TABLE 15-1

U.S. residing employed doctoral scientists and engineers, by fine field of doctorate and primary or secondary work activity: 2021

(Number and SE)

Field of study	All employed		Research and development								Computer applications		Design		Management, sales, or administration[a]		Professional services		Teaching		Other[b]	
			Any R&D		Basic research		Applied research		Experimental development													
	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE
All fields	872,100	2,425	523,500	2,725	184,350	2,075	307,900	2,750	135,750	1,925	92,500	1,525	68,450	1,425	369,000	2,700	124,600	1,575	241,550	2,375	62,100	1,350
Science	647,300	2,000	376,600	2,325	157,900	1,875	216,600	2,225	73,400	1,525	61,150	1,250	34,000	950	277,950	2,175	107,300	1,375	195,650	2,175	46,050	1,175
Biological, agricultural, and environmental life sciences	226,850	1,275	145,150	1,575	65,850	1,225	85,000	1,450	26,750	800	12,150	600	9,250	475	108,900	1,450	32,450	925	53,350	1,100	17,750	725
Agricultural and food sciences	16,600	350	11,200	350	2,850	225	8,500	350	2,900	200	500	75	750	125	7,750	350	1,100	150	4,350	300	1,300	150
Agricultural sciences	900	75	600	75	100	25	500	75	200	50	50	25	50	25	400	50	50	25	250	50	50	25
Animal sciences	4,650	200	2,900	200	650	125	1,950	175	900	150	150	50	150	50	2,300	175	400	100	1,450	200	450	100
Food sciences and technology	3,300	200	2,350	200	500	100	1,800	200	750	125	D	D	250	75	1,550	150	200	75	800	150	300	75
Plant sciences	5,800	250	4,000	250	1,200	175	3,200	250	900	150	150	50	250	100	2,600	225	300	100	1,300	200	300	75
Soil sciences	2,000	150	1,350	150	450	100	1,100	150	150	50	150	50	100	50	900	125	150	75	500	75	150	50
Biochemistry and biophysics	29,550	600	19,600	650	9,700	475	10,350	550	4,200	375	1,750	275	1,600	225	14,450	625	3,300	375	5,550	375	2,400	300
Biochemistry	24,350	550	15,900	625	7,900	450	8,450	550	3,300	325	1,050	225	1,100	150	12,150	600	2,750	325	4,850	375	2,100	275
Biophysics	5,200	200	3,650	200	1,750	175	1,900	200	850	150	700	125	500	150	2,250	175	550	125	700	125	300	100
Cell, cellular biology, and molecular biology	32,300	450	19,400	575	10,700	525	9,450	550	3,800	325	900	200	1,100	200	16,350	600	6,250	400	7,100	475	2,300	325
Microbiological sciences and immunology	24,750	425	15,750	450	7,300	425	9,200	450	3,550	350	450	100	550	125	12,950	525	4,250	350	4,600	325	2,400	300
Immunology	9,150	225	6,050	325	2,700	250	3,600	275	1,400	225	50	50	250	100	4,550	275	1,650	200	1,500	225	1,000	175
Microbiological sciences	15,650	350	9,700	375	4,600	350	5,650	375	2,100	250	400	100	300	100	8,400	400	2,600	300	3,100	275	1,450	250
Natural resources and conservation	9,000	225	5,600	200	1,050	125	4,500	200	800	100	750	100	550	100	4,300	225	800	125	2,700	175	900	125
Fish, fisheries, wildlife, and wildlands science and management	2,000	125	1,400	100	250	75	1,150	100	150	50	150	50	100	50	1,100	100	100	50	450	75	150	50
Forestry	2,550	150	1,700	125	350	75	1,350	125	300	75	350	75	150	50	1,050	100	300	100	700	75	200	50
Natural resource conservation, research, management, and policy	4,400	175	2,500	175	500	75	2,000	175	350	75	250	50	300	75	2,200	175	400	100	1,500	175	550	125
Zoology	6,850	250	4,350	250	1,950	200	2,500	200	650	125	250	75	250	75	3,300	225	600	150	2,300	200	600	150
Other biological sciences	107,800	850	69,250	1,000	32,300	775	40,450	875	10,850	475	7,550	475	4,400	325	49,850	950	16,150	675	26,750	775	7,800	450
Biomathematics, bioinformatics, and computational biology	6,200	150	5,000	175	1,150	125	3,950	175	1,050	175	1,950	150	450	75	1,700	175	300	75	900	125	200	50
Botany and plant biology	6,150	250	3,650	250	1,850	175	2,100	175	650	125	300	75	150	75	2,900	200	500	100	1,800	150	800	175
Epidemiology, ecology, and population biology	16,950	350	11,850	425	4,450	275	8,350	475	600	125	1,300	200	700	150	8,000	400	1,400	250	5,550	300	1,350	200
Genetics	8,750	225	5,850	250	3,400	250	2,900	225	950	125	750	100	350	100	4,150	250	1,150	200	1,850	175	500	100
Neurobiology and neuroscience	18,850	300	12,000	400	7,150	400	5,200	350	1,650	250	1,800	300	1,000	175	9,000	450	3,750	350	3,750	325	1,100	175
Nutrition sciences	4,100	150	2,500	150	550	100	1,850	150	450	75	50	25	150	50	1,950	175	600	100	1,550	150	250	75
Pharmacology and toxicology	13,100	300	8,300	375	3,450	300	4,800	325	2,150	250	350	125	450	150	6,750	400	2,450	275	2,300	250	1,000	200
Physiology, pathology, and related sciences	15,350	300	8,600	400	3,900	275	5,100	325	1,450	175	350	100	550	125	7,300	400	3,550	275	4,250	300	1,000	150
Biological and biomedical sciences, general	13,650	325	8,550	425	4,800	325	4,700	350	1,500	175	550	150	450	100	6,000	275	1,850	250	3,400	350	1,150	200
Biological and biomedical sciences, other	4,700	225	2,950	250	1,600	200	1,500	175	400	75	200	75	200	75	2,100	225	550	125	1,400	150	450	100
Computer and information sciences	33,600	425	20,000	550	5,550	400	12,150	550	5,700	400	13,650	550	3,400	325	11,800	550	750	150	8,250	425	1,500	250
Computer science	29,100	400	17,300	525	4,900	400	10,350	525	5,100	400	12,400	550	3,000	325	10,300	525	500	125	6,750	400	1,350	250

TABLE 15-1

U.S. residing employed doctoral scientists and engineers, by fine field of doctorate and primary or secondary work activity: 2021

(Number and SE)

Field of study	All employed		Research and development								Computer applications		Design		Management, sales, or administration[a]		Professional services		Teaching		Other[b]	
			Any R&D		Basic research		Applied research		Experimental development													
	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE
Information science, studies	2,500	125	1,400	125	450	100	950	100	200	50	500	75	200	50	900	100	250	75	900	125	100	50
Computer and information sciences, other	2,000	100	1,250	100	200	50	850	75	350	50	800	75	200	50	600	75	50	25	600	75	50	25
Mathematics and statistics	36,600	575	22,650	650	11,300	600	11,400	450	2,850	250	8,550	500	2,800	275	10,250	425	1,250	225	17,700	550	1,750	175
Applied mathematics	7,850	300	4,800	300	2,150	275	2,750	275	700	125	2,500	275	450	100	2,100	225	200	75	3,650	275	300	75
Mathematics	16,850	400	9,900	475	6,350	450	3,100	250	1,100	150	3,450	300	1,100	175	4,450	275	350	100	9,900	400	1,000	175
Statistics	7,450	325	5,200	350	1,850	275	3,800	325	700	125	1,550	200	850	200	2,500	275	450	175	1,950	250	250	75
Mathematics and statistics, other	4,450	150	2,750	200	950	125	1,750	175	400	125	1,050	150	350	100	1,250	125	250	100	2,150	150	250	75
Physical sciences, geosciences, atmospheric sciences, and ocean sciences	137,050	1,025	86,400	1,300	33,800	850	46,800	1,100	26,700	950	19,300	750	12,650	650	57,500	1,050	8,050	475	32,900	825	11,650	525
Astronomy and astrophysics	6,350	175	3,950	225	2,700	225	1,200	150	350	100	1,850	150	600	100	2,400	200	300	75	2,000	200	350	75
Chemistry, except biochemistry	66,350	800	41,550	975	14,000	600	22,800	850	16,600	700	4,200	375	4,900	375	30,300	775	4,550	375	15,550	600	6,300	400
Inorganic chemistry	8,500	275	4,950	300	1,900	200	2,400	250	2,150	225	400	150	500	100	4,100	275	450	150	2,400	225	1,050	175
Organic chemistry	17,650	400	11,200	475	3,850	325	6,600	450	4,500	400	350	125	1,200	200	7,900	350	1,600	275	4,150	300	1,400	225
Chemistry, other, except biochemistry	40,200	625	25,350	775	8,200	450	13,800	625	9,950	575	3,450	300	3,250	300	18,350	650	2,500	250	9,000	475	3,850	300
Geosciences, atmospheric sciences, and ocean sciences	22,050	325	14,400	350	7,350	300	8,450	325	1,650	150	3,200	175	1,200	125	9,050	300	1,050	150	6,550	300	1,800	150
Atmospheric sciences and meteorology	4,150	100	2,950	125	1,450	100	1,850	125	400	75	1,100	100	300	50	1,450	100	100	25	750	75	300	50
Geological and earth sciences, geosciences	13,550	300	8,550	300	4,400	250	4,850	275	1,050	150	1,650	150	800	100	5,550	275	700	125	4,600	275	1,150	150
Ocean sciences and marine sciences	2,400	75	1,500	75	750	75	900	75	100	25	200	50	50	25	1,200	75	100	25	750	75	250	75
Oceanography, chemical and physical	2,000	125	1,350	125	750	100	850	125	100	50	250	50	50	25	850	100	150	75	450	75	100	25
Physics	42,300	675	26,550	825	9,750	500	14,350	725	8,100	600	10,000	600	5,950	475	15,750	625	2,200	325	8,800	500	3,200	300
Psychology	113,500	825	41,900	950	12,500	575	27,950	750	6,250	475	2,250	275	2,900	275	51,000	925	55,650	975	32,800	825	6,200	500
Clinical psychology	40,650	600	9,850	600	1,850	325	7,500	525	1,100	250	150	75	500	125	17,700	675	29,600	700	8,600	500	2,150	350
Counseling and applied psychology	14,600	300	2,600	225	750	175	1,800	200	350	75	D	D	200	100	7,350	375	10,300	350	3,150	275	850	200
Educational and school psychology	13,300	325	5,150	350	1,050	200	3,500	275	1,100	200	150	75	150	75	5,650	375	5,650	300	4,700	325	900	125
Industrial and organizational psychology	4,950	175	2,150	200	250	75	1,500	175	650	150	50	50	400	100	3,200	200	1,150	150	1,150	150	250	50
Research and experimental psychology	27,700	425	16,900	500	7,150	375	10,050	425	2,050	225	1,500	225	1,250	175	11,750	425	4,100	325	11,350	400	1,500	200
Psychology, general	7,600	275	3,050	275	900	175	2,000	250	600	175	200	100	200	100	3,050	275	3,300	300	2,300	275	300	75
Psychology, other	4,700	150	2,200	175	550	100	1,600	175	300	75	150	100	100	50	2,350	175	1,500	150	1,600	175	300	75
Social sciences	99,700	1,000	60,500	875	28,900	800	33,300	750	5,150	325	5,250	375	3,000	225	38,450	850	9,100	475	50,600	975	7,250	475
Economics	27,300	550	18,600	575	7,000	475	13,150	500	1,200	175	2,750	275	1,000	150	9,850	475	3,000	325	11,000	525	1,500	275
Political science and government	20,500	550	12,250	475	6,650	425	5,750	375	1,100	175	600	125	600	125	8,200	475	1,600	225	10,950	525	1,450	250
Political science and government	16,150	550	9,800	450	6,150	425	3,800	350	800	175	400	125	400	125	5,800	425	1,050	225	9,500	500	1,100	225
Public policy analysis	4,300	150	2,500	175	500	125	1,950	150	300	75	150	50	200	50	2,400	175	550	100	1,450	175	350	100
Sociology, demography, and population studies	15,650	375	9,400	425	5,250	325	4,550	300	600	100	550	125	400	75	5,700	325	1,300	200	8,750	400	1,400	250
Other social sciences	36,300	575	20,250	450	10,000	400	9,900	350	2,250	200	1,300	175	1,000	125	14,700	525	3,250	250	19,900	550	2,850	200

TABLE 15-1

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(Number and SE)

Field of study	All employed		Research and development								Computer applications		Design		Management, sales, or administration[a]		Professional services		Teaching		Other[b]	
			Any R&D		Basic research		Applied research		Experimental development													
	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE
Anthropology	10,900	275	6,500	300	3,600	275	2,800	225	650	150	250	125	250	75	4,350	300	750	175	6,050	300	850	125
Area, ethnic, cultural, gender, and group studies	4,050	150	1,700	150	1,050	150	450	75	300	75	D	D	50	25	1,550	150	400	75	2,550	175	550	75
Geography and cartography	4,400	225	2,850	200	1,050	150	1,850	175	250	75	250	75	150	50	1,700	150	250	50	2,250	200	300	75
International relations and national security studies	2,150	125	1,150	125	450	75	650	100	150	50	50	25	100	50	900	100	200	50	1,200	125	250	75
Linguistics	4,500	250	2,350	175	1,350	175	800	125	450	100	250	75	250	75	1,700	175	450	150	2,850	225	200	50
Urban studies, affairs	1,200	100	550	75	150	50	450	50	50	25	100	50	50	25	600	75	150	50	450	75	50	25
Social sciences, other	9,150	275	5,150	225	2,350	175	2,950	225	450	75	350	75	200	75	3,850	250	1,100	150	4,600	225	700	100
Engineering	183,100	1,325	122,600	1,525	22,150	775	72,750	1,500	56,900	1,250	30,150	875	32,700	1,000	72,750	1,350	8,950	525	30,000	750	13,550	600
Aerospace, aeronautical, and astronautical engineering	7,150	250	4,400	275	800	125	2,750	225	1,650	175	1,800	225	1,350	150	2,750	200	150	50	1,050	175	750	200
Chemical engineering	21,650	500	14,600	500	3,000	325	8,600	525	7,450	450	2,200	325	3,150	375	9,500	525	950	175	2,450	275	2,500	350
Civil engineering	19,750	575	10,800	500	2,050	200	7,900	450	2,400	300	2,050	250	5,150	450	9,250	475	1,850	250	4,700	325	1,100	150
Electrical and computer engineering	50,400	650	35,550	700	5,450	425	18,750	725	19,450	725	12,450	550	9,550	600	17,600	700	1,700	250	7,150	425	2,500	275
Computer engineering	7,150	275	4,550	300	750	100	2,750	250	1,900	175	3,000	225	1,150	200	2,150	200	250	100	1,250	175	150	50
Electrical, electronics, and communications engineering	43,250	600	31,000	700	4,750	400	16,000	675	17,550	725	9,500	525	8,400	550	15,450	650	1,450	250	5,900	400	2,350	275
Mechanical engineering	27,500	450	19,550	600	2,850	275	11,300	525	9,950	550	4,150	325	5,900	450	9,500	500	800	175	4,900	400	2,050	325
Metallurgical and materials engineering	17,450	400	11,800	500	2,500	325	6,300	400	6,650	475	1,200	225	2,350	275	7,800	425	750	125	2,050	275	2,100	250
Other engineering	39,250	525	25,900	550	5,450	375	17,150	550	9,350	425	6,250	375	5,250	300	16,300	475	2,800	250	7,800	425	2,550	250
Agricultural engineering	1,700	100	1,150	100	150	50	900	100	350	75	200	50	300	50	650	75	100	25	450	75	150	50
Bioengineering and biomedical engineering	14,900	275	10,250	375	2,200	250	6,750	400	3,900	300	2,000	250	1,900	225	6,650	300	1,550	200	1,850	200	1,100	175
Engineering mechanics, physics, and science	3,900	200	2,950	175	650	100	1,800	175	1,250	125	600	100	600	100	1,450	125	150	50	650	100	250	50
Industrial and manufacturing engineering	8,700	325	5,100	300	1,150	200	3,450	250	1,350	175	1,850	200	1,050	150	3,600	225	550	125	2,800	275	450	100
Nuclear engineering	3,100	125	2,000	125	350	100	1,500	125	750	100	600	100	450	75	1,250	100	200	50	400	75	250	75
Engineering, other	6,900	250	4,450	225	950	150	2,750	200	1,800	225	1,000	150	1,000	125	2,750	200	250	75	1,700	200	450	100
Health	41,650	525	24,300	625	4,300	325	18,500	525	5,450	375	1,200	175	1,750	250	18,350	575	8,350	425	15,900	500	2,500	300
Communication disorders sciences and services	3,100	125	1,700	150	300	100	1,300	125	300	75	50	25	50	25	1,400	125	850	125	1,400	125	150	50
Hospital and medical administration services	1,300	100	750	75	150	50	600	75	100	25	*	*	50	25	750	75	250	50	500	75	50	25
Pharmacy, pharmaceutical sciences, and administration	7,850	250	5,600	300	1,100	150	3,550	275	2,450	250	300	100	500	125	3,100	250	1,000	175	1,550	225	750	175
Public health	9,400	225	6,250	250	900	125	5,350	275	850	100	500	125	500	150	4,750	300	1,600	200	2,450	200	500	100
Registered nursing, nursing administration, nursing research	8,550	375	3,450	250	500	150	2,700	225	450	125	D	D	400	125	3,950	275	2,000	225	4,650	300	400	100
Health sciences, other	11,500	275	6,550	350	1,300	200	5,000	275	1,300	250	300	100	250	100	4,450	275	2,650	225	5,400	275	650	150

* = suppressed when population estimate < 25. D = suppressed to avoid disclosure of confidential information.

SE = standard error.

[a] Administration includes accounting, finance, contracts, and human resources.
[b] Includes production, operations, maintenance, and other activities not broken out separately.

Note(s):
Numbers are rounded to the nearest 50. Standard errors are rounded up to the nearest 25. Detail may exceed total due to multiple responses. Primary and secondary work activities were self-defined by respondent in response to the question: "On which two activities...did you work the most hours during a typical week on this job?" Residence location is based on reported living location on 1 February 2021.

Source(s):
National Center for Science and Engineering Statistics, Survey of Doctorate Recipients, 2021.