

TABLE S3-12

Employed scientists and engineers, by sex and occupation: 2017

(Number and percent)

Occupation	Total	Female		Male	
		Number	Percent	Number	Percent
All occupations	27,273,000	13,002,000	47.7	14,271,000	52.3
S&E occupations	6,769,000	1,966,000	29.0	4,803,000	71.0
Computer and mathematical scientists	3,419,000	919,000	26.9	2,500,000	73.1
Computer and information scientists	3,096,000	787,000	25.4	2,309,000	74.6
Computer and information scientists, research	93,000	23,000	24.7	69,000	74.2
Computer network architects	50,000	5,000	10	45,000	90.0
Computer support specialists	272,000	83,000	30.5	189,000	69.5
Computer system analysts	371,000	141,000	38.0	230,000	62.0
Database administrators	113,000	50,000	44.2	63,000	55.8
Information security analysts	106,000	27,000	25.5	79,000	74.5
Network and computer systems administrators	195,000	24,000	12.3	171,000	87.7
Software developers – applications and systems software	653,000	123,000	18.8	530,000	81.2
Web developers	164,000	47,000	28.7	117,000	71.3
Other computer information science occupations	337,000	136,000	40.4	201,000	59.6
Computer engineers – software	742,000	128,000	17.3	614,000	82.7
Mathematical scientists	209,000	87,000	41.6	122,000	58.4
Mathematicians	13,000	2,000	s	11,000	84.6
Operations research analysts, including modeling	125,000	54,000	43.2	71,000	56.8
Statisticians	46,000	18,000	39.1	27,000	58.7
Other mathematical scientists	26,000	14,000	53.8	12,000	46.2
Postsecondary teachers – computer and mathematical sciences	114,000	45,000	39.5	70,000	61.4
Computer science	32,000	9,000	28.1	23,000	71.9
Mathematics and statistics	82,000	36,000	43.9	47,000	57.3
Biological, agricultural, and environmental life scientists	610,000	292,000	47.9	319,000	52.3
Agricultural and food scientists	41,000	13,000	31.7	28,000	68.3
Biological and medical scientists	455,000	225,000	49.5	231,000	50.8
Biochemists and biophysicists	71,000	30,000	42.3	41,000	57.7
Biological scientists (e.g., botanists, ecologists, zoologists)	146,000	66,000	45.2	81,000	55.5
Medical scientists (excluding practitioners)	154,000	79,000	51.3	74,000	48.1
Other biological and life scientists	85,000	49,000	57.6	35,000	41.2
Forestry and conservation scientists	27,000	7,000	25.9	20,000	74.1
Postsecondary teachers – life and related sciences	87,000	46,000	52.9	40,000	46.0
Agriculture	5,000	1,000	20.0	3,000	60.0
Biological sciences	72,000	41,000	56.9	30,000	41.7
Other natural sciences	10,000	3,000	30.0	7,000	70.0
Physical and related scientists	366,000	107,000	29.2	259,000	70.8
Chemists, except biochemists	109,000	39,000	35.8	70,000	64.2
Earth scientists, geologists, and oceanographers	69,000	17,000	24.6	53,000	76.8
Atmospheric and space scientists	13,000	3,000	23.1	10,000	76.9
Geologists, including earth scientists	54,000	12,000	22.2	41,000	75.9
Oceanographers	2,000	1,000	50.0	1,000	50.0
Physicists and astronomers	42,000	8,000	19.0	34,000	81.0
Astronomers	4,000	s	s	3,000	75.0
Physicists, except biophysicists	38,000	6,000	15.8	31,000	81.6
Other physical and related scientists	65,000	29,000	44.6	36,000	55.4
Postsecondary teachers – physical and related sciences	81,000	14,000	17.3	67,000	82.7
Chemistry	41,000	7,000	17.1	34,000	82.9
Earth, environmental, and marine sciences	20,000	5,000	25.0	15,000	75.0
Physics	19,000	2,000	11	17,000	89.5

TABLE S3-12

Employed scientists and engineers, by sex and occupation: 2017

(Number and percent)

Occupation	Total	Female		Male	
		Number	Percent	Number	Percent
Social and related scientists	646,000	379,000	58.7	266,000	41.2
Economists	47,000	10,000	21.3	38,000	80.9
Political scientists	33,000	21,000	63.6	11,000	33.3
Psychologists, including clinical	199,000	138,000	69.3	61,000	30.7
Sociologists and anthropologists	24,000	17,000	70.8	7,000	29.2
Anthropologists	13,000	9,000	69.2	4,000	30.8
Sociologists	11,000	8,000	72.7	3,000	27.3
Other social and related scientists	159,000	90,000	56.6	69,000	43.4
Postsecondary teachers – social and related sciences	183,000	103,000	56.3	80,000	43.7
Economics	25,000	9,000	36.0	16,000	64.0
Political science	20,000	7,000	35.0	13,000	65.0
Psychology	51,000	35,000	68.6	16,000	31.4
Sociology	18,000	10,000	55.6	8,000	44.4
Other social sciences	70,000	42,000	60.0	28,000	40.0
Engineers	1,728,000	269,000	15.6	1,459,000	84.4
Aerospace, aeronautical, or astronautical engineers	132,000	21,000	15.9	111,000	84.1
Chemical engineers	93,000	23,000	24.7	70,000	75.3
Civil, architectural, or sanitary engineers	264,000	45,000	17.0	219,000	83.0
Electrical or computer hardware engineers	374,000	47,000	12.6	327,000	87.4
Computer engineers – hardware	69,000	8,000	11.6	61,000	88.4
Electrical and electronics engineers	305,000	39,000	12.8	267,000	87.5
Industrial engineers	88,000	14,000	15.9	74,000	84.1
Mechanical engineers	313,000	21,000	6.7	291,000	93.0
Other engineers	406,000	88,000	21.7	317,000	78.1
Agricultural engineers	4,000	s	s	3,000	75.0
Bioengineers or biomedical engineers	29,000	8,000	27.6	20,000	69.0
Environmental engineers	63,000	25,000	39.7	38,000	60.3
Marine engineers and naval architects	9,000	2,000	22.2	6,000	66.7
Materials and metallurgical engineers	31,000	5,000	16.1	26,000	83.9
Mining and geological engineers	6,000	2,000	33.3	4,000	66.7
Nuclear engineers	21,000	4,000	19.0	17,000	81.0
Petroleum engineers	21,000	3,000	14.3	18,000	85.7
Sales engineers	87,000	7,000	8.0	80,000	92.0
Other engineers	135,000	30,000	22.2	105,000	77.8
Postsecondary teachers – engineering	59,000	9,000	15.3	50,000	84.7
S&E-related occupations	8,271,000	4,764,000	57.6	3,507,000	42.4
Health-related occupations	5,181,000	3,663,000	70.7	1,518,000	29.3
Diagnosing or treating practitioners (e.g., dentists, optometrists, physicians, psychiatrists, podiatrists, surgeons, veterinarians)	1,237,000	542,000	43.8	694,000	56.1
Registered nurses, pharmacists, dieticians, therapists, physician assistants, nurse practitioners	2,538,000	2,126,000	83.8	412,000	16.2
Health technologists and technicians (e.g., dental hygienists, health record technicians, licensed practical nurses, laboratory or radiology technicians)	544,000	376,000	69.1	168,000	30.9
Other health occupations	688,000	504,000	73.3	184,000	26.7
Postsecondary teachers – health and related sciences	175,000	115,000	65.7	60,000	34.3
S&E managers	1,048,000	288,000	27.5	761,000	72.6
Computer and information systems managers	243,000	50,000	20.6	193,000	79.4
Engineering managers	384,000	38,000	9.9	347,000	90.4
Medical and health services managers	358,000	176,000	49.2	182,000	50.8
Natural sciences managers	63,000	24,000	38.1	39,000	61.9

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(Number and percent)

Occupation	Total	Female		Male	
		Number	Percent	Number	Percent
S&E precollege teachers	961,000	553,000	57.5	408,000	42.5
Secondary – computer, mathematics, or sciences	673,000	393,000	58.4	280,000	41.6
Secondary – social sciences	288,000	160,000	55.6	128,000	44.4
S&E technicians and technologists	837,000	180,000	21.5	657,000	78.5
Technologists and technicians in the biological and life sciences	106,000	57,000	53.8	50,000	47.2
Computer programmers (business, scientific, process control)	175,000	41,000	23.4	134,000	76.6
Electrical, electronic, industrial, and mechanical technicians	260,000	17,000	6.5	242,000	93.1
Drafting occupations, including computer drafting	35,000	3,000	8.6	32,000	91.4
Surveying and mapping technicians	16,000	1,000	6.3	14,000	87.5
Other engineering technologists and technicians	171,000	39,000	22.8	132,000	77.2
Surveyors, cartographers, photogrammetrists	28,000	s	s	25,000	89.3
Technologists and technicians in the mathematical sciences	3,000	s	s	s	s
Technologists and technicians in the physical sciences	43,000	17,000	39.5	26,000	60.5
Other S&E-related occupations	244,000	80,000	32.8	163,000	66.8
Architects	199,000	69,000	34.7	129,000	64.8
Actuaries	45,000	11,000	24.4	34,000	75.6
Non-S&E occupations	12,233,000	6,271,000	51.3	5,962,000	48.7
Non-S&E managers	2,018,000	610,000	30.2	1,408,000	69.8
Top-level managers, executives, administrators (e.g., chief executive officer, chief operating officer, chief financial officer; president; district, general manager, provost)	1,185,000	316,000	26.7	869,000	73.3
Education administrators (e.g., registrar, dean, principal)	130,000	67,000	51.5	63,000	48.5
Other mid-level managers	704,000	228,000	32.4	477,000	67.8
Management-related occupations	2,256,000	1,077,000	47.7	1,179,000	52.3
Accountants, auditors, and other financial specialists	684,000	286,000	41.8	398,000	58.2
Personnel, training, and labor relations specialists	326,000	215,000	66.0	110,000	33.7
Other management-related occupations	1,246,000	576,000	46.2	670,000	53.8
Non-S&E precollege teachers	902,000	726,000	80.5	176,000	19.5
Prekindergarten and kindergarten	112,000	109,000	97.3	s	s
Elementary	345,000	287,000	83.2	58,000	16.8
Secondary – other subjects	153,000	99,000	64.7	54,000	35.3
Special education – primary and secondary	218,000	176,000	80.7	41,000	18.8
Other precollegiate area	74,000	55,000	74.3	18,000	24.3
Non-S&E postsecondary teachers	226,000	117,000	51.8	109,000	48.2
Art, drama, and music	5,000	4,000	80.0	s	s
Business, commerce, and marketing	32,000	11,000	34.4	21,000	65.6
Education	43,000	28,000	65.1	14,000	32.6
English	34,000	25,000	73.5	9,000	26.5
Foreign language	10,000	4,000	40.0	6,000	60.0
History	9,000	4,000	44.4	5,000	55.6
Physical education	6,000	s	s	s	s
Other postsecondary fields	87,000	40,000	46.0	47,000	54.0
Social services and related occupations	967,000	716,000	74.0	252,000	26.1
Clergy and other religious workers	119,000	40,000	33.6	79,000	66.4
Counselors (e.g., educational, vocational, mental health, substance abuse)	453,000	360,000	79.5	92,000	20.3
Social workers	396,000	315,000	79.5	81,000	20.5
Sales and marketing occupations	1,425,000	656,000	46.0	769,000	54.0
Insurance, securities, real estate, and business services	371,000	195,000	52.6	175,000	47.2
Sales – commodities, except retail (e.g., industrial, medical, dental machinery, equipment, supplies)	223,000	56,000	25.1	167,000	74.9

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(Number and percent)

Occupation	Total	Female		Male	
		Number	Percent	Number	Percent
Sales – retail (e.g., furnishings, clothing, motor vehicles, cosmetics)	393,000	184,000	46.8	209,000	53.2
Other marketing and sales occupations	437,000	219,000	50.1	218,000	49.9
Arts, humanities, and related occupations	385,000	237,000	61.6	149,000	38.7
Writers, editors, public relations specialists, artists, entertainers, broadcasters	379,000	234,000	61.7	144,000	38.0
Historians	7,000	s	s	s	s
Other non-S&E occupations	4,054,000	2,133,000	52.6	1,921,000	47.4
Accounting clerks and bookkeepers	192,000	179,000	93.2	13,000	6.8
Secretaries, receptionists, typists	227,000	214,000	94.3	12,000	5.3
Other administrative (e.g., record clerks, telephone operators)	745,000	488,000	65.5	257,000	34.5
Farmers, foresters, and fishermen	127,000	26,000	20.5	101,000	79.5
Lawyers, judges	648,000	238,000	36.7	410,000	63.3
Librarians, archivists, curators	93,000	71,000	76.3	22,000	23.7
Food preparation and service (e.g., cooks, waitresses, bartenders)	196,000	112,000	57.1	84,000	42.9
Protective services (e.g., firefighters, police, guards, wardens, park rangers)	172,000	50,000	29.1	122,000	70.9
Other service occupations, except health (e.g., probation officers, human services work)	447,000	246,000	55.0	201,000	45.0
Other teachers and instructors (e.g., private tutors, dance, flying, martial arts)	209,000	150,000	71.8	59,000	28.2
Construction and extraction occupations	69,000	10,000	14.5	60,000	87.0
Installation, maintenance, and repair occupations	144,000	6,000	4.2	138,000	95.8
Precision or production occupations (e.g., metal or wood workers, butchers, bakers, assemblers, tailors)	146,000	61,000	41.8	85,000	58.2
Transportation and material moving occupations	184,000	16,000	8.7	168,000	91.3
Other occupations	454,000	267,000	58.8	187,000	41.2

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

Science and Engineering Indicators