

TABLE 45-1

U.S. residing employed doctoral scientists and engineers, by occupation and primary or secondary work activity: 2023

(Number and SE)

Occupation	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 occupations	908,700	2,300	546,250	2,475	180,050	1,925	329,150	2,575	153,200	1,875	103,750	1,500	76,700	1,600	388,200	2,375	117,050	1,775	235,900	2,325	82,600	1,475
Science occupations	489,300	2,625	347,500	2,400	142,750	1,675	211,200	2,125	75,750	1,325	76,150	1,300	33,800	1,000	167,900	1,850	22,450	825	152,100	1,725	41,100	1,075
Biological, agricultural, and other life scientists	168,150	1,575	133,300	1,450	61,850	1,125	81,800	1,300	29,100	925	8,500	475	7,650	475	71,150	1,075	7,150	475	36,100	900	13,750	575
Agricultural, food scientists	11,250	475	9,200	425	2,250	250	7,550	400	3,100	275	300	100	550	150	4,950	350	350	100	650	150	1,150	150
Biochemists, biophysicists	17,100	575	15,500	575	7,850	400	9,600	425	4,650	350	1,000	175	1,400	250	6,250	425	450	150	200	75	1,000	150
Biological scientists	30,000	700	25,600	650	14,250	575	15,350	475	3,950	325	2,200	200	1,600	175	14,550	550	1,150	200	1,250	175	2,450	250
Forestry, conservation scientists	2,900	225	2,000	200	400	100	1,700	200	300	75	250	75	200	75	1,750	175	100	50	200	100	450	125
Medical scientists	46,600	975	40,100	950	14,450	575	28,550	875	10,650	525	2,300	250	2,350	275	20,600	600	3,350	325	2,100	275	3,800	350
Postsecondary teachers, agricultural, other natural sciences	5,100	325	3,650	300	1,000	150	2,950	300	200	100	D	D	D	D	1,400	175	100	50	4,050	275	250	50
Postsecondary teachers, biological sciences	33,000	875	19,250	700	15,650	625	4,200	375	450	100	200	75	100	50	11,500	550	200	75	27,050	800	2,500	250
Other biological, agricultural, life scientists	22,250	750	18,050	675	5,950	425	11,900	525	5,850	450	2,150	225	1,450	175	10,200	550	1,450	250	650	125	2,050	200
Computer and information scientists	76,900	1,250	43,050	975	7,550	475	26,850	925	17,250	700	42,800	1,150	11,150	575	22,000	825	1,950	300	10,350	525	4,600	425
Computer and information scientists	66,200	1,300	36,750	1,000	4,700	375	23,100	900	17,100	675	41,550	1,150	11,050	575	19,750	800	1,800	275	1,000	175	4,200	400
Postsecondary teachers, computer science	10,700	525	6,300	425	2,850	325	3,750	325	150	50	1,250	200	100	50	2,300	300	S	S	9,350	525	400	100
Mathematical scientists	48,650	1,000	33,050	875	12,250	500	20,700	775	5,950	475	14,800	600	5,950	425	11,000	600	1,300	175	16,900	625	3,300	300
Mathematical scientists	30,100	800	21,800	750	4,050	350	17,100	700	5,650	450	14,150	600	5,900	425	7,650	425	1,250	175	550	150	1,500	175
Postsecondary teachers, mathematics, statistics	18,550	675	11,250	500	8,200	400	3,550	350	300	100	650	125	100	50	3,350	350	S	S	16,350	600	1,850	225
Physical scientists	88,350	1,325	65,700	1,250	29,250	925	37,200	900	17,100	750	7,100	400	6,850	425	28,450	750	1,800	250	30,300	900	9,400	500
Chemists, except biochemists	21,850	775	18,800	750	4,550	300	13,200	625	9,250	550	750	175	2,200	275	8,150	500	550	175	350	100	2,950	300
Earth, atmospheric, ocean scientists	13,550	550	11,250	500	4,650	275	8,050	400	1,900	250	2,400	225	1,050	175	5,150	300	600	125	450	100	1,450	150
Physicists, astronomers	14,650	650	13,100	650	5,900	450	7,950	525	3,250	350	2,800	300	2,100	250	4,500	350	350	100	250	75	1,200	225
Postsecondary teachers, chemistry	16,250	700	7,750	500	5,600	425	1,900	275	550	175	S	S	200	75	4,750	325	D	D	14,750	675	1,800	275
Postsecondary teachers, physics	9,350	525	5,400	450	4,350	400	1,100	200	S	S	400	125	100	50	2,100	200	S	S	8,250	500	750	175
Postsecondary teachers, other physical science	6,750	275	4,450	275	3,000	225	1,450	150	150	75	100	50	150	75	1,750	150	D	D	6,050	275	400	75
Other physical scientists	5,950	400	4,900	400	1,200	200	3,500	300	1,900	250	650	150	1,000	200	2,050	250	150	50	200	75	750	150
Psychologists	36,450	850	21,350	775	8,250	425	13,850	675	2,500	300	600	125	700	125	13,600	550	7,250	450	18,050	575	3,150	300
Psychologists	17,550	725	11,200	600	3,000	300	9,150	525	1,900	250	500	100	600	125	8,550	450	5,950	450	1,350	250	1,300	225
Postsecondary teachers, psychology	18,900	675	10,100	475	5,250	325	4,700	350	600	150	50	50	100	50	5,050	375	1,350	200	16,700	575	1,850	200
Social scientists	70,750	1,175	51,050	1,000	23,650	775	30,800	750	3,800	300	2,350	250	1,500	175	21,650	725	3,000	325	40,400	900	6,900	400
Economists	9,700	475	7,900	425	1,750	250	7,150	375	1,100	200	1,150	175	550	125	4,100	300	1,550	250	250	125	800	175
Political scientists	2,100	225	1,750	225	1,050	175	1,300	200	150	50	D	D	D	D	800	175	100	50	200	100	300	75
Postsecondary teachers, economics	10,200	475	7,600	400	3,650	350	4,300	300	200	75	D	D	D	D	1,450	225	D	D	9,100	450	700	150
Postsecondary teachers, political science	9,700	500	6,850	450	5,050	400	1,900	225	150	75	D	D	D	D	1,450	200	D	D	9,100	525	850	175
Postsecondary teachers, sociology	7,450	375	4,600	300	3,450	300	1,100	175	200	75	D	D	D	D	1,400	225	D	D	6,800	350	950	200

TABLE 45-1

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(Number and SE)

Occupation	All employed		Research and development								Computer applications		Design		Management, sales, or administration ^a		Professional services		Teaching		Other ^b	
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	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE	Number	SE		
Postsecondary teachers, other social sciences	16,450	600	10,200	450	5,600	300	4,800	350	400	100	S	S	D	D	4,500	375	300	100	14,200	575	1,450	175
Sociologists, anthropologists	3,950	275	3,250	250	1,350	175	2,500	200	400	100	50	50	200	75	1,850	200	200	75	300	100	500	125
Other social scientists	11,200	500	8,850	425	1,750	225	7,650	400	1,250	150	800	150	650	125	6,100	375	650	100	400	75	1,400	175
Engineering occupations	127,550	1,600	93,450	1,400	15,700	625	54,300	1,275	47,150	1,100	15,500	725	30,250	950	43,200	1,225	4,550	450	22,300	800	11,000	575
Aerospace, aeronautical, astronautical engineers	7,500	425	5,700	350	750	150	3,350	250	3,150	275	1,400	175	2,200	250	2,650	275	150	75	250	125	450	100
Chemical engineers	8,050	500	6,500	475	550	125	3,850	375	4,600	400	400	100	2,650	325	2,600	350	200	75	50	25	750	150
Civil, architectural, sanitary engineers	7,800	500	3,450	350	750	175	2,750	325	900	200	1,050	200	2,800	275	3,650	375	1,550	250	300	125	700	150
Electrical engineers	29,900	1,000	23,550	875	1,650	200	11,000	550	16,600	775	6,600	425	9,300	625	9,000	625	300	100	400	150	2,400	300
Industrial engineers	1,300	225	650	150	100	50	400	100	350	150	100	75	400	150	550	125	100	75	50	25	300	100
Mechanical engineers	13,050	725	10,350	650	1,200	200	5,950	525	6,000	550	1,550	200	4,500	450	4,300	400	350	100	S	S	1,050	275
Postsecondary teachers, engineering	24,750	850	17,300	775	7,350	525	11,100	625	800	200	600	175	550	150	6,200	425	150	75	20,300	725	900	175
Other engineers	35,300	1,075	25,950	900	3,400	375	15,900	700	14,700	700	3,750	350	7,850	425	14,250	725	1,750	325	750	150	4,450	375
S&E-related occupations	135,450	1,825	49,400	1,300	9,650	550	32,200	1,025	11,500	675	6,500	450	4,700	400	69,650	1,375	61,450	1,125	31,400	950	8,800	475
Health occupations, except postsecondary teachers and managers	72,400	1,300	18,450	725	3,750	350	13,550	625	3,950	375	700	150	1,300	200	28,250	900	55,600	1,125	10,200	550	4,850	400
Postsecondary teachers, health and related science	19,900	725	10,800	550	3,050	300	7,800	475	550	125	250	100	S	S	5,500	350	2,950	300	16,250	625	1,550	200
S&E managers, including health	33,200	1,050	17,300	825	2,450	325	9,000	600	5,900	450	1,600	250	2,250	275	32,900	1,025	2,450	300	450	150	1,850	225
S&E precollege teachers	4,500	375	300	75	150	50	100	50	*	*	S	S	S	S	1,600	225	S	S	4,400	375	350	100
S&E technicians and technologists	4,550	400	2,300	275	100	50	1,550	225	1,000	225	3,600	375	800	150	1,000	175	150	50	S	S	150	75
Other S&E-related occupations	950	175	300	100	D	D	150	75	100	50	300	100	250	100	450	125	250	100	D	D	D	D
Non-S&E occupations	156,400	2,025	55,900	1,300	11,950	525	31,500	1,000	18,800	750	5,600	375	7,900	475	107,450	1,550	28,600	925	30,100	1,000	21,700	875
Arts, humanities-related occupations	9,950	475	3,850	275	1,100	150	1,900	225	1,800	175	200	75	250	75	5,000	325	3,250	300	850	150	2,400	250
Management-related occupations	35,000	1,025	11,250	675	1,500	200	6,500	500	4,850	475	2,250	275	3,250	325	27,150	825	6,650	450	1,950	250	5,450	400
Non-S&E managers	55,600	1,275	21,400	825	2,250	275	12,700	625	8,400	475	2,150	250	3,250	350	49,750	1,175	4,600	375	2,100	275	5,750	375
Non-S&E postsecondary teachers	19,500	725	11,050	525	5,100	375	5,750	350	750	150	250	75	100	75	4,550	350	550	125	17,450	700	1,800	250
Non-S&E precollege and other teachers	5,450	400	1,550	250	600	175	850	150	500	150	100	50	50	50	1,800	200	500	100	4,300	325	550	100
Sales, marketing occupations	6,950	450	2,000	250	200	100	900	150	1,100	200	200	75	200	75	6,250	425	600	150	200	50	800	150
Social service-related occupations	7,750	475	1,400	200	250	75	800	150	400	100	150	75	200	100	3,550	325	4,800	350	2,200	300	1,350	250
Other non-S&E occupations	16,200	675	3,450	300	900	200	2,100	225	950	150	350	75	500	125	9,450	475	7,650	550	1,100	225	3,600	275

* = suppressed when population estimate < 25. D = suppressed to avoid disclosure of confidential information. S = suppressed for reliability; coefficient of variation exceeds publication standards.

S&E = science and engineering; SE = standard error.

^a Administration includes accounting, finance, contracts, and human resources.^b Other work activities include 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 as respondents may provide both a primary and a secondary work activity. Primary and secondary work activities were self-defined by the 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 2023.

Source(s):
National Center for Science and Engineering Statistics, Survey of Doctorate Recipients, 2023.