

TABLE 1-10c

## Doctorate-holding nonfaculty researchers in engineering detailed fields: 1979–2019

(Number)

Year	Total	Aerospace, aeronautical, and astronautical engineering	Agricultural engineering	Architecture <sup>a,b</sup>	Bioengineering and biomedical engineering	Biological and biosystems engineering	Chemical engineering	Civil engineering <sup>b</sup>	Electrical, electronics, and communications engineering	Engineering mechanics, physics, and science	Industrial and manufacturing engineering	Mechanical engineering	Metallurgical and materials engineering <sup>a</sup>	Mining engineering	Nanotechnology <sup>a</sup>	Nuclear engineering	Petroleum engineering	Engineering nec
1979	273	18	9	na	6	na	37	25	65	30	3	45	21	9	NA	2	1	2
1980	423	31	5	na	4	na	51	38	77	26	14	68	80	0	NA	22	0	7
1981	503	8	4	na	3	na	75	30	81	39	4	113	96	0	NA	21	0	29
1982	670	26	4	na	9	na	96	114	74	33	27	149	89	9	NA	19	0	21
1983	631	24	7	na	8	na	50	86	127	36	10	128	94	3	NA	29	4	25
1984	589	22	10	na	12	na	60	51	149	47	9	86	100	0	NA	19	6	18
1985	615	21	4	na	14	na	78	31	149	29	3	112	131	0	NA	26	5	12
1986	521	34	1	na	5	na	75	33	88	27	2	84	128	1	NA	28	1	14
1987	443	28	2	na	6	na	49	38	62	24	13	85	96	1	NA	24	2	13
1988	566	21	10	na	6	na	76	39	115	20	7	107	124	0	NA	27	2	12
1989	581	14	19	na	18	na	75	37	114	19	11	89	120	0	NA	38	1	26
1990	609	24	13	na	12	na	77	51	104	17	21	127	103	1	NA	36	5	18
1991	659	26	12	na	16	na	61	54	121	16	20	113	147	3	NA	34	13	23
1992	737	39	10	na	26	na	148	52	123	16	17	97	131	2	NA	37	12	27
1993	805	69	6	na	25	na	128	67	135	34	8	116	142	5	NA	27	16	27
1994	825	66	23	na	36	na	87	54	159	30	6	135	139	2	NA	36	17	35
1995	789	80	27	na	26	na	70	66	175	37	3	108	120	3	NA	32	11	31
1996	731	86	15	na	21	na	82	70	144	38	2	108	95	7	NA	29	10	24
1997	848	84	19	na	31	na	159	66	168	50	8	109	83	3	NA	28	4	36
1998	810	68	28	na	34	na	149	61	152	49	5	109	120	1	NA	4	6	24
1999	940	87	28	na	58	na	141	81	169	60	5	127	115	2	NA	11	10	46
2000	896	39	24	na	42	na	110	131	145	60	7	176	109	0	NA	13	10	30
2001	801	15	27	na	36	na	95	98	118	62	12	133	103	4	NA	4	2	92
2002	903	17	29	na	43	na	87	118	131	76	22	121	107	2	NA	47	14	89
2003	952	30	25	na	49	na	96	98	172	78	11	125	146	3	NA	15	4	100
2004	1,043	60	28	na	67	na	92	111	175	69	26	175	174	5	NA	11	9	41
2005	946	54	22	na	58	na	66	113	178	61	24	165	127	1	NA	3	23	51
2006	1,118	66	33	na	65	na	144	134	158	72	41	170	142	2	NA	3	24	64
2007 <sup>old</sup> <sup>b</sup>	1,298	29	29	na	91	na	131	141	304	81	32	199	149	3	na	4	24	81
2007 <sup>new</sup> <sup>b</sup>	1,310	29	29	0	91	na	139	143	310	81	27	199	150	3	na	4	24	81
2008	1,419	41	57	5	89	na	173	161	283	78	67	193	124	10	na	26	15	97
2009	1,737	40	52	6	153	na	224	181	296	124	76	246	180	1	na	28	17	113
2010 <sup>c,d</sup>	2,406	58	70	15	250	na	265	256	395	114	108	355	224	7	na	39	23	227
2011 <sup>d</sup>	2,312	35	62	11	247	na	204	278	406	119	87	318	233	4	na	44	36	228

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2012	2,497	49	65	11	295	na	211	298	405	170	70	389	245	10	na	30	40	209
2013	2,494	40	50	10	238	na	264	296	431	157	77	403	273	10	na	27	40	178
2014old <sup>e</sup>	2,744	43	55	5	322	na	276	313	459	192	90	437	279	8	na	34	63	168
2014new <sup>e</sup>	2,745	43	55	5	322	na	276	313	459	192	90	438	279	8	na	34	63	168
2015	2,929	67	70	6	289	na	264	364	492	184	150	425	295	20	na	26	56	221
2016	3,155	77	55	30	311	na	297	420	560	188	162	393	353	23	na	29	57	200
2017old <sup>a</sup>	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
2017new <sup>a</sup>	3,274	102	52	ne	415	36	281	422	557	200	119	458	181	52	33	22	59	285
2018	3,570	115	60	ne	440	51	257	414	588	220	105	489	215	52	43	41	80	400
2019	3,909	124	55	ne	492	53	328	492	637	186	137	531	242	61	76	41	82	372

na = not applicable; data were not collected at this level of detail in the year shown. NA = not available; nanotechnology was not collected until 2007. ne = not eligible.

nec = not elsewhere classified.

<sup>a</sup> As part of 2017 Survey of Graduate Students and Postdoctorates in Science and Engineering (GSS) redesign, the GSS taxonomy was changed to align with the National Center for Science and Engineering Statistics (NCSES) Taxonomy of Disciplines (TOD), thus increasing comparability with other NCSES surveys. As a result, some eligible fields were reclassified and a small number of fields became fully or partially ineligible. Comparisons to prior years should use the 2017old estimates and should be limited to broad areas of study—detailed field comparisons are not recommended. Materials sciences was reported as part of metallurgical and materials engineering from 2011–16, starting in 2017 materials sciences is reported as part of physical sciences, nanotechnology was reported as part of the science detailed field multidisciplinary and interdisciplinary studies from 2007–16, and starting in 2017 architecture was removed.

<sup>b</sup> In 2007, eligible fields were reclassified, newly eligible fields were added, and the survey was redesigned to improve coverage and coding of eligible units. "2007new" presents data as collected in 2007; "2007old" shows data as they would have been collected in prior years. Architecture is reported as a separate field of engineering in 2007new; data were reported under civil engineering in 2007old and previous years. See appendix A in <https://www.nsf.gov/statistics/nsf10307/> for more detail.

<sup>c</sup> In 2010, the postdoctoral appointee (postdoc) and nonfaculty researcher (NFR) section of the survey was expanded and significant effort was made to ensure that appropriate personnel were providing postdoc and NFR data. Thus, it is unclear how much of the increases in 2010 and later years over 2009 and prior years are from growth in postdocs and NFRs and how much are from improved data collection. More information on the changes to the data collection is available at <https://www.nsf.gov/statistics/infbrief/nsf13334/>.

<sup>d</sup> Postdoc and NFR data from 2010 and 2011 were reimputed following the 2012 data collection; these data supersede those contained in previous reports.

<sup>e</sup> In 2014, the survey frame was updated following a comprehensive frame evaluation study. The study identified potentially eligible but not previously surveyed academic institutions in the United States with master's- or doctorate-granting programs in science, engineering, or health. A total of 151 newly eligible institutions were added, and two private for-profit institutions offering mostly practitioner-based graduate degrees were determined to be ineligible. For more information, see <https://www.nsf.gov/statistics/2016/nsf16314/>.

**Note(s):**

"Field" refers to the field of the unit that reports doctorate-holding nonfaculty researchers to the Survey of Graduate Students and Postdoctorates in Science and Engineering. Sum of the broad fields may not add to total because of rounding. Master's and doctoral students were not reported separately until 2017.

**Source(s):**

National Center for Science and Engineering Statistics, Survey of Graduate Students and Postdoctorates in Science and Engineering.