

TABLE 1-11b

Doctoral student enrollment, by detailed fields: 2017–23

(Number)

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

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(Number)

Detailed field	2017	2018	2019	2020	2021	2022	2023
Computer and information sciences nec ^d	NA	NA	NA	158	160	171	117
Geosciences, atmospheric, and ocean sciences	6,539	6,704	6,551	6,515	6,770	6,784	6,801
Atmospheric sciences and meteorology	884	883	866	847	902	945	990
Geological and earth sciences	4,148	4,370	4,239	4,165	4,337	4,285	4,256
Ocean and marine sciences	1,420	1,451	1,446	1,503	1,531	1,554	1,555
Geosciences, atmospheric, and ocean sciences nec	87	ne	ne	ne	ne	ne	ne
Mathematics and statistics	13,101	13,388	13,565	13,687	13,619	13,589	13,788
Mathematics and applied mathematics ^c	10,124	10,230	10,308	10,300	10,219	10,244	10,341
Applied mathematics ^d	NA	NA	NA	2,211	2,255	2,127	2,163
Mathematics ^d	NA	NA	NA	8,089	7,964	8,117	8,178
Statistics	2,977	3,158	3,257	3,387	3,400	3,345	3,447
Multidisciplinary and interdisciplinary sciences ^c	2,931	2,924	2,978	3,553	3,774	4,014	4,501
Biological and physical sciences ^d	NA	NA	NA	815	887	956	975
Computational science ^d	NA	NA	NA	298	347	335	289
Data science and data analytics ^d	NA	NA	NA	42	46	104	173
International and global studies ^d	NA	NA	NA	173	183	175	131
Multidisciplinary and interdisciplinary sciences nec ^d	NA	NA	NA	2,225	2,311	2,444	2,933
Natural resources and conservation	3,568	3,716	3,677	3,705	3,910	3,955	4,004
Environmental science and studies	1,621	1,744	1,738	1,799	1,956	1,980	1,989
Forestry, natural resources, and conservation	1,947	1,972	1,939	1,906	1,954	1,975	2,015
Physical sciences	35,461	36,000	36,506	36,341	37,732	37,836	38,329
Astronomy and astrophysics	1,236	1,281	1,373	1,430	1,539	1,603	1,557
Chemistry	19,367	19,547	19,748	19,389	20,149	19,695	20,116
Materials sciences	927	875	1,013	1,028	1,002	1,223	1,198
Physics	13,505	13,913	13,951	13,985	14,501	14,747	14,940
Physical sciences nec	426	384	421	509	541	568	518
Psychology ^a	20,395	20,303	20,231	21,115	21,447	21,121	24,354
Clinical psychology	3,751	3,814	3,785	3,668	3,389	3,274	3,270
Counseling and applied psychology ^c	6,825	6,946	6,537	6,193	6,371	6,504	7,678
Applied psychology ^d	NA	NA	NA	4,833	4,910	5,104	4,768
Counseling psychology ^d	NA	NA	NA	1,360	1,461	1,400	2,910
Human development ^b	na	na	na	742	797	768	759
Psychology, general	7,353	6,683	6,749	6,601	6,554	5,835	7,607
Research and experimental psychology	2,466	2,860	3,160	3,911	4,336	4,740	5,040

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Doctoral student enrollment, by detailed fields: 2017–23

(Number)

Detailed field	2017	2018	2019	2020	2021	2022	2023
Social sciences ^a	35,078	35,259	35,392	34,434	34,607	34,016	32,991
Agricultural and natural resource economics	872	919	806	639	522	416	304
Anthropology	4,562	4,471	4,365	4,296	4,129	4,047	3,825
Criminal justice and safety studies	538	663	900	988	1,227	1,390	1,482
Economics (except agricultural and natural resource)	7,831	7,917	8,045	7,959	8,266	8,201	8,161
Geography and cartography	1,856	1,849	1,741	1,652	1,729	1,547	1,320
Human development ^b	685	793	731	na	na	na	na
International relations and national security studies	398	439	413	408	474	331	326
Linguistics	1,646	1,548	1,616	1,686	1,652	1,695	1,610
Political science and government	5,609	5,611	5,488	5,366	5,332	5,310	5,035
Public policy analysis	2,234	2,320	2,414	2,547	2,740	2,690	2,725
Sociology and population studies	5,340	5,128	5,070	5,067	4,875	4,655	4,516
Social sciences, nec ^c	3,507	3,601	3,803	3,826	3,661	3,734	3,687
Area, ethnic, cultural, gender, and group studies ^d	NA	NA	NA	2,482	2,326	2,345	2,338
Criminology ^d	NA	NA	NA	318	308	322	316
Urban studies and affairs ^d	NA	NA	NA	405	391	398	318
Social sciences, other ^d	na	na	na	621	636	669	715
History and philosophy of science and technology ^e	235	270	257	na	na	na	na
Social sciences, nec ^c	3,272	3,331	3,546	na	na	na	na
Engineering	68,825	70,237	72,065	71,279	72,924	72,980	74,992
Aerospace, aeronautical, and astronautical engineering	2,386	2,506	2,554	2,645	2,773	2,832	2,884
Biological, biomedical, and biosystems engineering	7,008	7,481	7,934	8,239	8,867	9,265	9,999
Bioengineering and biomedical engineering	6,845	7,278	7,715	na	na	na	na
Biological and biosystems engineering	163	203	219	na	na	na	na
Chemical, petroleum, and chemical-related engineering	7,536	7,599	7,664	7,612	7,713	7,590	7,888
Chemical engineering	6,874	6,950	7,057	7,031	7,115	7,069	7,430
Petroleum engineering	662	649	607	581	598	521	458
Civil, environmental, transportation and related engineering fields ^c	7,626	7,732	7,752	7,485	7,878	7,754	7,852
Civil engineering ^d	7,626	7,732	7,752	6,517	6,760	6,629	6,702
Architectural, environmental, construction and surveying engineering ^d	NA	NA	NA	968	1,118	1,125	1,150
Electrical, electronics, communications and computer engineering	17,936	18,119	18,577	17,720	17,570	17,585	17,706
Electrical, electronics, and communications engineering ^c	17,936	18,119	18,577	14,694	14,767	14,780	14,773
Computer engineering ^d	NA	NA	NA	3,026	2,803	2,805	2,933
Industrial, manufacturing, systems engineering and operations research	3,633	3,598	3,762	3,839	3,921	3,856	3,889

TABLE 1-11b

Doctoral student enrollment, by detailed fields: 2017–23

(Number)

Detailed field	2017	2018	2019	2020	2021	2022	2023
Industrial and manufacturing engineering ^c	3,633	3,598	3,762	2,413	2,322	2,301	2,292
Systems engineering and operations research ^d	NA	NA	NA	1,426	1,599	1,555	1,597
Mechanical engineering	11,149	11,159	11,247	11,477	11,540	11,523	11,679
Metallurgical, mining, materials and related engineering fields	4,655	4,821	4,817	4,882	4,904	4,573	4,782
Metallurgical and materials engineering ^e	4,426	4,610	4,616	na	na	na	na
Mining engineering ^e	229	211	201	na	na	na	na
Other engineering	6,896	7,222	7,758	7,380	7,758	8,002	8,313
Agricultural engineering	681	661	662	654	668	631	655
Engineering mechanics, physics, and science	1,457	1,428	1,447	1,468	1,457	1,588	1,694
Nuclear engineering	998	1,046	1,031	1,038	1,032	1,085	1,090
Engineering, other	na	na	na	4,220	4,601	4,698	4,874
Engineering, nec	3,665	4,016	4,472	na	na	na	na
Nanotechnology	95	71	146	na	na	na	na
Health	15,301	15,931	15,928	15,314	16,631	18,060	19,268
Clinical medicine	4,410	4,508	4,571	4,796	5,612	5,966	6,174
Medical clinical sciences and clinical and medical laboratory sciences	NA	NA	NA	443	677	954	875
Public health	4,087	4,104	4,191	4,353	4,935	5,012	5,299
Clinical medicine nec	323	404	380	ne	ne	ne	ne
Other health ^a	10,891	11,423	11,357	10,518	11,019	12,094	13,094
Communication disorders sciences	1,305	1,099	911	844	792	821	926
Dental sciences	248	247	208	217	219	228	811
Nursing science	3,598	3,551	3,439	3,359	3,512	3,657	3,809
Pharmaceutical sciences	2,566	2,954	3,121	2,893	2,936	3,059	2,954
Veterinary biomedical and clinical sciences ^b	577	575	692	na	na	na	na
Other health nec ^c	na	na	na	3,205	3,560	4,329	4,594
Kinesiology and exercise science ^d	NA	NA	NA	1,024	1,031	981	968
Other health nec ^d	2,597	2,997	2,986	2,181	2,529	3,348	3,626

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 Broad field is not comparable between 2019 and 2020 due to changes in detailed fields.

^b Detailed field moved between broad fields between 2019 and 2020.

^c Detailed field split into multiple fields in 2020; data after 2020 represent the aggregate counts of all the new detailed fields.

^d New detailed field in 2020.

^e Code reported under a different detailed field code in 2020 and later years.

Note(s):

Percentages may not add to total because of rounding. Detailed fields under clinical medicine only list fields where graduate students can be reported. For more information on the comparability of these counts to other NCSES published data, see the "Technical Notes." Field titles match the 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 Survey of Graduate Students and Postdoctorates in Science and Engineering, see technical tables A-16 and A-17.

Source(s):

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