000	5,000
Electrical and electronics engineers	305,000	274,000	8,000	s	7,000	s	257,000	11,000	21,000
Industrial engineers	88,000	60,000	1,000	s	3,000	s	51,000	10,000	18,000
Mechanical engineers	313,000	274,000	4,000	s	2,000	1,000	265,000	15,000	24,000
Other engineers	406,000	322,000	15,000	20,000	21,000	14,000	252,000	31,000	53,000
Agricultural engineers	4,000	3,000	s	s	s	s	3,000	s	s
Bioengineers or biomedical engineers	29,000	25,000	s	4,000	s	s	19,000	s	4,000
Environmental engineers	63,000	54,000	s	11,000	5,000	2,000	36,000	3,000	6,000
Marine engineers and naval architects	9,000	8,000	s	s	s	s	7,000	s	s
Materials and metallurgical engineers	31,000	28,000	s	s	3,000	s	24,000	s	s

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Scientists and engineers, by occupation and degree field: 2017

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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		
Mining and geological engineers	6,000	4,000	s	s	s	s	3,000	s	2,000
Nuclear engineers	21,000	18,000	s	s	s	s	18,000	s	s
Petroleum engineers	21,000	20,000	s	s	s	s	16,000	s	1,000
Sales engineers	87,000	56,000	6,000	s	s	5,000	41,000	10,000	21,000
Other engineers	135,000	107,000	7,000	s	7,000	7,000	85,000	13,000	16,000
Postsecondary teachers – engineering	59,000	50,000	s	s	2,000	s	46,000	s	6,000
S&E-related occupations	8,271,000	1,997,000	307,000	635,000	159,000	366,000	531,000	4,796,000	1,479,000
Health-related occupations	5,181,000	643,000	18,000	377,000	38,000	192,000	17,000	4,017,000	522,000
Diagnosing or treating practitioners (e.g., dentists, optometrists, physicians, psychiatrists, podiatrists, surgeons, veterinarians)	1,237,000	77,000	s	59,000	s	s	5,000	1,151,000	9,000
Registered nurses, pharmacists, dietitians, therapists, physician assistants, nurse practitioners	2,538,000	170,000	8,000	106,000	s	52,000	s	2,215,000	152,000
Health technologists and technicians (e.g., dental hygienists, health record technicians, licensed practical nurses, laboratory or radiology technicians)	544,000	196,000	s	120,000	25,000	44,000	s	234,000	114,000
Other health occupations	688,000	178,000	7,000	80,000	6,000	78,000	7,000	282,000	227,000
Postsecondary teachers – health and related sciences	175,000	22,000	s	13,000	s	8,000	s	134,000	19,000
S&E managers	1,048,000	523,000	104,000	65,000	39,000	51,000	264,000	315,000	210,000
Computer and information systems managers	243,000	150,000	83,000	s	8,000	15,000	41,000	12,000	81,000
Engineering managers	384,000	270,000	21,000	7,000	10,000	12,000	220,000	48,000	66,000
Medical and health services managers	358,000	53,000	s	25,000	9,000	19,000	s	250,000	55,000
Natural sciences managers	63,000	50,000	s	31,000	11,000	s	2,000	4,000	9,000
S&E precollege teachers	961,000	247,000	56,000	76,000	34,000	68,000	13,000	187,000	527,000
Secondary – computer, mathematics, or sciences	673,000	211,000	56,000	76,000	34,000	32,000	13,000	160,000	302,000
Secondary – social sciences	288,000	36,000	s	s	s	36,000	s	27,000	225,000

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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		
S&E technicians and technologists	837,000	539,000	111,000	113,000	47,000	42,000	226,000	99,000	200,000
Technologists and technicians in the biological and life sciences	106,000	83,000	s	72,000	5,000	2,000	1,000	17,000	6,000
Computer programmers (business, scientific, process control)	175,000	123,000	72,000	16,000	s	7,000	25,000	8,000	44,000
Electrical, electronic, industrial, and mechanical technicians	260,000	167,000	19,000	6,000	9,000	10,000	123,000	25,000	68,000
Drafting occupations, including computer drafting	35,000	15,000	s	s	s	s	11,000	12,000	8,000
Surveying and mapping technicians	16,000	10,000	s	s	s	s	4,000	s	s
Other engineering technologists and technicians	171,000	90,000	14,000	10,000	11,000	11,000	44,000	21,000	61,000
Surveyors, cartographers, and photogrammetrists	28,000	20,000	s	s	s	6,000	12,000	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	43,000	29,000	s	5,000	18,000	s	6,000	s	8,000
Other S&E-related occupations	244,000	45,000	18,000	s	s	12,000	11,000	178,000	20,000
Architects	199,000	27,000	3,000	s	s	9,000	11,000	152,000	20,000
Actuaries	45,000	18,000	15,000	s	s	s	s	27,000	s
Non-S&E occupations	12,233,000	7,418,000	823,000	1,022,000	289,000	4,291,000	993,000	1,693,000	3,122,000
Non-S&E managers	2,018,000	1,221,000	164,000	167,000	69,000	525,000	297,000	271,000	526,000
Top-level managers, executives, administrators (e.g., chief executive officer, chief operating officer, chief financial officer; president; district manager, general manager, provost)	1,185,000	736,000	116,000	83,000	53,000	270,000	215,000	172,000	277,000
Education administrators (e.g., registrar, dean, principal)	130,000	34,000	3,000	6,000	s	21,000	s	18,000	77,000
Other mid-level managers	704,000	451,000	46,000	78,000	16,000	234,000	78,000	82,000	172,000
Management-related occupations	2,256,000	1,456,000	221,000	180,000	42,000	800,000	213,000	288,000	511,000
Accountants, auditors, and other financial specialists	684,000	436,000	69,000	35,000	6,000	293,000	34,000	46,000	202,000

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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		
Personnel, training, and labor relations specialists	326,000	198,000	15,000	19,000	3,000	146,000	15,000	61,000	67,000
Other management-related occupations	1,246,000	822,000	137,000	126,000	33,000	361,000	164,000	182,000	242,000
Non-S&E precollege teachers	902,000	418,000	41,000	33,000	19,000	316,000	9,000	152,000	332,000
Prekindergarten and kindergarten	112,000	73,000	s	s	s	63,000	s	11,000	28,000
Elementary	345,000	163,000	27,000	13,000	8,000	113,000	s	46,000	136,000
Secondary – other subjects	153,000	61,000	4,000	6,000	1,000	45,000	4,000	34,000	58,000
Special education – primary and secondary	218,000	82,000	2,000	s	s	70,000	s	38,000	97,000
Other precollegiate area	74,000	39,000	s	10,000	s	25,000	s	23,000	12,000
Non-S&E postsecondary teachers	226,000	82,000	8,000	4,000	s	61,000	5,000	61,000	83,000
Art, drama, and music	5,000	s	s	s	s	s	s	s	2,000
Business, commerce, and marketing	32,000	12,000	3,000	s	s	7,000	s	2,000	18,000
Education	43,000	12,000	1,000	s	s	10,000	s	20,000	10,000
English	34,000	18,000	s	s	s	18,000	s	s	16,000
Foreign language	10,000	8,000	s	s	s	8,000	s	s	2,000
History	9,000	3,000	s	s	s	3,000	s	s	5,000
Physical education	6,000	s	s	s	s	s	s	s	1,000
Other postsecondary fields	87,000	26,000	s	2,000	s	13,000	2,000	33,000	28,000
Social services and related occupations	967,000	524,000	10,000	23,000	s	483,000	6,000	137,000	307,000
Clergy and other religious workers	119,000	51,000	s	s	s	39,000	3,000	10,000	58,000
Counselors (e.g., educational, vocational, mental health, substance abuse)	453,000	257,000	s	7,000	s	243,000	s	81,000	115,000
Social workers	396,000	215,000	s	12,000	s	201,000	1,000	47,000	134,000
Sales and marketing occupations	1,425,000	1,025,000	105,000	155,000	38,000	603,000	124,000	209,000	191,000
Insurance, securities, real estate, and business services	371,000	275,000	30,000	13,000	s	195,000	31,000	41,000	54,000
Sales – commodities, except retail (e.g., industrial/ medical/ dental machinery, equipment, supplies)	223,000	160,000	7,000	58,000	8,000	60,000	28,000	37,000	26,000

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Sales – retail (e.g., furnishings, clothing, motor vehicles, cosmetics)	393,000	289,000	43,000	49,000	16,000	157,000	25,000	66,000	38,000
Other marketing and sales occupations	437,000	300,000	24,000	35,000	9,000	191,000	41,000	64,000	73,000
Arts, humanities, and related occupations	385,000	252,000	16,000	22,000	11,000	179,000	23,000	30,000	104,000
Writers, editors, public relations specialists, artists, entertainers, broadcasters	379,000	249,000	15,000	22,000	11,000	177,000	23,000	29,000	102,000
Historians	7,000	s	s	s	s	s	s	s	s
Other non-S&E occupations	4,054,000	2,441,000	258,000	438,000	104,000	1,325,000	316,000	544,000	1,069,000
Accounting clerks and bookkeepers	192,000	143,000	15,000	17,000	s	102,000	s	33,000	16,000
Secretaries, receptionists, typists	227,000	160,000	14,000	21,000	s	101,000	16,000	36,000	31,000
Other administrative (e.g., record clerks, telephone operators)	745,000	502,000	61,000	61,000	26,000	310,000	44,000	135,000	108,000
Farmers, foresters, and fishermen	127,000	109,000	s	85,000	s	13,000	s	12,000	7,000
Lawyers, judges	648,000	44,000	s	4,000	s	35,000	s	s	602,000
Librarians, archivists, curators	93,000	38,000	s	s	s	29,000	s	s	45,000
Food preparation and service (e.g., cooks, waitresses, bartenders)	196,000	160,000	16,000	47,000	s	86,000	8,000	22,000	14,000
Protective services (e.g., firefighters, police, guards, wardens, park rangers)	172,000	136,000	15,000	15,000	1,000	99,000	6,000	15,000	21,000
Other service occupations, except health (e.g., probation officer, human services work)	447,000	312,000	40,000	45,000	s	179,000	40,000	88,000	47,000
Other teachers and instructors (e.g., private tutors, dance, flying, martial arts)	209,000	119,000	14,000	17,000	16,000	58,000	13,000	46,000	44,000
Construction and extraction occupations	69,000	39,000	s	11,000	s	8,000	18,000	12,000	18,000
Installation, maintenance, and repair occupations	144,000	120,000	19,000	22,000	s	30,000	47,000	19,000	5,000

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Precision or production occupations (e.g., metal or wood workers, butchers, bakers, assemblers, tailors)	146,000	101,000	7,000	18,000	s	33,000	32,000	29,000	15,000
Transportation and material moving occupations	184,000	144,000	12,000	27,000	9,000	63,000	32,000	27,000	14,000
Other occupations	454,000	314,000	33,000	43,000	14,000	177,000	46,000	58,000	82,000

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 Center for Science and Engineering Statistics, National Science Foundation, National Survey of College Graduates (NSCG), 2017.

Science and Engineering Indicators