



NATIONAL SCIENCE BOARD SCIENCE & ENGINEERING INDICATORS 2020



Labor Force

Science and Engineering Labor Force

Supplemental Tables

NSB-2019-8

September 26, 2019

This publication is part of the *Science and Engineering Indicators* suite of reports. *Indicators* is a congressionally mandated report on the state of the U.S. science and engineering enterprise. It is policy relevant and policy neutral. *Indicators* is prepared under the guidance of the National Science Board by the National Center for Science and Engineering Statistics, a federal statistical agency within the National Science Foundation. With the 2020 edition, *Indicators* is changing from a single report to a set of disaggregated and streamlined reports published on a rolling basis. Detailed data tables will continue to be available online.

Supplemental Tables

Table	Title
S3-1	Measures and size of U.S. S&E workforce: 2017
S3-2	Scientists and engineers, by occupation and degree field: 2017
S3-3	Bureau of Labor Statistics projections of occupational employment: 2016–26
S3-4	Employment sector of S&E highest degree holders and workers in S&E occupations: 1993, 2003, and 2017
S3-5	Self-employed scientists and engineers, by education, occupation, and type of business: 2017
S3-6	Employment sector of S&E highest degree holders, by level and field of highest degree: 2017
S3-7	S&E doctorate holders employed in academia, by type of position and degree field: 1973–2017
S3-8	S&E doctorate holders employed in academia, by research priority, type of position, and degree field: 1973–2017
S3-9	S&E doctorate holders employed in academia with federal support, by degree field, research activity, and type of position: 1973–2017
S3-10	Employment characteristics of recent SEH doctorate recipients up to 3 years after receiving doctorate, by field of degree: 2001–17
S3-11	Postgraduation plans of doctorate recipients with definite commitments, by broad field of study: Selected years, 1977–2017
S3-12	Employed scientists and engineers, by sex and occupation: 2017
S3-13	Employed S&E highest degree holders, by sex and field of degree: 2017
S3-14	S&E doctorate holders employed in academia, by type of position, sex, and degree field: 1973–2017
S3-15	Employed scientists and engineers, by race, ethnicity, and occupation: 2017
S3-16	Employed S&E highest degree holders, by sex, race, ethnicity, field of highest degree, and broad occupational category: 2017
S3-17	Employed S&E highest degree holders, by race, ethnicity, and field of degree: 2017
S3-18	S&E doctorate holders employed in academia, by type of position, race, ethnicity, and degree field: 1973–2017
S3-19	Estimate and median salary of full-time workers with highest degree in S&E field, by sex and occupation: 2017
S3-20	Estimate and median salary of full-time workers with highest degree in S&E field, by race, ethnicity, and occupation: 2017
S3-21	S&E doctorate holders employed in academia, by type of position, degree field, and citizenship: 2017
S3-22	Race and ethnic distribution of workers in S&E occupations, by nativity: 2017

Table	Title
S3-23	Five-year stay rates of foreign students on temporary visas receiving S&E doctorates, by region, country, or economy of citizenship at time of degree: 2003–17
S3-24	Plans of foreign recipients of U.S. doctorates to stay in the United States, by field of doctorate and place of citizenship: 2006–17

TABLE S3-1

Measures and size of U.S. S&E workforce: 2017

(Number)

Measure	Education coverage	Data source	Individuals
Occupation			
Employed in S&E occupations	All education levels	2017 BLS OES Survey	6,889,000
Employed in S&E occupations	Bachelor's and above	2017 NCSES/NSF NSCG	6,769,000
Employed in S&E occupations	All education levels	2017 Census Bureau ACS	7,496,000
Employed in S&E occupations	Bachelor's and above	2017 Census Bureau ACS	5,634,000
Education			
At least one degree in S&E field	Bachelor's and above	2017 NCSES/NSF NSCG	24,521,000
Highest degree in S&E field	Bachelor's and above	2017 NCSES/NSF NSCG	18,339,000
Job closely related to highest degree	Bachelor's and above	2017 NCSES/NSF NSCG	6,932,000
S&E occupation	Bachelor's and above	2017 NCSES/NSF NSCG	3,619,000
Other occupation	Bachelor's and above	2017 NCSES/NSF NSCG	3,313,000
Job somewhat related to highest degree	Bachelor's and above	2017 NCSES/NSF NSCG	4,302,000
S&E occupation	Bachelor's and above	2017 NCSES/NSF NSCG	1,152,000
Other occupation	Bachelor's and above	2017 NCSES/NSF NSCG	3,151,000
Job requires S&E technical expertise at bachelor's level			
In one or more S&E fields	Bachelor's and above	2017 NCSES/NSF NSCG	20,935,000
Engineering, computer science, mathematics, or natural sciences	Bachelor's and above	2017 NCSES/NSF NSCG	15,592,000
Social sciences	Bachelor's and above	2017 NCSES/NSF NSCG	9,269,000

ACS = American Community Survey; BLS = Bureau of Labor Statistics; NSCG = National Survey of College Graduates; NCSES/NSF = National Center for Science and Engineering Statistics, National Science Foundation; OES = Occupational Employment Statistics.

Note(s)

Estimates of the S&E workforce vary across the example surveys because of differences in the scope of the data collection (the NSCG collects data from individuals with bachelor's degrees or higher only); because of the survey respondent (the NSCG collects data from individuals, the OES Survey collects data from establishments, and the ACS collects data from households); or because of the level of detail collected on an occupation, which aids in classifying a reported occupation into a standard occupational category. All these differences can affect the estimates. For example, the NSCG estimate of the number of workers in S&E occupations includes postsecondary teachers of S&E fields; however, postsecondary teachers in ACS are grouped under a single occupation code, regardless of field, and are therefore not included in the ACS estimate of the number of workers in S&E occupations. The totals for at least one degree in S&E field and highest degree in S&E field include individuals who are employed and those who are unemployed and out of the labor force. The OES data do not include military. Values are rounded to the nearest thousand.

Source(s)

Bureau of Labor and Statistics, Occupational Employment Statistics (OES) Survey, 2017; Census Bureau, American Community Survey (ACS), 2017, Public Use Microdata Sample (PUMS); National Center for Science and Engineering Statistics, National Science Foundation, National Survey of College Graduates (NSCG), 2017.

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

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		
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

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		
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

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		
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

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		
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

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		
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

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		
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

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		
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

TABLE S3-3

Bureau of Labor Statistics projections of occupational employment: 2016–26

(Thousands)

Occupation	BLS National Employment Matrix 2016 estimate	BLS projected 2026 employment	Occupational openings, 2016-26, annual average	10-year growth in total employment (%)
Total, all occupations	156,063.8	167,582.3	18,742.0	7.4
All S&E	6,952.6	7,825.3	591.5	12.6
Computer and mathematical scientists (excluding computer programmers and mathematical technicians, including logisticians)	4,248.7	4,882.3	364.7	14.9
Computer and information research scientists	27.9	33.2	2.5	19.2
Computer and information analysts	700.5	783.4	55.4	11.8
Software and web developers	1,419.2	1,745.9	133.2	23.0
Database and systems administrators and network architects	673.4	721.7	48.0	7.2
Computer support specialists	835.3	923.8	72.0	10.6
Computer occupations, all other	287.2	313.8	22.4	9.3
Mathematicians	3.1	4.0	0.3	29.7
Operations research analysts	114.0	145.3	10.7	27.4
Statisticians	37.2	49.8	4.4	33.8
Logisticians	148.7	159.0	15.6	6.9
Mathematical science occupations, all other	2.2	2.4	0.2	11.0
Engineers, including ship engineers and sales engineers	1,765.8	1,911.0	136.1	8.2
Aerospace engineers	69.6	73.8	4.6	6.1
Agricultural engineers	2.7	2.9	0.2	8.2
Biomedical engineers	21.3	22.8	1.6	7.2
Chemical engineers	32.7	35.1	2.4	7.5
Civil engineers	303.5	335.7	25.9	10.6
Computer hardware engineers	73.6	77.6	5.1	5.5
Electrical and electronics engineers	324.6	345.8	23.1	6.5
Electrical engineers	188.3	204.5	13.9	8.6
Electronics engineers, except computer	136.3	141.3	9.2	3.7
Environmental engineers	53.8	58.3	4.0	8.3
Industrial engineers, including health and safety	283.8	311.2	21.6	9.6
Health and safety engineers, except mining safety engineers and inspectors	25.9	28.1	1.9	8.6
Industrial engineers	257.9	283.0	19.7	9.7
Marine engineers and naval architects	8.2	9.2	0.6	11.5
Materials engineers	27.0	27.5	1.9	1.6
Mechanical engineers	288.8	314.1	21.2	8.8
Mining and geological engineers, including mining safety engineers	7.3	7.9	0.6	8.2
Nuclear engineers	17.7	18.4	1.4	3.8
Petroleum engineers	33.7	38.8	2.8	15.2
Sales engineers	74.9	80.1	8.3	6.9
Ship engineers	10.1	10.8	1.3	6.5
Engineers, all other	132.5	141.0	9.5	6.4
Life scientists	325.4	358.0	32.4	10.0
Agricultural and food scientists	43.0	46.1	4.7	7.2
Animal scientists	6.1	6.4	0.7	5.9
Food scientists and technologists	17.0	18.0	1.8	5.7
Soil and plant scientists	19.9	21.7	2.2	8.8

TABLE S3-3

Bureau of Labor Statistics projections of occupational employment: 2016–26

(Thousands)

Occupation	BLS National Employment Matrix 2016 estimate	BLS projected 2026 employment	Occupational openings, 2016-26, annual average	10-year growth in total employment (%)
Biological scientists	112.8	122.9	11.0	8.9
Biochemists and biophysicists	31.5	35.1	3.2	11.5
Microbiologists	23.2	25.1	2.2	8.2
Zoologists and wildlife biologists	19.4	20.9	1.9	7.6
Biological scientists, all other	38.7	41.8	3.7	8.0
Conservation scientists and foresters	34.6	36.6	3.1	5.8
Conservation scientists	22.3	23.7	2.0	6.3
Foresters	12.3	12.9	1.1	5.0
Medical scientists	126.1	142.7	12.7	13.2
Epidemiologists	6.1	6.6	0.6	8.8
Medical scientists, except epidemiologists	120.0	136.1	12.1	13.4
Life scientists, all other	8.9	9.7	0.8	9.2
Physical scientists	278.2	305.3	28.0	9.7
Astronomers and physicists	19.9	22.7	1.9	14.0
Astronomers	2.0	2.2	0.2	10.0
Physicists	17.9	20.5	1.7	14.5
Atmospheric and space scientists	10.4	11.7	0.9	12.0
Chemists and materials scientists	96.2	102.5	9.4	6.5
Chemists	88.3	94.0	8.6	6.5
Materials scientists	7.9	8.5	0.8	7.1
Environmental scientists and geoscientists	128.2	143.3	13.8	11.8
Environmental scientists and specialists, including health	89.5	99.4	9.5	11.1
Geoscientists, except hydrologists and geographers	32.0	36.5	3.5	14.0
Hydrologists	6.7	7.4	0.7	9.9
Physical scientists, all other	23.5	25.1	2.0	7.2
Social and related scientists	334.5	368.7	30.3	10.2
Economists	21.3	22.6	1.6	6.3
Survey researchers	14.6	14.9	1.4	2.5
Psychologists	166.6	189.6	13.6	13.8
Clinical, counseling, and school psychologists	147.5	168.5	12.1	14.3
Industrial-organizational psychologists	1.7	1.8	0.1	8.4
Psychologists, all other	17.4	19.2	1.3	10.5
Sociologists	3.5	3.5	0.3	1.3
Urban and regional planners	36.0	40.6	3.5	12.8
Miscellaneous social scientists and related workers, research assistants, excluding historians	92.5	97.5	9.9	5.4
Anthropologists and archaeologists	7.6	7.9	0.7	4.5
Geographers	1.5	1.7	0.2	6.7
Political scientists	7.3	7.5	0.7	2.8
Social science research assistants	34.0	35.5	4.1	4.3
Social scientists and related workers, all other	42.1	44.9	4.2	6.5
Selected other occupations	2,081.8	14,175.0	13,722.5	580.9
S&E managers	956.6	1,088.4	88.0	13.8
Computer and information systems managers	367.6	411.8	32.5	12.0
Architectural and engineering managers	180.1	190.0	13.6	5.5
Medical and health services managers	352.2	424.3	36.7	20.5

TABLE S3-3

Bureau of Labor Statistics projections of occupational employment: 2016–26

(Thousands)

Occupation	BLS National Employment Matrix 2016 estimate	BLS projected 2026 employment	Occupational openings, 2016-26, annual average	10-year growth in total employment (%)
Natural sciences managers	56.7	62.3	5.2	9.9
S&E technicians and technologists, except computer programmers	1,125.2	1,203.7	113.5	7.0
Agricultural and food science technicians	27.5	29.2	3.0	6.3
Biological technicians	82.1	90.4	8.9	10.2
Chemical technicians	67.3	70.0	6.6	4.0
Geological and petroleum technicians	15.0	17.4	1.9	16.4
Nuclear technicians	6.9	6.9	0.8	0.8
Miscellaneous life, physical, and social science technicians	159.3	174.8	20.7	9.7
Drafters	207.7	222.3	19.4	7.0
Surveying and mapping technicians	60.2	66.6	7.2	10.6
Aerospace engineering and operations technicians	12.1	12.9	1.1	6.6
Civil engineering technicians	74.5	81.1	7.2	8.8
Electrical and electronics engineering technicians	137.0	139.8	12.0	2.0
Electro-mechanical technicians	13.8	14.3	1.2	3.5
Environmental engineering technicians	17.0	19.1	1.7	12.9
Industrial engineering technicians	63.9	64.3	5.5	0.6
Mechanical engineering technicians	46.1	48.4	4.2	5.0
Engineering technicians, except drafters, all other	76.8	80.8	7.1	5.2
Mathematical technicians	0.6	0.6	0.00	7.8
Surveyors, cartographers, and photogrammetrists	57.4	64.8	5.0	13.0
Computer programmers	294.9	273.6	15.5	-7.2
Health care practitioners and technicians	8,751.5	10,088.1	625.1	15.3
Health diagnosing and treating practitioners	5,485.4	6,380.0	355.8	16.3
Audiologists	14.8	17.8	1.0	20.7
Chiropractors	47.4	53.3	1.8	12.5
Dentists	153.5	182.8	7.3	19.1
Dietitians and nutritionists	68.0	77.9	5.4	14.6
Nurse anesthetists	41.8	48.6	2.8	16.2
Nurse midwives	6.5	7.8	0.5	20.7
Nurse practitioners	155.5	211.6	14.4	36.1
Optometrists	40.2	47.4	2.0	17.9
Pharmacists	312.5	329.9	15.3	5.6
Physician assistants	106.2	145.9	10.6	37.3
Physicians and surgeons	713.8	805.2	28.6	12.8
Podiatrists	11.0	12.2	0.7	10.3
Registered nurses	2,955.2	3,393.2	203.7	14.8
Therapists	723.0	888.0	53.3	22.8
Veterinarians	79.6	94.6	4.5	18.8
Health diagnosing and treating practitioners, all other	56.4	63.9	3.8	13.3
Health technologists and technicians	3,093.5	3,514.6	258.1	13.6
Clinical laboratory technologists and technicians	335.7	378.4	25.9	12.7
Dental hygienists	207.9	248.9	17.5	19.7
Diagnostic-related technologists and technicians	384.1	437.5	26.2	13.9
Emergency medical technicians and paramedics	248.0	285.4	19.4	15.1

TABLE S3-3

Bureau of Labor Statistics projections of occupational employment: 2016–26

(Thousands)

Occupation	BLS National Employment Matrix 2016 estimate	BLS projected 2026 employment	Occupational openings, 2016-26, annual average	10-year growth in total employment (%)
Health practitioner support technologists and technicians	767.0	857.2	71.4	11.8
Licensed practical and licensed vocational nurses	724.5	813.4	62.7	12.3
Medical records and health information technicians	206.3	234.1	15.8	13.5
Opticians, dispensing	77.6	89.3	7.0	15.0
Miscellaneous health technologists and technicians	142.4	170.6	12.3	19.8
Other health care practitioners and technical occupations	172.6	193.5	11.1	12.1
Occupational health and safety specialists and technicians	101.8	110.4	6.1	8.5
Miscellaneous health practitioners and technical workers	70.8	83.1	5.0	17.3
Lawyers	792.5	857.5	40.7	8.2
Postsecondary teachers	1,871.4	2,108.3	172.4	12.7

BLS = Bureau of Labor Statistics.

Note(s)

Estimates of current and projected employment for the 2016–26 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.

Source(s)

National Center for Science and Engineering Statistics, National Science Foundation, special tabulations (2018) of the 2016–26 BLS Statistics Employment Projections.

Science and Engineering Indicators

TABLE S3-4

Employment sector of S&E highest degree holders and workers in S&E occupations: 1993, 2003, and 2017

(Percent)

Employment sector	1993		2003		2017	
	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	14,501,000	6,769,000
Business or industry	68.7	67.8	71.3	71.7	73.1	72.2
For-profit businesses	57.3	61.1	59.1	64.2	59.5	63.8
Nonprofit businesses	5.2	3.2	6.3	3.7	7.5	5.3
Self-employed, unincorporated businesses	6.2	3.5	5.9	3.9	6.0	3.1
Education	16.8	17.8	15.6	15.9	15.4	16.2
4-year institutions	9.1	14.3	8.5	12.9	8.3	13.0
2-year and precollege institutions	7.7	3.5	7.2	3.0	7.2	3.2
Government	14.5	14.4	13.1	12.4	11.5	11.6
Federal	6.9	8.4	5.3	5.9	5.2	6.1
State or local	7.7	5.9	7.8	6.5	6.3	5.5

Note(s)

Detail may not add to total because of rounding.

Source(s)

National Center for Science and Engineering Statistics, National Science Foundation, Scientists and Engineers Statistical Data System (SESTAT), 1993, 2003, and the National Survey of College Graduates (NSCG), 2017.

Science and Engineering Indicators

TABLE S3-5

Self-employed scientists and engineers, by education, occupation, and type of business: 2017

(Percent)

Characteristic	Total	Unincorporated business, professional practice, or farm	Incorporated business, professional practice, or farm
All employed scientists and engineers	17.3	6.1	11.3
Highest degree in S&E field	17.6	6.0	11.6
Biological, agricultural, and environmental life sciences	16.0	6.0	10.0
Computer and mathematical sciences	13.9	3.8	10.1
Physical sciences	16.5	5.5	10.9
Social sciences	19.8	8.3	11.5
Engineering	18.1	4.3	13.9
S&E highest degree level			
Bachelor's	18.1	6.1	12.0
Master's	12.7	4.5	8.2
Doctorate	12.1	5.5	6.7
Professional	32.0	11.9	20.1
Occupation			
S&E occupation	11.1	3.1	8.0
Biological, agricultural, and environmental life scientists	5.9	1.3	4.4
Computer and mathematical scientists	10.9	2.8	8.1
Physical scientists	7.9	1.9	6.0
Social scientists	14.9	8.8	5.9
Engineers	12.7	2.4	10.2
S&E-related occupations	15.6	4.5	11.1
Non-S&E occupations	21.9	8.8	13.1

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.

Source(s)

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

Science and Engineering Indicators

TABLE S3-6

Employment sector of S&E highest degree holders, by level and field of highest degree: 2017

(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	14,501,000	8.3	7.2	59.5	6.0	7.5	5.2	6.3
Computer and mathematical sciences	2,567,000	5.8	6.3	71.0	3.8	4.3	4.6	4.2
Biological, agricultural, and environmental life sciences	2,290,000	13.4	7.9	47.9	6.0	11.3	6.1	7.3
Physical and related sciences	814,000	16.5	8.1	54.1	5.5	4.4	5.5	5.8
Social and related sciences	5,336,000	7.8	10.9	49.2	8.3	11.1	4.8	7.9
Engineering	3,494,000	5.4	1.4	75.9	4.3	2.7	5.3	5.0
Highest degree: bachelor's	10,241,000	4.8	6.7	63.2	6.5	7.5	4.6	6.7
Computer and mathematical sciences	1,713,000	3.4	6.4	71.7	4.3	4.5	5.1	4.6
Biological, agricultural, and environmental life sciences	1,631,000	7.1	7.5	52.7	7.2	11.7	5.6	8.2
Physical and related sciences	466,000	10.1	8.8	59.2	6.0	5.2	2.8	8.2
Social and related sciences	4,044,000	4.7	9.3	55.5	8.3	10.1	4.2	7.8
Engineering	2,387,000	3.6	1.4	77.9	4.5	2.6	4.6	5.3
Highest degree: master's	3,138,000	8.8	9.8	55.8	4.7	8.3	6.3	6.4
Computer and mathematical sciences	754,000	6.6	6.5	72.4	3.2	4.0	3.7	3.7
Biological, agricultural, and environmental life sciences	351,000	17.1	13.1	39.3	2.8	13.1	6.6	8.0
Physical and related sciences	179,000	16.2	11.2	52.5	6.1	3.4	7.8	3.9
Social and related sciences	954,000	9.5	18.8	31.3	7.3	16.1	7.1	9.6
Engineering	899,000	5.0	1.6	75.1	3.6	2.8	7.0	5.0
Highest degree: doctorate	1,082,000	39.2	4.0	36.9	5.2	5.7	6.8	2.1
Computer and mathematical sciences	87,000	42.0	2.0	48.0	s	3.0	4.0	s
Biological, agricultural, and environmental life sciences	308,000	43.5	3.9	31.8	3.2	7.1	7.8	2.3
Physical and related sciences	168,000	34.5	3.0	42.3	4.2	4.2	10.7	1.8
Social and related sciences	298,000	44.3	1.7	22.1	9.7	7.7	5.0	3.4
Engineering	208,000	27.9	s	55.8	4.3	3.4	5.8	1.4

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

Science and Engineering Indicators

TABLE S3-7

S&E doctorate holders employed in academia, by type of position and degree field: 1973–2017

(Thousands)

Position and field	1973	1977	1981	1983	1985	1987	1989	1991	1993	1995	1997	1999	2001	2003	2006	2008	2010	2013	2015	2017
All positions																				
All fields	118.0	145.4	167.1	176.1	190.2	195.9	206.6	210.6	213.8	217.5	232.5	240.2	245.5	259.5	272.8	276.5	294.8	309.0	329.3	326.6
Physical sciences	25.5	29.2	30.0	29.9	32.2	32.8	33.6	33.7	35.0	35.7	37.5	38.7	38.6	39.9	39.6	39.9	43.7	44.9	48.4	46.9
Mathematics and statistics	9.7	11.7	12.4	12.9	13.6	13.8	14.5	15.2	15.5	14.6	15.6	15.2	14.9	16.7	17.4	18.0	18.7	19.0	20.9	20.6
Computer and information sciences	NA	NA	0.3	0.5	0.8	1.1	1.5	2.0	2.5	3.1	3.3	3.7	3.8	5.2	5.8	6.9	7.3	8.4	9.1	8.9
Life sciences	34.9	42.6	51.3	54.9	58.7	61.3	64.8	66.9	68.2	71.6	77.3	81.9	84.3	90.0	95.5	94.2	102.0	109.8	112.7	112.6
Psychology	12.2	16.2	20.1	21.0	23.1	23.7	25.0	25.2	25.0	26.1	27.3	29.0	30.4	31.8	35.0	34.5	35.4	36.3	38.7	38.0
Social sciences	23.4	31.1	36.9	38.9	42.0	42.2	44.5	44.8	44.4	42.5	44.9	46.2	46.9	48.1	50.0	52.5	54.9	55.9	59.7	59.9
Engineering	12.4	14.8	16.1	18.1	19.9	21.2	22.9	22.8	23.1	23.8	26.6	25.5	26.6	27.8	29.6	30.4	32.8	34.7	39.7	39.8
All full-time faculty																				
All fields	103.3	125.6	141.9	148.4	156.9	164.4	169.8	173.1	172.4	171.4	174.1	179.8	182.4	190.6	193.1	199.1	206.8	214.4	227.7	223.5
Physical sciences	20.8	23.6	24.3	24.2	25.4	26.4	26.2	26.2	25.8	25.6	25.6	26.7	26.4	27.6	26.9	27.6	29.3	29.5	31.2	29.7
Mathematics and statistics	9.3	10.9	11.7	12.3	12.7	12.9	13.5	14.2	14.7	13.0	13.4	12.9	12.3	14.0	14.0	14.8	15.1	15.5	16.7	16.3
Computer and information sciences	NA	NA	0.3	0.4	0.7	0.9	1.3	1.8	2.3	2.8	2.9	3.2	3.3	4.2	4.9	5.7	5.8	6.4	7.1	7.1
Life sciences	29.5	34.9	40.9	43.5	45.6	48.1	49.3	51.1	50.8	52.8	53.5	56.1	58.3	61.7	62.8	63.5	66.7	70.6	70.8	70.0
Psychology	10.8	13.9	16.4	17.3	18.5	19.2	20.2	20.7	19.5	20.1	19.6	21.0	21.7	21.4	23.2	23.1	23.3	24.1	25.9	26.3
Social sciences	21.6	28.8	33.7	34.4	36.1	37.7	39.0	39.0	39.2	37.1	37.3	38.7	38.7	39.6	39.2	42.1	43.1	43.5	46.6	46.0
Engineering	11.3	13.5	14.7	16.4	17.9	19.3	20.2	20.1	20.1	20.0	21.2	20.9	21.6	21.9	22.1	22.7	23.4	25.0	29.2	28.2
Full-time professors																				
All fields	42.6	51.0	64.4	69.9	72.8	79.1	83.1	82.5	80.0	77.7	80.9	83.1	84.8	87.7	85.3	90.5	93.6	95.3	98.9	94.7
Physical sciences	9.0	10.8	13.1	13.9	14.6	15.5	15.5	14.8	14.2	13.9	13.8	14.2	14.0	14.3	13.3	14.0	15.0	14.6	15.0	13.9
Mathematics and statistics	3.2	3.9	5.0	5.6	6.1	6.5	6.9	6.7	7.1	6.6	6.9	6.6	6.6	7.2	6.9	7.3	7.3	7.3	7.9	7.5
Computer and information sciences	NA	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.3	0.3	0.7	0.8	1.2	1.6	1.9	2.2	2.6	2.6	2.7
Life sciences	12.3	13.9	17.0	19.3	19.6	21.7	22.5	22.9	21.2	22.5	22.5	23.3	24.5	25.7	25.6	26.6	28.1	29.5	28.3	27.5
Psychology	3.9	4.8	6.5	7.0	7.6	8.3	9.1	9.5	8.7	8.7	9.5	9.4	9.9	9.8	9.8	10.0	9.9	10.4	10.9	10.8
Social sciences	9.4	11.3	14.7	15.1	15.9	16.8	18.5	18.6	18.4	16.6	17.1	18.2	18.2	18.6	17.5	19.2	19.6	19.2	20.6	19.7
Engineering	4.7	6.4	8.0	9.0	9.2	10.4	10.6	9.9	10.3	9.1	10.7	10.6	10.7	10.9	10.6	11.7	11.5	11.7	13.5	12.7
Full-time associate professors																				
All fields	31.4	39.7	42.9	45.7	46.9	48.2	47.9	50.5	48.6	49.6	51.0	53.6	52.2	54.3	54.1	57.0	59.1	62.7	69.3	67.7
Physical sciences	6.2	7.2	6.6	6.3	6.3	6.1	5.8	6.3	6.4	6.1	6.5	6.6	6.7	6.9	6.9	7.0	7.4	7.6	8.3	8.6
Mathematics and statistics	2.8	3.7	4.0	4.1	4.0	4.1	4.0	5.1	4.4	4.0	3.9	4.1	3.6	4.0	3.8	4.3	4.2	4.4	5.1	5.1
Computer and information sciences	NA	0.0	0.0	0.1	0.1	0.3	0.4	0.8	0.7	1.4	1.4	1.4	1.6	1.7	1.6	1.9	2.1	2.3	2.6	2.3
Life sciences	8.6	10.7	12.5	13.4	14.1	14.1	14.0	14.6	14.6	14.7	15.8	17.3	16.7	17.7	18.1	18.2	19.1	20.3	21.4	20.6
Psychology	3.3	4.3	5.2	5.9	5.9	6.0	5.9	5.9	5.6	5.8	5.8	6.2	6.0	5.9	6.3	7.0	7.0	7.6	8.2	8.8
Social sciences	6.5	9.4	10.2	11.2	11.8	12.7	12.6	12.0	11.6	11.5	11.7	11.9	11.4	12.1	11.8	12.8	13.1	13.8	15.3	14.6
Engineering	4.0	4.4	4.4	4.7	4.7	4.9	5.3	5.9	5.3	6.2	5.8	6.0	6.1	5.9	5.6	5.9	6.2	6.8	8.3	7.9

TABLE S3-7

S&E doctorate holders employed in academia, by type of position and degree field: 1973–2017

(Thousands)

Position and field	1973	1977	1981	1983	1985	1987	1989	1991	1993	1995	1997	1999	2001	2003	2006	2008	2010	2013	2015	2017
Full-time junior faculty^a																				
All fields	29.3	34.9	34.6	32.8	37.2	37.2	38.7	40.1	43.8	44.0	42.2	43.1	45.4	48.6	53.7	51.6	54.1	56.4	59.5	61.1
Physical sciences	5.6	5.7	4.6	4.0	4.6	4.7	4.8	5.0	5.2	5.6	5.3	5.9	5.7	6.4	6.7	6.6	6.9	7.3	7.9	7.2
Mathematics and statistics	3.3	3.3	2.6	2.5	2.7	2.4	2.6	2.4	3.2	2.4	2.6	2.2	2.1	2.8	3.3	3.2	3.6	3.8	3.7	3.8
Computer and information sciences	NA	NA	0.2	0.3	0.6	0.6	0.9	1.0	1.4	1.2	1.2	1.1	0.9	1.3	1.7	1.9	1.5	1.5	1.9	2.1
Life sciences	8.5	10.3	11.3	10.8	11.9	12.3	12.8	13.7	15.0	15.6	15.2	15.5	17.1	18.3	19.1	18.7	19.5	20.8	21.1	22.0
Psychology	3.6	4.8	4.8	4.5	5.0	4.9	5.2	5.4	5.2	5.5	4.3	5.4	5.8	5.7	7.1	6.1	6.4	6.1	6.8	6.8
Social sciences	5.7	8.2	8.8	8.1	8.4	8.2	7.9	8.4	9.3	9.0	8.5	8.6	9.1	8.9	9.9	10.1	10.4	10.5	10.7	11.7
Engineering	2.6	2.7	2.3	2.7	4.0	4.0	4.3	4.3	4.5	4.8	4.7	4.3	4.8	5.1	5.9	5.1	5.7	6.5	7.4	7.6
Other full-time positions^b																				
All fields	7.6	8.8	12.6	13.4	18.1	16.4	19.2	20.2	22.2	23.9	29.1	31.9	34.8	39.9	40.6	43.9	48.2	55.8	62.6	64.2
Physical sciences	2.2	2.4	2.9	3.0	3.7	3.4	4.0	4.1	4.8	4.9	6.6	7.3	7.7	8.4	7.2	7.4	7.9	8.8	11.1	11.3
Mathematics and statistics	0.2	0.4	0.4	0.3	0.5	0.4	0.5	0.6	0.5	0.6	1.0	0.8	1.1	1.4	1.3	1.7	1.8	2.1	2.5	2.3
Computer and information sciences	NA	NA	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.6	0.6	0.9	1.0	1.5	1.4	1.4
Life sciences	2.5	2.8	4.0	4.6	6.2	6.0	6.7	7.2	7.7	8.4	9.8	11.2	12.3	14.2	15.5	16.2	18.4	22.2	25.0	26.3
Psychology	0.8	1.2	2.2	2.2	2.9	2.8	2.9	2.8	3.9	3.9	4.3	4.6	4.9	6.3	6.5	6.8	7.1	6.9	7.9	7.4
Social sciences	1.0	1.2	2.0	2.2	3.2	2.6	3.5	3.5	3.7	3.6	4.0	4.4	4.7	5.0	6.1	6.2	6.9	7.7	8.3	8.0
Engineering	0.8	0.8	1.1	1.1	1.5	1.1	1.5	1.8	1.5	2.1	3.2	3.0	3.6	3.9	3.3	4.7	5.1	6.3	6.5	7.5
Postdocs																				
All fields	4.2	7.6	8.5	8.3	8.7	9.3	11.5	9.9	13.3	16.8	18.9	18.5	17.5	15.7	23.3	17.8	22.8	20.2	19.2	18.4
Physical sciences	1.8	2.4	2.1	1.6	2.1	2.3	2.7	2.2	3.5	4.4	3.8	3.4	3.0	2.6	3.9	3.3	4.6	4.0	3.3	3.4
Mathematics and statistics	0.0	0.1	0.1	0.1	0.1	0.3	0.2	0.1	0.0	0.5	0.5	0.6	0.8	0.5	1.0	0.5	0.7	0.4	0.5	0.5
Computer and information sciences	NA	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.3	0.2	0.3	0.2
Life sciences	1.9	4.0	5.2	5.1	5.2	5.6	6.8	6.4	8.2	9.2	10.8	11.7	11.0	10.0	12.8	10.3	12.2	11.9	11.7	10.6
Psychology	0.2	0.5	0.6	0.6	0.7	0.7	0.8	0.5	0.4	1.1	1.3	1.2	1.2	0.9	1.7	1.0	1.1	1.0	0.8	0.7
Social sciences	0.1	0.3	0.3	0.6	0.3	0.1	0.4	0.3	0.2	0.4	0.7	0.5	0.6	0.5	0.9	0.3	0.8	0.4	0.4	0.6
Engineering	0.2	0.4	0.2	0.3	0.2	0.5	0.6	0.5	1.0	1.2	1.7	1.1	0.9	1.1	3.0	2.1	3.1	2.4	2.2	2.6
Part-time positions^c																				
All fields	2.9	3.4	4.0	6.0	6.5	5.7	6.2	7.4	5.9	5.5	8.9	8.2	9.0	13.3	15.7	15.6	17.0	18.5	19.8	20.6
Physical sciences	0.7	0.7	0.7	1.1	1.1	0.8	0.7	1.2	1.0	0.9	1.2	1.0	1.0	1.1	1.5	1.6	2.0	2.5	2.8	2.6
Mathematics and statistics	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.5	0.7	0.7	0.6	0.9	1.2	1.0	1.1	1.1	1.2	1.6
Computer and information sciences	NA	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.3	0.3	0.3	0.3
Life sciences	0.9	1.0	1.2	1.7	1.7	1.6	1.9	2.3	1.6	1.2	2.9	2.6	2.4	4.0	4.4	4.3	4.6	5.2	5.2	5.7
Psychology	0.4	0.6	0.8	1.0	1.0	1.0	1.0	1.2	1.2	1.1	1.1	1.3	1.8	3.2	3.6	3.7	3.8	4.2	4.1	3.6
Social sciences	0.7	0.8	1.0	1.6	2.2	1.8	1.7	2.0	1.3	1.3	2.6	2.2	2.7	3.1	3.7	4.0	4.0	4.2	4.4	5.4

TABLE S3-7

S&E doctorate holders employed in academia, by type of position and degree field: 1973–2017

(Thousands)

Position and field	1973	1977	1981	1983	1985	1987	1989	1991	1993	1995	1997	1999	2001	2003	2006	2008	2010	2013	2015	2017
Engineering	0.1	0.1	0.2	0.4	0.3	0.3	0.5	0.5	0.5	0.4	0.3	0.4	0.4	0.8	1.1	0.9	1.2	1.1	1.8	1.5

NA = not available.

^a Full-time junior faculty includes assistant professors and instructors from 1973 to 1995; from 1997 to 2017, full-time junior faculty includes assistant professors.

^b Other full-time positions include those such as research associates, adjunct positions, lecturers, and administrative positions from 1973 to 1995; from 1997 to 2017, other full-time positions also include instructors.

^c Part-time positions exclude those employed part time because they are students or retired.

Note(s)

Detail may not add to total because of rounding. Academic employment is limited to U.S. doctorate holders employed at 2- or 4-year colleges or universities, medical schools, and university research institutes. Physical sciences include earth, atmospheric, and ocean sciences; life sciences include biological, agricultural, environmental, and health sciences. Numbers are rounded to the nearest 100 for data before 2017; for 2017, numbers are rounded to the nearest 50.

Source(s)

National Center for Science and Engineering Statistics, National Science Foundation, National Survey of Doctorate Recipients (SDR).

Science and Engineering Indicators

TABLE S3-8

S&E doctorate holders employed in academia, by research priority, type of position, and degree field: 1973–2017

(Thousands)

Research priority, position, and field	1973	1977	1979	1981	1983	1985	1987	1989	1991	1993	1995	1997	1999	2001	2003	2006	2008	2010	2013	2015	2017
All positions	118.0	145.4	155.3	167.1	176.1	190.2	195.9	206.6	210.6	213.8	217.5	232.5	240.2	245.5	259.5	272.8	276.5	294.8	309.0	329.3	326.6
Physical sciences	25.5	29.2	28.8	29.9	29.9	32.2	32.8	33.6	33.8	35.0	35.8	37.5	38.7	38.6	39.9	39.6	39.9	43.7	44.9	48.4	46.9
Mathematics and statistics	9.7	11.7	12.2	12.4	12.9	13.6	13.8	14.5	15.2	15.5	14.6	15.6	15.2	14.9	16.7	17.4	18.0	18.7	19.0	20.9	20.6
Computer and information sciences	NA	NA	0.1	0.3	0.5	0.8	1.1	1.5	2.0	2.5	3.1	3.3	3.7	3.8	5.2	5.8	6.9	7.3	8.4	9.1	8.9
Life sciences	34.9	42.6	47.0	51.3	54.8	58.7	61.2	64.8	66.9	68.2	71.6	77.3	81.9	84.3	90.0	95.5	94.2	102.0	109.8	112.7	112.6
Psychology	12.2	16.2	17.7	20.1	21.0	23.1	23.7	25.0	25.2	25.0	26.1	27.3	29.0	30.4	31.8	35.0	34.5	35.4	36.3	38.7	38.0
Social sciences	23.4	31.1	33.6	36.9	38.8	41.9	42.1	44.5	44.8	44.4	42.5	44.9	46.2	46.9	48.1	50.0	52.5	54.9	55.9	59.7	59.9
Engineering	12.4	14.8	15.8	16.1	18.1	19.9	21.2	22.8	22.8	23.1	23.8	26.6	25.5	26.6	27.8	29.6	30.4	32.8	34.7	39.7	39.8
Full-time faculty	103.3	125.6	131.2	141.9	148.4	156.9	164.4	169.8	173.1	172.4	171.4	172.9	178.2	180.9	190.6	193.1	199.1	206.9	214.4	227.7	223.4
Physical sciences	20.8	23.6	23.5	24.3	24.2	25.4	26.4	26.2	26.2	25.8	25.6	25.5	26.3	26.1	27.7	26.9	27.5	29.3	29.5	31.1	29.7
Mathematics and statistics	9.3	10.9	11.4	11.7	12.3	12.7	12.9	13.5	14.2	14.7	13.0	13.6	12.9	12.4	14.0	14.0	14.8	15.1	15.5	16.8	16.3
Computer and information sciences	NA	NA	0.1	0.3	0.4	0.7	0.9	1.3	1.8	2.3	2.8	2.9	3.2	3.3	4.2	4.9	5.6	5.7	6.4	7.1	7.1
Life sciences	29.5	34.9	37.3	40.9	43.5	45.6	48.1	49.3	51.1	50.8	52.8	53.6	56.1	58.3	61.7	62.8	63.5	66.7	70.5	70.8	70.0
Psychology	10.8	13.9	14.3	16.4	17.3	18.5	19.2	20.2	20.7	19.5	20.1	19.4	20.6	21.2	21.5	23.2	23.0	23.4	24.1	26.0	26.3
Social sciences	21.6	28.8	30.3	33.7	34.4	36.1	37.6	39.0	39.0	39.2	37.1	36.9	38.2	38.3	39.6	39.2	42.0	43.2	43.6	46.7	46.0
Engineering	11.3	13.5	14.3	14.7	16.4	17.9	19.3	20.2	20.1	20.1	20.0	21.2	20.7	21.5	21.9	22.1	22.7	23.4	25.0	29.2	28.2
Research as primary or secondary activity																					
All positions, research as prime or second	82.3	85.0	90.0	100.7	104.7	115.2	144.0	151.6	156.6	150.1	153.5	164.7	168.1	172.5	179.3	183.7	187.1	198.2	201.7	220.8	217.3
Physical sciences	18.8	19.2	18.2	19.5	19.3	21.4	24.9	25.7	25.9	25.0	25.8	27.4	27.2	27.3	28.2	26.9	26.8	28.9	29.5	32.8	30.7
Mathematics and statistics	6.8	6.8	6.9	6.8	7.2	7.6	9.7	10.2	10.7	9.5	9.4	10.1	9.9	9.8	10.7	11.4	11.7	12.3	11.8	13.4	13.4
Computer and information sciences	NA	NA	0.1	0.3	0.4	0.6	1.0	1.3	1.7	2.0	2.4	2.4	2.6	2.6	3.9	4.1	4.8	5.1	5.7	6.4	6.2
Life sciences	26.0	28.7	32.1	37.1	38.3	41.4	48.8	51.8	53.3	51.8	53.8	57.9	60.8	63.1	65.6	66.7	66.4	71.4	74.2	78.3	76.9
Psychology	7.3	7.7	8.3	9.9	10.5	10.7	14.3	14.3	15.7	14.9	15.6	16.1	17.2	18.2	19.1	20.5	21.3	21.2	20.2	21.1	22.0
Social sciences	14.3	13.8	14.7	17.6	17.8	20.9	28.5	30.5	31.1	29.3	28.1	29.8	30.9	31.4	31.5	32.7	33.8	35.2	34.7	38.2	38.2
Engineering	9.0	8.9	9.8	9.5	11.2	12.5	16.8	17.6	18.2	17.5	18.5	20.9	19.4	20.2	20.3	21.4	22.3	24.1	25.6	30.5	30.0
Full-time faculty	72.0	71.6	74.1	83.8	86.9	95.1	121.4	125.8	131.4	121.7	121.6	124.8	126.3	130.4	135.2	133.7	138.6	142.6	144.4	159.6	156.3
Physical sciences	15.1	14.8	13.9	15.1	15.1	16.3	19.7	19.9	20.1	18.0	17.9	18.4	18.3	18.6	19.9	18.2	18.7	19.6	19.7	21.9	20.6
Mathematics and statistics	6.6	6.4	6.4	6.5	6.9	7.3	9.1	9.8	10.2	9.1	8.4	9.0	8.4	8.2	9.2	9.6	10.1	10.4	10.0	11.4	11.5
Computer and information sciences	NA	NA	0.2	0.3	0.5	0.8	1.2	1.6	1.8	2.2	2.3	2.3	2.3	3.3	3.6	4.1	4.1	4.5	5.3	5.2	
Life sciences	21.8	22.9	24.7	28.7	29.6	31.9	38.3	39.0	41.0	38.4	39.5	40.3	41.4	43.5	45.1	44.3	44.5	46.1	47.8	49.9	48.3
Psychology	6.6	6.7	6.6	8.0	8.8	9.0	12.1	12.2	13.9	12.5	12.9	12.9	13.4	14.1	14.4	14.9	15.9	16.1	15.3	16.4	17.2

TABLE S3-8

S&E doctorate holders employed in academia, by research priority, type of position, and degree field: 1973–2017

(Thousands)

Research priority, position, and field	1973	1977	1979	1981	1983	1985	1987	1989	1991	1993	1995	1997	1999	2001	2003	2006	2008	2010	2013	2015	2017
Social sciences	13.6	12.9	13.5	16.5	16.0	18.8	26.1	27.9	28.3	26.7	25.3	25.3	26.7	27.4	27.0	27.2	29	29.6	28.9	31.9	32.2
Engineering	8.2	8.0	8.9	8.8	10.2	11.4	15.2	15.7	16.2	15.1	15.5	16.5	15.6	16.5	16.2	15.8	16.4	16.9	18.1	22.9	21.5
Research as primary activity																					
All positions, research prime	27.8	37.0	41.3	46.5	48.9	55.9	66.5	72.2	73.9	80.2	83.0	88.6	91.4	93.8	102.9	108.2	107.9	117.5	120.7	133.7	130.1
Physical sciences	6.6	8.9	8.5	9.4	9.2	11.0	12.3	13.3	13.1	14.7	15.2	15.6	15.1	15.0	16.2	16.3	15.7	17.5	18.2	20.8	19.4
Mathematics and statistics	1.5	1.8	2.1	1.9	2.0	2.7	3.2	3.5	3.5	3.4	3.3	3.5	2.9	3.3	3.8	5.0	5.6	5.7	5.6	6.4	6.1
Computer and information sciences	NA	NA	0.0	0.1	0.2	0.4	0.7	0.8	1.1	0.9	1.0	1.1	1.1	1.3	1.9	2.0	2.6	2.8	3.1	3.9	3.7
Life sciences	12.8	16.6	19.7	23.2	24.3	27.1	31.5	33.8	34.5	36.0	37.7	40.5	43.2	43.7	46.4	47.0	45.3	49.7	51.0	54.4	53.2
Psychology	2.0	2.8	3.4	4.1	4.4	4.6	5.2	5.9	6.2	6.7	7.4	8.0	8.6	8.7	10.0	11.2	11.1	11.4	10.9	11.3	11.2
Social sciences	2.8	4.1	4.2	4.5	4.9	5.7	7.5	8.2	8.4	10.7	9.8	9.8	11.1	11.7	13.0	13.6	14.0	15.6	15.9	17.3	16.6
Engineering	2.1	2.9	3.4	3.3	3.9	4.4	6.2	6.9	7.2	7.9	8.7	10.1	9.4	10.1	11.6	13.1	13.6	15.0	16.0	19.6	20.1
Full-time faculty, research prime	19.8	25.8	28.1	31.8	33.6	39.5	48.6	51.6	53.8	56.8	56.6	56.9	58.9	61.2	70.4	70.2	71.7	75.0	77.4	88.7	84.5
Physical sciences	3.5	5.0	5.0	5.4	5.4	6.5	7.8	8.0	8.2	8.7	8.4	8.1	8.0	8.0	9.7	9.3	9.4	9.8	10.4	12.1	11.5
Mathematics and statistics	1.4	1.6	1.8	1.8	1.8	2.5	2.7	3.2	3.2	3.1	2.7	2.9	2.3	2.3	3.4	3.9	4.6	4.6	4.5	5.4	5.1
Computer and information sciences	NA	NA	0.0	0.1	0.1	0.3	0.5	0.7	1.0	0.7	0.9	0.9	0.9	1.1	1.6	1.7	2.1	2.1	2.4	3.1	2.9
Life sciences	9.3	11.4	13.1	15.5	16.5	18.6	22.3	22.6	23.8	24.1	24.7	25.1	26.1	26.9	29.4	27.8	27.1	28.2	29.1	31.0	29.2
Psychology	1.6	2.0	2.2	2.5	2.9	3.3	3.9	4.5	5.0	5.3	5.4	5.7	5.9	6.1	7.0	7.8	7.8	8.0	7.9	8.6	8.6
Social sciences	2.5	3.6	3.4	3.8	3.8	4.6	6.3	7.1	7.1	8.9	8.3	7.4	9.0	9.5	10.7	11.3	11.8	12.9	13.0	14.7	14.0
Engineering	1.5	2.3	2.6	2.7	3.0	3.7	5.0	5.4	5.5	6.0	6.3	6.6	6.6	7.4	8.6	8.5	8.9	9.4	10.1	13.8	13.4
Teaching as primary activity																					
All positions, teaching prime	73.3	82.2	83.8	95.9	97.7	101.0	99.3	100.9	103.4	98.3	100.2	105.4	108.6	109.0	105.9	109.4	114.0	120.6	124.8	133.7	132.8
Physical sciences	16.3	16.5	15.9	17.5	16.8	17.4	16.9	16.7	16.8	15.7	15.9	16.7	17.8	17.9	17.0	16.9	17.5	18.8	18.7	19.7	19.6
Mathematics and statistics	7.4	8.5	8.6	9.1	9.4	9.3	9.2	9.5	10.1	10.3	9.8	10.2	10.5	10.2	9.4	9.9	10.3	10.7	11.3	12.2	12.1
Computer and information sciences	NA	NA	0.1	0.2	0.3	0.3	0.3	0.6	0.7	1.4	1.8	1.8	2.1	1.9	2.5	3.0	3.2	3.8	4.0	3.6	3.7
Life sciences	16.6	18.1	18.1	20.5	21.1	20.9	20.1	20.3	20.9	20.2	21.8	23.4	25.1	25.7	25.2	27.6	28.2	30.6	33.9	35.0	34.7
Psychology	7.7	9.4	9.5	11.7	11.6	12.3	13.0	12.8	12.8	11.6	11.9	12.4	13.0	13.3	13.3	14.3	14.4	15.0	14.9	16.3	17.0
Social sciences	16.9	21.0	22.6	26.8	27.7	29.1	28.5	28.8	29.8	27.6	26.9	28.3	28.0	28.0	27.3	27.5	29.6	29.8	30.0	33.4	33.4
Engineering	8.4	8.7	9.1	10.1	10.8	11.7	11.3	12.2	12.2	11.6	12.1	12.6	12.1	11.9	11.2	10.2	10.8	11.9	11.9	13.5	12.5
Full-time faculty, teaching prime	69.9	78.4	79.7	92.1	91.9	94.9	93.6	93.9	96.7	91.4	91.9	92.1	95.0	93.8	89.9	88.4	93.5	96.7	98.2	101.9	100.3
Physical sciences	15.5	15.7	15.1	16.9	15.8	16.5	16.2	15.6	15.6	14.3	14.4	14.4	15.4	15.1	14.3	13.8	14.2	15.1	14.5	14.6	13.8
Mathematics and statistics	7.2	8.1	8.3	8.8	9.0	8.9	9.0	9.0	9.6	10.0	9.0	9.1	9.2	8.9	8.5	8.2	8.6	8.8	9.3	9.5	9.2
Computer and information sciences	NA	NA	0.1	0.2	0.3	0.3	0.3	0.5	0.7	1.3	1.7	1.6	2.0	1.7	2.2	2.5	2.8	3.2	3.4	3.0	3.0

TABLE S3-8

S&E doctorate holders employed in academia, by research priority, type of position, and degree field: 1973–2017

(Thousands)

Research priority, position, and field	1973	1977	1979	1981	1983	1985	1987	1989	1991	1993	1995	1997	1999	2001	2003	2006	2008	2010	2013	2015	2017
Life sciences	15.7	17.1	17.1	19.6	19.6	19.5	18.7	18.7	19.1	18.4	19.8	20.0	21.6	21.8	21.0	21.8	23.1	24.4	26.1	26.3	26.3
Psychology	7.3	8.9	8.9	11.0	10.9	11.6	12.1	11.9	12.2	10.5	10.9	10.6	11.3	11.1	10.8	11.1	11.1	11.3	11.0	11.8	12.4
Social sciences	16.1	20.1	21.4	25.7	25.9	26.8	26.5	26.4	27.6	25.9	24.6	24.6	24.2	24.1	23.1	21.9	24.3	23.9	23.8	25.7	25.5
Engineering	8.1	8.5	8.9	10.0	10.4	11.2	11.0	11.7	11.8	11.0	11.5	11.7	11.4	10.8	9.9	8.9	9.4	10.0	10.1	11.1	10.2
Other primary activity																					
All positions, other prime	16.9	26.2	30.2	24.7	29.6	33.3	30.1	33.5	33.2	35.2	34.3	38.6	40.2	42.8	49.5	55.2	54.6	56.6	63.5	61.9	63.6
Physical sciences	2.6	3.8	4.4	3.0	3.8	3.8	3.5	3.6	3.8	4.6	4.6	5.2	5.8	5.8	7.2	6.5	6.7	7.4	8.0	7.9	8.0
Mathematics and statistics	0.8	1.4	1.6	1.3	1.6	1.6	1.4	1.5	1.6	1.8	1.5	1.8	1.7	1.4	2.2	2.5	2.1	2.3	2.1	2.3	2.5
Computer and information sciences	NA	NA	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.3	0.5	0.5	0.5	0.8	0.8	1.1	0.8	1.4	1.5	1.6
Life sciences	5.5	8.0	9.3	7.6	9.4	10.6	9.7	10.7	11.5	12.0	12.2	13.4	13.6	14.8	17.6	20.9	20.8	21.6	24.9	23.3	24.7
Psychology	2.5	4.0	4.8	4.4	5.0	6.2	5.6	6.3	6.2	6.7	6.9	7.0	7.3	8.4	8.1	9.5	9.0	9.1	10.4	11.1	9.8
Social sciences	3.7	6.0	6.8	5.6	6.1	7.1	6.1	7.6	6.6	6.1	5.8	6.8	7.2	7.2	8.2	8.8	8.9	9.5	9.9	9.1	9.9
Engineering	1.9	3.1	3.3	2.7	3.5	3.8	3.7	3.7	3.4	3.7	3.0	3.8	4.0	4.7	5.5	6.2	5.9	6.0	6.8	6.7	7.2
Full-time faculty	13.6	21.3	23.4	18.0	22.9	22.5	22.2	24.2	22.6	24.1	22.9	23.9	24.2	26.0	30.3	34.6	33.9	35.1	38.8	37.1	38.6
Physical sciences	1.8	2.9	3.3	2.0	3.0	2.4	2.4	2.5	2.3	2.7	2.7	2.9	2.8	3.0	3.6	3.8	3.9	4.4	4.6	4.4	4.5
Mathematics and statistics	0.7	1.2	1.3	1.1	1.4	1.3	1.2	1.3	1.4	1.6	1.3	1.5	1.4	1.0	1.9	1.9	1.6	1.7	1.6	1.9	2.0
Computer and information sciences	NA	NA	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.2	0.2	0.3	0.3	0.4	0.3	0.5	0.7	0.4	0.6	1.1	1.2
Life sciences	4.5	6.4	7.1	5.8	7.4	7.4	7.2	7.9	8.2	8.3	8.3	8.5	8.5	9.6	11.3	13.2	13.3	14.0	15.3	13.5	14.5
Psychology	2.0	3.0	3.2	2.9	3.5	3.6	3.3	3.8	3.6	3.7	3.8	3.0	3.4	3.9	3.7	4.4	4.1	4.1	5.1	5.6	5.4
Social sciences	3.0	5.2	5.5	4.2	4.7	4.7	4.8	5.4	4.3	4.5	4.2	4.8	5.0	4.7	5.8	6.0	5.9	6.5	6.8	6.3	6.6
Engineering	1.6	2.7	2.8	2.0	2.9	2.9	3.3	3.1	2.7	3.1	2.2	2.8	2.7	3.3	3.5	4.7	4.4	3.9	4.7	4.3	4.7

NA = not available; s = suppressed for reasons of confidentiality and/or reliability.

Note(s)

Detail may not add to total because of rounding. Academic employment is limited to U.S. doctorate holders employed at 2- or 4-year colleges or universities, medical schools, and university research institutes, excluding those employed part time because they are students or retired. Full-time faculty includes full professors, associate professors, assistant professors, and instructors from 1973 to 1995; from 1997 to 2017, full-time faculty includes full professors, associate professors, and assistant professors. Research includes basic or applied research, development, or design. Physical sciences include earth, atmospheric, and ocean sciences; life sciences include biological, agricultural, environmental, and health sciences. Numbers are rounded to the nearest 100 for data before 2017; for 2017, numbers are rounded to the nearest 50.

Source(s)

National Center for Science and Engineering Statistics, National Science Foundation, Survey of Doctorate Recipients (SDR).

TABLE S3-9

S&E doctorate holders employed in academia with federal support, by degree field, research activity, and type of position: 1973–2017

(Percent)

Field, research activity, and position	1973	1975	1977	1979	1981	1983	1985	1987	1989	1991	1993	1995	1997	1999	2001	2003	2006	2008	2010	2013	2015	2017
All fields	44.5	40.5	39.7	38.2	35.5	39.8	31.4	46.5	47.9	48.5	36.1	39.4	38.6	45.7	45.1	45.9	46.9	44.5	45.1	44.2	41.0	40.3
Research as primary or secondary activity	51.9	48.9	52.3	51.8	50.8	55.9	44.5	56.1	58.1	57.8	46.4	50.0	48.2	56.6	56.4	56.7	58.1	55.5	56.2	56.5	52.0	50.3
Full-time faculty	42.0	39.6	38.2	36.2	38.8	41.7	34.3	45.6	46.6	48.0	32.9	35.7	34.9	43.2	43.6	44.9	46.5	43.7	44.7	43.5	40.3	40.2
Other full-time positions	60.2	58.8	68.1	58.3	58.5	59.4	49.8	60.6	60.9	58.8	42.5	43.1	46.7	48.9	47.2	46.3	43.6	43.5	41.9	42.8	41.9	39.8
Postdoctorates	87.7	86.3	86.0	82.1	86.3	82.2	78.5	82.1	83.5	84.5	83.1	80.1	74.1	80.3	74.3	78.1	70.7	71.9	73.2	77.7	70.3	71.1
Physical sciences	47.3	44.0	43.8	42.8	42.1	46.5	38.2	54.1	57.9	57.0	45.7	49.3	48.6	57.0	55.3	56.5	56.4	53.6	53.9	53.0	51.9	50.1
Research as primary or secondary activity	56.2	54.1	56.2	57.0	59.0	63.3	52.5	66.2	69.6	68.9	58.6	62.3	59.6	70.1	68.3	69.2	70.0	67.2	67.0	68.8	65.9	63.5
Full-time faculty	42.2	38.7	38.3	37.4	37.1	42.6	33.2	49.5	53.7	53.5	38.7	42.9	42.1	53.2	51.7	55.0	55.1	54.2	52.8	52.2	51.7	51.3
Other full-time positions	67.0	61.4	62.8	68.3	59.1	64.8	58.1	71.2	70.1	69.1	60.6	57.0	63.6	65.8	59.7	58.8	58.2	51.4	50.7	51.8	53.8	49.3
Postdoctorates	90.3	87.4	86.3	81.9	82.5	81.9	75.4	87.9	84.6	81.2	82.0	85.3	81.2	81.3	83.0	78.8	75.7	66.7	78.3	80.0	72.7	69.1
Mathematics and statistics	26.9	19.1	19.0	21.7	21.3	30.1	21.5	31.1	33.5	34.5	18.8	22.3	20.9	29.1	31.9	31.1	34.8	31.7	34.1	30.5	26.8	29.1
Research as primary or secondary activity	32.4	23.6	25.0	27.0	27.0	41.3	26.4	36.9	40.8	40.6	24.8	27.0	26.9	35.3	41.7	38.6	43.4	38.5	42.2	40.7	36.6	36.7
Full-time faculty	26.8	18.8	18.0	20.4	21.0	29.9	21.4	30.4	32.8	34.0	18.3	21.1	19.3	27.7	30.1	31.9	34.8	31.8	35.3	30.8	28.1	30.7
Other full-time positions	33.6	33.5	46.9	54.6	30.1	43.4	29.1	47.8	52.8	67.2	40.6	34.6	40.0	37.5	54.5	23.1	25.0	29.4	25.0	25.0	23.8	21.4
Postdoctorates	48.8	35.8	55.1	43.2	56.3	66.3	48.5	34.4	53.4	80.4	s	45.3	35.6	54.7	61.9	65.9	64.2	60.0	57.1	75.0	60.0	60.0
Computer and information sciences	NA	NA	NA	34.8	29.7	44.6	45.0	61.7	52.4	49.4	39.9	43.2	41.1	55.6	47.2	48.9	44.0	43.5	50.7	51.2	45.1	45.5
Research as primary or secondary activity	NA	NA	NA	34.8	26.9	44.9	36.1	55.6	52.8	54.3	41.1	46.0	46.3	59.3	57.9	54.9	53.8	54.2	61.4	59.6	54.7	55.6
Full-time faculty	NA	NA	NA	25.0	26.6	38.1	38.0	58.1	52.8	48.2	37.7	40.7	37.9	54.5	48.5	50.0	44.9	44.6	51.7	51.5	46.6	48.6
Other full-time positions	NA	NA	NA	s	25.0	67.9	80.6	79.7	47.1	67.7	59.1	62.9	50.0	66.7	33.3	50.0	42.9	44.4	50.0	42.9	36.4	36.0
Postdoctorates	NA	NA	NA	57.1	100.0	100.0	s	88.2	100.0	s	100.0	78.0	97.2	100.0	100.0	95.8	97.9	50.0	66.7	50.0	66.7	66.7
Life sciences	59.3	58.9	58.1	55.3	59.6	60.0	53.5	65.3	65.1	65.5	52.2	52.5	51.0	57.9	56.6	57.2	58.0	56.6	56.6	54.9	51.1	50.3
Research as primary or secondary activity	65.8	64.2	66.8	65.2	63.3	68.3	57.8	72.3	73.1	72.0	62.7	63.6	61.6	69.5	67.9	68.0	69.4	69.3	68.7	68.7	63.6	62.1
Full-time faculty	57.1	56.4	54.9	51.4	55.6	57.8	50.5	63.4	62.1	63.7	48.6	49.0	47.8	55.2	56.3	57.0	58.4	56.1	56.1	54.5	50.5	50.0
Other full-time positions	68.1	70.9	72.1	64.8	68.5	68.5	58.4	71.0	74.1	67.2	45.8	46.3	47.4	50.0	46.3	46.9	50.0	51.2	50.3	49.5	47.1	45.9
Postdoctorates	88.8	87.7	88.4	84.6	86.0	82.6	78.3	82.1	86.8	84.4	84.1	81.9	77.7	82.6	77.6	81.3	71.5	77.7	78.7	80.7	75.2	76.8
Psychology	37.5	36.1	33.2	32.6	32.7	30.1	25.9	31.2	35.5	34.7	25.7	27.6	27.4	32.9	34.3	34.7	36.5	31.9	33.3	31.7	27.1	28.2
Research as primary or secondary activity	45.4	41.7	41.9	42.7	41.9	42.6	36.6	39.8	46.6	43.5	37.0	39.5	40.5	46.5	48.1	48.2	52.2	43.2	46.6	44.6	39.3	39.0
Full-time faculty	36.4	34.1	30.6	28.3	27.5	27.3	23.6	28.3	34.0	32.9	25.2	25.1	25.3	31.6	33.6	34.5	37.5	33.9	36.5	34.8	27.8	30.3
Other full-time positions	48.1	41.6	65.4	46.3	52.3	40.3	32.7	37.1	39.6	36.3	23.8	30.7	30.2	32.6	38.8	35.2	29.8	25.0	23.0	22.2	25.0	20.5
Postdoctorates	84.9	86.4	82.5	86.8	92.0	84.2	70.8	88.1	66.3	95.8	71.7	71.4	71.8	71.8	59.2	69.0	69.4	60.0	81.8	80.0	62.5	84.6

TABLE S3-9

S&E doctorate holders employed in academia with federal support, by degree field, research activity, and type of position: 1973–2017

(Percent)

Field, research activity, and position	1973	1975	1977	1979	1981	1983	1985	1987	1989	1991	1993	1995	1997	1999	2001	2003	2006	2008	2010	2013	2015	2017
Social sciences	25.5	23.7	23.3	20.4	21.8	23.7	17.2	27.2	27.7	28.4	14.2	16.1	15.2	22.9	21.5	21.8	23.1	20.6	19.7	19.7	17.3	17.4
Research as primary or secondary activity	29.5	26.8	30.6	29.4	25.5	31.4	20.4	30.0	31.1	31.2	17.3	20.9	17.7	27.2	26.5	27.1	28.9	25.7	24.4	24.2	20.9	20.3
Full-time faculty	25.2	23.7	22.6	19.0	21.2	22.5	16.2	27.1	27.4	27.8	13.4	15.4	14.6	22.5	21.1	22.1	23.9	20.0	20.6	20.0	17.2	17.9
Other full-time positions	36.3	31.6	35.3	37.3	32.7	34.0	26.6	36.2	33.8	32.7	22.1	22.6	22.5	27.3	26.1	25.6	24.5	22.6	20.3	21.9	20.5	19.4
Postdoctorates	57.6	54.6	54.7	84.9	47.9	64.6	54.7	27.4	57.6	52.5	88.1	68.5	33.9	65.0	35.8	42.9	22.9	33.3	25.0	50.0	50.0	45.5
Engineering	53.5	50.6	51.1	49.1	51.0	54.7	43.0	57.1	56.3	63.2	42.6	49.9	49.7	56.9	56.8	57.4	58.7	58.6	58.2	57.6	54.7	51.3
Research as primary or secondary activity	58.4	57.3	60.5	57.5	59.2	61.5	45.0	63.1	63.8	68.3	49.5	57.9	55.4	62.5	64.1	64.7	67.3	67.3	66.7	66.8	62.0	57.8
Full-time faculty	52.5	49.9	49.3	49.5	49.8	54.7	42.2	56.0	55.2	62.9	40.9	48.4	47.2	55.1	56.7	56.8	58.6	57.7	59.5	57.3	56.5	52.2
Other full-time positions	65.5	67.3	86.6	53.0	60.7	63.1	44.3	76.4	71.2	66.8	59.5	56.7	65.6	63.3	58.3	62.2	51.9	61.7	55.8	59.6	54.2	50.8
Postdoctorates	84.7	84.3	74.7	51.1	98.9	82.7	91.4	74.8	76.0	90.0	65.7	72.7	62.1	80.4	56.8	73.8	76.8	71.4	61.3	66.7	54.5	56.9

NA = not available; s = suppressed for reasons of confidentiality and/or reliability.

Note(s)

Data for 1985 and 1993–97 are not comparable with data for other years and understate the degree of federal support. In 1985 and 1993–97, the federal support question asked whether work performed during the week of 15 April was supported by the government; in other years, the question pertained to work conducted over the course of an entire year. Academic employment is limited to U.S. doctorate holders employed at 2- or 4-year colleges or universities, medical schools, or university research institutes. Full-time faculty includes full professors, associate professors, assistant professors, and instructors from 1973 to 1995; from 1997 to 2017, full-time faculty includes full professors, associate professors, and assistant professors. Research includes basic or applied research, development, and design. Total includes part-time employment not shown separately but excludes those employed part time because they are students or retired. Physical sciences include earth, atmospheric, and ocean sciences; life sciences include biological, agricultural, environmental, and health sciences.

Source(s)

National Center for Science and Engineering Statistics, National Science Foundation, Survey of Doctorate Recipients (SDR).

TABLE S3-10

Employment characteristics of recent SEH doctorate recipients up to 3 years after receiving doctorate, by field of degree: 2001–17

(Number and percent)

Field of doctorate	Recent doctorates (number)								Unemployment rate (%)								Involuntarily out-of-field rate (%)							
	2001	2003	2006	2008	2010	2013	2015	2017	2001	2003	2006	2008	2010	2013	2015	2017	2001	2003	2006	2008	2010	2013	2015	2017
All recent SEH doctorates	48,700	43,700	49,500	52,600	52,700	45,500	49,400	50,200	1.3	2.5	1.2	1.5	2.3	2.7	2.7	2.4	2.8	2.1	1.4	1.3	1.8	2.3	1.7	2.6
Biological, agricultural, and environmental life sciences	12,300	11,200	12,600	13,400	14,100	12,200	12,900	12,600	1.4	2.4	0.9	1.7	1.5	3.4	3.2	2.9	2.6	1.0	0.3	1.0	1.5	2.6	0.8	2.0
Computer and information sciences	1,600	1,400	1,500	2,400	2,500	2,000	2,400	2,600	0.3	4.1	1.9	s	s	s	s	1.0	s	s	2.6	1.4	s	s	s	s
Mathematics and statistics	2,200	1,600	2,000	2,400	2,400	2,200	2,600	2,250	0.2	3.4	s	s	s	s	s	s	1.4	3.4	2.2	1.1	s	s	s	4.9
Physical sciences	7,700	6,500	7,400	7,500	7,700	6,400	6,900	6,900	1.5	1.3	1.1	3.0	2.6	4.8	4.4	3.4	5.4	4.2	2.6	2.3	1.4	1.7	3.0	4.1
Psychology	7,200	6,300	7,000	5,800	5,400	4,700	5,000	4,650	1.5	2.7	1.2	0.8	3.8	s	2.0	1.8	3.0	1.5	1.4	0.8	2.0	s	2.1	1.3
Social sciences	5,800	6,000	6,200	5,900	6,000	5,400	6,100	6,400	1.6	3.1	1.4	2.1	3.4	3.8	1.7	2.2	3.3	3.0	2.3	3.4	3.5	5.9	3.4	3.3
Engineering	9,400	8,000	9,500	12,000	11,300	9,600	10,300	12,000	1.5	3.0	1.8	1.2	2.7	2.1	3.0	1.9	2.0	3.0	1.6	0.7	1.9	2.2	2.0	2.4
Health	2,400	2,700	3,200	3,300	3,400	3,000	3,200	2,750	0.4	0.7	0.9	1.2	s	s	3.1	s	s	1.1	s	s	s	s	s	1.9

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

SEH = science, engineering, and health.

Note(s)

Involuntarily out-of-field rate is the proportion of all employed individuals who report working in a job not related to their field of doctorate because a job in that field was not available. Data for 2001 and 2006 include graduates from 12 months to 36 months before the survey reference date; data for 2003, 2008, and 2010 include graduates from 15 months to 36 months before the survey reference date; data for 2013, 2015, and 2017 include graduates from 19 months to 36 months before the survey reference date. Detail may not add to total because of rounding.

Source(s)

National Center for Science and Engineering Statistics, National Science Foundation, Survey of Doctorate Recipients (SDR).

TABLE S3-11

Postgraduation plans of doctorate recipients with definite commitments, by broad field of study: Selected years, 1977–2017

(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)									
1977	21,345	3,513	2,333	616	4,247	1,828	5,146	2,461	1,201
1987	21,360	4,042	2,703	766	3,760	2,216	4,421	2,103	1,349
1997	25,541	5,424	2,867	1,251	4,119	3,643	4,156	2,668	1,413
2002	26,144	5,704	2,716	1,217	4,495	3,222	4,167	3,156	1,467
2007	29,812	6,524	3,253	2,018	4,713	4,505	4,147	2,854	1,798
2012	30,656	7,011	3,357	2,212	5,333	4,945	3,058	2,968	1,772
2017	33,023	7,541	3,707	2,536	5,804	5,729	3,005	2,719	1,982
Reported type of plan (number)									
1977	21,154	3,487	2,320	612	4,209	1,815	5,095	2,426	1,190
1987	21,196	4,028	2,699	760	3,734	2,201	4,355	2,077	1,342
1997	24,987	5,329	2,843	1,229	4,033	3,596	4,001	2,583	1,373
2002	26,037	5,691	2,709	1,212	4,478	3,213	4,144	3,140	1,450
2007	29,399	6,456	3,224	2,001	4,629	4,443	4,068	2,811	1,767
2012	28,749	6,638	3,249	2,101	4,978	4,667	2,800	2,734	1,582
2017	32,239	7,401	3,672	2,488	5,670	5,603	2,863	2,624	1,918
Employment (percent ^c)									
1977	81.4	48.4	53.0	89.1	89.0	86.5	97.5	95.5	97.7
1987	74.2	40.6	43.3	79.9	83.8	80.2	96.1	93.8	96.5
1997	71.6	39.0	43.0	76.9	79.0	79.4	96.3	93.5	97.0
2002	69.5	40.5	42.6	67.6	74.0	75.2	94.4	90.0	93.8
2007	63.8	34.5	33.3	68.4	67.4	68.3	94.1	88.0	92.5
2012	59.8	34.0	31.8	64.3	63.1	65.2	92.6	84.4	93.1
2017	60.9	40.5	40.8	68.9	61.3	62.6	91.5	79.0	91.2
Postdoctoral study (percent ^c)									
1977	18.6	51.6	47.0	10.9	11.0	13.5	2.5	4.5	2.3
1987	25.8	59.4	56.7	20.1	16.2	19.8	3.9	6.2	3.5
1997	28.4	61.0	57.0	23.1	21.0	20.6	3.7	6.5	3.0
2002	30.5	59.5	57.4	32.4	26.0	24.8	5.6	10.0	6.2
2007	36.2	65.5	66.7	31.6	32.6	31.7	5.9	12.0	7.5
2012	40.2	66.0	68.2	35.7	36.9	34.8	7.4	15.6	6.9
2017	39.1	59.5	59.2	31.1	38.7	37.4	8.5	21.0	8.8

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

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

^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 Center for Science and Engineering Statistics, National Science Foundation, Survey of Earned Doctorates (SED).

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

TABLE S3-12

Employed scientists and engineers, by sex and occupation: 2017

(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

TABLE S3-12

Employed scientists and engineers, by sex and occupation: 2017

(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

TABLE S3-13

Employed S&E highest degree holders, by sex and field of degree: 2017

(Number and percent)

Field of S&E highest degree	Total	Female		Male	
		Number	Percent	Number	Percent
All S&E highest degree	14,501,000	5,771,000	39.8	8,730,000	60.2
Computer and mathematical sciences	2,567,000	757,000	29.5	1,810,000	70.5
Computer and information sciences	2,017,000	529,000	26.2	1,487,000	73.7
Computer and information sciences, general	362,000	107,000	29.6	256,000	70.7
Computer sciences	1,065,000	248,000	23.3	817,000	76.7
Computer systems analysis	50,000	13,000	26.0	37,000	74.0
Information services and systems	418,000	119,000	28.5	299,000	71.5
Other computer and information sciences	122,000	42,000	34.4	79,000	64.8
Mathematics and statistics	550,000	228,000	41.5	322,000	58.5
Applied mathematics	58,000	24,000	41.4	34,000	58.6
Mathematics, general	371,000	161,000	43.4	211,000	56.9
Operations research	34,000	9,000	26.5	25,000	73.5
Statistics	64,000	30,000	46.9	34,000	53.1
Other mathematics	23,000	4,000	17.4	19,000	82.6
Biological, agricultural, and environmental life sciences	2,290,000	1,081,000	47.2	1,209,000	52.8
Agricultural and food sciences	286,000	117,000	40.9	169,000	59.1
Animal sciences	104,000	56,000	53.8	48,000	46.2
Food sciences and technology	33,000	21,000	63.6	12,000	36.4
Plant sciences	99,000	28,000	28.3	72,000	72.7
Other agricultural sciences	49,000	13,000	26.5	36,000	73.5
Biological sciences	1,763,000	887,000	50.3	876,000	49.7
Biochemistry and biophysics	131,000	56,000	42.7	75,000	57.3
Biology, general	861,000	440,000	51.1	421,000	48.9
Botany	17,000	5,000	29.4	12,000	70.6
Cell and molecular biology	109,000	45,000	41.3	63,000	57.8
Ecology	115,000	41,000	35.7	74,000	64.3
Genetics, animal and plant	26,000	13,000	50.0	12,000	46.2
Microbiological sciences and immunology	125,000	71,000	56.8	54,000	43.2
Nutritional sciences	88,000	84,000	95.5	4,000	4.5
Pharmacology, human and animal	24,000	11,000	45.8	12,000	50.0
Physiology and pathology, human and animal	62,000	34,000	54.8	28,000	45.2
Zoology, general	72,000	30,000	41.7	42,000	58.3
Other biological sciences	135,000	56,000	41.5	79,000	58.5
Environmental life sciences	241,000	77,000	32.0	164,000	68.0
Environmental science or studies	182,000	68,000	37.4	113,000	62.1
Forestry sciences	59,000	8,000	13.6	51,000	86.4
Physical and related sciences	814,000	257,000	31.6	557,000	68.4
Chemistry, except biochemistry	349,000	144,000	41.3	204,000	58.5
Earth, atmospheric, and ocean sciences	234,000	75,000	32.1	159,000	67.9
Atmospheric sciences and meteorology	28,000	13,000	46.4	15,000	53.6
Earth sciences	63,000	22,000	34.9	42,000	66.7
Geology	97,000	27,000	27.8	70,000	72.2
Geological sciences, other	36,000	11,000	30.6	25,000	69.4
Oceanography	10,000	3,000	30.0	7,000	70.0
Physics and astronomy	202,000	30,000	14.9	172,000	85.1
Astronomy and astrophysics	17,000	4,000	23.5	13,000	76.5
Physics	186,000	26,000	14.0	159,000	85.5
Other physical sciences	29,000	7,000	24.1	22,000	75.9
Social and related sciences	5,336,000	3,106,000	58.2	2,230,000	41.8

TABLE S3-13

Employed S&E highest degree holders, by sex and field of degree: 2017

(Number and percent)

Field of S&E highest degree	Total	Female		Male	
		Number	Percent	Number	Percent
Economics	870,000	252,000	29.0	618,000	71.0
Agricultural economics	57,000	9,000	15.8	47,000	82.5
Economics	814,000	243,000	29.9	571,000	70.1
Political and related sciences	994,000	461,000	46.4	533,000	53.6
Public policy studies	66,000	40,000	60.6	26,000	39.4
International relations	190,000	101,000	53.2	89,000	46.8
Political science and government	739,000	320,000	43.3	418,000	56.6
Psychology	2,034,000	1,449,000	71.2	585,000	28.8
Educational psychology	114,000	93,000	81.6	22,000	19.3
Clinical psychology	239,000	152,000	63.6	87,000	36.4
Counseling psychology	310,000	237,000	76.5	73,000	23.5
Experimental psychology	39,000	15,000	38.5	24,000	61.5
General psychology	923,000	667,000	72.3	256,000	27.7
Industrial/ organizational psychology	82,000	55,000	67.1	27,000	32.9
Social psychology	118,000	67,000	56.8	52,000	44.1
Other psychology	208,000	164,000	78.8	44,000	21.2
Sociology and anthropology	838,000	580,000	69.2	258,000	30.8
Anthropology and archaeology	191,000	130,000	68.1	60,000	31.4
Criminology	78,000	46,000	59.0	31,000	39.7
Sociology	570,000	403,000	70.7	166,000	29.1
Other social sciences	600,000	364,000	60.7	236,000	39.3
Area and ethnic studies	133,000	84,000	63.2	49,000	36.8
Linguistics	79,000	63,000	79.7	16,000	20.3
Philosophy of science	29,000	28,000	96.6	2,000	s
Geography	137,000	51,000	37.2	86,000	62.8
History of science	6,000	4,000	66.7	s	s
Other social sciences	216,000	135,000	62.5	82,000	38.0
Engineering	3,494,000	570,000	16.3	2,924,000	83.7
Aerospace, aeronautical, and astronautical engineering	127,000	19,000	15.0	108,000	85.0
Chemical engineering	220,000	59,000	26.8	161,000	73.2
Civil and architectural engineering	501,000	81,000	16.2	420,000	83.8
Architectural engineering	25,000	4,000	16.0	21,000	84.0
Civil engineering	476,000	77,000	16.2	399,000	83.8
Electrical and computer engineering	1,264,000	170,000	13.4	1,094,000	86.6
Computer and systems engineering	350,000	65,000	18.6	285,000	81.4
Electrical, electronics, and communications engineering	914,000	105,000	11.5	809,000	88.5
Industrial and manufacturing engineering	214,000	53,000	24.8	161,000	75.2
Mechanical engineering	689,000	61,000	8.9	628,000	91.1
Other engineering	479,000	128,000	26.7	351,000	73.3
Agricultural engineering	30,000	s	s	16,000	53.3
Bioengineering and biomedical engineering	58,000	26,000	44.8	32,000	55.2
Engineering sciences, mechanics, and physics	33,000	7,000	21.2	26,000	78.8
Environmental engineering	66,000	23,000	34.8	43,000	65.2
Engineering, general	36,000	9,000	25.0	27,000	75.0
Geophysical and geological engineering	13,000	2,000	15.4	11,000	84.6
Materials engineering, including ceramics and textiles	71,000	13,000	18.3	57,000	80.3
Metallurgical engineering	9,000	s	s	7,000	77.8
Mining and minerals engineering	11,000	s	s	10,000	90.9
Naval architecture and marine engineering	11,000	s	s	11,000	100.0

TABLE S3-13

Employed S&E highest degree holders, by sex and field of degree: 2017

(Number and percent)

Field of S&E highest degree	Total	Female		Male	
		Number	Percent	Number	Percent
Nuclear engineering	20,000	3,000	15.0	18,000	90.0
Petroleum engineering	23,000	8,000	34.8	15,000	65.2
Other engineering	98,000	19,000	19.4	79,000	80.6

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

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

Science and Engineering Indicators

TABLE S3-14

S&E doctorate holders employed in academia, by type of position, sex, and degree field: 1973–2017

(Thousands)

Position, sex, and field	1973	1977	1981	1983	1985	1987	1989	1991	1993	1995	1997	1999	2001	2003	2006	2008	2010	2013	2015	2017
All positions																				
Both sexes, all fields	118.0	145.5	167.1	176.1	190.2	195.9	206.6	210.6	213.8	217.5	232.5	240.2	245.5	259.5	272.8	276.5	294.8	309.0	329.3	326.6
Physical sciences	25.5	29.2	30.0	29.9	32.2	32.8	33.6	33.7	35.0	35.7	37.5	38.7	38.6	39.9	39.6	39.9	43.7	44.9	48.4	46.9
Mathematics and statistics	9.7	11.7	12.4	12.9	13.6	13.8	14.5	15.2	15.5	14.6	15.6	15.2	14.9	16.7	17.4	18.0	18.7	19.0	20.9	20.6
Computer and information sciences	NA	NA	0.3	0.5	0.8	1.1	1.5	2.0	2.5	3.1	3.3	3.7	3.8	5.2	5.8	6.9	7.3	8.4	9.1	8.9
Life sciences	34.9	42.6	51.3	54.9	58.7	61.3	64.8	66.9	68.2	71.6	77.3	81.9	84.3	90.0	95.5	94.2	102.0	109.8	112.7	112.6
Psychology	12.2	16.2	20.1	21.0	23.1	23.7	25.0	25.2	25.0	26.1	27.3	29.0	30.4	31.8	35.0	34.5	35.4	36.3	38.7	38.0
Social sciences	23.4	31.1	36.9	38.9	42.0	42.2	44.5	44.8	44.4	42.5	44.9	46.2	46.9	48.1	50.0	52.5	54.9	55.9	59.7	59.9
Engineering	12.4	14.8	16.1	18.1	19.9	21.2	22.9	22.8	23.1	23.8	26.6	25.5	26.6	27.8	29.6	30.4	32.8	34.7	39.7	39.8
Male, all fields	107.2	129.0	144.0	149.8	159.2	162.0	168.0	168.7	166.9	165.1	173.3	175.8	175.0	180.7	182.7	182.3	189.6	195.0	206.0	201.1
Physical sciences	24.0	27.4	27.8	27.7	29.8	30.0	30.5	30.8	31.4	31.4	32.4	33.4	32.8	33.7	32.3	32.1	34.4	34.5	36.9	35.2
Mathematics and statistics	9.0	10.8	11.3	11.8	12.3	12.5	13.0	13.9	13.7	12.8	13.5	12.9	12.6	13.8	14.1	14.1	14.4	14.6	15.7	15.5
Computer and information sciences	NA	NA	0.3	0.4	0.7	0.9	1.3	1.6	2.1	2.5	2.6	2.9	2.9	4.3	4.5	5.5	5.8	6.7	7.2	6.9
Life sciences	30.8	36.6	42.9	44.5	46.7	47.9	49.5	50.1	49.4	50.1	52.6	55.1	54.9	56.6	57.9	55.5	58.7	61.8	60.7	60.1
Psychology	10.0	12.6	14.9	15.1	16.0	16.2	16.5	16.0	14.7	14.7	15.4	15.6	15.7	15.6	16.0	15.6	15.6	15.2	16.4	16.0
Social sciences	21.0	26.9	30.9	32.3	34.3	33.9	35.1	34.6	33.4	31.3	31.9	32.4	31.7	32.0	31.9	33.1	33.4	33.3	36.4	35.3
Engineering	12.3	14.7	15.9	17.8	19.5	20.6	22.2	21.8	22.1	22.3	24.8	23.4	24.3	24.8	26.0	26.3	27.3	28.9	32.8	32.3
Female, all fields	10.7	16.5	23.1	26.5	31.1	34.0	38.7	41.9	46.9	52.4	59.2	64.4	70.5	78.7	90.1	94.2	105.2	114.0	123.3	125.5
Physical sciences	1.4	1.7	2.1	2.2	2.5	2.8	3.1	3.0	3.6	4.4	5.1	5.3	5.8	6.1	7.3	7.8	9.3	10.4	11.5	11.7
Mathematics and statistics	0.6	0.9	1.1	1.1	1.3	1.4	1.5	1.4	1.7	1.8	2.1	2.2	2.3	2.9	3.3	3.9	4.3	4.5	5.2	5.2
Computer and information sciences	NA	NA	0.0	0.1	0.1	0.1	0.2	0.4	0.5	0.6	0.7	0.8	0.8	1.0	1.2	1.4	1.5	1.8	1.9	2.0
Life sciences	4.0	6.0	8.4	10.3	12.1	13.3	15.3	16.8	18.8	21.5	24.7	26.7	29.4	33.4	37.6	38.7	43.3	48.0	52.0	52.5
Psychology	2.2	3.6	5.2	5.9	7.1	7.6	8.5	9.2	10.3	11.5	11.9	13.4	14.7	16.2	19.0	18.9	19.8	21.1	22.3	22.0
Social sciences	2.4	4.2	6.0	6.5	7.7	8.3	9.4	10.2	10.9	11.2	13.0	13.8	15.2	16.2	18.2	19.5	21.5	22.6	23.4	24.6
Engineering	0.1	0.1	0.2	0.3	0.4	0.6	0.7	1.0	1.1	1.5	1.7	2.1	2.3	3.0	3.6	4.1	5.5	5.7	7.0	7.5
Full-time senior faculty ^a																				
Both sexes, all fields	74.0	90.7	107.3	115.6	119.7	127.3	131.0	133.0	128.6	127.3	131.9	136.7	136.9	142.0	139.4	147.5	152.8	158.0	168.2	162.4
Physical sciences	15.2	18.0	19.7	20.2	20.8	21.5	21.4	21.2	20.6	20.0	20.5	20.7	20.7	21.3	20.2	20.9	22.4	22.2	23.2	22.5
Mathematics and statistics	5.9	7.6	9.1	9.7	10.0	10.5	10.9	11.8	11.5	10.6	10.8	10.8	10.2	11.2	10.7	11.6	11.5	11.7	13.1	12.5
Computer and information sciences	NA	NA	0.0	0.1	0.1	0.3	0.4	0.9	0.9	1.7	1.7	2.1	2.4	2.9	3.2	3.8	4.2	4.9	5.3	5.0
Life sciences	21.0	24.6	29.6	32.6	33.7	35.8	36.4	37.4	35.8	37.2	38.3	40.6	41.2	43.4	43.7	44.8	47.2	49.8	49.7	48.1
Psychology	7.3	9.1	11.7	12.8	13.5	14.3	15.0	15.3	14.3	14.5	15.3	15.6	15.9	15.8	16.1	17.0	17.0	18.0	19.1	19.5
Social sciences	15.9	20.7	24.9	26.3	27.7	29.5	31.1	30.6	29.9	28.1	28.8	30.1	29.6	30.7	29.3	32.0	32.8	33.0	35.9	34.3
Engineering	8.7	10.7	12.4	13.7	13.9	15.3	15.9	15.8	15.7	15.3	16.6	16.6	16.8	16.8	16.2	17.6	17.7	18.5	21.8	20.6
Male, all fields	69.7	84.7	98.7	104.9	107.4	113.2	115.2	115.5	110.3	107.0	109.4	110.6	108.3	109.7	104.6	108.1	109.9	111.4	116.1	109.7

TABLE S3-14

S&E doctorate holders employed in academia, by type of position, sex, and degree field: 1973–2017

(Thousands)

Position, sex, and field	1973	1977	1981	1983	1985	1987	1989	1991	1993	1995	1997	1999	2001	2003	2006	2008	2010	2013	2015	2017
Physical sciences	14.7	17.4	19.0	19.4	20.0	20.6	20.3	20.3	19.5	18.8	18.9	19.0	18.6	18.9	17.6	17.9	18.9	18.2	18.6	17.9
Mathematics and statistics	5.6	7.2	8.6	9.1	9.3	9.8	10.0	10.8	10.5	9.8	10.0	9.7	9.1	9.9	9.2	9.6	9.4	9.9	10.4	10.0
Computer and information sciences	NA	NA	0.0	0.1	0.1	0.3	0.4	0.8	0.8	1.4	1.3	1.6	2.0	2.4	2.6	3.1	3.5	3.9	4.3	4.0
Life sciences	19.5	22.7	26.9	29.1	29.4	31.0	31.0	31.4	29.3	29.3	30.0	31.1	30.4	30.9	30.4	30.2	31.0	32.2	30.4	29.2
Psychology	6.4	7.8	9.7	10.5	10.8	11.2	11.5	11.3	10.2	10.1	10.7	10.3	10.3	9.5	9.1	9.3	9.3	9.2	9.9	9.7
Social sciences	14.7	18.8	22.3	23.2	24.1	25.3	26.4	25.5	24.7	22.8	22.4	23.2	21.9	22.4	20.7	21.7	21.9	21.5	23.8	21.6
Engineering	8.7	10.7	12.2	13.6	13.7	15.1	15.7	15.4	15.3	14.8	16.1	15.8	15.9	15.7	15.0	16.3	16.0	16.5	18.8	17.5
Female, all fields	4.3	6.0	8.6	10.7	12.4	14.0	15.8	17.6	18.3	20.3	22.5	26.1	28.6	32.3	34.8	39.4	42.8	46.6	52.0	52.7
Physical sciences	0.5	0.6	0.7	0.8	0.9	1.0	1.1	0.9	1.1	1.2	1.5	1.9	2.1	2.4	2.7	3.1	3.6	4.0	4.6	4.6
Mathematics and statistics	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	1.0	0.8	0.8	1.1	1.1	1.3	1.4	1.9	2.1	1.8	2.7	2.6
Computer and information sciences	NA	NA	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.3	0.3	0.5	0.4	0.5	0.6	0.6	0.7	0.9	1.0	1.0
Life sciences	1.5	1.9	2.7	3.5	4.3	4.8	5.4	6.1	6.5	7.8	8.3	9.5	10.8	12.5	13.3	14.6	16.2	17.5	19.3	18.9
Psychology	0.8	1.2	2.0	2.4	2.7	3.1	3.5	4.0	4.1	4.4	4.6	5.4	5.6	6.3	7.0	7.7	7.6	8.7	9.2	9.8
Social sciences	1.1	1.8	2.6	3.1	3.6	4.1	4.7	5.1	5.2	5.3	6.4	7.0	7.7	8.3	8.7	10.2	10.9	11.6	12.2	12.8
Engineering	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.4	0.3	0.5	0.5	0.8	0.9	1.1	1.2	1.3	1.7	2.0	3.0	3.1
Full-time junior faculty ^b																				
Both sexes, all fields	29.3	34.9	34.6	32.8	37.2	37.2	38.7	40.1	43.8	44.0	42.2	43.1	45.4	48.6	53.7	51.6	54.1	56.4	59.5	61.1
Physical sciences	5.6	5.7	4.6	4.0	4.6	4.7	4.8	5.0	5.2	5.6	5.3	5.9	5.7	6.4	6.7	6.6	6.9	7.3	7.9	7.2
Mathematics and statistics	3.3	3.3	2.6	2.5	2.7	2.4	2.6	2.4	3.2	2.4	2.6	2.2	2.1	2.8	3.3	3.2	3.6	3.8	3.7	3.8
Computer and information sciences	NA	NA	0.2	0.3	0.6	0.6	0.9	1.0	1.4	1.2	1.2	1.1	0.9	1.3	1.7	1.9	1.5	1.5	1.9	2.1
Life sciences	8.5	10.3	11.3	10.8	11.9	12.3	12.8	13.7	15.0	15.6	15.2	15.5	17.1	18.3	19.1	18.7	19.5	20.8	21.1	22.0
Psychology	3.6	4.8	4.8	4.5	5.0	4.9	5.2	5.4	5.2	5.5	4.7	5.4	5.8	5.7	7.1	6.1	6.4	6.1	6.8	6.8
Social sciences	5.7	8.2	8.8	8.1	8.4	8.2	7.9	8.4	9.3	9.0	8.5	8.6	9.1	8.9	9.9	10.1	10.4	10.5	10.7	11.7
Engineering	2.6	2.7	2.3	2.7	4.0	4.0	4.3	4.3	4.5	4.8	4.7	4.3	4.8	5.1	5.9	5.1	5.7	6.5	7.4	7.6
Male, all fields	26.0	28.9	27.1	25.2	27.8	27.2	27.6	28.1	29.7	28.5	27.0	27.5	28.2	29.2	31.1	30.1	30.1	31.1	34.2	35.0
Physical sciences	5.2	5.2	4.1	3.5	3.9	4.1	4.1	4.1	4.2	4.1	3.9	4.5	4.2	4.9	4.9	4.8	4.9	5.3	5.6	5.1
Mathematics and statistics	3.1	2.9	2.2	2.2	2.3	2.0	2.2	2.2	2.7	2.0	2.0	1.6	1.5	2.0	2.3	2.3	2.5	2.4	2.3	2.6
Computer and information sciences	NA	NA	0.2	0.3	0.5	0.5	0.8	0.8	1.1	1.0	1.0	0.9	0.7	1.0	1.2	1.4	1.1	1.1	1.4	1.6
Life sciences	7.5	8.4	8.9	8.1	8.5	8.5	8.4	8.8	9.5	9.5	8.9	9.3	10.2	10.3	10.4	9.8	9.7	10.2	10.6	10.9
Psychology	2.7	3.3	3.0	2.6	2.7	2.7	2.9	3.0	2.3	2.4	1.8	2.4	2.3	2.3	2.6	2.4	2.2	2.0	2.5	2.4
Social sciences	5.0	6.5	6.5	5.9	6.0	5.6	5.2	5.3	5.9	5.5	5.3	5.1	5.2	4.5	5.0	5.6	5.7	5.4	5.9	6.5
Engineering	2.6	2.7	2.2	2.6	3.8	3.8	4.0	3.9	4.0	4.1	4.2	3.8	4.1	4.3	4.6	3.8	3.9	4.8	5.8	6.0
Female, all fields	3.3	6.0	7.5	7.7	9.4	10.0	11.2	12.0	14.1	15.6	15.2	15.6	17.2	19.3	22.6	21.5	23.9	25.3	25.3	26.1
Physical sciences	0.3	0.5	0.5	0.5	0.6	0.7	0.7	0.9	1.1	1.5	1.4	1.4	1.5	1.5	1.8	1.8	2.0	2.1	2.3	2.1
Mathematics and statistics	0.2	0.4	0.4	0.3	0.4	0.4	0.4	0.3	0.5	0.5	0.6	0.7	0.5	0.8	1.0	1.0	1.1	1.4	1.3	1.2
Computer and information sciences	NA	NA	0.0	0.0	0.1	0.1	0.1	0.2	0.3	0.2	0.3	0.2	0.2	0.3	0.4	0.5	0.4	0.3	0.5	0.5

TABLE S3-14

S&E doctorate holders employed in academia, by type of position, sex, and degree field: 1973–2017

(Thousands)

Position, sex, and field	1973	1977	1981	1983	1985	1987	1989	1991	1993	1995	1997	1999	2001	2003	2006	2008	2010	2013	2015	2017
Life sciences	1.1	1.9	2.4	2.7	3.4	3.8	4.5	4.9	5.5	6.1	6.3	6.2	6.9	8.0	8.7	8.9	9.8	10.6	10.5	11.1
Psychology	0.9	1.5	1.8	1.9	2.3	2.2	2.3	2.4	2.9	3.1	2.9	3.0	3.5	3.4	4.5	3.7	4.2	4.1	4.4	4.5
Social sciences	0.8	1.7	2.3	2.1	2.4	2.6	2.7	3.0	3.4	3.5	3.2	3.5	3.9	4.4	4.9	4.4	4.7	5.2	4.8	5.3
Engineering	0.0	0.0	0.1	0.1	0.2	0.2	0.3	0.4	0.5	0.7	0.6	0.5	0.7	0.8	1.3	1.3	1.8	1.6	1.6	1.6
Other full-time positions ^c																				
Both sexes, all fields	7.6	8.8	12.6	13.4	18.1	16.4	19.2	20.2	22.2	23.9	29.1	31.9	34.8	39.9	40.6	43.9	48.2	55.8	62.6	64.2
Physical sciences	2.2	2.4	2.9	3.0	3.7	3.4	4.0	4.1	4.8	4.9	6.6	7.3	7.7	8.4	7.2	7.4	7.9	8.8	11.2	11.3
Mathematics and statistics	0.2	0.4	0.4	0.3	0.5	0.4	0.5	0.7	0.5	0.6	1.0	0.8	1.1	1.4	1.3	1.7	1.8	2.1	2.4	2.3
Computer and information sciences	NA	NA	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.3	0.7	0.6	0.9	1.0	1.5	1.3	1.4
Life sciences	2.5	2.8	4.0	4.6	6.2	6.0	6.7	7.2	7.7	8.4	9.8	11.2	12.3	14.2	15.5	16.2	18.4	22.2	25.0	26.3
Psychology	0.8	1.2	2.2	2.2	2.9	2.8	2.9	2.8	3.9	3.9	4.3	4.6	4.9	6.3	6.5	6.8	7.1	6.9	7.9	7.4
Social sciences	1.0	1.2	2.0	2.2	3.2	2.6	3.5	3.5	3.7	3.6	4.0	4.4	4.7	5.0	6.1	6.2	6.9	7.7	8.3	8.0
Engineering	0.8	0.8	1.1	1.1	1.5	1.1	1.5	1.8	1.5	2.1	3.2	3.0	3.6	3.9	3.3	4.7	5.1	6.3	6.5	7.5
Male, all fields	6.5	7.4	10.0	10.3	14.3	12.0	13.9	14.4	15.4	16.1	19.5	22.4	23.1	26.0	25.6	26.2	28.1	32.3	35.2	35.9
Physical sciences	2.1	2.2	2.6	2.7	3.4	2.9	3.5	3.6	4.2	4.1	5.6	6.4	6.6	7.1	5.9	5.6	5.9	6.5	8.5	8.0
Mathematics and statistics	0.1	0.4	0.3	0.2	0.4	0.5	0.4	0.5	0.4	0.4	0.8	0.7	0.9	1.0	0.9	1.2	1.1	1.3	1.8	1.7
Computer and information sciences	NA	NA	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.6	0.6	0.7	0.9	1.1	1.0	1.0
Life sciences	2.0	2.2	3.0	3.2	4.6	4.1	4.6	4.9	5.1	5.6	6.0	7.2	7.3	8.3	9.0	8.6	9.5	11.1	12.3	12.9
Psychology	0.7	0.9	1.4	1.4	1.8	1.6	1.5	1.2	1.9	1.7	1.9	2.2	2.1	2.6	2.8	2.6	2.7	2.5	2.4	2.6
Social sciences	0.8	0.9	1.6	1.7	2.5	1.8	2.4	2.4	2.2	2.1	2.2	2.7	2.7	3.1	3.5	3.3	3.7	4.3	4.1	3.9
Engineering	0.8	0.8	1.1	1.0	1.5	1.0	1.4	1.7	1.5	2.0	2.9	2.7	3.2	3.3	2.8	3.9	4.3	5.2	5.2	5.8
Female, all fields	1.1	1.4	2.6	3.1	3.8	4.5	5.3	5.8	6.7	7.7	9.4	9.6	11.6	13.9	15.0	17.7	20.1	23.5	27.5	28.3
Physical sciences	0.1	0.2	0.3	0.3	0.3	0.5	0.5	0.5	0.6	0.8	1.0	0.8	1.1	1.3	1.4	1.6	2.0	2.3	2.6	3.2
Mathematics and statistics	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.2	0.1	0.2	0.3	0.3	0.5	0.7	0.7	0.7	0.7
Computer and information sciences	NA	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.2	0.3
Life sciences	0.6	0.6	1.0	1.3	1.6	1.8	2.1	2.4	2.6	2.8	3.7	4.1	5.0	5.9	6.5	7.6	8.9	11.0	12.9	13.5
Psychology	0.2	0.3	0.8	0.8	1.1	1.3	1.4	1.6	2.0	2.2	2.4	2.5	2.8	3.5	3.7	4.2	4.4	4.4	5.4	4.9
Social sciences	0.2	0.2	0.4	0.5	0.7	0.8	1.1	1.1	1.5	1.5	1.8	1.7	1.9	1.9	2.6	2.9	3.2	3.3	4.2	3.9
Engineering	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.3	0.3	0.4	0.6	0.5	0.8	0.7	0.9	1.5	1.7
Postdoctorates																				
Both sexes, all fields	4.2	7.6	8.5	8.3	8.7	9.3	11.5	9.9	13.3	16.8	18.9	18.5	17.5	15.7	23.3	17.8	22.8	20.2	19.2	18.4
Physical sciences	1.8	2.4	2.1	1.6	2.1	2.3	2.7	2.2	3.5	4.4	3.8	3.4	3.0	2.6	3.9	3.3	4.6	4.0	3.3	3.4
Mathematics and statistics	0.0	0.1	0.1	0.1	0.1	0.3	0.2	0.1	0.0	0.5	0.5	0.6	0.8	0.5	1.0	0.5	0.7	0.4	0.5	0.5
Computer and information sciences	NA	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.3	0.2	0.3	0.2
Life sciences	1.9	3.9	5.2	5.1	5.3	5.4	6.8	6.3	8.2	9.1	10.8	11.6	11.0	10.0	12.8	10.3	12.2	11.9	11.7	10.6
Psychology	0.2	0.5	0.6	0.6	0.7	0.7	0.8	0.5	0.4	1.1	1.3	1.2	1.2	0.9	1.7	1.0	1.1	1.0	0.8	0.7

TABLE S3-14

S&E doctorate holders employed in academia, by type of position, sex, and degree field: 1973–2017

(Thousands)

Position, sex, and field	1973	1977	1981	1983	1985	1987	1989	1991	1993	1995	1997	1999	2001	2003	2006	2008	2010	2013	2015	2017
Social sciences	0.1	0.3	0.3	0.6	0.3	0.1	0.4	0.3	0.2	0.4	0.7	0.5	0.6	0.5	0.9	0.3	0.8	0.4	0.4	0.6
Engineering	0.2	0.4	0.2	0.3	0.2	0.5	0.6	0.5	1.0	1.2	1.7	1.1	0.9	1.1	3.0	2.1	3.1	2.4	2.2	2.6
Male, all fields	3.5	6.1	6.3	5.8	6.0	6.8	8.2	6.8	9.2	11.1	12.1	11.2	10.5	9.8	13.8	10.8	13.8	12.0	11.0	10.9
Physical sciences	1.6	2.1	1.8	1.4	1.7	1.9	2.2	1.8	2.9	3.7	3.0	2.7	2.3	2.1	2.9	2.5	3.4	2.8	2.3	2.5
Mathematics and statistics	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.0	0.0	0.3	0.3	0.5	0.6	0.3	0.8	0.4	0.6	0.3	0.4	0.5
Computer and information sciences	NA	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.2	0.2	0.2	0.3	0.1
Life sciences	1.5	2.9	3.6	3.3	3.4	3.8	4.7	4.1	5.2	5.5	6.2	6.6	6.2	5.7	6.7	5.5	6.6	6.6	5.8	5.5
Psychology	0.1	0.4	0.5	0.3	0.4	0.3	0.4	0.3	0.1	0.3	0.6	0.2	0.4	0.4	0.5	0.4	0.4	0.2	0.3	0.3
Social sciences	0.1	0.2	0.1	0.4	0.2	0.1	0.2	0.2	0.1	0.2	0.5	0.3	0.3	0.3	0.4	0.1	0.4	0.2	0.2	0.2
Engineering	0.2	0.4	0.2	0.3	0.2	0.5	0.5	0.4	0.9	1.0	1.4	0.9	0.7	0.9	2.4	1.7	2.2	1.8	1.7	1.9
Female, all fields	0.6	1.6	2.2	2.5	2.6	2.6	3.3	3.0	4.1	5.7	6.8	7.3	6.9	6.0	9.5	7.0	8.9	8.2	8.2	7.5
Physical sciences	0.2	0.3	0.2	0.2	0.3	0.3	0.4	0.3	0.7	0.7	0.7	0.8	0.7	0.5	1.0	0.8	1.2	1.2	1.0	0.9
Mathematics and statistics	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.1	s
Computer and information sciences	NA	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	s	0.1	s	0.1	0.1
Life sciences	0.4	1.1	1.6	1.8	1.8	1.8	2.2	2.3	3.0	3.7	4.6	5.1	4.7	4.3	6.1	4.8	5.6	5.2	5.8	5.0
Psychology	0.0	0.1	0.2	0.2	0.3	0.4	0.5	0.3	0.3	0.7	0.8	0.9	0.8	0.5	1.1	0.6	0.7	0.8	0.5	0.4
Social sciences	0.0	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.5	0.2	0.5	0.2	0.2	0.4
Engineering	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.6	0.4	0.8	0.6	0.5	0.8
Part-time positions ^d																				
Both sexes, all fields	2.9	3.4	4.0	6.0	6.5	5.7	6.2	7.4	5.9	5.5	8.9	8.2	9.0	13.3	15.7	15.6	17.0	18.5	19.8	20.6
Physical sciences	0.7	0.7	0.7	1.1	1.1	0.8	0.7	1.2	1.0	0.9	1.2	1.0	1.0	1.1	1.5	1.6	2.0	2.5	2.8	2.6
Mathematics and statistics	0.1	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.5	0.7	0.7	0.6	0.9	1.2	1.0	1.1	1.1	1.2	1.6
Computer and information sciences	NA	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.3	0.3	0.3	0.3
Life sciences	0.9	1.0	1.2	1.7	1.7	1.6	1.9	2.3	1.6	1.2	2.9	2.6	2.4	4.0	4.4	4.3	4.6	5.2	5.2	5.7
Psychology	0.4	0.6	0.8	1.0	1.0	1.0	1.0	1.2	1.2	1.1	1.1	1.3	1.8	3.2	3.6	3.7	3.8	4.2	4.1	3.6
Social sciences	0.7	0.8	1.0	1.6	2.2	1.8	1.7	2.0	1.3	1.3	2.6	2.2	2.7	3.1	3.7	4.0	4.0	4.2	4.4	5.4
Engineering	0.1	0.1	0.2	0.4	0.3	0.3	0.5	0.5	0.5	0.4	0.3	0.4	0.4	0.8	1.1	0.9	1.2	1.1	1.8	1.5
Male, all fields	1.5	1.8	1.9	3.5	3.6	2.7	3.1	3.8	2.3	2.4	4.4	3.4	3.8	6.1	7.6	7.0	7.6	8.0	9.5	9.7
Physical sciences	0.4	0.5	0.4	0.9	0.7	0.5	0.4	0.8	0.7	0.7	0.8	0.7	0.6	0.7	1.1	1.1	1.3	1.7	1.9	1.8
Mathematics and statistics	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.3	0.3	0.4	0.3	0.6	0.9	0.6	0.7	0.7	0.8	0.8
Computer and information sciences	NA	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.1	s	0.2	s	0.2	0.3
Life sciences	0.4	0.4	0.4	0.7	0.7	0.5	0.8	1.0	0.4	0.3	1.3	0.8	0.7	1.3	1.5	1.4	1.8	1.6	1.6	1.6
Psychology	0.1	0.2	0.3	0.4	0.4	0.4	0.3	0.2	0.1	0.1	0.3	0.3	0.3	0.8	0.9	1.0	1.0	1.2	1.3	1.1
Social sciences	0.4	0.4	0.5	1.1	1.4	1.0	0.8	1.2	0.5	0.7	1.4	1.0	1.4	1.7	2.2	2.3	1.8	2.0	2.4	3.2
Engineering	0.1	0.1	0.2	0.3	0.3	0.3	0.5	0.5	0.4	0.3	0.2	0.2	0.4	0.7	1.0	0.6	0.8	0.6	1.3	1.1
Female, all fields	1.4	1.6	2.1	2.5	2.9	3.0	3.1	3.5	3.6	3.1	4.5	4.9	5.1	7.3	8.1	8.6	9.4	10.5	10.3	10.9

TABLE S3-14

S&E doctorate holders employed in academia, by type of position, sex, and degree field: 1973–2017

(Thousands)

Position, sex, and field	1973	1977	1981	1983	1985	1987	1989	1991	1993	1995	1997	1999	2001	2003	2006	2008	2010	2013	2015	2017
Physical sciences	0.3	0.2	0.3	0.3	0.4	0.4	0.3	0.4	0.3	0.2	0.4	0.4	0.3	0.4	0.5	0.5	0.7	0.8	1.0	0.9
Mathematics and statistics	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.4	0.3	0.3	0.2	0.3	0.4	0.4	0.4	0.4	0.7
Computer and information sciences	NA	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	s	0.1	0.1	0.1	0.1
Life sciences	0.5	0.6	0.7	0.9	1.0	1.1	1.1	1.3	1.2	0.9	1.6	1.8	1.7	2.7	3.0	2.9	2.9	3.6	3.5	4.0
Psychology	0.3	0.4	0.5	0.6	0.7	0.7	0.7	0.9	1.1	1.0	0.8	1.0	1.5	2.4	2.8	2.7	2.8	3.0	2.8	2.5
Social sciences	0.3	0.3	0.5	0.5	0.9	0.8	0.8	0.8	0.8	0.7	1.2	1.2	1.3	1.4	1.5	1.7	2.2	2.2	2.0	2.3
Engineering	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.3	0.3	0.5	0.4	0.4

NA = not available; s = suppressed for reasons of confidentiality and/or reliability.

^a Full-time senior faculty includes full professors and associate professors.

^b Full-time junior faculty includes assistant professors and instructors from 1973 to 1995; from 1997 to 2015, full-time junior faculty includes assistant professors.

^c Other full-time positions include those such as research associates, adjunct positions, lecturers, and administrative positions from 1973 to 1995; from 1997 to 2017, other full-time positions also include instructors.

^d Part-time positions exclude those employed part time because they are students or retired.

Note(s)

Detail may not add to total because of rounding. Academic employment is limited to U.S. doctorate holders employed at 2- or 4-year colleges or universities, medical schools, and university research institutes. Physical sciences include earth, atmospheric, and ocean sciences; life sciences include biological, agricultural, environmental, and health sciences. Numbers are rounded to the nearest 100 for data prior to 2017; for 2017, numbers are rounded to the nearest 50.

Source(s)

National Center for Science and Engineering Statistics, National Science Foundation, Survey of Doctorate Recipients (SDR).

Science and Engineering Indicators

TABLE S3-15

Employed scientists and engineers, by race, ethnicity, and occupation: 2017

(Number and percent)

Occupation	Total	Asian		American Indian or Alaska Native		Black or African American		Hispanic or Latino		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	27,273,000	3,546,000	13.0	79,000	0.3	2,008,000	7.4	2,328,000	8.5	18,750,000	68.7	67,000	0.2	495,000	1.8
S&E occupations	6,769,000	1,338,000	19.8	14,000	0.2	382,000	5.6	505,000	7.5	4,397,000	65.0	23,000	0.3	109,000	1.6
Computer and mathematical scientists	3,419,000	840,000	24.6	4,000	0.1	242,000	7.1	200,000	5.8	2,070,000	60.5	12,000	0.4	52,000	1.5
Computer and information scientists	3,096,000	778,000	25.1	4,000	0.1	223,000	7.2	181,000	5.8	1,851,000	59.8	11,000	0.4	48,000	1.6
Computer and information scientists, research	93,000	31,000	33.3	s	s	s	s	2,000	2.2	57,000	61.3	s	s	s	s
Computer network architects	50,000	9,000	18.0	s	s	s	s	4,000	8.0	35,000	70.0	s	s	s	s
Computer support specialists	272,000	24,000	8.8	s	s	39,000	14.3	23,000	8.5	180,000	66.2	s	s	4,000	1.5
Computer system analysts	371,000	98,000	26.4	s	s	47,000	12.7	22,000	5.9	197,000	53.1	2,000	0.5	4,000	1.1
Database administrators	113,000	21,000	18.6	s	s	5,000	4.4	6,000	5.3	74,000	65.5	s	s	s	s
Information security analysts	106,000	20,000	18.9	s	s	14,000	13.2	10,000	9.4	51,000	48.1	s	s	11,000	10.4
Network and computer systems administrators	195,000	23,000	11.8	s	s	28,000	14.4	8,000	4.1	130,000	66.7	s	s	4,000	2.1
Software developers – applications and systems software	653,000	212,000	32.5	s	s	29,000	4.4	29,000	4.4	377,000	57.7	s	s	5,000	0.8
Web developers	164,000	19,000	11.6	s	s	7,000	4.3	8,000	4.9	126,000	76.8	s	s	4,000	2.4
Other computer information science occupations	337,000	41,000	12.2	s	s	24,000	7.1	24,000	7.1	240,000	71.2	s	s	5,000	1.5
Computer engineers – software	742,000	280,000	37.7	s	s	26,000	3.5	45,000	6.1	383,000	51.6	s	s	5,000	0.7
Mathematical scientists	209,000	37,000	17.7	s	s	14,000	6.7	12,000	5.7	143,000	68.4	s	s	2,000	1.0
Mathematicians	13,000	s	s	s	s	s	s	s	s	1,000	s	s	s	s	s
Operations research analysts, including modeling	125,000	16,000	12.8	s	s	4,000	3.2	8,000	6.4	95,000	76.0	s	s	2,000	1.6
Statisticians	46,000	14,000	30.4	s	s	1,000	2.2	3,000	6.5	27,000	58.7	s	s	s	s
Other mathematical scientists	26,000	4,000	15.4	s	s	s	s	1,000	s	19,000	73.1	s	s	s	s
Postsecondary teachers – computer and mathematical sciences	114,000	26,000	22.8	s	s	5,000	4.4	7,000	6.1	76,000	66.7	s	s	2,000	1.8
Computer science	32,000	10,000	31.3	s	s	2,000	6.3	4,000	12.5	15,000	46.9	s	s	s	s
Mathematics and statistics	82,000	16,000	19.5	s	s	3,000	3.7	2,000	2.4	60,000	73.2	s	s	1,000	1.2

TABLE S3-15

Employed scientists and engineers, by race, ethnicity, and occupation: 2017

(Number and percent)

Occupation	Total	Asian		American Indian or Alaska Native		Black or African American		Hispanic or Latino		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
Biological, agricultural, and environmental life scientists	610,000	126,000	20.7	s	s	20,000	3.3	38,000	6.2	415,000	68.0	1,000	0.2	9,000	1.5
Agricultural and food scientists	41,000	7,000	17.1	s	s	1,000	2.4	4,000	9.8	28,000	68.3	s	s	s	s
Biological and medical scientists	455,000	109,000	24.0	s	s	16,000	3.5	28,000	6.2	293,000	64.4	1,000	0	8,000	1.8
Biochemists and biophysicists	71,000	21,000	29.6	s	s	1,000	1.4	6,000	8.5	41,000	57.7	s	s	s	s
Biological scientists (e.g., botanists, ecologists, zoologists)	146,000	33,000	22.6	s	s	2,000	1.4	6,000	4.1	102,000	69.9	s	s	2,000	1.4
Medical scientists (excluding practitioners)	154,000	34,000	22.1	s	s	6,000	3.9	10,000	6.5	101,000	65.6	s	s	2,000	1.3
Other biological and life scientists	85,000	21,000	24.7	s	s	7,000	8.2	5,000	5.9	49,000	57.6	s	s	s	s
Forestry and conservation scientists	27,000	s	s	s	s	s	s	s	s	25,000	92.6	s	s	s	s
Postsecondary teachers – life and related sciences	87,000	9,000	10.3	s	s	2,000	2.3	5,000	5.7	69,000	79.3	s	s	s	s
Agriculture	5,000	s	s	s	s	s	s	s	s	4,000	80.0	s	s	s	s
Biological sciences	72,000	7,000	9.7	s	s	2,000	2.8	4,000	5.6	57,000	79.2	s	s	s	s
Other natural sciences	10,000	2,000	20.0	s	s	s	s	s	s	7,000	70.0	s	s	s	s
Physical and related scientists	366,000	51,000	13.9	s	s	11,000	3.0	29,000	7.9	265,000	72.4	s	s	7,000	1.9
Chemists, except biochemists	109,000	18,000	16.5	s	s	6,000	5.5	8,000	7.3	75,000	68.8	s	s	s	s
Earth scientists, geologists, and oceanographers	69,000	5,000	7.2	s	s	1,000	1.4	3,000	4.3	60,000	87.0	s	s	1,000	1.4
Atmospheric and space scientists	13,000	1,000	7.7	s	s	s	s	s	s	12,000	92.3	s	s	1,000	7.7
Geologists, including earth scientists	54,000	3,000	5.6	s	s	1,000	1.9	3,000	5.6	46,000	85.2	s	s	1,000	1.9
Oceanographers	2,000	s	s	s	s	s	s	s	s	2,000	100.0	s	s	s	s
Physicists and astronomers	42,000	13,000	31.0	s	s	s	s	2,000	4.8	25,000	59.5	s	s	1,000	2.4
Astronomers	4,000	s	s	s	s	s	s	s	s	3,000	75.0	s	s	s	s
Physicists, except biophysicists	38,000	13,000	34.2	s	s	s	s	1,000	2.6	22,000	57.9	s	s	1,000	2.6
Other physical and related scientists	65,000	5,000	7.7	s	s	3,000	4.6	13,000	20.0	41,000	63.1	s	s	2,000	3.1

TABLE S3-15

Employed scientists and engineers, by race, ethnicity, and occupation: 2017

(Number and percent)

Occupation	Total	Asian		American Indian or Alaska Native		Black or African American		Hispanic or Latino		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 – physical and related sciences	81,000	11,000	13.6	s	s	1,000	1.2	3,000	3.7	65,000	80.2	s	s	s	s
Chemistry	41,000	5,000	12.2	s	s	1,000	s	1,000	2.4	34,000	82.9	s	s	s	s
Earth, environmental, and marine sciences	20,000	s	s	s	s	s	s	1,000	5.0	17,000	85.0	s	s	s	s
Physics	19,000	3,000	15.8	s	s	s	s	s	s	14,000	73.7	s	s	s	s
Social and related scientists	646,000	38,000	5.9	s	s	48,000	7.4	95,000	14.7	451,000	69.8	s	s	10,000	1.5
Economists	47,000	3,000	6.4	s	s	1,000	2.1	4,000	8.5	37,000	78.7	s	s	s	s
Political scientists	33,000	s	s	s	s	s	s	11,000	33.3	18,000	54.5	s	s	s	s
Psychologists, including clinical	199,000	10,000	5.0	s	s	9,000	4.5	30,000	15.1	148,000	74.4	s	s	2,000	1.0
Sociologists and anthropologists	24,000	1,000	4.2	s	s	s	s	s	s	20,000	83.3	s	s	s	s
Anthropologists	13,000	s	s	s	s	s	s	s	s	11,000	84.6	s	s	s	s
Sociologists	11,000	s	s	s	s	s	s	s	s	9,000	81.8	s	s	s	s
Other social and related scientists	159,000	9,000	5.7	s	s	12,000	7.5	s	s	95,000	59.7	s	s	3,000	1.9
Postsecondary teachers – social and related sciences	183,000	14,000	7.7	s	s	23,000	12.6	8,000	4.4	133,000	72.7	s	s	3,000	1.6
Economics	25,000	3,000	12.0	s	s	4,000	16.0	1,000	4.0	17,000	68.0	s	s	s	s
Political science	20,000	s	s	s	s	4,000	20.0	1,000	5.0	14,000	70.0	s	s	s	s
Psychology	51,000	4,000	7.8	s	s	2,000	3.9	3,000	5.9	39,000	76.5	s	s	s	s
Sociology	18,000	2,000	11.1	s	s	s	s	s	s	13,000	72.2	s	s	s	s
Other social sciences	70,000	4,000	5.7	s	s	12,000	17.1	2,000	2.9	50,000	71.4	s	s	s	s
Engineers	1,728,000	283,000	16.4	5,000	0.3	62,000	3.6	143,000	8.3	1,196,000	69.2	8,000	0.5	31,000	1.8
Aerospace, aeronautical, or astronautical engineers	132,000	13,000	9.8	s	s	3,000	2.3	13,000	9.8	98,000	74.2	s	s	2,000	1.5
Chemical engineers	93,000	16,000	17.2	s	s	1,000	s	5,000	5.4	71,000	76.3	s	s	s	s
Civil, architectural, or sanitary engineers	264,000	31,000	11.7	s	s	10,000	3.8	27,000	10.2	191,000	72.3	s	s	4,000	1.5
Electrical or computer hardware engineers	374,000	98,000	26.2	s	s	16,000	4.3	28,000	7.5	222,000	59.4	s	s	8,000	2.1
Computer engineers – hardware	69,000	21,000	30.4	s	s	4,000	5.8	3,000	4.3	36,000	52.2	s	s	5,000	7.2
Electrical and electronics engineers	305,000	77,000	25.2	s	s	12,000	3.9	24,000	7.9	186,000	61.0	s	s	3,000	1.0

TABLE S3-15

Employed scientists and engineers, by race, ethnicity, and occupation: 2017

(Number and percent)

Occupation	Total	Asian		American Indian or Alaska Native		Black or African American		Hispanic or Latino		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
Industrial engineers	88,000	10,000	11.4	s	s	3,000	3.4	15,000	17.0	59,000	67.0	s	s	s	s
Mechanical engineers	313,000	45,000	14.4	s	s	7,000	2.2	21,000	6.7	233,000	74.4	s	s	5,000	1.6
Other engineers	406,000	51,000	12.6	s	s	19,000	4.7	33,000	8.1	288,000	70.9	4,000	1.0	10,000	2.5
Agricultural engineers	4,000	s	s	s	s	s	s	s	s	3,000	75.0	s	s	s	s
Bioengineers or biomedical engineers	29,000	6,000	20.7	s	s	1,000	s	2,000	6.9	19,000	65.5	s	s	s	s
Environmental engineers	63,000	3,000	4.8	s	s	2,000	3.2	5,000	7.9	52,000	82.5	s	s	s	s
Marine engineers and naval architects	9,000	1,000	11.1	s	s	s	s	s	s	7,000	77.8	s	s	s	s
Materials and metallurgical engineers	31,000	4,000	12.9	s	s	s	s	3,000	9.7	21,000	67.7	s	s	s	s
Mining and geological engineers	6,000	2,000	33.3	s	s	s	s	s	s	3,000	50.0	s	s	s	s
Nuclear engineers	21,000	s	s	s	s	s	s	s	s	16,000	76.2	s	s	s	s
Petroleum engineers	21,000	3,000	14.3	s	s	s	s	s	s	15,000	71.4	s	s	s	s
Sales engineers	87,000	5,000	5.7	s	s	3,000	3.4	7,000	8.0	68,000	78.2	s	s	s	s
Other engineers	135,000	24,000	17.8	s	s	10,000	7.4	11,000	8.1	83,000	61.5	s	s	7,000	5.2
Postsecondary teachers – engineering	59,000	18,000	30.5	s	s	s	s	3,000	5.1	35,000	59.3	s	s	s	s
S&E-related occupations	8,271,000	1,042,000	12.6	28,000	0.3	610,000	7.4	702,000	8.5	5,726,000	69.2	16,000	0.2	147,000	1.8
Health-related occupations	5,181,000	649,000	12.5	23,000	0.4	416,000	8.0	433,000	8.4	3,551,000	68.5	10,000	0.2	99,000	1.9
Diagnosing or treating practitioners (e.g., dentists, optometrists, physicians, psychiatrists, podiatrists, surgeons, veterinarians)	1,237,000	226,000	18.3	s	s	85,000	6.9	100,000	8.1	801,000	64.8	s	s	18,000	1.5
Registered nurses, pharmacists, dietitians, therapists, physician assistants, nurse practitioners	2,538,000	263,000	10.4	11,000	0.4	168,000	6.6	199,000	7.8	1,836,000	72.3	7,000	0.3	54,000	2.1
Health technologists and technicians (e.g., dental hygienists, health record technicians, licensed practical nurses, laboratory or radiology technicians)	544,000	73,000	13.4	s	s	59,000	10.8	49,000	9.0	350,000	64.3	s	s	8,000	1.5

TABLE S3-15

Employed scientists and engineers, by race, ethnicity, and occupation: 2017

(Number and percent)

Occupation	Total	Asian		American Indian or Alaska Native		Black or African American		Hispanic or Latino		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 health occupations	688,000	63,000	9.2	s	s	98,000	14.2	79,000	11.5	428,000	62.2	s	s	18,000	2.6
Postsecondary teachers – health and related sciences	175,000	24,000	13.7	s	s	6,000	3.4	6,000	3.4	137,000	78.3	s	s	1,000	0.6
S&E managers	1,048,000	136,000	13.0	4,000	0.4	52,000	5.0	72,000	6.9	768,000	73.3	3,000	0.3	13,000	1.2
Computer and information systems managers	243,000	60,000	24.7	s	s	11,000	4.5	20,000	8.2	145,000	59.7	s	s	7,000	2.9
Engineering managers	384,000	48,000	12.5	4,000	1.0	19,000	4.9	31,000	8.1	281,000	73.2	s	s	2,000	0.5
Medical and health services managers	358,000	21,000	5.9	s	s	19,000	5.3	18,000	5.0	296,000	82.7	s	s	1,000	0.3
Natural sciences managers	63,000	7,000	11.1	s	s	s	s	3,000	4.8	47,000	74.6	s	s	s	s
S&E precollege teachers	961,000	35,000	3.6	1,000	0.1	83,000	8.6	76,000	7.9	744,000	77.4	s	s	21,000	2.2
Secondary – computer, mathematics, or sciences	673,000	28,000	4.2	s	s	66,000	9.8	63,000	9.4	502,000	74.6	s	s	13,000	1.9
Secondary – social sciences	288,000	s	s	s	s	17,000	5.9	13,000	4.5	242,000	84.0	s	s	8,000	2.8
S&E technicians and technologists	837,000	185,000	22.1	s	s	54,000	6.5	94,000	11.2	493,000	58.9	1,000	0.1	10,000	1.2
Technologists and technicians in the biological and life sciences	106,000	22,000	20.8	s	s	9,000	8.5	13,000	12.3	61,000	57.5	s	s	1,000	0.9
Computer programmers (business, scientific, process control)	175,000	57,000	32.6	s	s	8,000	4.6	15,000	8.6	93,000	53.1	s	s	s	s
Electrical, electronic, industrial, and mechanical technicians	260,000	61,000	23.5	s	s	25,000	9.6	47,000	18.1	125,000	48.1	s	s	s	s
Drafting occupations, including computer drafting	35,000	4,000	11.4	s	s	s	s	s	s	29,000	82.9	s	s	s	s
Surveying and mapping technicians	16,000	s	s	s	s	s	s	s	s	12,000	75.0	s	s	s	s
Other engineering technologists and technicians	171,000	32,000	18.7	s	s	11,000	6.4	12,000	7.0	114,000	66.7	s	s	s	s
Surveyors, cartographers, photogrammetrists	28,000	s	s	s	s	s	s	s	s	23,000	82.1	s	s	s	s
Technologists and technicians in the mathematical sciences	3,000	s	s	s	s	s	s	s	s	2,000	66.7	s	s	s	s
Technologists and technicians in the physical sciences	43,000	6,000	14.0	s	s	s	s	s	s	33,000	76.7	s	s	s	s

TABLE S3-15

Employed scientists and engineers, by race, ethnicity, and occupation: 2017

(Number and percent)

Occupation	Total	Asian		American Indian or Alaska Native		Black or African American		Hispanic or Latino		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 S&E-related occupations	244,000	36,000	14.8	s	s	5,000	2.0	27,000	11.1	170,000	69.7	s	s	4,000	1.6
Architects	199,000	27,000	13.6	s	s	5,000	2.5	26,000	13.1	136,000	68.3	s	s	4,000	2.0
Actuaries	45,000	9,000	20.0	s	s	s	s	s	s	35,000	77.8	s	s	s	s
Non-S&E occupations	12,233,000	1,166,000	9.5	37,000	0.3	1,016,000	8.3	1,121,000	9.2	8,628,000	70.5	27,000	0.2	239,000	2.0
Non-S&E managers	2,018,000	192,000	9.5	6,000	0.3	97,000	4.8	150,000	7.4	1,540,000	76.3	7,000	0.3	27,000	1.3
Top-level managers, executives, administrators (e.g., chief executive officer, chief operating officer, chief financial officer; president; district manager, general manager, provost)	1,185,000	126,000	10.6	5,000	0.4	42,000	3.5	69,000	5.8	927,000	78.2	2,000	0.2	13,000	1.1
Education administrators (e.g., registrar, dean, principal)	130,000	8,000	6.2	s	s	10,000	7.7	12,000	9.2	93,000	71.5	s	s	5,000	3.8
Other mid-level managers	704,000	58,000	8.2	s	s	45,000	6.4	69,000	9.8	520,000	73.9	s	s	9,000	1.3
Management-related occupations	2,256,000	317,000	14.1	12,000	0.5	203,000	9.0	217,000	9.6	1,460,000	64.7	6,000	0.3	40,000	1.8
Accountants, auditors, and other financial specialists	684,000	114,000	16.7	s	s	43,000	6.3	60,000	8.8	446,000	65.2	s	s	14,000	2.0
Personnel, training, and labor relations specialists	326,000	36,000	11.0	s	s	50,000	15.3	43,000	13.2	189,000	58.0	s	s	6,000	1.8
Other management-related occupations	1,246,000	167,000	13.4	s	s	110,000	8.8	114,000	9.1	825,000	66.2	3,000	0.2	19,000	1.5
Non-S&E precollege teachers	902,000	68,000	7.5	1,000	0.1	114,000	12.6	99,000	11.0	609,000	67.5	s	s	9,000	1.0
Prekindergarten and kindergarten	112,000	12,000	10.7	s	s	11,000	9.8	26,000	23.2	63,000	56.3	s	s	s	s
Elementary	345,000	23,000	6.7	s	s	45,000	13.0	25,000	7.2	247,000	71.6	s	s	4,000	1.2
Secondary – other subjects	153,000	s	s	s	s	24,000	15.7	19,000	12.4	94,000	61.4	s	s	2,000	1.3
Special education – primary and secondary	218,000	4,000	1.8	s	s	20,000	9.2	27,000	12.4	166,000	76.1	s	s	1,000	0.5
Other precollegiate area	74,000	15,000	20.3	s	s	14,000	18.9	3,000	4.1	40,000	54.1	s	s	s	s
Non-S&E postsecondary teachers	226,000	21,000	9.3	s	s	16,000	7.1	14,000	6.2	170,000	75.2	s	s	3,000	1.3
Arts, drama, and music	5,000	s	s	s	s	s	s	s	s	3,000	60.0	s	s	s	s
Business, commerce, and marketing	32,000	7,000	21.9	s	s	3,000	9.4	s	s	22,000	68.8	s	s	s	s

TABLE S3-15

Employed scientists and engineers, by race, ethnicity, and occupation: 2017

(Number and percent)

Occupation	Total	Asian		American Indian or Alaska Native		Black or African American		Hispanic or Latino		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
Education	43,000	4,000	9.3	s	s	2,000	4.7	s	s	29,000	67.4	s	s	2,000	4.7
English	34,000	s	s	s	s	s	s	s	s	28,000	82.4	s	s	s	s
Foreign language	10,000	1,000	10.0	s	s	s	s	1,000	10.0	6,000	60.0	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	6,000	s	s	s	s	s	s	s	s	s	s	s	s	s	s
Other postsecondary fields	87,000	7,000	8.0	s	s	7,000	8.0	3,000	3.4	68,000	78.2	s	s	s	s
Social services and related occupations	967,000	38,000	3.9	4,000	0.4	148,000	15.3	115,000	11.9	647,000	66.9	1,000	0	14,000	1.4
Clergy and other religious workers	119,000	7,000	5.9	s	s	10,000	8.4	7,000	5.9	95,000	79.8	s	s	s	s
Counselors (e.g., educational, vocational, mental health, substance abuse)	453,000	17,000	3.8	4,000	1	56,000	12.4	56,000	12.4	312,000	68.9	s	s	8,000	1.8
Social workers	396,000	14,000	3.5	s	s	82,000	20.7	53,000	13.4	240,000	60.6	s	s	6,000	1.5
Sales and marketing occupations	1,425,000	138,000	9.7	s	s	78,000	5.5	102,000	7.2	1,059,000	74.3	1,000	s	43,000	3.0
Insurance, securities, real estate, and business services	371,000	25,000	6.7	s	s	28,000	7.5	28,000	7.5	287,000	77.4	s	s	2,000	0.5
Sales – commodities except retail (e.g., industrial, medical, dental machinery, equipment, supplies)	223,000	13,000	5.8	s	s	4,000	1.8	16,000	7.2	187,000	83.9	s	s	4,000	1.8
Sales – retail (e.g., furnishings, clothing, motor vehicles, cosmetics)	393,000	49,000	12.5	s	s	24,000	6.1	27,000	6.9	267,000	67.9	s	s	25,000	6.4
Other marketing and sales occupations	437,000	50,000	11.4	s	s	23,000	5.3	31,000	7.1	318,000	72.8	s	s	11,000	2.5
Arts, humanities, and related occupations	385,000	22,000	5.7	s	s	33,000	8.6	29,000	7.5	289,000	75.1	s	s	12,000	3.1
Writers, editors, public relations specialists, artists, entertainers, broadcasters	379,000	22,000	5.8	s	s	33,000	8.7	29,000	7.7	282,000	74.4	s	s	12,000	3.2
Historians	7,000	s	s	s	s	s	s	s	s	7,000	s	s	s	s	s
Other non-S&E occupations	4,054,000	369,000	9.1	9,000	0.2	326,000	8.0	395,000	9.7	2,854,000	70.4	11,000	0.3	90,000	2.2
Accounting clerks and bookkeepers	192,000	20,000	10.4	s	s	16,000	8.3	22,000	11.5	131,000	68.2	s	s	2,000	1.0

TABLE S3-15

Employed scientists and engineers, by race, ethnicity, and occupation: 2017

(Number and percent)

Occupation	Total	Asian		American Indian or Alaska Native		Black or African American		Hispanic or Latino		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
Secretaries, receptionists, typists	227,000	25,000	11.0	s	s	22,000	9.7	24,000	10.6	149,000	65.6	s	s	6,000	2.6
Other administrative (e.g., record clerks, telephone operators)	745,000	89,000	11.9	s	s	86,000	11.5	84,000	11.3	467,000	62.7	s	s	16,000	2.1
Farmers, foresters, and fishermen	127,000	3,000	2.4	s	s	s	s	s	s	115,000	90.6	s	s	s	s
Lawyers, judges	648,000	29,000	4.5	s	s	26,000	4.0	44,000	6.8	536,000	82.7	s	s	11,000	1.7
Librarians, archivists, curators	93,000	7,000	7.5	s	s	9,000	9.7	4,000	4.3	61,000	65.6	s	s	12,000	12.9
Food preparation and service (e.g., cooks, waitresses, bartenders)	196,000	20,000	10.2	s	s	7,000	3.6	14,000	7.1	147,000	75.0	s	s	7,000	3.6
Protective services (e.g., firefighters, police, guards, wardens, park rangers)	172,000	12,000	7.0	s	s	23,000	13.4	24,000	14.0	109,000	63.4	s	s	3,000	1.7
Other service occupations, except health (e.g., probation officer, human services work)	447,000	32,000	7.2	s	s	45,000	10.1	56,000	12.5	302,000	67.6	s	s	12,000	2.7
Other teachers and instructors (e.g., private tutors, dance, flying, martial arts)	209,000	14,000	6.7	s	s	18,000	8.6	30,000	14.4	141,000	67.5	s	s	3,000	1.4
Construction and extraction occupations	69,000	7,000	10.1	s	s	3,000	4.3	4,000	5.8	52,000	75.4	s	s	s	s
Installation, maintenance, and repair occupations	144,000	20,000	13.9	s	s	s	s	8,000	5.6	107,000	74.3	s	s	s	s
Precision or production occupations (e.g., metal or wood workers, butchers, bakers, assemblers, tailors)	146,000	21,000	14.4	s	s	11,000	7.5	6,000	4.1	105,000	71.9	s	s	s	s
Transportation and material moving occupations	184,000	28,000	15.2	s	s	18,000	9.8	16,000	8.7	116,000	63.0	s	s	2,000	1.1
Other occupations	454,000	43,000	9.5	s	s	36,000	7.9	54,000	11.9	315,000	69.4	s	s	4,000	0.9

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

Science and Engineering Indicators

TABLE S3-16

Employed S&E highest degree holders, by sex, race, ethnicity, field of highest degree, and broad occupational category: 2017

(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	35.1	25.6	9.5	13.8	51.2
Female					
All S&E fields	23.0	17.5	5.8	13.3	63.3
Computer and mathematical sciences	45.6	43.3	2.2	11.2	43.2
Biological, agricultural, and environmental life sciences	25.3	18.3	7.0	33.2	41.4
Physical and related sciences	37.4	21.4	16.3	25.7	36.6
Social and related sciences	10.4	7.5	2.9	6.4	83.3
Engineering	54.4	34.6	19.8	10.5	35.1
Male					
All S&E fields	42.8	30.9	11.9	14.1	43.1
Computer and mathematical sciences	60.3	57.7	2.6	12.3	27.4
Biological, agricultural, and environmental life sciences	29.7	18.1	11.7	22.8	47.5
Physical and related sciences	48.5	29.1	19.4	16.5	35.0
Social and related sciences	16.0	7.1	8.9	7.5	76.5
Engineering	56.8	38.1	18.6	16.1	27.1
Asian					
All S&E fields	50.4	32.5	17.9	15.9	33.7
Computer and mathematical sciences	65.1	62.0	3.0	10.9	24.1
Biological, agricultural, and environmental life sciences	36.2	27.0	9.4	32.2	31.6
Physical and related sciences	54.3	24.8	28.7	19.4	27.1
Social and related sciences	13.5	5.6	8.1	8.1	78.4
Engineering	62.4	27.7	34.6	16.9	20.7
American Indian or Alaska Native					
All S&E fields	19.1	10.6	8.5	s	61.7
Computer and mathematical sciences	s	s	s	s	s
Biological, agricultural, and environmental life sciences	s	s	s	s	s
Physical and related sciences	s	s	s	s	s
Social and related sciences	s	s	s	s	84.2
Engineering	50.0	s	s	s	40.0
Black or African American					
All S&E fields	25.9	19.5	6.3	16.0	58.1
Computer and mathematical sciences	53.1	51.7	1.4	11.5	34.9
Biological, agricultural, and environmental life sciences	16.5	8.3	8.3	47.9	35.5
Physical and related sciences	39.5	15.8	23.7	18.4	39.5
Social and related sciences	9.2	5.2	3.9	8.5	72.4
Engineering	44.3	28.6	15.0	18.6	37.9
Hispanic or Latino					
All S&E fields	27.6	20.5	7.2	16.2	56.2
Computer and mathematical sciences	42.6	41.2	1.4	17.6	39.2
Biological, agricultural, and environmental life sciences	21.8	14.9	6.9	38.5	40.2
Physical and related sciences	38.0	22.0	14.0	30.0	34.0
Social and related sciences	11.8	8.0	3.8	5.6	82.6
Engineering	49.7	35.1	14.6	20.2	30.4
White					
All S&E fields	33.6	25.3	8.2	12.7	53.7
Computer and mathematical sciences	54.3	51.9	2.4	11.8	33.8
Biological, agricultural, and environmental life sciences	27.9	17.9	10.1	23.9	48.1
Physical and related sciences	43.7	27.6	16.1	18.9	37.4

TABLE S3-16

Employed S&E highest degree holders, by sex, race, ethnicity, field of highest degree, and broad occupational category: 2017

(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		
Social and related sciences	13.4	7.8	5.6	6.8	79.8
Engineering	55.5	41.9	13.6	13.7	30.8
Native Hawaiian or Other Pacific Islander					
All S&E fields	45.0	42.5	2.5	7.5	47.5
Computer and mathematical sciences	87.5	87.5	s	s	s
Biological, agricultural, and environmental life sciences	33.3	33.3	s	s	s
Physical and related sciences	s	s	s	s	s
Social and related sciences	s	s	s	s	94.1
Engineering	80.0	80.0	s	10.0	10.0
More than one race					
All S&E fields	28.3	21.3	7.0	14.0	57.7
Computer and mathematical sciences	40.8	40.8	2.0	16.3	42.9
Biological, agricultural, and environmental life sciences	18.3	11.7	6.7	33.3	48.3
Physical and related sciences	54.5	27.3	18.2	18.2	27.3
Social and related sciences	10.0	5.8	4.2	4.2	85.0
Engineering	69.6	52.2	17.4	8.7	21.7

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

Note(s)

Hispanic may be any race; race categories exclude 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 Center for Science and Engineering Statistics, National Science Foundation, National Survey of College Graduates (NSCG), 2017.

Science and Engineering Indicators

TABLE S3-17

Employed S&E highest degree holders, by race, ethnicity, and field of degree: 2017

(Number and percent)

Highest degree field	Total	Asian		American Indian or Alaska Native		Black or African American		Hispanic or Latino		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	14,501,000	2,282,000	15.7	47,000	0.3	967,000	6.7	1,246,000	8.6	9,631,000	66.4	40,000	0.3	286,000	2.0
Computer and mathematical sciences	2,567,000	598,000	23.3	4,000	0.2	209,000	8.1	148,000	5.8	1,553,000	60.5	8,000	0.3	49,000	1.9
Computer and information sciences	2,017,000	485,000	24.0	3,000	0.1	176,000	8.7	111,000	5.5	1,192,000	59.1	7,000	0.3	42,000	2.1
Computer and information sciences, general	362,000	88,000	24.3	s	s	44,000	12.2	24,000	6.6	191,000	52.8	s	s	14,000	3.9
Computer sciences	1,065,000	315,000	29.6	s	s	67,000	6.3	48,000	4.5	617,000	57.9	s	s	14,000	1.3
Computer systems analysis	50,000	12,000	24.0	s	s	3,000	6.0	3,000	6.0	32,000	64.0	s	s	s	s
Information services and systems	418,000	54,000	12.9	s	s	45,000	10.8	32,000	7.7	270,000	64.6	5,000	1.2	11,000	2.6
Other computer and information sciences	122,000	15,000	12.3	s	s	16,000	13.1	5,000	4.1	82,000	67.2	s	s	3,000	2.5
Mathematics and statistics	550,000	113,000	20.5	s	s	32,000	5.8	36,000	6.5	361,000	65.6	1,000	0.2	7,000	1.3
Applied mathematics	58,000	12,000	20.7	s	s	5,000	8.6	3,000	5.2	35,000	60.3	s	s	s	s
Mathematics, general	371,000	64,000	17.3	s	s	21,000	5.7	19,000	5.1	262,000	70.6	s	s	4,000	1.1
Operations research	34,000	10,000	29.4	s	s	s	s	2,000	5.9	21,000	61.8	s	s	s	s
Statistics	64,000	25,000	39.1	s	s	s	s	3,000	4.7	31,000	48.4	s	s	s	s
Other mathematics	23,000	1,000	s	s	s	s	s	9,000	39.1	s	s	s	s	s	s
Biological, agricultural, and environmental life sciences	2,290,000	307,000	13.4	13,000	0.6	121,000	5.3	174,000	7.6	1,611,000	70.3	3,000	0.1	60,000	2.6
Agricultural and food sciences	286,000	23,000	8.0	s	s	6,000	2.1	18,000	6.3	233,000	81.5	s	s	s	s
Animal sciences	104,000	s	s	s	s	2,000	1.9	10,000	9.6	86,000	82.7	s	s	s	s
Food sciences and technology	33,000	6,000	18.2	s	s	1,000	3.0	1,000	s	24,000	72.7	s	s	s	s
Plant sciences	99,000	s	s	s	s	1,000	1.0	4,000	4.0	83,000	83.8	s	s	s	s
Other agricultural sciences	49,000	4,000	8.2	s	s	s	s	s	s	40,000	81.6	s	s	s	s
Biological sciences	1,763,000	278,000	15.8	11,000	0.6	111,000	6.3	134,000	7.6	1,175,000	66.6	2,000	0.1	52,000	2.9
Biochemistry and biophysics	131,000	34,000	26.0	s	s	5,000	3.8	7,000	5.3	83,000	63.4	s	s	2,000	1.5
Biology, general	861,000	106,000	12.3	s	s	68,000	7.9	73,000	8.5	570,000	66.2	1,000	s	38,000	4.4
Botany	17,000	4,000	23.5	s	s	s	s	s	s	11,000	64.7	s	s	s	s
Cell and molecular biology	109,000	28,000	25.7	s	s	s	s	20,000	18.3	54,000	49.5	s	s	3,000	2.8
Ecology	115,000	2,000	1.7	s	s	11,000	9.6	s	s	94,000	81.7	s	s	3,000	2.6
Genetics, animal and plant	26,000	5,000	19.2	s	s	s	s	1,000	3.8	19,000	73.1	s	s	s	s

TABLE S3-17

Employed S&E highest degree holders, by race, ethnicity, and field of degree: 2017

(Number and percent)

Highest degree field	Total	Asian		American Indian or Alaska Native		Black or African American		Hispanic or Latino		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
Microbiological sciences and immunology	125,000	25,000	20.0	s	s	7,000	5.6	13,000	10.4	79,000	63.2	s	s	s	s
Nutritional sciences	88,000	15,000	17.0	s	s	s	s	2,000	2.3	55,000	62.5	s	s	s	s
Pharmacology, human and animal	24,000	6,000	25.0	s	s	s	s	s	s	17,000	70.8	s	s	s	s
Physiology and pathology, human and animal	62,000	21,000	33.9	s	s	s	s	3,000	4.8	35,000	56.5	s	s	s	s
Zoology, general	72,000	6,000	8.3	s	s	s	s	2,000	2.8	62,000	86.1	s	s	s	s
Other biological sciences	135,000	27,000	20.0	s	s	4,000	3.0	6,000	4.4	96,000	71.1	s	s	s	s
Environmental life sciences	241,000	6,000	2.5	1,000	0.4	5,000	2.1	23,000	9.5	203,000	84.2	s	s	4,000	1.7
Environmental science or studies	182,000	4,000	2.2	s	s	5,000	2.7	22,000	12.1	146,000	80.2	s	s	4,000	2.2
Forestry sciences	59,000	2,000	3.4	s	s	s	s	s	s	56,000	94.9	s	s	s	s
Physical and related sciences	814,000	129,000	15.8	s	s	38,000	4.7	50,000	6.1	583,000	71.6	s	s	11,000	1.4
Chemistry, except biochemistry	349,000	72,000	20.6	s	s	26,000	7.4	24,000	6.9	221,000	63.3	s	s	4,000	1.1
Earth, atmospheric, and ocean sciences	234,000	7,000	3.0	s	s	5,000	2.1	10,000	4.3	209,000	89.3	s	s	2,000	0.9
Atmospheric sciences and meteorology	28,000	1,000	3.6	s	s	s	s	s	s	26,000	92.9	s	s	s	s
Earth sciences	63,000	1,000	1.6	s	s	s	s	s	s	58,000	92.1	s	s	s	s
Geology	97,000	s	s	s	s	3,000	3.1	4,000	4.1	85,000	87.6	s	s	1,000	1.0
Geological sciences, other	36,000	1,000	2.8	s	s	s	s	s	s	31,000	86.1	s	s	s	s
Oceanography	10,000	s	s	s	s	s	s	s	s	8,000	80.0	s	s	s	s
Physics and astronomy	202,000	47,000	23.3	s	s	4,000	2.0	14,000	6.9	132,000	65.3	s	s	4,000	2.0
Astronomy and astrophysics	17,000	1,000	5.9	s	s	s	s	s	s	14,000	82.4	s	s	s	s
Physics	186,000	46,000	24.7	s	s	4,000	2.2	13,000	7.0	118,000	63.4	s	s	3,000	1.6
Other physical sciences	29,000	s	s	s	s	s	s	s	s	22,000	75.9	s	s	s	s
Other physical sciences	5,336,000	408,000	7.6	19,000	0.4	459,000	8.6	553,000	10.4	3,760,000	70.5	17,000	0.0	120,000	2.2
Science, unclassified	870,000	129,000	14.8	s	s	47,000	5.4	79,000	9.1	593,000	68.2	s	s	13,000	1.5
Social and related sciences	57,000	s	s	s	s	s	s	s	s	54,000	94.7	s	s	s	s
Economics	814,000	129,000	15.8	s	s	47,000	5.8	77,000	9.5	539,000	66.2	s	s	12,000	1.5
Agricultural economics	994,000	74,000	7.4	3,000	0.3	72,000	7.2	93,000	9.4	726,000	73.0	s	s	26,000	2.6
Economics	66,000	8,000	12.1	s	s	6,000	9.1	7,000	10.6	43,000	65.2	s	s	1,000	1.5
Political and related sciences	190,000	23,000	12.1	s	s	13,000	6.8	20,000	10.5	123,000	64.7	s	s	10,000	5.3

TABLE S3-17

Employed S&E highest degree holders, by race, ethnicity, and field of degree: 2017

(Number and percent)

Highest degree field	Total	Asian		American Indian or Alaska Native		Black or African American		Hispanic or Latino		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
Public policy studies	739,000	42,000	5.7	2,000	0.3	52,000	7.0	66,000	8.9	560,000	75.8	s	s	16,000	2.2
International relations	2,034,000	108,000	5.3	5,000	0.2	201,000	9.9	231,000	11.4	1,445,000	71.0	7,000	0.3	38,000	1.9
Political science and government	114,000	9,000	7.9	s	s	8,000	7.0	18,000	15.8	78,000	68.4	s	s	1,000	s
Psychology	239,000	16,000	6.7	s	s	16,000	6.7	30,000	12.6	171,000	71.5	s	s	6,000	2.5
Educational psychology	310,000	12,000	3.9	s	s	42,000	13.5	31,000	10.0	220,000	71.0	s	s	4,000	1.3
Clinical psychology	39,000	1,000	2.6	s	s	s	s	2,000	5.1	33,000	84.6	s	s	s	s
Counseling psychology	923,000	47,000	5.1	s	s	76,000	8.2	105,000	11.4	670,000	72.6	s	s	17,000	1.8
Experimental psychology	82,000	2,000	2.4	s	s	16,000	19.5	9,000	11.0	55,000	67.1	s	s	s	s
General psychology	118,000	6,000	5.1	s	s	10,000	8.5	11,000	9.3	88,000	74.6	s	s	3,000	2.5
Industrial and organizational psychology	208,000	16,000	7.7	s	s	31,000	14.9	25,000	12.0	129,000	62.0	s	s	6,000	2.9
Social psychology	838,000	40,000	4.8	4,000	0.5	103,000	12.3	97,000	11.6	566,000	67.5	s	s	26,000	3.1
Other psychology	191,000	3,000	1.6	s	s	11,000	5.8	11,000	5.8	154,000	80.6	s	s	9,000	4.7
Sociology and anthropology	78,000	s	s	s	s	4,000	5.1	12,000	15.4	49,000	62.8	s	s	s	s
Anthropology and archaeology	570,000	28,000	4.9	s	s	88,000	15.4	74,000	13.0	363,000	63.7	s	s	12,000	2.1
Criminology	600,000	58,000	9.7	3,000	0.5	36,000	6.0	53,000	8.8	430,000	71.7	s	s	17,000	2.8
Sociology	133,000	11,000	8.3	s	s	11,000	8.3	19,000	14.3	84,000	63.2	s	s	4,000	3.0
Other social sciences	79,000	10,000	12.7	s	s	s	s	4,000	5.1	62,000	78.5	s	s	s	s
Area and ethnic studies	29,000	s	s	s	s	s	s	s	s	s	s	s	s	s	s
Linguistics	137,000	11,000	8.0	s	s	s	s	9,000	6.6	103,000	75.2	s	s	s	s
Philosophy of science	6,000	s	s	s	s	s	s	s	s	5,000	83.3	s	s	s	s
Geography	216,000	9,000	4.2	s	s	15,000	6.9	21,000	9.7	167,000	77.3	s	s	3,000	1.4
History of science	3,494,000	841,000	24.1	10,000	0.3	140,000	4.0	322,000	9.2	2,125,000	60.8	10,000	0.3	46,000	1.3
Other social sciences	127,000	19,000	15.0	s	s	3,000	2.4	14,000	11.0	87,000	68.5	s	s	2,000	1.6
Engineering	220,000	46,000	20.9	s	s	10,000	4.5	13,000	5.9	149,000	67.7	s	s	3,000	1.4
Aerospace, aeronautical, and astronautical engineering	501,000	77,000	15.4	s	s	15,000	3.0	49,000	9.8	353,000	70.5	1,000	0.2	5,000	1.0
Chemical engineering	25,000	s	s	s	s	s	s	2,000	8.0	20,000	80.0	s	s	s	s
Civil and architectural engineering	476,000	75,000	15.8	s	s	14,000	2.9	48,000	10.1	333,000	70.0	1,000	0.2	4,000	0.8
Architectural engineering	1,264,000	460,000	36.4	3,000	0.2	60,000	4.7	104,000	8.2	618,000	48.9	4,000	0.3	15,000	1.2
Civil engineering	350,000	140,000	40.0	s	s	20,000	5.7	33,000	9.4	152,000	43.4	s	s	4,000	1.1
Electrical and computer engineering	914,000	320,000	35.0	3,000	0.3	40,000	4.4	71,000	7.8	466,000	51.0	3,000	0.3	10,000	1.1

TABLE S3-17

Employed S&E highest degree holders, by race, ethnicity, and field of degree: 2017

(Number and percent)

Highest degree field	Total	Asian		American Indian or Alaska Native		Black or African American		Hispanic or Latino		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 and systems engineering	214,000	34,000	15.9	s	s	16,000	7.5	38,000	17.8	123,000	57.5	s	s	s	s
Electrical, electronics, and communications engineering	214,000	34,000	15.9	s	s	16,000	7.5	38,000	17.8	123,000	57.5	s	s	s	s
Industrial and manufacturing engineering	689,000	122,000	17.7	4,000	0.6	22,000	3.2	70,000	10.2	459,000	66.6	1,000	0.1	10,000	1.5
Mechanical engineering	479,000	82,000	17.1	s	s	15,000	3.1	33,000	6.9	336,000	70.1	s	s	8,000	1.7
Other engineering	30,000	1,000	3.3	s	s	s	s	1,000	s	27,000	90.0	s	s	s	s
Agricultural engineering	58,000	18,000	31.0	s	s	1,000	s	8,000	13.8	29,000	50.0	s	s	2,000	3.4
Bioengineering and biomedical engineering	33,000	6,000	18.2	s	s	s	s	2,000	6.1	23,000	69.7	s	s	s	s
Engineering sciences, mechanics, and physics	66,000	10,000	15.2	s	s	s	s	5,000	7.6	48,000	72.7	s	s	s	s
Environmental engineering	36,000	2,000	5.6	s	s	2,000	5.6	2,000	5.6	28,000	77.8	s	s	s	s
Engineering, general	13,000	1,000	7.7	s	s	s	s	s	s	9,000	69.2	s	s	s	s
Geophysical and geological engineering	71,000	14,000	19.7	s	s	1,000	1.4	1,000	1.4	52,000	73.2	s	s	s	s
Materials engineering, including ceramics and textiles	9,000	s	s	s	s	s	s	s	s	7,000	77.8	s	s	s	s
Metallurgical engineering	11,000	s	s	s	s	s	s	s	s	8,000	72.7	s	s	s	s
Mining and minerals engineering	11,000	s	s	s	s	s	s	s	s	10,000	90.9	s	s	s	s
Naval architecture and marine engineering	20,000	s	s	s	s	s	s	s	s	17,000	85.0	s	s	s	s
Nuclear engineering	23,000	4,000	17.4	s	s	5,000	21.7	s	s	14,000	60.9	s	s	s	s
Petroleum engineering	98,000	20,000	20.4	s	s	2,000	2.0	10,000	10.2	64,000	65.3	s	s	1,000	1.0
Other engineering	96,000	19,000	19.8	s	s	3,000	310.0	6,000	6.3	67,000	69.8	s	s	s	s

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

Note(s)

Hispanic may be any race; race categories exclude 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 Center for Science and Engineering Statistics, National Science Foundation, National Survey of College Graduates (NSCG), 2017.

TABLE S3-18

S&E doctorate holders employed in academia, by type of position, race, ethnicity, and degree field: 1973–2017

(Thousands)

Position, race, ethnicity, and field	1973	1977	1981	1983	1985	1987	1989	1991	1993	1995	1997	1999	2001	2003	2006	2008	2010	2013	2015	2017
All positions																				
All races and ethnicities, all fields	118.0	145.4	167.1	176.1	190.2	195.9	206.6	210.6	213.8	217.5	232.5	240.2	245.5	259.5	272.8	276.5	294.8	309.0	329.3	326.6
Physical sciences	25.5	29.2	29.9	29.9	32.2	32.8	33.6	33.8	35.0	35.8	37.5	38.7	38.6	39.9	39.6	39.9	43.7	44.9	48.4	46.9
Mathematics and statistics	9.7	11.7	12.4	12.9	13.6	13.8	14.5	15.2	15.5	14.6	15.6	15.2	14.9	16.7	17.3	18.0	18.7	19.0	20.9	20.6
Computer and information sciences	NA	NA	0.3	0.5	0.8	1.1	1.5	2.0	2.5	3.1	3.3	3.7	3.8	5.2	5.8	6.9	7.3	8.4	9.1	8.9
Life sciences	34.9	42.6	51.3	54.8	58.7	61.2	64.8	66.9	68.2	71.6	77.3	81.9	84.3	90.0	95.5	94.2	102.0	109.8	112.7	112.6
Psychology	12.2	16.2	20.1	21.0	23.1	23.7	25.0	25.2	25.0	26.1	27.3	29.0	30.4	31.8	35.0	34.5	35.4	36.3	38.7	38.0
Social sciences	23.4	31.1	36.9	38.8	41.9	42.1	44.5	44.8	44.4	42.5	44.9	46.2	46.9	48.1	50.1	52.5	54.9	55.9	59.7	59.9
Engineering	12.4	14.8	16.1	18.1	19.9	21.2	22.8	22.8	23.1	23.8	26.6	25.5	26.6	27.8	29.6	30.4	32.8	34.7	39.7	39.8
White, all fields	107.7	131.4	149.9	157.2	168.4	172.8	181.0	183.5	181.8	182.6	193.2	198.2	201.0	204.3	212.2	211.8	219.7	225.8	237.0	229.9
Physical sciences	23.0	26.1	26.6	26.4	28.3	28.5	29.2	29.5	29.3	29.5	31.0	32.3	32.0	32.1	31.4	31.5	33.5	33.8	35.6	33.6
Mathematics and statistics	8.8	10.6	11.0	11.5	11.9	12.2	12.6	13.0	12.9	12.0	12.6	12.3	12.1	13.0	13.1	13.6	13.7	13.6	15.1	14.3
Computer and information sciences	NA	NA	0.2	0.4	0.6	0.9	1.1	1.4	1.6	2.1	2.2	2.7	2.7	3.4	3.7	4.0	4.1	4.8	5.4	5.4
Life sciences	32.1	38.8	46.1	49.3	52.7	54.6	57.6	59.2	59.1	61.3	64.9	67.2	68.4	70.4	74.2	72.5	76.9	81.1	81.6	80.1
Psychology	11.6	15.2	18.8	19.6	21.3	22.0	23.2	23.2	22.9	23.6	24.4	25.5	26.6	27.1	29.5	28.7	28.6	28.9	30.6	29.2
Social sciences	21.4	28.2	33.1	34.7	37.2	37.5	39.4	39.1	38.6	36.5	38.0	38.9	39.0	39.1	40.7	41.7	43.0	42.6	45.8	44.5
Engineering	10.8	12.6	14.0	15.2	16.4	17.2	18.1	18.2	17.5	17.6	20.2	19.4	20.2	19.2	19.5	19.7	20.0	21.1	22.9	22.9
Asian or Pacific Islander, all fields	5.0	6.7	10.8	11.8	14.0	15.0	16.3	16.8	20.9	22.4	25.4	26.3	27.6	34.7	37.4	39.7	46.9	52.1	59.0	61.7
Physical sciences	1.2	1.5	2.1	2.4	2.9	3.1	3.1	2.8	4.2	4.6	4.6	4.6	4.5	5.5	5.6	5.7	7.0	7.6	9.3	9.5
Mathematics and statistics	0.4	0.5	0.9	1.0	1.1	1.1	1.3	1.6	1.9	1.8	2.2	2.1	2.0	2.8	3.0	3.2	3.7	4.0	4.4	4.7
Computer and information sciences	NA	NA	0.1	0.1	0.1	0.1	0.3	0.5	0.7	0.9	0.9	0.9	0.9	1.5	1.7	2.5	2.7	3.0	3.0	2.8
Life sciences	1.3	2.0	3.6	3.6	4.0	4.4	4.7	5.1	6.3	6.8	8.5	9.9	11.0	13.3	14.0	13.9	16.2	18.4	20.6	21.4
Psychology	0.1	0.2	0.4	0.4	0.4	0.5	0.5	0.5	0.5	0.6	0.7	0.8	0.9	1.1	1.4	1.6	2.0	2.2	2.8	3.4
Social sciences	1.0	1.2	2.0	2.0	2.5	2.2	2.4	2.6	2.7	2.8	3.2	3.5	3.6	4.1	3.9	4.5	5.2	6.1	6.1	6.7
Engineering	1.1	1.3	1.8	2.4	3.0	3.5	4.1	3.7	4.7	4.9	5.2	4.6	4.8	6.4	7.8	8.2	10.1	10.7	12.9	13.4
Underrepresented minority, all fields ^a	2.4	3.7	5.8	6.5	7.2	7.8	9.0	9.9	10.7	12.4	13.7	15.6	16.8	20.4	20.4	21.8	24.4	27.2	29.4	30.4
Physical sciences	0.5	0.6	1.0	1.0	1.0	1.1	1.2	1.3	1.5	1.6	1.9	1.8	2.0	2.3	2.2	2.3	2.7	3.0	2.9	3.3
Mathematics and statistics	0.2	0.3	0.4	0.4	0.5	0.5	0.6	0.5	0.7	0.8	0.7	0.8	0.8	1.0	1.0	1.1	1.2	1.4	1.4	1.5
Computer and information sciences	NA	NA	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.3	0.3	0.3	0.4	0.5	0.6	0.7
Life sciences	0.8	1.2	1.5	1.7	1.8	2.1	2.4	2.6	2.7	3.5	3.9	4.7	4.9	6.2	6.4	6.6	7.6	8.7	9.4	9.8
Psychology	0.3	0.6	0.8	1.0	1.2	1.2	1.3	1.5	1.6	2.0	2.3	2.7	2.9	3.6	3.6	3.7	4.3	4.5	4.6	4.6
Social sciences	0.5	0.8	1.8	2.0	2.1	2.3	2.8	3.0	3.1	3.2	3.6	3.9	4.3	4.9	4.9	5.6	5.8	6.5	7.0	7.5
Engineering	0.2	0.3	0.3	0.5	0.5	0.5	0.7	0.9	0.9	1.2	1.2	1.5	1.6	2.1	2.0	2.1	2.4	2.6	3.6	3.2
Full-time faculty ^b																				
All races and ethnicities, all fields	103.3	125.6	141.9	148.4	156.9	164.4	169.8	173.1	172.4	171.4	172.9	178.2	180.9	190.6	193.1	199.1	206.9	214.4	227.7	223.4

TABLE S3-18

S&E doctorate holders employed in academia, by type of position, race, ethnicity, and degree field: 1973–2017

(Thousands)

Position, race, ethnicity, and field	1973	1977	1981	1983	1985	1987	1989	1991	1993	1995	1997	1999	2001	2003	2006	2008	2010	2013	2015	2017
Physical sciences	20.8	23.6	24.3	24.2	25.4	26.4	26.2	26.2	25.8	25.6	25.5	26.3	26.1	27.7	26.9	27.5	29.3	29.5	31.1	29.7
Mathematics and statistics	9.3	10.9	11.7	12.3	12.7	12.9	13.5	14.2	14.7	13.0	13.6	12.9	12.4	14.0	14.0	14.8	15.1	15.5	16.8	16.3
Computer and information sciences	NA	NA	0.3	0.4	0.7	0.9	1.3	1.8	2.3	2.8	2.9	3.2	3.3	4.2	4.9	5.6	5.7	6.4	7.1	7.1
Life sciences	29.5	34.9	40.9	43.5	45.6	48.1	49.3	51.1	50.8	52.8	53.6	56.1	58.3	61.7	62.8	63.5	66.7	70.6	70.8	70.0
Psychology	10.8	13.9	16.4	17.3	18.5	19.2	20.2	20.7	19.5	20.1	19.4	20.6	21.2	21.5	23.2	23.0	23.4	24.1	26.0	26.3
Social sciences	21.6	28.8	33.7	34.4	36.1	37.6	39.0	39.0	39.2	37.1	36.9	38.2	38.3	39.6	39.2	42.0	43.2	43.5	46.7	46.0
Engineering	11.3	13.5	14.7	16.4	17.9	19.3	20.2	20.1	20.1	20.0	21.2	20.7	21.5	21.9	22.1	22.7	23.4	25.0	29.2	28.2
White, all fields	94.9	114.3	128.1	133.4	139.7	146.2	149.8	151.8	148.7	147.1	146.8	150.8	151.1	153.5	155.3	156.5	158.7	161.5	168.9	163.0
Physical sciences	19.0	21.5	22.1	21.6	22.8	23.4	23.3	23.2	22.2	22.1	21.8	22.5	22.0	23.2	22.6	22.4	23.4	23.1	24.2	22.5
Mathematics and statistics	8.5	9.9	10.3	10.9	11.1	11.4	11.7	12.2	12.3	10.7	11.0	10.6	10.0	10.9	10.8	11.3	11.4	11.3	12.2	11.6
Computer and information sciences	NA	NA	0.2	0.3	0.5	0.7	1.0	1.3	1.5	1.9	2.0	2.3	2.2	2.6	2.9	3.2	3.2	3.5	4.3	4.3
Life sciences	27.5	32.1	37.2	39.7	41.3	43.3	44.4	46.0	45.1	46.7	47.1	48.8	49.9	50.5	51.5	51.0	52.6	54.7	54.5	53.3
Psychology	10.3	13.0	15.4	16.2	17.1	17.9	18.8	19.2	18.0	18.4	17.6	18.4	18.8	18.6	19.9	19.5	19.2	19.7	20.8	20.5
Social sciences	19.7	26.1	30.1	30.7	32.2	33.5	34.4	33.8	34.1	31.9	31.1	32.2	32.0	32.3	32.3	33.5	33.8	33.4	36.2	34.4
Engineering	10.0	11.6	12.7	14.0	14.8	15.9	16.2	16.2	15.6	15.3	16.4	15.8	16.2	15.2	15.3	15.4	15.0	15.8	16.7	16.5
Asian or Pacific Islander, all fields	4.0	5.0	8.4	9.1	10.9	11.7	12.3	12.6	14.8	14.5	15.8	16.3	17.7	21.4	21.8	25.0	28.5	32.4	36.8	37.6
Physical sciences	0.7	1.0	1.3	1.6	1.7	2.0	1.9	1.8	2.4	2.3	2.2	2.4	2.5	2.7	2.7	3.1	3.8	4.1	4.6	4.7
Mathematics and statistics	0.4	0.5	0.9	1.0	1.1	1.1	1.3	1.5	1.7	1.6	1.9	1.7	1.7	2.2	2.3	2.5	2.6	2.9	3.5	3.6
Computer and information sciences	NA	NA	0.0	0.1	0.1	0.1	0.3	0.5	0.7	0.8	0.8	0.7	0.8	1.3	1.5	2.0	2.2	2.3	2.4	2.3
Life sciences	0.9	1.2	2.3	2.4	2.8	3.1	3.0	3.0	3.7	3.5	3.7	4.4	5.3	6.5	6.5	7.3	8.4	9.6	10.0	10.3
Psychology	0.1	0.1	0.3	0.3	0.3	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.5	0.7	0.8	1.0	1.2	1.4	1.9	2.3
Social sciences	0.9	1.1	1.9	1.9	2.1	2.1	2.1	2.4	2.3	2.4	2.8	2.8	3.0	3.1	2.9	3.6	4.0	4.8	4.8	5.2
Engineering	0.9	1.1	1.7	1.9	2.7	3.0	3.4	3.1	3.7	3.6	3.8	3.7	3.9	4.9	5.0	5.5	6.4	7.2	9.5	9.2
Underrepresented minority, all fields ^a	2.0	3.2	5.0	5.4	5.8	6.3	7.4	8.4	8.6	9.8	10.3	11.1	12.0	13.4	13.9	15.3	17.2	17.9	19.6	20.0
Physical sciences	0.4	0.4	0.9	0.9	0.8	0.9	0.9	1.1	1.2	1.1	1.4	1.4	1.6	1.5	1.5	1.7	2.0	2.0	1.9	2.2
Mathematics and statistics	0.2	0.2	0.4	0.4	0.4	0.5	0.5	0.5	0.6	0.7	0.6	0.7	0.7	0.7	0.7	0.8	0.9	1.0	1.0	1.0
Computer and information sciences	NA	NA	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.3	0.3	0.3	0.4	0.4	0.5
Life sciences	0.7	1.0	1.3	1.3	1.4	1.6	1.8	2.0	2.0	2.6	2.8	2.9	3.2	3.9	4.0	4.3	5.0	5.2	5.6	5.8
Psychology	0.2	0.5	0.6	0.7	0.9	0.9	1.0	1.1	1.1	1.3	1.3	1.7	1.8	1.8	2.1	2.2	2.5	2.6	2.8	2.9
Social sciences	0.4	0.8	1.6	1.7	1.8	2.0	2.5	2.8	2.8	2.8	3.0	3.1	3.2	3.6	3.6	4.3	4.7	4.9	5.1	5.5
Engineering	0.1	0.3	0.3	0.4	0.4	0.5	0.6	0.8	0.8	1.1	1.1	1.2	1.4	1.6	1.6	1.5	1.7	1.7	2.8	2.3
Postdocs																				
All races and ethnicities, all fields	4.2	7.6	8.5	8.3	8.7	9.3	11.5	9.9	13.3	16.8	18.9	18.5	17.5	15.7	23.3	17.8	22.8	20.2	19.2	18.4
Physical sciences	1.8	2.4	2.1	1.6	2.1	2.3	2.7	2.2	3.5	4.4	3.8	3.4	3.0	2.6	3.9	3.3	4.6	4.0	3.3	3.4
Mathematics and statistics	0.0	0.1	0.1	0.1	0.1	0.3	0.2	0.1	0.0	0.5	0.5	0.6	0.8	0.5	1.0	0.5	0.7	0.4	0.5	0.5
Computer and information sciences	NA	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.3	0.2	0.3	0.2

TABLE S3-18

S&E doctorate holders employed in academia, by type of position, race, ethnicity, and degree field: 1973–2017

(Thousands)

Position, race, ethnicity, and field	1973	1977	1981	1983	1985	1987	1989	1991	1993	1995	1997	1999	2001	2003	2006	2008	2010	2013	2015	2017
Life sciences	1.9	4.0	5.2	5.1	5.2	5.6	6.8	6.4	8.2	9.2	10.8	11.7	11.0	10.0	12.8	10.3	12.2	11.9	11.7	10.6
Psychology	0.2	0.5	0.6	0.6	0.7	0.7	0.8	0.5	0.4	1.1	1.3	1.2	1.2	0.9	1.7	1.0	1.1	1.0	0.8	0.7
Social sciences	0.1	0.3	0.3	0.6	0.3	0.1	0.4	0.3	0.2	0.4	0.7	0.5	0.6	0.5	0.9	0.3	0.8	0.4	0.4	0.6
Engineering	0.2	0.4	0.2	0.3	0.2	0.5	0.6	0.5	1.0	1.2	1.7	1.1	0.9	1.1	3.0	2.1	3.1	2.4	2.2	2.6
White, all fields	3.6	6.2	6.9	6.8	7.1	7.4	9.0	7.1	9.1	11.2	12.5	11.9	11.4	9.9	13.4	10.3	12.5	10.6	10.1	9.3
Physical sciences	1.5	1.8	1.5	1.4	1.4	1.5	1.8	1.4	2.4	2.6	2.5	2.3	2.2	1.5	2.4	1.9	2.7	2.2	1.7	1.6
Mathematics and statistics	0.0	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.3	0.3	0.5	0.7	0.4	0.6	0.4	0.3	0.2	0.3	0.4
Computer and information sciences	NA	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.1	s	s	0.1	s	0.1	0.1
Life sciences	1.7	3.3	4.4	4.3	4.5	4.7	5.6	4.8	5.9	6.5	7.0	7.2	6.7	6.4	7.3	6.3	7.0	6.4	6.2	5.5
Psychology	0.1	0.4	0.6	0.5	0.7	0.6	0.8	0.4	0.3	0.9	1.1	0.9	1.0	0.7	1.3	0.8	0.7	0.7	0.5	0.5
Social sciences	0.1	0.3	0.3	0.5	0.3	0.1	0.3	0.2	0.1	0.3	0.6	0.3	0.4	0.3	0.6	0.2	0.6	0.2	0.2	0.3
Engineering	0.1	0.2	0.1	0.1	0.1	0.2	0.3	0.2	0.3	0.5	0.9	0.7	0.6	0.5	1.1	0.7	1.0	0.6	1.1	1.1
Asian or Pacific Islander, all fields	0.5	1.1	1.4	1.1	1.1	1.6	1.9	2.3	3.6	4.7	5.3	5.2	4.9	4.8	8.1	6.1	8.3	7.4	7.0	7.2
Physical sciences	0.2	0.4	0.6	0.2	0.5	0.6	0.7	0.7	1.0	1.5	1.2	1.1	0.8	0.9	1.3	1.2	1.7	1.4	1.3	1.6
Mathematics and statistics	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.3	0.1	0.3	0.1	0.2	0.2
Computer and information sciences	NA	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	s	0.2	0.2	s	0.2	s
Life sciences	0.2	0.5	0.8	0.6	0.6	0.6	0.9	1.3	1.9	2.2	3.2	3.6	3.6	3.0	4.4	3.0	4.0	4.0	4.1	3.8
Psychology	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.1	0.2
Social sciences	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.1
Engineering	0.0	0.1	0.1	0.2	0.1	0.2	0.3	0.3	0.7	0.7	0.7	0.2	0.3	0.5	1.7	1.3	1.8	1.5	1.0	1.4
Underrepresented minority, all fields ^a	0.1	0.2	0.2	0.4	0.4	0.4	0.6	0.4	0.6	0.9	1.1	1.5	1.1	1.1	1.7	1.3	1.6	2.1	1.7	1.5
Physical sciences	0.0	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.2
Mathematics and statistics	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	s	s	0.1	s	s
Computer and information sciences	NA	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	s	s	s	s	s	s
Life sciences	0.0	0.1	0.1	0.2	0.2	0.2	0.3	0.2	0.4	0.5	0.6	0.8	0.6	0.6	1.0	0.8	0.9	1.3	1.2	1.0
Psychology	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1
Social sciences	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.2	0.1	0.1	0.0	0.1	s	s	0.2
Engineering	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.2	0.0	0.1	0.1	0.2	0.2	0.2	0.1	0.1
Other positions ^c																				
All races and ethnicities, all fields	10.5	12.2	16.6	19.4	24.6	22.1	25.4	27.6	28.1	29.4	41.1	43.5	47.3	53.2	56.4	59.5	65.1	74.4	82.4	84.8
Physical sciences	2.9	3.1	3.6	4.2	4.8	4.2	4.7	5.4	5.8	5.8	8.0	8.6	9.0	9.5	8.8	9.1	9.8	11.4	14.0	13.8
Mathematics and statistics	0.4	0.7	0.6	0.5	0.7	0.6	0.8	0.9	0.8	1.1	1.7	1.8	1.8	2.2	2.4	2.7	2.9	3.1	3.6	3.9
Computer and information sciences	NA	NA	0.0	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.3	0.4	0.5	1.0	0.8	1.0	1.3	1.8	1.7	1.7
Life sciences	3.4	3.7	5.2	6.3	7.8	7.6	8.7	9.5	9.2	9.6	13.2	14.5	15.5	18.3	19.9	20.5	23.1	27.3	30.2	32.1
Psychology	1.2	1.8	3.0	3.1	3.9	3.8	4.0	4.0	5.1	5.0	6.7	7.2	8.0	9.4	10.1	10.5	10.9	11.2	11.9	11.0
Social sciences	1.6	1.9	2.9	3.8	5.5	4.3	5.1	5.5	5.0	5.0	7.3	7.4	8.0	8.0	9.9	10.2	10.9	12.0	12.6	13.4

TABLE S3-18

S&E doctorate holders employed in academia, by type of position, race, ethnicity, and degree field: 1973–2017

(Thousands)

Position, race, ethnicity, and field	1973	1977	1981	1983	1985	1987	1989	1991	1993	1995	1997	1999	2001	2003	2006	2008	2010	2013	2015	2017
Engineering	0.9	0.9	1.3	1.4	1.8	1.4	2.0	2.2	2.0	2.5	3.7	3.7	4.3	4.8	4.5	5.6	6.3	7.3	8.3	9.1
White, all fields	9.3	10.9	15.0	17.0	21.6	19.3	22.2	24.6	24.0	24.3	34.2	35.6	38.5	41.3	43.5	45.0	48.5	53.7	58.0	57.7
Physical sciences	2.5	2.8	3.2	3.6	4.1	3.6	4.0	4.8	4.8	4.8	6.4	7.1	7.5	7.5	6.4	7.2	7.4	8.5	9.7	9.5
Mathematics and statistics	0.3	0.6	0.6	0.5	0.7	0.6	0.7	0.8	0.6	0.9	1.4	1.3	1.5	1.7	1.8	1.9	2.0	2.1	2.6	2.4
Computer and information sciences	NA	NA	0.0	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.3	0.4	0.5	0.8	0.8	0.8	0.8	1.3	1.0	1.0
Life sciences	3.0	3.3	4.5	5.3	6.9	6.6	7.5	8.4	8.1	8.1	11.1	11.6	12.1	13.6	15.4	15.2	17.3	20.0	20.9	21.3
Psychology	1.1	1.7	2.8	2.9	3.5	3.5	3.6	3.6	4.5	4.3	5.7	6.2	6.8	7.9	8.3	8.4	8.7	8.5	9.3	8.3
Social sciences	1.5	1.7	2.7	3.5	4.7	3.9	4.7	5.1	4.4	4.3	6.3	6.3	6.6	6.5	7.8	8.0	8.6	9.0	9.4	9.9
Engineering	0.7	0.8	1.2	1.1	1.6	1.1	1.6	1.8	1.6	1.8	2.9	2.9	3.4	3.4	3.0	3.6	4.0	4.7	5.1	5.4
Asian or Pacific Islander, all fields	0.6	0.6	1.0	1.6	2.0	1.8	2.0	1.9	2.5	3.2	4.4	4.9	5.0	7.2	7.5	8.6	10.1	12.3	15.2	16.8
Physical sciences	0.2	0.1	0.2	0.5	0.6	0.6	0.5	0.4	0.8	0.8	1.3	1.1	1.1	1.4	1.6	1.4	1.5	2.1	3.4	3.1
Mathematics and statistics	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.4	0.3	0.3	0.5	0.5	0.7	0.8	1.0	0.7	1.0
Computer and information sciences	NA	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.3	0.7	0.4	0.5
Life sciences	0.2	0.3	0.6	0.7	0.7	0.7	0.9	0.8	0.8	1.1	1.6	1.9	2.1	3.4	3.1	3.5	3.8	4.8	6.5	7.3
Psychology	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.3	0.3	0.4	0.5	0.6	0.6	0.8	0.9
Social sciences	0.0	0.1	0.1	0.1	0.4	0.2	0.2	0.2	0.3	0.3	0.4	0.6	0.5	0.8	0.8	0.8	1.0	1.2	1.2	1.4
Engineering	0.1	0.1	0.0	0.2	0.2	0.3	0.4	0.3	0.3	0.6	0.7	0.7	0.6	0.9	1.1	1.5	1.9	2.0	2.4	2.8
Underrepresented minority, all fields ^a	0.3	0.3	0.5	0.8	1.0	1.1	1.1	1.1	1.5	1.8	2.5	2.9	3.7	3.9	4.8	5.3	5.6	7.2	8.1	8.9
Physical sciences	0.1	0.1	0.1	0.1	0.0	0.1	0.1	0.1	0.2	0.2	0.4	0.4	0.3	0.5	0.5	0.4	0.5	0.7	0.8	1.0
Mathematics and statistics	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.4	0.5
Computer and information sciences	NA	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.0	s	0.1	0.1	0.2	0.2
Life sciences	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.5	0.9	1.1	1.1	1.4	1.5	1.7	2.2	2.6	3.0
Psychology	0.0	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.6	0.8	0.7	1.0	1.3	1.4	1.4	1.6	1.8	1.7	1.6
Social sciences	0.0	0.1	0.1	0.2	0.3	0.3	0.3	0.2	0.3	0.3	0.5	0.6	0.9	0.8	1.2	1.3	1.0	1.6	1.9	1.9
Engineering	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0	0.1	0.2	0.2	0.3	0.4	0.5	0.7	0.7	0.8

NA = not available; s = suppressed for reasons of confidentiality and/or reliability.

^a Underrepresented minority includes blacks or African Americans, Hispanics or Latinos, and American Indians or Alaska Natives. Total includes individuals reporting more than one race, who are not shown separately. Because of changes in the survey questionnaire, data on underrepresented minorities from 2003 to 2015 are not directly comparable with earlier years' data.

^b Full-time faculty includes full professors, associate professors, assistant professors, and instructors from 1973 to 1995; from 1997 to 2017, full-time faculty includes full professors, associate professors, and assistant professors.

^c Other positions include full-time positions such as research associates, adjunct positions, lecturers, and administrative positions, as well as part-time positions of all kinds. From 1997 to 2017, other positions also include instructors. Part-time positions exclude those employed part time because they are students or retired.

Note(s)

Detail may not add to total because of rounding. Academic employment is limited to U.S. doctorate holders employed at 2- or 4-year colleges or universities, medical schools, and university research institutes. Physical sciences include earth, atmospheric, and ocean sciences; life sciences include biological, agricultural, environmental, and health sciences. Numbers are rounded to the nearest 100 for data before 2017; for 2017, numbers are rounded to the nearest 50.

Source(s)

National Center for Science and Engineering Statistics, National Science Foundation, special tabulations (2018) of the 1973–2017 Survey of Doctorate Recipients (SDR).

Science and Engineering Indicators

TABLE S3-19

Estimate and median salary of full-time workers with highest degree in S&E field, by sex and occupation: 2017

(Number and dollars)

Occupation	Total		Female		Male	
	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)
All occupations	12,315,000	80,000	4,501,000	60,000	7,814,000	90,000
S&E occupations	4,643,000	93,000	1,154,000	80,000	3,488,000	98,000
Computer and mathematical scientists	2,208,000	100,000	490,000	90,000	1,718,000	103,000
Computer and information scientists	2,047,000	100,000	430,000	90,000	1,617,000	104,000
Computer and information scientists, research	62,000	108,000	11,000	s	51,000	110,000
Computer network architect	36,000	118,000	s	s	35,000	122,000
Computer support specialists	131,000	63,000	39,000	55,000	92,000	65,000
Computer system analysts	218,000	93,000	74,000	84,000	144,000	95,000
Database administrators	68,000	85,000	22,000	59,000	46,000	104,000
Information security analysts	75,000	110,000	18,000	87,000	57,000	113,000
Network and computer systems administrators	114,000	82,000	10,000	93,000	104,000	80,000
Software developers – applications and systems software	483,000	108,000	81,000	109,000	402,000	108,000
Web developers	73,000	95,000	17,000	70,000	56,000	98,000
Other computer information science occupations	178,000	93,000	60,000	93,000	118,000	93,000
Computer engineers – software	608,000	111,000	94,000	100,000	513,000	114,000
Mathematical scientists	103,000	96,000	41,000	84,000	62,000	100,000
Mathematicians	3,000	100,000	1,000	s	2,000	100,000
Operations research analysts, including modeling	49,000	95,000	17,000	83,000	32,000	100,000
Statisticians	36,000	99,000	13,000	91,000	23,000	105,000
Other mathematical scientists	16,000	s	10,000	s	6,000	91,000
Postsecondary teachers – computer and mathematical sciences	58,000	72,000	19,000	70,000	40,000	74,000
Computer science	17,000	96,000	4,000	95,000	14,000	93,000
Mathematics and statistics	41,000	65,000	15,000	70,000	26,000	64,000
Biological, agricultural, and environmental life scientists	464,000	56,000	203,000	55,000	261,000	60,000
Agricultural and food scientists	35,000	59,000	12,000	43,000	23,000	69,000
Biological and medical scientists	344,000	55,000	155,000	55,000	190,000	55,000
Biochemists and biophysicists	60,000	52,000	23,000	49,000	36,000	54,000
Biological scientists (e.g., botanists, ecologists, zoologists)	123,000	54,000	51,000	49,000	72,000	54,000
Medical scientists (excluding practitioners)	100,000	55,000	47,000	55,000	53,000	54,000
Other biological and life scientists	62,000	71,000	33,000	67,000	29,000	71,000
Forestry and conservation scientists	21,000	60,000	5,000	59,000	16,000	61,000
Postsecondary teachers – life and related sciences	64,000	70,000	32,000	54,000	32,000	91,000
Agriculture	4,000	95,000	s	s	3,000	84,000
Biological sciences	53,000	62,000	29,000	50,000	25,000	90,000
Other natural sciences	7,000	79,000	2,000	s	4,000	91,000
Physical and related scientists	278,000	74,000	83,000	62,000	195,000	82,000
Chemists, except biochemists	98,000	65,000	35,000	65,000	63,000	65,000
Earth scientists, geologists, and oceanographers	61,000	77,000	14,000	60,000	48,000	86,000
Atmospheric and space scientists	11,000	88,000	3,000	70,000	9,000	99,000
Geologists, including earth scientists	48,000	75,000	10,000	58,000	38,000	82,000
Oceanographers	2,000	97,000	s	s	1,000	s
Physicists and astronomers	34,000	69,000	7,000	39,000	28,000	85,000
Astronomers	3,000	s	s	s	2,000	106,000
Physicists, except biophysicists	32,000	66,000	6,000	43,000	26,000	78,000
Other physical and related scientists	40,000	73,000	19,000	60,000	21,000	77,000
Postsecondary teachers – physical and related sciences	44,000	86,000	9,000	68,000	35,000	93,000
Chemistry	15,000	88,000	4,000	71,000	11,000	89,000

TABLE S3-19

Estimate and median salary of full-time workers with highest degree in S&E field, by sex and occupation: 2017

(Number and dollars)

Occupation	Total		Female		Male	
	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)
Earth, environmental, and marine sciences	15,000	78,000	4,000	59,000	11,000	94,000
Physics	14,000	91,000	s	s	12,000	96,000
Social and related scientists	316,000	75,000	172,000	71,000	144,000	84,000
Economists	39,000	74,000	6,000	100,000	32,000	s
Political scientists	12,000	104,000	5,000	89,000	7,000	s
Psychologists, including clinical	128,000	75,000	85,000	71,000	43,000	85,000
Sociologists and anthropologists	19,000	41,000	14,000	39,000	5,000	61,000
Anthropologists	9,000	44,000	7,000	43,000	3,000	55,000
Sociologists	10,000	34,000	7,000	30,000	3,000	75,000
Other social and related scientists	35,000	82,000	20,000	75,000	15,000	92,000
Postsecondary teachers – social and related sciences	83,000	75,000	42,000	71,000	41,000	81,000
Economics	12,000	90,000	3,000	72,000	10,000	103,000
Political science	13,000	83,000	6,000	78,000	7,000	84,000
Psychology	26,000	70,000	15,000	69,000	11,000	69,000
Sociology	11,000	67,000	6,000	73,000	5,000	66,000
Other social sciences	20,000	73,000	12,000	70,000	8,000	91,000
Engineers	1,377,000	96,000	207,000	90,000	1,170,000	97,000
Aerospace, aeronautical, or astronautical engineers	106,000	120,000	19,000	99,000	86,000	120,000
Chemical engineers	80,000	98,000	19,000	85,000	62,000	100,000
Civil, architectural, or sanitary engineers	222,000	83,000	35,000	81,000	187,000	83,000
Electrical or computer hardware engineers	313,000	104,000	37,000	106,000	276,000	104,000
Computer engineer – hardware	55,000	110,000	6,000	129,000	49,000	108,000
Electrical and electronics engineers	257,000	103,000	31,000	98,000	227,000	103,000
Industrial engineers	55,000	87,000	10,000	95,000	45,000	83,000
Mechanical engineers	265,000	90,000	17,000	81,000	248,000	92,000
Other engineers	299,000	95,000	64,000	82,000	235,000	100,000
Agricultural engineers	3,000	93,000	s	s	3,000	93,000
Bioengineers or biomedical engineers	21,000	87,000	7,000	82,000	13,000	88,000
Environmental engineers	47,000	77,000	16,000	67,000	31,000	79,000
Marine engineers and naval architects	7,000	92,000	s	s	6,000	89,000
Materials and metallurgical engineers	28,000	95,000	5,000	93,000	23,000	95,000
Mining and geological engineers	3,000	92,000	s	s	3,000	95,000
Nuclear engineers	18,000	89,000	4,000	98,000	14,000	84,000
Petroleum engineers	19,000	117,000	3,000	121,000	17,000	110,000
Sales engineers	55,000	114,000	6,000	83,000	49,000	115,000
Other engineers	99,000	97,000	21,000	80,000	78,000	99,000
Postsecondary teachers – engineering	38,000	101,000	6,000	93,000	32,000	108,000
S&E-related occupations	1,725,000	80,000	609,000	60,000	1,117,000	95,000
Health-related occupations	478,000	56,000	310,000	56,000	168,000	53,000
Diagnosing or treating practitioners (e.g., dentists, optometrists, physicians, psychiatrists, podiatrists, surgeons, veterinarians)	63,000	60,000	26,000	43,000	37,000	123,000
Registered nurses, pharmacists, dietitians, therapists, physician assistants, nurse practitioners	126,000	67,000	106,000	65,000	20,000	81,000
Health technologists and technicians (e.g., dental hygienists, health record technicians, licensed practical nurses, laboratory or radiology technicians)	155,000	49,000	99,000	56,000	56,000	37,000
Other health occupations	119,000	48,000	71,000	47,000	47,000	48,000
Postsecondary teachers – health and related sciences	15,000	114,000	8,000	85,000	8,000	121,000

TABLE S3-19

Estimate and median salary of full-time workers with highest degree in S&E field, by sex and occupation: 2017

(Number and dollars)

Occupation	Total		Female		Male	
	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)
S&E managers	515,000	129,000	76,000	115,000	439,000	130,000
Computer and information systems managers	149,000	141,000	18,000	128,000	131,000	145,000
Engineering managers	266,000	124,000	26,000	120,000	240,000	124,000
Medical and health services managers	50,000	102,000	13,000	72,000	37,000	104,000
Natural sciences managers	50,000	103,000	18,000	87,000	32,000	108,000
S&E precollege teachers	198,000	51,000	111,000	49,000	87,000	56,000
Secondary – computer, mathematics, or sciences	170,000	51,000	99,000	49,000	70,000	57,000
Secondary – social sciences	29,000	50,000	12,000	51,000	17,000	50,000
S&E technicians and technologists	500,000	76,000	103,000	67,000	397,000	79,000
Technologists and technicians in the biological and life sciences	80,000	57,000	39,000	54,000	41,000	59,000
Computer programmers (business, scientific, process control)	116,000	95,000	23,000	93,000	93,000	100,000
Electrical, electronic, industrial, and mechanical technicians	158,000	79,000	14,000	58,000	143,000	80,000
Drafting occupations, including computer drafting	9,000	60,000	s	s	8,000	60,000
Surveying and mapping technicians	9,000	56,000	s	s	9,000	56,000
Other engineering technologists and technicians	84,000	84,000	16,000	90,000	67,000	83,000
Surveyors, cartographers, photogrammetrists	20,000	58,000	s	s	19,000	58,000
Technologists and technicians in the mathematical sciences	2,000	112,000	s	s	s	s
Technologists and technicians in the physical sciences	22,000	47,000	7,000	34,000	15,000	53,000
Other S&E-related occupations	34,000	99,000	9,000	80,000	25,000	100,000
Architects	18,000	100,000	s	s	13,000	109,000
Actuaries	16,000	97,000	4,000	120,000	12,000	96,000
Non-S&E occupations	5,947,000	62,000	2,738,000	52,000	3,209,000	76,000
Non-S&E managers	1,131,000	107,000	291,000	96,000	841,000	116,000
Top-level managers, executives, administrators (e.g., chief executive officer, chief operating officer, chief financial officer; president; district manager, general manager, provost)	658,000	124,000	127,000	95,000	531,000	130,000
Education administrators (e.g., registrar, dean, principal)	34,000	100,000	21,000	99,000	13,000	102,000
Other mid-level managers	439,000	96,000	142,000	96,000	297,000	96,000
Management-related occupations	1,303,000	80,000	603,000	69,000	700,000	90,000
Accountants, auditors, and other financial specialists	393,000	73,000	166,000	67,000	228,000	80,000
Personnel, training, and labor relations specialists	178,000	68,000	111,000	61,000	66,000	86,000
Other management-related occupations	731,000	86,000	326,000	72,000	406,000	95,000
Non-S&E precollege teachers	306,000	40,000	261,000	40,000	45,000	35,000
Prekindergarten and kindergarten	41,000	26,000	41,000	26,000	s	s
Elementary	122,000	50,000	112,000	46,000	11,000	58,000
Secondary – other subjects	50,000	44,000	37,000	s	13,000	59,000
Teachers: Special education - primary and secondary	72,000	32,000	55,000	43,000	17,000	32,000
Other precollegiate area	21,000	s	16,000	s	s	s
Non-S&E postsecondary teachers	53,000	69,000	24,000	63,000	29,000	71,000
Arts, drama, and music	s	s	s	s	s	s
Business, commerce, and marketing	7,000	135,000	4,000	110,000	4,000	143,000
Education	9,000	69,000	5,000	72,000	4,000	65,000
English	11,000	s	s	s	s	s
Foreign language	6,000	69,000	2,000	67,000	4,000	70,000
History	3,000	s	s	s	s	s
Physical education	s	s	s	s	s	s
Other postsecondary fields	15,000	65,000	4,000	70,000	11,000	62,000
Social services and related occupations	394,000	43,000	289,000	42,000	105,000	43,000

TABLE S3-19

Estimate and median salary of full-time workers with highest degree in S&E field, by sex and occupation: 2017

(Number and dollars)

Occupation	Total		Female		Male	
	Number	Median salary (\$)	Number	Median salary (\$)	Number	Median salary (\$)
Clergy and other religious workers	31,000	40,000	s	s	26,000	39,000
Counselors (e.g., educational, vocational, mental health, substance abuse)	174,000	46,000	137,000	47,000	37,000	45,000
Social workers	189,000	41,000	147,000	40,000	42,000	44,000
Sales and marketing occupations	805,000	70,000	317,000	59,000	488,000	70,000
Insurance, securities, real estate, and business services	210,000	80,000	102,000	68,000	107,000	102,000
Sales – commodities except retail (e.g., industrial, medical, dental machinery, equipment, supplies)	150,000	96,000	29,000	71,000	121,000	99,000
Sales – retail (e.g., furnishings, clothing, motor vehicles, cosmetics)	188,000	38,000	62,000	30,000	126,000	39,000
Other marketing and sales occupations	257,000	75,000	124,000	71,000	134,000	80,000
Art, humanities, and related occupations	161,000	72,000	79,000	74,000	82,000	71,000
Writers, editors, public relations specialists, artists, entertainers, broadcasters	160,000	72,000	79,000	74,000	81,000	70,000
Historians	s	s	s	s	s	s
Other non-S&E occupations	1,794,000	45,000	875,000	40,000	919,000	50,000
Accounting clerks and bookkeepers	104,000	40,000	95,000	39,000	9,000	53,000
Secretaries, receptionists, typists	111,000	39,000	105,000	37,000	6,000	45,000
Other administrative (e.g., record clerks, telephone operators)	387,000	42,000	234,000	41,000	153,000	48,000
Farmers, foresters, and fishermen	87,000	40,000	10,000	44,000	77,000	39,000
Lawyers, judges	41,000	93,000	15,000	93,000	26,000	s
Librarians, archivists, curators	22,000	47,000	16,000	s	6,000	72,000
Food preparation and service (e.g., cooks, waitresses, bartenders)	92,000	25,000	48,000	24,000	44,000	26,000
Protective services (e.g., firefighters, police, guards, wardens, park rangers)	125,000	65,000	30,000	60,000	95,000	72,000
Other service occupations, except health (e.g., probation officer, human services work)	216,000	43,000	108,000	41,000	108,000	45,000
Other teachers and instructors (e.g., private tutors, dance, flying, martial arts)	62,000	43,000	40,000	39,000	22,000	64,000
Construction and extraction occupations	31,000	59,000	4,000	76,000	28,000	55,000
Installation, maintenance, and repair occupations	100,000	50,000	2,000	s	98,000	49,000
Precision or production occupations (e.g., metal or wood workers, butchers, bakers, assemblers, tailors)	60,000	47,000	13,000	33,000	47,000	48,000
Transportation and material moving occupations	103,000	39,000	6,000	42,000	97,000	39,000
Other occupations	252,000	50,000	150,000	44,000	103,000	60,000

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

Note(s)

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

TABLE S3-20

Estimate and median salary of full-time workers with highest degree in S&E field, by race, ethnicity, and occupation: 2017

(Number and dollars)

Occupation	Total		Asian		American Indian or Alaska Native		Black or African American		Hispanic or Latino		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	12,315,000	80,000	2,028,000	90,000	43,000	67,000	845,000	56,000	1,058,000	65,000	8,075,000	80,000	38,000	83,000	227,000	75,000
S&E occupations	4,643,000	93,000	1,067,000	100,000	8,000	94,000	232,000	80,000	314,000	80,000	2,931,000	94,000	17,000	85,000	74,000	90,000
Computer and mathematical scientists	2,208,000	100,000	668,000	104,000	s	s	147,000	79,000	118,000	87,000	1,236,000	101,000	7,000	77,000	31,000	98,000
Computer and information scientists	2,047,000	100,000	629,000	105,000	s	s	139,000	79,000	109,000	89,000	1,133,000	104,000	7,000	77,000	29,000	97,000
Computer and information scientists, research	62,000	108,000	17,000	140,000	s	s	s	s	1,000	s	42,000	98,000	s	s	s	s
Computer network architects	36,000	118,000	7,000	113,000	s	s	s	s	s	s	26,000	123,000	s	s	s	s
Computer support specialists	131,000	63,000	14,000	85,000	s	s	29,000	54,000	7,000	44,000	81,000	64,000	s	s	s	s
Computer system analysts	218,000	93,000	80,000	93,000	s	s	17,000	95,000	13,000	74,000	104,000	94,000	s	s	4,000	74,000
Database administrators	68,000	85,000	18,000	76,000	s	s	3,000	s	3,000	s	38,000	94,000	s	s	s	s
Information security analysts	75,000	110,000	18,000	118,000	s	s	13,000	90,000	s	s	34,000	111,000	s	s	s	s
Network and computer systems administrators	114,000	82,000	21,000	98,000	s	s	19,000	72,000	4,000	79,000	67,000	82,000	s	s	4,000	73,000
Software developers, applications and systems software	483,000	108,000	180,000	109,000	s	s	22,000	69,000	16,000	96,000	260,000	110,000	s	s	4,000	90,000
Web developers	73,000	95,000	14,000	80,000	s	s	4,000	s	6,000	75,000	47,000	99,000	s	s	2,000	s
Other computer information science occupations	178,000	93,000	27,000	94,000	s	s	12,000	57,000	10,000	80,000	127,000	96,000	s	s	2,000	s
Computer engineers – software	608,000	111,000	233,000	107,000	s	s	18,000	98,000	42,000	118,000	308,000	114,000	s	s	5,000	104,000
Mathematical scientists	103,000	96,000	27,000	99,000	s	s	5,000	90,000	7,000	79,000	63,000	92,000	s	s	1,000	113,000

TABLE S3-20

Estimate and median salary of full-time workers with highest degree in S&E field, by race, ethnicity, and occupation: 2017

(Number and dollars)

Occupation	Total		Asian		American Indian or Alaska Native		Black or African American		Hispanic or Latino		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 (\$)
Mathematicians	3,000	100,000	1,000	63,000	s	s	s	s	s	s	1,000	120,000	s	s	s	s
Operations research analysts, including modeling	49,000	95,000	12,000	99,000	s	s	3,000	67,000	4,000	67,000	29,000	94,000	s	s	1,000	s
Statisticians	36,000	99,000	12,000	109,000	s	s	1,000	85,000	2,000	87,000	21,000	99,000	s	s	s	s
Other mathematical scientists	16,000	s	2,000	s	s	s	s	s	s	s	13,000	s	s	s	s	s
Postsecondary teachers – computer and mathematical sciences	58,000	72,000	12,000	79,000	s	s	3,000	71,000	3,000	65,000	40,000	70,000	s	s	s	s
Computer science	17,000	96,000	5,000	80,000	s	s	s	s	2,000	s	9,000	129,000	s	s	s	s
Mathematics and statistics	41,000	65,000	7,000	75,000	s	s	2,000	62,000	1,000	s	31,000	63,000	s	s	s	s
Biological, agricultural, and environmental life scientists	464,000	56,000	96,000	54,000	s	s	12,000	73,000	27,000	47,000	318,000	60,000	1,000	74,000	8,000	54,000
Agricultural and food scientists	35,000	59,000	6,000	54,000	s	s	1,000	s	4,000	s	23,000	70,000	s	s	s	s
Biological and medical scientists	344,000	55,000	82,000	52,000	s	s	10,000	74,000	19,000	47,000	225,000	56,000	1,000	85,000	7,000	60,000
Biochemists and biophysicists	60,000	52,000	18,000	50,000	s	s	1,000	s	6,000	44,000	34,000	56,000	s	s	s	s
Biological scientists (e.g., botanists, ecologists, zoologists)	123,000	54,000	26,000	44,000	s	s	1,000	66,000	5,000	50,000	87,000	55,000	s	s	2,000	65,000
Medical scientists (excluding practitioners)	100,000	55,000	21,000	60,000	s	s	s	s	4,000	42,000	70,000	55,000	s	s	s	s
Other biological and life scientists	62,000	71,000	17,000	60,000	s	s	5,000	79,000	4,000	47,000	33,000	71,000	s	s	s	s
Forestry and conservation scientists	21,000	60,000	s	s	s	s	s	s	s	s	20,000	59,000	s	s	s	s

TABLE S3-20

Estimate and median salary of full-time workers with highest degree in S&E field, by race, ethnicity, and occupation: 2017

(Number and dollars)

Occupation	Total		Asian		American Indian or Alaska Native		Black or African American		Hispanic or Latino		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 (\$)
Postsecondary teachers — life and related sciences	64,000	70,000	8,000	79,000	s	s	1,000	s	3,000	44,000	51,000	72,000	s	s	s	s
Agriculture	4,000	95,000	s	s	s	s	s	s	s	s	3,000	97,000	s	s	s	s
Biological sciences	53,000	62,000	5,000	77,000	s	s	1,000	s	3,000	45,000	44,000	62,000	s	s	s	s
Other natural sciences	7,000	79,000	2,000	s	s	s	s	s	s	s	4,000	94,000	s	s	s	s
Physical and related scientists	278,000	74,000	39,000	60,000	s	s	10,000	66,000	16,000	54,000	203,000	77,000	s	s	6,000	68,000
Chemists, except biochemists	98,000	65,000	15,000	65,000	s	s	6,000	63,000	7,000	44,000	67,000	70,000	s	s	s	s
Earth scientists, geologists, and oceanographers	61,000	77,000	5,000	58,000	s	s	1,000	s	2,000	62,000	53,000	79,000	s	s	1,000	85,000
Atmospheric and space scientists	11,000	88,000	1,000	s	s	s	s	s	s	s	10,000	88,000	s	s	1,000	s
Geologists, including earth scientists	48,000	75,000	3,000	54,000	s	s	1,000	s	2,000	59,000	41,000	76,000	s	s	1,000	s
Oceanographers	2,000	97,000	s	s	s	s	s	s	s	s	s	s	s	s	s	s
Physicists and astronomers	34,000	69,000	11,000	35,000	s	s	s	s	s	s	22,000	107,000	s	s	s	s
Astronomers	3,000	s	s	s	s	s	s	s	s	s	3,000	s	s	s	s	s
Physicists, except biophysicists	32,000	66,000	10,000	35,000	s	s	s	s	s	s	19,000	108,000	s	s	s	s
Other physical and related scientists	40,000	73,000	3,000	109,000	s	s	3,000	92,000	s	s	28,000	73,000	s	s	2,000	s
Postsecondary teachers — physical and related sciences	44,000	86,000	6,000	84,000	s	s	1,000	s	2,000	62,000	34,000	91,000	s	s	s	s
Chemistry	15,000	88,000	3,000	88,000	s	s	s	s	1,000	s	11,000	91,000	s	s	s	s
Earth, environmental, and marine sciences	15,000	78,000	1,000	s	s	s	s	s	1,000	s	13,000	76,000	s	s	s	s

TABLE S3-20

Estimate and median salary of full-time workers with highest degree in S&E field, by race, ethnicity, and occupation: 2017

(Number and dollars)

Occupation	Total		Asian		American Indian or Alaska Native		Black or African American		Hispanic or Latino		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 (\$)
Physics	14,000	91,000	3,000	80,000	s	s	s	s	s	s	9,000	98,000	s	s	s	s
Social and related scientists	316,000	75,000	21,000	80,000	s	s	19,000	65,000	35,000	70,000	236,000	77,000	s	s	5,000	72,000
Economists	39,000	74,000	2,000	102,000	s	s	1,000	98,000	3,000	115,000	31,000	s	s	s	s	s
Political scientists	12,000	104,000	s	s	s	s	s	s	s	s	11,000	110,000	s	s	s	s
Psychologists, including clinical	128,000	75,000	6,000	102,000	s	s	6,000	59,000	22,000	71,000	92,000	78,000	s	s	2,000	s
Sociologists and anthropologists	19,000	41,000	s	s	s	s	s	s	s	s	16,000	43,000	s	s	s	s
Anthropologists	9,000	44,000	s	s	s	s	s	s	s	s	8,000	45,000	s	s	s	s
Sociologists	10,000	34,000	s	s	s	s	s	s	s	s	8,000	s	s	s	s	s
Other social and related scientists	35,000	82,000	3,000	134,000	s	s	2,000	s	4,000	40,000	26,000	88,000	s	s	s	s
Postsecondary teachers – social and related sciences	83,000	75,000	8,000	77,000	s	s	9,000	69,000	4,000	74,000	61,000	75,000	s	s	1,000	58,000
Economics	12,000	90,000	s	s	s	s	s	s	s	s	9,000	102,000	s	s	s	s
Political science	13,000	83,000	s	s	s	s	s	s	s	s	8,000	86,000	s	s	s	s
Psychology	26,000	70,000	4,000	72,000	s	s	1,000	s	1,000	67,000	20,000	66,000	s	s	s	s
Sociology	11,000	67,000	s	s	s	s	s	s	1,000	67,000	9,000	67,000	s	s	s	s
Other social sciences	20,000	73,000	s	s	s	s	s	s	s	s	15,000	75,000	s	s	s	s
Engineers	1,377,000	96,000	243,000	98,000	4,000	94,000	44,000	86,000	117,000	90,000	937,000	97,000	8,000	108,000	23,000	89,000
Aerospace, aeronautical, or astronautical engineers	106,000	120,000	12,000	116,000	s	s	s	s	11,000	118,000	75,000	120,000	s	s	2,000	110,000
Chemical engineers	80,000	98,000	15,000	87,000	s	s	s	s	4,000	90,000	60,000	100,000	s	s	s	s
Civil, architectural, or sanitary engineers	222,000	83,000	28,000	80,000	s	s	8,000	85,000	23,000	66,000	159,000	84,000	s	s	3,000	81,000
Electrical or computer hardware engineers	313,000	104,000	86,000	109,000	s	s	11,000	85,000	23,000	91,000	186,000	105,000	s	s	5,000	102,000
Computer engineers – hardware	55,000	110,000	19,000	124,000	s	s	1,000	73,000	3,000	105,000	30,000	101,000	s	s	s	s

TABLE S3-20

Estimate and median salary of full-time workers with highest degree in S&E field, by race, ethnicity, and occupation: 2017

(Number and dollars)

Occupation	Total		Asian		American Indian or Alaska Native		Black or African American		Hispanic or Latino		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 (\$)
Electrical and electronics engineers	257,000	103,000	67,000	107,000	s	s	9,000	89,000	20,000	90,000	155,000	105,000	s	s	3,000	76,000
Industrial engineers	55,000	87,000	6,000	69,000	s	s	3,000	90,000	11,000	105,000	35,000	83,000	s	s	s	s
Mechanical engineers	265,000	90,000	42,000	89,000	s	s	5,000	95,000	18,000	90,000	194,000	92,000	s	s	4,000	77,000
Other engineers	299,000	95,000	42,000	87,000	s	s	14,000	74,000	24,000	84,000	207,000	99,000	4,000	s	8,000	79,000
Agricultural engineers	3,000	93,000	s	s	s	s	s	s	s	s	3,000	93,000	s	s	s	s
Bioengineers or biomedical engineers	21,000	87,000	5,000	82,000	s	s	s	s	2,000	68,000	13,000	96,000	s	s	s	s
Environmental engineers	47,000	77,000	2,000	70,000	s	s	2,000	54,000	3,000	72,000	39,000	79,000	s	s	s	s
Marine engineers and naval architects	7,000	92,000	s	s	s	s	s	s	s	s	5,000	98,000	s	s	s	s
Materials and metallurgical engineers	28,000	95,000	3,000	110,000	s	s	s	s	3,000	112,000	18,000	98,000	s	s	s	s
Mining and geological engineers	3,000	92,000	s	s	s	s	s	s	s	s	2,000	91,000	s	s	s	s
Nuclear engineers	18,000	89,000	s	s	s	s	s	s	s	s	13,000	98,000	s	s	s	s
Petroleum engineers	19,000	117,000	3,000	79,000	s	s	s	s	s	s	14,000	126,000	s	s	s	s
Sales engineers	55,000	114,000	4,000	94,000	s	s	s	s	3,000	117,000	43,000	115,000	s	s	s	s
Other engineers	99,000	97,000	20,000	98,000	s	s	7,000	82,000	9,000	88,000	57,000	101,000	s	s	4,000	68,000
Postsecondary teachers – engineering	38,000	101,000	12,000	95,000	s	s	1,000	s	2,000	99,000	22,000	109,000	s	s	s	s
S&E-related occupations	1,725,000	80,000	328,000	94,000	s	s	138,000	52,000	174,000	60,000	1,036,000	82,000	3,000	64,000	37,000	93,000
Health-related occupations	478,000	56,000	78,000	66,000	s	s	58,000	39,000	39,000	43,000	276,000	57,000	s	s	20,000	92,000

TABLE S3-20

Estimate and median salary of full-time workers with highest degree in S&E field, by race, ethnicity, and occupation: 2017

(Number and dollars)

Occupation	Total		Asian		American Indian or Alaska Native		Black or African American		Hispanic or Latino		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 (\$)
Diagnosing or treating practitioners (e.g., dentists, optometrists, physicians, psychiatrists, podiatrists, surgeons, veterinarians)	63,000	60,000	17,000	300,000	s	s	s	s	s	s	40,000	58,000	s	s	s	s
Registered nurses, pharmacists, dietitians, therapists, physician assistants, nurse practitioners	126,000	67,000	18,000	81,000	s	s	s	s	14,000	46,000	74,000	65,000	s	s	5,000	s
Health technologists and technicians (e.g., dental hygienists, health record technicians, licensed practical nurses, laboratory or radiology technicians)	155,000	49,000	24,000	53,000	s	s	21,000	36,000	9,000	39,000	99,000	50,000	s	s	s	s
Other health occupations	119,000	48,000	15,000	40,000	s	s	27,000	40,000	11,000	33,000	52,000	49,000	s	s	13,000	s
Postsecondary teachers – health and related sciences	15,000	114,000	4,000	142,000	s	s	s	s	s	s	10,000	113,000	s	s	s	s
S&E managers	515,000	129,000	92,000	138,000	s	s	15,000	119,000	39,000	114,000	357,000	129,000	1,000	s	8,000	137,000
Computer and information systems managers	149,000	141,000	46,000	136,000	s	s	5,000	119,000	8,000	119,000	84,000	154,000	s	s	5,000	s
Engineering managers	266,000	124,000	36,000	149,000	s	s	5,000	110,000	23,000	119,000	198,000	120,000	s	s	1,000	s
Medical and health services managers	50,000	102,000	4,000	s	s	s	s	s	s	s	37,000	104,000	s	s	1,000	s
Natural sciences managers	50,000	103,000	6,000	136,000	s	s	s	s	2,000	102,000	37,000	102,000	s	s	s	s

TABLE S3-20

Estimate and median salary of full-time workers with highest degree in S&E field, by race, ethnicity, and occupation: 2017

(Number and dollars)

Occupation	Total		Asian		American Indian or Alaska Native		Black or African American		Hispanic or Latino		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 (\$)
S&E precollege teachers	198,000	51,000	19,000	57,000	s	s	25,000	51,000	30,000	48,000	122,000	54,000	s	s	3,000	45,000
Secondary – computer, mathematics, or sciences	170,000	51,000	18,000	57,000	s	s	22,000	51,000	26,000	49,000	101,000	54,000	s	s	2,000	46,000
Secondary – social sciences	29,000	50,000	s	s	s	s	s	s	3,000	48,000	21,000	50,000	s	s	s	s
S&E technicians and technologists	500,000	76,000	133,000	80,000	s	s	38,000	59,000	66,000	82,000	256,000	75,000	1,000	s	6,000	s
Technologists and technicians in the biological and life sciences	80,000	57,000	17,000	58,000	s	s	5,000	s	10,000	39,000	47,000	65,000	s	s	1,000	s
Computer programmers (business, scientific, process control)	116,000	95,000	43,000	99,000	s	s	8,000	94,000	14,000	53,000	51,000	100,000	s	s	s	s
Electrical, electronic, industrial, and mechanical technicians	158,000	79,000	44,000	69,000	s	s	16,000	55,000	30,000	s	67,000	82,000	s	s	1,000	s
Drafting occupations, including computer drafting	9,000	60,000	s	s	s	s	s	s	s	s	6,000	58,000	s	s	s	s
Surveying and mapping technicians	9,000	56,000	s	s	s	s	s	s	s	s	6,000	51,000	s	s	s	s
Other engineering technologists and technicians	84,000	84,000	19,000	94,000	s	s	7,000	82,000	8,000	76,000	48,000	80,000	s	s	s	s
Surveyors, cartographers, photogrammetrists	20,000	58,000	s	s	s	s	s	s	s	s	16,000	58,000	s	s	s	s

TABLE S3-20

Estimate and median salary of full-time workers with highest degree in S&E field, by race, ethnicity, and occupation: 2017

(Number and dollars)

Occupation	Total		Asian		American Indian or Alaska Native		Black or African American		Hispanic or Latino		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 (\$)
Technologists and technicians in the mathematical sciences	2,000	112,000	s	s	s	s	s	s	s	s	s	s	s	s	s	s
Technologists and technicians in the physical sciences	22,000	47,000	s	s	s	s	s	s	s	s	14,000	47,000	s	s	s	s
Other S&E-related occupations	34,000	99,000	7,000	97,000	s	s	s	s	s	s	26,000	99,000	s	s	s	s
Architects	18,000	100,000	6,000	99,000	s	s	s	s	s	s	10,000	99,000	s	s	s	s
Actuaries	16,000	97,000	1,000	s	s	s	s	s	s	s	15,000	97,000	s	s	s	s
Non-S&E occupations	5,947,000	62,000	633,000	63,000	27,000	52,000	475,000	47,000	570,000	55,000	4,108,000	67,000	18,000	80,000	116,000	59,000
Non-S&E managers	1,131,000	107,000	116,000	120,000	4,000	111,000	42,000	81,000	88,000	89,000	865,000	109,000	s	s	13,000	98,000
Top-level managers, executives, administrators (e.g., chief executive officer, chief operating officer, chief financial officer; president; district manager, general manager, provost)	658,000	124,000	78,000	139,000	4,000	s	17,000	77,000	36,000	100,000	516,000	124,000	s	s	6,000	111,000
Education administrators (e.g., registrar, dean, principal)	34,000	100,000	4,000	s	s	s	s	s	3,000	s	25,000	98,000	s	s	s	s
Other mid-level managers	439,000	96,000	33,000	113,000	s	s	24,000	81,000	49,000	76,000	324,000	97,000	s	s	6,000	94,000
Management-related occupations	1,303,000	80,000	184,000	84,000	s	s	105,000	56,000	127,000	65,000	843,000	86,000	5,000	87,000	28,000	64,000
Accountants, auditors, and other financial specialists	393,000	73,000	61,000	60,000	s	s	24,000	47,000	40,000	54,000	253,000	84,000	s	s	9,000	70,000

TABLE S3-20

Estimate and median salary of full-time workers with highest degree in S&E field, by race, ethnicity, and occupation: 2017

(Number and dollars)

Occupation	Total		Asian		American Indian or Alaska Native		Black or African American		Hispanic or Latino		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 (\$)
Personnel, training, and labor relations specialists	178,000	68,000	20,000	58,000	s	s	20,000	65,000	15,000	49,000	117,000	74,000	s	s	5,000	75,000
Other management-related occupations	731,000	86,000	103,000	104,000	s	s	61,000	54,000	72,000	73,000	473,000	90,000	3,000	82,000	14,000	53,000
Non-S&E precollege teachers	306,000	40,000	39,000	s	s	s	45,000	43,000	34,000	50,000	184,000	39,000	s	s	4,000	30,000
Prekindergarten and kindergarten	41,000	26,000	7,000	s	s	s	6,000	s	12,000	s	15,000	30,000	s	s	s	s
Elementary	122,000	50,000	s	s	s	s	17,000	46,000	9,000	50,000	81,000	44,000	s	s	2,000	s
Secondary – other subjects	50,000	44,000	s	s	s	s	s	s	4,000	43,000	22,000	45,000	s	s	s	s
Special education – primary and secondary	72,000	32,000	s	s	s	s	4,000	40,000	7,000	54,000	59,000	30,000	s	s	s	s
Other precollegiate area	21,000	s	s	s	s	s	6,000	s	s	s	s	s	s	s	s	s
Non-S&E postsecondary teachers	53,000	69,000	5,000	78,000	s	s	4,000	s	4,000	72,000	38,000	69,000	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	7,000	135,000	s	s	s	s	s	s	s	s	5,000	134,000	s	s	s	s
Education	9,000	69,000	2,000	75,000	s	s	s	s	s	s	6,000	64,000	s	s	s	s
English	11,000	s	s	s	s	s	s	s	s	s	11,000	s	s	s	s	s
Foreign language	6,000	69,000	s	s	s	s	s	s	s	s	s	s	s	s	s	s
History	3,000	s	s	s	s	s	s	s	s	s	3,000	s	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	15,000	65,000	1,000	s	s	s	s	s	2,000	s	9,000	67,000	s	s	s	s
Social services and related occupations	394,000	43,000	12,000	52,000	s	s	77,000	41,000	67,000	45,000	229,000	42,000	s	s	6,000	41,000
Clergy and other religious workers	31,000	40,000	s	s	s	s	s	s	s	s	27,000	38,000	s	s	s	s

TABLE S3-20

Estimate and median salary of full-time workers with highest degree in S&E field, by race, ethnicity, and occupation: 2017

(Number and dollars)

Occupation	Total		Asian		American Indian or Alaska Native		Black or African American		Hispanic or Latino		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 (\$)
Counselors (e.g., educational, vocational, mental health, substance abuse)	174,000	46,000	3,000	54,000	s	s	27,000	44,000	34,000	46,000	103,000	45,000	s	s	5,000	41,000
Social workers	189,000	41,000	8,000	46,000	s	s	48,000	40,000	32,000	41,000	99,000	42,000	s	s	1,000	48,000
Sales and marketing occupations	805,000	70,000	69,000	50,000	s	s	41,000	57,000	55,000	56,000	617,000	72,000	s	s	20,000	60,000
Insurance, securities, real estate, and business services	210,000	80,000	12,000	s	s	s	14,000	66,000	12,000	57,000	169,000	85,000	s	s	1,000	85,000
Sales, commodities except retail (e.g., industrial, medical, dental machinery, equipment, supplies)	150,000	96,000	6,000	61,000	s	s	2,000	70,000	12,000	65,000	127,000	98,000	s	s	3,000	s
Sales, retail (e.g., furnishings, clothing, motor vehicles, cosmetics)	188,000	38,000	27,000	21,000	s	s	13,000	30,000	11,000	41,000	133,000	41,000	s	s	5,000	35,000
Other marketing and sales occupations	257,000	75,000	24,000	110,000	s	s	12,000	46,000	20,000	58,000	189,000	76,000	s	s	10,000	72,000
Arts, humanities, and related occupations	161,000	72,000	13,000	95,000	s	s	9,000	46,000	8,000	84,000	126,000	71,000	s	s	s	s
Writers, editors, public relations specialists, artists, entertainers, broadcasters	160,000	72,000	13,000	95,000	s	s	9,000	46,000	8,000	84,000	125,000	71,000	s	s	s	s
Historians	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s	s
Other non-S&E occupations	1,794,000	45,000	196,000	50,000	5,000	31,000	153,000	42,000	189,000	43,000	1,205,000	42,000	7,000	33,000	40,000	54,000
Accounting clerks and bookkeepers	104,000	40,000	16,000	48,000	s	s	12,000	43,000	14,000	35,000	60,000	40,000	s	s	s	s
Secretaries, receptionists, typists	111,000	39,000	11,000	42,000	s	s	10,000	34,000	8,000	40,000	76,000	38,000	s	s	s	s

TABLE S3-20

Estimate and median salary of full-time workers with highest degree in S&E field, by race, ethnicity, and occupation: 2017

(Number and dollars)

Occupation	Total		Asian		American Indian or Alaska Native		Black or African American		Hispanic or Latino		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 administrative (e.g., record clerks, telephone operators)	387,000	42,000	47,000	47,000	s	s	43,000	37,000	45,000	40,000	241,000	44,000	s	s	8,000	42,000
Farmers, foresters, and fishermen	87,000	40,000	s	s	s	s	s	s	s	s	79,000	39,000	s	s	s	s
Lawyers, judges	41,000	93,000	3,000	138,000	s	s	s	s	2,000	93,000	33,000	100,000	s	s	s	s
Librarians, archivists, curators	22,000	47,000	s	s	s	s	5,000	68,000	s	s	16,000	30,000	s	s	s	s
Food preparation and service (e.g., cooks, waitresses, bartenders)	92,000	25,000	10,000	31,000	s	s	4,000	s	s	s	72,000	24,000	s	s	s	s
Protective services (e.g., firefighters, police, guards, wardens, park rangers)	125,000	65,000	6,000	81,000	s	s	15,000	81,000	19,000	76,000	82,000	63,000	s	s	2,000	64,000
Other service occupations, except health (e.g., probation officer, human services work)	216,000	43,000	16,000	47,000	s	s	19,000	32,000	25,000	64,000	150,000	41,000	s	s	6,000	s
Other teachers and instructors (e.g., private tutors, dance, flying, martial arts)	62,000	43,000	7,000	s	s	s	s	s	8,000	40,000	42,000	48,000	s	s	2,000	s
Construction and extraction occupations	31,000	59,000	4,000	77,000	s	s	s	s	4,000	53,000	22,000	59,000	s	s	s	s
Installation, maintenance, and repair occupations	100,000	50,000	19,000	58,000	s	s	s	s	6,000	s	66,000	47,000	s	s	s	s

TABLE S3-20

Estimate and median salary of full-time workers with highest degree in S&E field, by race, ethnicity, and occupation: 2017

(Number and dollars)

Occupation	Total		Asian		American Indian or Alaska Native		Black or African American		Hispanic or Latino		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 (\$)
Precision or production occupations (metal or wood workers, butchers, bakers, assemblers, tailors)	60,000	47,000	13,000	s	s	s	4,000	30,000	4,000	40,000	37,000	47,000	s	s	s	s
Transportation and material moving occupations	103,000	39,000	19,000	49,000	s	s	11,000	54,000	12,000	s	58,000	33,000	s	s	s	s
Other occupations	252,000	50,000	24,000	87,000	s	s	22,000	68,000	34,000	37,000	171,000	46,000	s	s	1,000	60,000

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

Note(s)

Hispanic may be any race; race categories exclude Hispanic origin. 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

TABLE S3-21

S&E doctorate holders employed in academia, by type of position, degree field, and citizenship: 2017

(Thousands)

Position and degree field	All S&E doctorate holders	Native-born U.S. citizens	Foreign born	
			Naturalized U.S. citizens	Noncitizens
All positions	326.6	228.4	52.2	46.1
Physical sciences	46.9	31.4	7.4	8.2
Mathematics and statistics	20.6	11.6	5.0	4.1
Computer and information sciences	8.9	4.3	2.6	2.1
Life sciences	112.6	82.7	15.1	14.8
Psychology	38.0	33.5	2.9	1.6
Social sciences	59.9	45.8	8.0	6.2
Engineering	39.8	19.3	11.2	9.3
Full-time faculty ^a	223.5	159.4	38.2	25.8
Physical sciences	29.7	21.1	5.0	3.6
Mathematics and statistics	16.3	9.3	4.0	3.0
Computer and information sciences	7.1	3.3	2.1	1.7
Life sciences	70.0	54.2	9.9	5.9
Psychology	26.3	23.2	2.1	1.1
Social sciences	46.0	34.9	6.1	5.0
Engineering	28.2	13.6	9.0	5.7
Postdocs	18.4	9.4	1.0	8.0
Physical sciences	3.4	1.5	0.1	1.9
Mathematics and statistics	0.5	0.2	s	0.3
Computer and information sciences	0.2	0.1	s	s
Life sciences	10.6	6.0	0.7	3.9
Psychology	0.7	0.5	s	0.2
Social sciences	0.6	0.4	0.1	0.1
Engineering	2.6	0.9	s	1.6
Other positions ^b	84.8	59.5	13.0	12.3
Physical sciences	13.8	8.9	2.3	2.7
Mathematics and statistics	3.9	2.1	1.0	0.8
Computer and information sciences	1.7	0.9	0.5	0.3
Life sciences	32.1	22.6	4.5	5.0
Psychology	11.0	9.8	0.8	0.4
Social sciences	13.4	10.5	1.9	1.1
Engineering	9.1	4.8	2.1	2.1

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

^a Full-time faculty includes assistant professors, associate professors, and full professors.^b Other positions include full-time positions such as instructors, research associates, adjunct positions, lecturers, and administrative positions, as well as part-time positions of all kinds. Part-time positions exclude those employed part time because they are students or retired.**Note(s)**

Detail may not add to total because of rounding. Academic employment is limited to U.S. doctorate holders employed at 2- or 4-year colleges or universities, medical centers, and university research institutes. Physical sciences include earth, atmospheric, and ocean sciences; life sciences include biological, agricultural, environmental, and health sciences. Numbers are rounded to the nearest 50.

Source(s)

National Center for Science and Engineering Statistics, National Science Foundation, Survey of Doctorate Recipients (SDR), 2017.

TABLE S3-22

Race and ethnic distribution of workers in S&E occupations, by nativity: 2017

(Percent distribution)

Race and ethnicity	All	Foreign born	U.S. native born
Total (number)	6,769,000	1,998,000	4,771,000
American Indian or Alaska Native	0.2	s	0.3
Asian	19.8	59.6	3.1
Black or African American	5.6	4.4	6.2
Hispanic or Latino	7.5	9.8	6.5
Native Hawaiian or Other Pacific Islander	0.3	0.5	0.3
White	65.0	24.4	81.9
More than one race	1.6	1.2	1.8

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

Note(s)

Hispanic may be any race; race categories exclude 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 Center for Science and Engineering Statistics, National Science Foundation, National Survey of College Graduates (NSCG), 2017.

Science and Engineering Indicators

TABLE S3-23

Five-year stay rates of foreign students on temporary visas receiving S&E doctorates, by region, country, or economy of citizenship at time of degree: 2003–17

(Percent)

Region, country, or economy of citizenship	2003	2005	2007	2009	2011	2013	2015	2017
Total	64	67	63	62	66	70	70	71
China (including Hong Kong)	93	95	94	89	85	84	85	83
India	90	89	83	79	82	85	83	83
Europe	63	67	67	60	62	63	64	71
South Korea	36	44	42	42	42	54	66	57

Note(s)

Detail may not add to total because of rounding. Stay rates for 2013, 2015, and 2017 are based on an average from three cohorts to reduce the error of the estimates.

Source(s)

Finn M, Stay Rates of Foreign Doctoral Recipients from U.S. Universities, 2011, Oak Ridge Institute for Science and Education (2001–11); National Center for Science and Engineering Statistics, National Science Foundation, Survey of Doctorate Recipients (SDR), 2013–17.

Science and Engineering Indicators

TABLE S3-24

Plans of foreign recipients of U.S. doctorates to stay in the United States, by field of doctorate and place of citizenship: 2006–17

(Number and percent)

Field and place of citizenship	Foreign S&E doctorate recipients			Plans to stay (%)			Definite plans to stay (%)		
	2006–09	2010–13	2014–17	2006–09	2010–13	2014–17	2006–09	2010–13	2014–17
All S&E fields	56,139	56,312	62,671	77.3	74.9	76.5	51.6	47.5	45.8
China	17,467	16,577	21,104	89.0	84.1	83.2	57.7	52.6	50.0
India	8,273	8,878	8,855	88.6	86.0	87.6	60.2	54.9	51.5
South Korea	4,981	4,685	3,989	69.6	65.2	68.9	45.4	41.9	42.5
Iran	657	1,231	3,005	91.9	89.2	91.9	61.6	57.3	52.8
Taiwan	2,117	2,432	2,206	67.3	71.4	78.7	40.7	41.5	44.2
Turkey	1,797	1,773	1,668	70.6	64.8	65.6	48.7	43.1	41.1
Canada	1,745	1,599	1,529	66.4	66.4	66.7	47.4	47.3	45.0
Nepal	191	448	850	91.1	87.7	89.8	60.7	51.3	50.2
Colombia	492	632	760	65.0	61.9	66.6	44.9	37.8	41.4
Mexico	751	749	758	53.3	60.7	64.1	40.5	38.6	37.5
Bangladesh	330	342	742	81.8	83.6	88.9	58.5	48.2	49.6
Thailand	995	915	730	31.0	30.8	26.8	15.8	15.1	14.1
Germany	753	793	698	67.5	66.5	65.0	52.9	49.6	45.8
Brazil	567	597	606	50.4	52.6	60.7	37.0	34.5	41.6
Japan	950	868	606	57.8	59.9	60.1	41.2	38.2	35.5
Other	14,073	13,793	14,565	69.5	67.5	65.0	47.3	43.2	39.1
Physical and earth sciences	8,819	8,579	9,432	79.9	77.5	77.8	54.9	52.0	45.7
China	3,167	2,999	3,814	88.2	85.0	83.0	58.7	55.7	46.9
India	923	1,223	1,156	85.9	83.4	83.9	58.9	56.5	49.8
South Korea	601	521	347	77.5	69.3	70.3	56.9	50.1	46.4
Taiwan	226	286	314	78.3	73.8	75.5	59.7	49.7	46.5
Sri Lanka	135	179	307	83.7	82.1	79.2	52.6	49.2	42.3
Iran	61	69	270	85.2	79.7	87.0	55.7	53.6	50.0
Nepal	59	144	244	s	89.6	87.7	62.7	59.7	48.8
Turkey	224	188	186	79.0	74.5	65.1	49.6	52.1	39.8
Canada	268	209	179	64.9	67.0	67.6	47.4	52.6	50.8
Russia	281	173	153	79.0	86.1	81.7	53.7	64.2	51.0
Germany	134	147	128	53.0	61.9	65.6	41.8	50.3	44.5
Thailand	88	95	97	33.0	35.8	26.8	20.5	20.0	15.5
Colombia	63	85	95	71.4	60.0	74.7	54.0	32.9	49.5
Mexico	94	113	92	60.6	59.3	66.3	48.9	40.7	41.3
France	105	99	88	64.8	66.7	73.9	50.5	47.5	45.5
Other	2,390	2,049	1,962	73.6	70.3	69.0	51.0	46.4	41.6
Biological sciences	11,495	11,844	12,269	80.5	79.8	79.0	54.1	49.6	46.2
China	3,693	3,415	3,866	90.7	85.6	83.9	58.3	53.0	49.6
India	1,754	2,222	2,310	90.8	88.9	90.4	61.6	52.4	49.9
South Korea	792	710	547	85.6	83.1	83.2	61.6	56.1	51.4
Taiwan	481	619	531	77.5	82.9	87.9	52.4	51.4	52.7
Canada	461	378	350	70.9	71.2	77.1	52.1	46.8	43.7
Nepal	44	120	251	88.6	88.3	92.4	52.3	47.5	53.0
Brazil	189	194	226	52.9	57.2	65.5	35.4	38.7	39.4
Colombia	133	160	203	63.9	68.1	66.0	42.9	42.5	39.9
Turkey	188	191	200	80.3	77.5	72.0	57.4	56.0	43.5
Thailand	188	185	192	21.8	31.4	25.0	16.5	17.8	15.6
Mexico	204	175	189	45.6	62.3	70.4	33.3	36.0	41.3
Iran	42	59	163	100.0	88.1	90.2	64.3	54.2	55.2

TABLE S3-24

Plans of foreign recipients of U.S. doctorates to stay in the United States, by field of doctorate and place of citizenship: 2006–17

(Number and percent)

Field and place of citizenship	Foreign S&E doctorate recipients			Plans to stay (%)			Definite plans to stay (%)		
	2006–09	2010–13	2014–17	2006–09	2010–13	2014–17	2006–09	2010–13	2014–17
Germany	163	176	147	76.7	76.1	66.0	59.5	45.5	40.1
Japan	165	185	138	78.8	74.1	72.5	60.6	49.2	38.4
Singapore	49	76	102	46.9	46.1	37.3	30.6	32.9	29.4
Other	2,949	2,979	2,854	71.5	73.0	68.3	47.9	46.3	40.4
Health sciences	2,091	2,239	2,559	68.9	71.0	72.6	43.2	42.2	42.4
China	373	437	530	84.2	84.7	85.5	54.4	55.1	54.3
India	399	453	479	89.2	88.7	89.4	56.1	49.9	49.7
South Korea	190	178	222	77.9	73.0	77.9	48.9	39.3	44.1
Taiwan	209	182	142	52.6	55.5	73.9	30.6	35.2	39.4
Saudi Arabia	26	24	110	s	s	11.8	0.0	s	4.5
Canada	107	116	106	66.4	62.1	67.0	45.8	44.0	45.3
Nigeria	22	31	68	77.3	s	80.9	36.4	35.5	41.2
Thailand	92	88	66	15.2	11.4	18.2	5.4	0.0	7.6
Jordan	41	48	65	26.8	41.7	40.0	s	12.5	20.0
Japan	45	55	42	53.3	54.5	76.2	35.6	30.9	50.0
Brazil	36	36	37	44.4	63.9	70.3	27.8	36.1	45.9
Egypt	34	36	33	61.8	s	78.8	35.3	52.8	57.6
Unknown foreign country	22	16	29	54.5	62.5	58.6	31.8	25.0	48.3
Ghana	7	15	27	100.0	73.3	77.8	s	40.0	22.2
Kenya	15	17	25	53.3	s	68.0	s	41.2	24.0
Nepal	s	18	25	s	s	s	s	38.9	64.0
United Kingdom	29	21	25	82.8	76.2	72.0	65.5	61.9	32.0
Other	440	468	528	64.1	64.3	64.6	41.1	40.2	37.9
Mathematics and computer sciences	6,888	6,946	8,404	79.4	76.9	80.9	55.8	52.8	54.8
China	2,666	2,695	3,578	89.7	86.0	87.8	62.5	57.9	59.2
India	975	905	1,000	86.4	83.4	85.6	63.6	58.8	59.5
South Korea	489	480	434	74.0	68.5	76.0	46.0	42.9	52.1
Iran	54	116	304	83.3	83.6	92.1	57.4	51.7	60.9
Turkey	217	221	233	62.7	69.7	69.1	46.1	48.9	49.4
Taiwan	161	207	221	68.3	70.5	78.3	42.9	45.4	47.5
Bangladesh	31	65	154	s	93.8	94.2	71.0	58.5	61.0
Vietnam	41	104	131	73.2	74.0	84.7	53.7	52.9	58.8
Canada	133	144	129	63.2	63.9	67.4	50.4	54.9	55.0
Saudi Arabia	18	21	106	s	s	11.3	s	s	4.7
Greece	88	67	92	56.8	71.6	84.8	43.2	55.2	64.1
Nepal	9	31	92	100.0	s	88.0	s	61.3	55.4
Sri Lanka	30	50	92	80.0	80.0	80.4	53.3	50.0	50.0
Jordan	46	63	89	37.0	44.4	49.4	26.1	23.8	18.0
Italy	58	70	77	69.0	61.4	72.7	53.4	41.4	55.8
Other	1,872	1,707	1,672	69.2	65.9	70.0	49.1	47.2	47.7
Social sciences	7,920	8,066	8,334	60.4	55.9	57.9	43.1	36.1	36.9
China	1,135	1,205	1,701	77.0	63.5	65.0	55.5	40.7	43.0
South Korea	854	861	932	48.1	45.6	53.2	30.6	28.0	31.8
India	479	581	506	79.5	72.5	70.9	58.0	48.2	45.7
Canada	492	466	484	57.7	56.2	54.8	42.3	40.6	37.4
Turkey	417	420	373	54.0	39.0	45.8	40.8	25.7	25.7
Taiwan	282	324	288	39.4	43.8	53.8	23.4	21.6	27.8

TABLE S3-24

Plans of foreign recipients of U.S. doctorates to stay in the United States, by field of doctorate and place of citizenship: 2006–17

(Number and percent)

Field and place of citizenship	Foreign S&E doctorate recipients			Plans to stay (%)			Definite plans to stay (%)		
	2006–09	2010–13	2014–17	2006–09	2010–13	2014–17	2006–09	2010–13	2014–17
Germany	229	223	224	69.9	62.3	62.5	57.2	49.3	48.7
Japan	406	353	221	47.3	52.7	46.6	35.0	32.6	29.9
Mexico	185	164	187	48.1	53.0	56.1	38.9	32.9	28.3
Italy	144	135	160	61.8	51.9	60.0	47.2	37.8	50.6
Brazil	153	141	146	41.8	42.6	48.6	31.4	27.0	33.6
Colombia	91	100	135	40.7	47.0	43.0	28.6	35.0	30.4
United Kingdom	117	139	133	75.2	66.2	69.2	53.8	46.8	49.6
Chile	66	62	112	27.3	37.1	28.6	16.7	29.0	20.5
Argentina	131	150	100	64.9	57.3	60.0	52.7	48.0	51.0
Other	2,739	2,742	2,632	61.2	57.4	57.8	42.8	35.5	34.9
Engineering	18,926	18,638	21,673	81.3	78.4	80.4	51.3	47.7	46.0
China	6,433	5,826	7,615	90.4	86.2	84.7	55.5	50.7	48.6
India	3,743	3,494	3,404	89.9	87.6	89.7	59.7	56.6	52.0
Iran	453	920	2,148	92.9	91.2	93.0	64.0	59.3	51.8
South Korea	2,055	1,935	1,507	68.1	64.6	69.6	41.6	40.7	41.9
Taiwan	758	814	710	71.8	76.7	84.5	36.3	39.6	43.5
Turkey	742	746	660	77.1	72.1	73.6	51.6	45.7	45.9
Bangladesh	144	167	390	86.8	83.8	90.3	55.6	47.3	47.2
Canada	284	286	281	77.1	79.0	73.3	48.2	52.8	51.2
Egypt	189	231	269	78.3	68.8	69.9	50.3	39.4	37.2
Colombia	151	211	259	75.5	67.8	75.3	50.3	37.4	42.5
Thailand	397	328	224	40.6	36.6	32.6	18.6	16.5	15.6
Saudi Arabia	69	64	214	15.9	17.2	13.6	11.6	s	2.8
Mexico	180	198	196	61.1	63.6	66.8	45.0	39.4	37.2
Pakistan	100	153	193	72.0	51.0	59.1	45.0	32.7	34.2
Jordan	176	177	175	62.5	58.2	53.7	37.5	32.2	30.9
Other	3,052	3,088	3,428	72.1	70.5	70.3	47.4	42.9	40.0

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 2014–17. 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 2.1% to 4.5% over the 2006–17 period, and the percentage who either did not report postgraduate location plans or did not report employment plans ranged from 3.3% to 7.0% over that period.

Source(s)

National Center for Science and Engineering Statistics, National Science Foundation, Survey of Earned Doctorates (SED).