

Table 1-3. Distribution of doctoral students across science, engineering, and health fields: 2017–24

(Number)

Detailed field	2017	2018	2019	2020	2021	2022	2023	2024
All fields	270,525	277,096	281,889	283,335	293,543	297,223	307,229	312,148
Science	186,399	190,928	193,896	196,742	203,988	206,183	212,969	216,898
Agricultural and veterinary sciences ^a	3,744	3,880	3,889	4,313	4,443	4,647	4,854	5,044
Agricultural sciences	3,744	3,880	3,889	3,791	3,906	4,145	4,354	4,522
Veterinary biomedical and clinical sciences ^b	na	na	na	522	537	502	500	522
Biological and biomedical sciences ^a	51,291	52,627	53,915	54,905	58,155	59,638	60,863	62,357
Biochemistry	4,550	4,554	4,534	4,648	4,828	4,994	4,985	5,021
Biology	7,020	7,054	7,166	7,268	7,400	7,600	7,543	7,776
Biomedical sciences	3,412	4,030	4,579	4,514	4,826	5,155	5,415	5,685
Biophysics	843	830	890	860	973	887	943	958
Biostatistics and bioinformatics	2,679	2,946	3,192	3,339	3,591	3,799	4,043	4,183
Biotechnology	91	109	98	101	128	105	123	171
Botany and plant biology	1,312	1,317	1,295	1,255	1,269	1,301	1,299	1,312
Cell, cellular biology, and anatomical sciences	4,786	4,990	4,975	5,008	5,290	5,374	5,447	5,591
Ecology and population biology	2,566	2,620	2,571	2,725	2,790	2,808	2,798	2,767
Epidemiology	1,640	1,768	1,916	2,032	2,162	2,213	2,301	2,296
Genetics	2,021	2,105	2,082	2,182	2,449	2,584	2,494	2,538
Microbiological sciences and immunology	3,974	3,914	3,937	4,124	4,371	4,466	4,654	4,710
Molecular biology	1,135	1,128	1,153	1,240	1,265	1,231	1,280	1,282
Neurobiology and neuroscience	4,871	5,046	5,138	5,275	5,758	5,933	6,100	6,233
Nutrition science	988	967	948	989	993	1,050	1,109	1,116
Pathology and experimental pathology	911	880	843	753	849	917	963	1,049
Pharmacology and toxicology	2,244	2,237	2,151	2,174	2,374	2,409	2,460	2,445
Physiology	2,627	2,631	2,703	2,758	3,041	3,021	3,150	3,286
Zoology and animal biology	1,195	1,193	1,198	1,178	1,213	1,198	1,141	1,209
Biological and biomedical sciences nec	2,426	2,308	2,546	2,482	2,585	2,593	2,615	2,729
Computer and information sciences	14,291	16,127	17,192	18,174	19,531	20,583	22,484	24,010
Computer science	7,465	8,343	8,646	9,658	10,356	10,832	11,342	12,227
Computer and information sciences ^c	5,429	6,401	6,952	6,438	6,855	7,195	8,189	8,852
Computer and information sciences ^d	NA	NA	NA	5,482	6,168	6,432	7,247	7,645
Artificial intelligence, informatics, and computer and information science topics ^d	NA	NA	NA	956	687	763	942	1,207
Computer and information sciences nec ^c	1,397	1,383	1,594	2,078	2,320	2,556	2,953	2,931
Computer and information systems security ^d	NA	NA	NA	270	342	441	724	681
Information science and studies ^d	NA	NA	NA	1,245	1,351	1,394	1,522	1,575
Information technology ^d	NA	NA	NA	405	467	550	590	586
Computer and information sciences nec ^d	NA	NA	NA	158	160	171	117	89
Geosciences, atmospheric, and ocean sciences	6,539	6,704	6,551	6,515	6,770	6,784	6,801	6,857

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(Number)

Detailed field	2017	2018	2019	2020	2021	2022	2023	2024
Atmospheric sciences and meteorology	884	883	866	847	902	945	990	1,021
Geological and earth sciences	4,148	4,370	4,239	4,165	4,337	4,285	4,256	4,280
Ocean and marine sciences	1,420	1,451	1,446	1,503	1,531	1,554	1,555	1,556
Geosciences, atmospheric, and ocean sciences nec	87	ne	ne	ne	ne	ne	ne	ne
Mathematics and statistics	13,101	13,388	13,565	13,687	13,619	13,589	13,788	14,031
Mathematics and applied mathematics ^c	10,124	10,230	10,308	10,300	10,219	10,244	10,341	10,471
Applied mathematics ^d	NA	NA	NA	2,211	2,255	2,127	2,163	2,168
Mathematics ^d	NA	NA	NA	8,089	7,964	8,117	8,178	8,303
Statistics	2,977	3,158	3,257	3,387	3,400	3,345	3,447	3,560
Multidisciplinary and interdisciplinary sciences ^c	2,931	2,924	2,978	3,553	3,774	4,014	4,501	5,215
Biological and physical sciences ^d	NA	NA	NA	815	887	956	975	1,037
Computational science ^d	NA	NA	NA	298	347	335	289	387
Data science and data analytics ^d	NA	NA	NA	42	46	104	173	374
International and global studies ^d	NA	NA	NA	173	183	175	131	142
Multidisciplinary and interdisciplinary sciences nec ^d	NA	NA	NA	2,225	2,311	2,444	2,933	3,275
Natural resources and conservation	3,568	3,716	3,677	3,705	3,910	3,955	4,004	4,182
Environmental science and studies	1,621	1,744	1,738	1,799	1,956	1,980	1,989	2,051
Forestry, natural resources, and conservation	1,947	1,972	1,939	1,906	1,954	1,975	2,015	2,131
Physical sciences	35,461	36,000	36,506	36,341	37,732	37,836	38,329	39,329
Astronomy and astrophysics	1,236	1,281	1,373	1,430	1,539	1,603	1,557	1,638
Chemistry	19,367	19,547	19,748	19,389	20,149	19,695	20,116	20,712
Materials sciences	927	875	1,013	1,028	1,002	1,223	1,198	1,208
Physics	13,505	13,913	13,951	13,985	14,501	14,747	14,940	15,226
Physical sciences nec	426	384	421	509	541	568	518	545
Psychology ^a	20,395	20,303	20,231	21,115	21,447	21,121	24,354	23,408
Clinical psychology	3,751	3,814	3,785	3,668	3,389	3,274	3,270	3,337
Counseling and applied psychology ^c	6,825	6,946	6,537	6,193	6,371	6,504	7,678	7,394
Applied psychology ^d	NA	NA	NA	4,833	4,910	5,104	4,768	4,609
Counseling psychology ^d	NA	NA	NA	1,360	1,461	1,400	2,910	2,785
Human development ^b	na	na	na	742	797	768	759	705
Psychology, general	7,353	6,683	6,749	6,601	6,554	5,835	7,607	6,405
Research and experimental psychology	2,466	2,860	3,160	3,911	4,336	4,740	5,040	5,567
Social sciences ^a	35,078	35,259	35,392	34,434	34,607	34,016	32,991	32,465
Agricultural and natural resource economics	872	919	806	639	522	416	304	257
Anthropology	4,562	4,471	4,365	4,296	4,129	4,047	3,825	3,740
Criminal justice and safety studies	538	663	900	988	1,227	1,390	1,482	1,508

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(Number)

Detailed field	2017	2018	2019	2020	2021	2022	2023	2024
Economics (except agricultural and natural resource)	7,831	7,917	8,045	7,959	8,266	8,201	8,161	8,150
Geography and cartography	1,856	1,849	1,741	1,652	1,729	1,547	1,320	1,169
Human development ^b	685	793	731	na	na	na	na	na
International relations and national security studies	398	439	413	408	474	331	326	320
Linguistics	1,646	1,548	1,616	1,686	1,652	1,695	1,610	1,600
Political science and government	5,609	5,611	5,488	5,366	5,332	5,310	5,035	4,931
Public policy analysis	2,234	2,320	2,414	2,547	2,740	2,690	2,725	2,663
Sociology and population studies	5,340	5,128	5,070	5,067	4,875	4,655	4,516	4,346
Social sciences nec ^c	3,507	3,601	3,803	3,826	3,661	3,734	3,687	3,781
Area, ethnic, cultural, gender, and group studies ^d	NA	NA	NA	2,482	2,326	2,345	2,338	2,372
Criminology ^d	NA	NA	NA	318	308	322	316	344
Urban studies and affairs ^d	NA	NA	NA	405	391	398	318	284
Social sciences, other ^d	na	na	na	621	636	669	715	781
History and philosophy of science and technology ^e	235	270	257	na	na	na	na	na
Social sciences nec ^c	3,272	3,331	3,546	na	na	na	na	na
Engineering	68,825	70,237	72,065	71,279	72,924	72,980	74,992	76,441
Aerospace, aeronautical, and astronautical engineering	2,386	2,506	2,554	2,645	2,773	2,832	2,884	3,032
Biological, biomedical, and biosystems engineering	7,008	7,481	7,934	8,239	8,867	9,265	9,999	10,330
Bioengineering and biomedical engineering ^e	6,845	7,278	7,715	na	na	na	na	na
Biological and biosystems engineering ^e	163	203	219	na	na	na	na	na
Chemical, petroleum, and chemical-related engineering	7,536	7,599	7,664	7,612	7,713	7,590	7,888	7,935
Chemical engineering	6,874	6,950	7,057	7,031	7,115	7,069	7,430	7,477
Petroleum engineering	662	649	607	581	598	521	458	458
Civil, environmental, transportation and related engineering fields ^c	7,626	7,732	7,752	7,485	7,878	7,754	7,852	7,899
Civil engineering ^d	7,626	7,732	7,752	6,517	6,760	6,629	6,702	6,740
Architectural, environmental, construction and surveying engineering ^d	NA	NA	NA	968	1,118	1,125	1,150	1,159
Electrical, electronics, communications and computer engineering	17,936	18,119	18,577	17,720	17,570	17,585	17,706	17,774
Electrical, electronics, and communications engineering ^c	17,936	18,119	18,577	14,694	14,767	14,780	14,773	14,705
Computer engineering ^d	NA	NA	NA	3,026	2,803	2,805	2,933	3,069
Industrial, manufacturing, systems engineering and operations research	3,633	3,598	3,762	3,839	3,921	3,856	3,889	4,046
Industrial and manufacturing engineering ^c	3,633	3,598	3,762	2,413	2,322	2,301	2,292	2,378
Systems engineering and operations research ^d	NA	NA	NA	1,426	1,599	1,555	1,597	1,668
Mechanical engineering	11,149	11,159	11,247	11,477	11,540	11,523	11,679	11,858
Metallurgical, mining, materials and related engineering fields	4,655	4,821	4,817	4,882	4,904	4,573	4,782	4,858
Metallurgical and materials engineering ^e	4,426	4,610	4,616	na	na	na	na	na
Mining engineering ^e	229	211	201	na	na	na	na	na

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(Number)

Detailed field	2017	2018	2019	2020	2021	2022	2023	2024
Other engineering	6,896	7,222	7,758	7,380	7,758	8,002	8,313	8,709
Agricultural engineering	681	661	662	654	668	631	655	675
Engineering mechanics, physics, and science	1,457	1,428	1,447	1,468	1,457	1,588	1,694	1,674
Nuclear engineering	998	1,046	1,031	1,038	1,032	1,085	1,090	1,141
Engineering, other	na	na	na	4,220	4,601	4,698	4,874	5,219
Engineering nec ^c	3,665	4,016	4,472	na	na	na	na	na
Nanotechnology ^e	95	71	146	na	na	na	na	na
Health	15,301	15,931	15,928	15,314	16,631	18,060	19,268	18,809
Clinical medicine	4,410	4,508	4,571	4,796	5,612	5,966	6,174	6,399
Medical clinical sciences and clinical and medical laboratory sciences	NA	NA	NA	443	677	954	875	730
Public health	4,087	4,104	4,191	4,353	4,935	5,012	5,299	5,669
Clinical medicine nec	323	404	380	ne	ne	ne	ne	ne
Other health ^a	10,891	11,423	11,357	10,518	11,019	12,094	13,094	12,410
Communication disorders sciences	1,305	1,099	911	844	792	821	926	730
Dental sciences	248	247	208	217	219	228	811	800
Nursing science	3,598	3,551	3,439	3,359	3,512	3,657	3,809	3,386
Pharmaceutical sciences	2,566	2,954	3,121	2,893	2,936	3,059	2,954	3,100
Veterinary biomedical and clinical sciences ^b	577	575	692	na	na	na	na	na
Other health nec ^c	na	na	na	3,205	3,560	4,329	4,594	4,394
Kinesiology and exercise science ^d	NA	NA	NA	1,024	1,031	981	968	963
Other health nec ^d	2,597	2,997	2,986	2,181	2,529	3,348	3,626	3,431

na = not applicable. NA = not available; data not collected at this level of detail. ne = not eligible for graduate student reporting; the fields collected have changed over time.

nec = not elsewhere classified.

^a The following broad fields are not directly comparable between 2019 and 2020 due to changes in detailed fields: Agricultural and veterinary sciences, Biological and biomedical sciences, Psychology, Social sciences, and Other health.

^b The following detailed fields moved between broad fields between 2019 and 2020: Veterinary biomedical and clinical sciences moved from Other health to Agricultural and veterinary sciences; Human development moved from Social sciences to Psychology.

^c The following detailed fields from 2017 split into multiple fields in 2020; data after 2020 represent the aggregate counts of the new detailed fields split from the original detailed field: Computer and information sciences; Computer and information sciences nec; Mathematics and applied mathematics; Multidisciplinary and interdisciplinary sciences; Counseling and applied psychology; Social sciences nec; Civil, environmental, transportation and related engineering fields; Electrical, electronics, and communications engineering; Industrial and manufacturing engineering; Engineering nec; and Other health nec.

^d The following detailed fields were added or significantly modified in 2020: Computer and information sciences; Artificial intelligence, informatics, and computer and information science topics; Computer and information systems security; Information science and studies; Information technology; Computer and information sciences nec; Applied mathematics; Mathematics; Biological and physical sciences; Computational science; Data science and data analytics; International and global studies; Multidisciplinary and interdisciplinary sciences nec; Applied psychology; Counseling psychology; Area, ethnic, cultural, gender, and group studies; Criminology; Urban studies and affairs; Social sciences, other; Civil engineering; Computer engineering; Systems engineering and operations research; Kinesiology and exercise science; and Other health nec.

^e The following detailed fields from 2017 were moved or consolidated with other detailed fields starting in 2020: History and philosophy of science and technology; Bioengineering and biomedical engineering; Biological and biosystems engineering; Metallurgical and materials engineering; Mining engineering; and Nanotechnology.

Note(s):

Percentages may not add to total because of rounding. In the cases where field titles in the Survey of Graduate Students and Postdoctorates in Science and Engineering (GSS) changed between 2019 and 2020, the titles in this table match the GSS 2020 and later titles. For more information on the comparability of these counts to other data published by the National Center for Science and Engineering Statistics, see the "Technical Notes." Field names match the GSS 2020 and later titles in the few cases where field titles changed. Prior to 2020, there were no broad fields in engineering. All fields have been moved to match the current broad field organization. For information on the current fields and codes in the GSS, see table A-5 and table A-6.

Source(s):

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