

TABLE 4-1

Distribution of graduate students, postdoctoral appointees, and doctorate-holding nonfaculty researchers across science, engineering, and health fields: 2023

(Number and percent)

Detailed field	Graduate students						Postdoctoral appointees		Doctorate-holding nonfaculty researchers	
	All graduate students		Master's		Doctoral					
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
All detailed fields	818,095	100.0	510,866	100.0	307,229	100.0	65,850	100.0	34,342	100.0
Science	561,489	68.6	348,520	68.2	212,969	69.3	37,982	57.7	20,600	60.0
Agricultural and veterinary sciences	11,755	1.4	6,901	1.4	4,854	1.6	1,993	3.0	1,238	3.6
Agricultural sciences	10,572	1.3	6,218	1.2	4,354	1.4	1,279	1.9	824	2.4
Veterinary biomedical and clinical sciences	1,183	0.1	683	0.1	500	0.2	714	1.1	414	1.2
Biological and biomedical sciences	105,566	12.9	44,703	8.8	60,863	19.8	19,520	29.6	8,589	25.0
Biochemistry	5,763	0.7	778	0.2	4,985	1.6	1,684	2.6	841	2.4
Biology	15,531	1.9	7,988	1.6	7,543	2.5	2,036	3.1	772	2.2
Biomedical sciences	11,806	1.4	6,391	1.3	5,415	1.8	1,602	2.4	571	1.7
Biophysics	952	0.1	9	*	943	0.3	151	0.2	79	0.2
Biostatistics and bioinformatics	8,283	1.0	4,240	0.8	4,043	1.3	739	1.1	366	1.1
Biotechnology	4,543	0.6	4,420	0.9	123	*	160	0.2	96	0.3
Botany and plant biology	1,677	0.2	378	0.1	1,299	0.4	490	0.7	227	0.7
Cell, cellular biology, and anatomical sciences	6,478	0.8	1,031	0.2	5,447	1.8	1,583	2.4	675	2.0
Ecology and population biology	3,833	0.5	1,035	0.2	2,798	0.9	461	0.7	236	0.7
Epidemiology	6,138	0.8	3,837	0.8	2,301	0.7	391	0.6	145	0.4
Genetics	3,187	0.4	693	0.1	2,494	0.8	1,329	2.0	557	1.6
Microbiological sciences and immunology	6,588	0.8	1,934	0.4	4,654	1.5	1,826	2.8	718	2.1
Molecular biology	1,668	0.2	388	0.1	1,280	0.4	507	0.8	222	0.6
Neurobiology and neuroscience	6,580	0.8	480	0.1	6,100	2.0	1,949	3.0	920	2.7
Nutrition science	4,068	0.5	2,959	0.6	1,109	0.4	156	0.2	100	0.3
Pathology and experimental pathology	1,106	0.1	143	*	963	0.3	904	1.4	329	1.0
Pharmacology and toxicology	3,304	0.4	844	0.2	2,460	0.8	886	1.3	358	1.0
Physiology	6,101	0.7	2,951	0.6	3,150	1.0	1,468	2.2	708	2.1
Zoology and animal biology	2,042	0.2	901	0.2	1,141	0.4	391	0.6	196	0.6
Biological and biomedical sciences nec	5,918	0.7	3,303	0.6	2,615	0.9	807	1.2	473	1.4
Computer and information sciences	166,014	20.3	143,530	28.1	22,484	7.3	987	1.5	631	1.8
Artificial intelligence, informatics, and computer and information science topics	7,375	0.9	6,433	1.3	942	0.3	52	0.1	52	0.2
Computer and information sciences	49,206	6.0	41,959	8.2	7,247	2.4	237	0.4	217	0.6
Computer and information systems security	11,498	1.4	10,774	2.1	724	0.2	8	*	16	*
Computer science	57,819	7.1	46,477	9.1	11,342	3.7	524	0.8	194	0.6
Information science and studies	17,660	2.2	16,138	3.2	1,522	0.5	66	0.1	44	0.1
Information technology	15,074	1.8	14,484	2.8	590	0.2	2	*	16	*
Computer and information sciences nec	7,382	0.9	7,265	1.4	117	*	98	0.1	92	0.3

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(Number and percent)

Detailed field	Graduate students						Postdoctoral appointees		Doctorate-holding nonfaculty researchers	
	All graduate students		Master's		Doctoral					
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Geosciences, atmospheric, and ocean sciences	11,594	1.4	4,793	0.9	6,801	2.2	1,919	2.9	2,455	7.1
Atmospheric sciences and meteorology	1,431	0.2	441	0.1	990	0.3	245	0.4	512	1.5
Geological and earth sciences	7,240	0.9	2,984	0.6	4,256	1.4	922	1.4	1,247	3.6
Ocean and marine sciences	2,923	0.4	1,368	0.3	1,555	0.5	444	0.7	418	1.2
Geosciences, atmospheric, and ocean sciences nec	ne	ne	ne	ne	ne	ne	308	0.5	278	0.8
Mathematics and statistics	33,893	4.1	20,105	3.9	13,788	4.5	1,220	1.9	307	0.9
Applied mathematics	11,140	1.4	8,977	1.8	2,163	0.7	203	0.3	99	0.3
Mathematics	11,801	1.4	3,623	0.7	8,178	2.7	813	1.2	142	0.4
Statistics	10,952	1.3	7,505	1.5	3,447	1.1	204	0.3	66	0.2
Multidisciplinary and interdisciplinary sciences	26,429	3.2	21,928	4.3	4,501	1.5	988	1.5	818	2.4
Biological and physical sciences	1,896	0.2	921	0.2	975	0.3	48	0.1	42	0.1
Computational science	3,228	0.4	2,939	0.6	289	0.1	26	*	58	0.2
Data science and data analytics	10,416	1.3	10,243	2.0	173	0.1	98	0.1	56	0.2
International and global studies	996	0.1	865	0.2	131	*	27	*	15	*
Multidisciplinary and interdisciplinary sciences nec	9,893	1.2	6,960	1.4	2,933	1.0	789	1.2	647	1.9
Natural resources and conservation	13,490	1.6	9,486	1.9	4,004	1.3	937	1.4	663	1.9
Environmental science and studies	6,348	0.8	4,359	0.9	1,989	0.6	357	0.5	226	0.7
Forestry, natural resources, and conservation	7,142	0.9	5,127	1.0	2,015	0.7	580	0.9	437	1.3
Physical sciences	44,329	5.4	6,000	1.2	38,329	12.5	7,220	11.0	3,095	9.0
Astronomy and astrophysics	1,657	0.2	100	*	1,557	0.5	725	1.1	600	1.7
Chemistry	23,007	2.8	2,891	0.6	20,116	6.5	3,288	5.0	845	2.5
Materials sciences	1,571	0.2	373	0.1	1,198	0.4	247	0.4	69	0.2
Physics	17,119	2.1	2,179	0.4	14,940	4.9	2,723	4.1	1,210	3.5
Physical sciences nec	975	0.1	457	0.1	518	0.2	237	0.4	371	1.1
Psychology	73,828	9.0	49,474	9.7	24,354	7.9	1,344	2.0	950	2.8
Applied psychology	25,198	3.1	20,430	4.0	4,768	1.6	105	0.2	118	0.3
Clinical psychology	7,873	1.0	4,603	0.9	3,270	1.1	59	0.1	20	0.1
Counseling psychology	16,071	2.0	13,161	2.6	2,910	0.9	9	*	8	*
Human development	2,080	0.3	1,321	0.3	759	0.2	130	0.2	158	0.5
Psychology, general	14,928	1.8	7,321	1.4	7,607	2.5	768	1.2	472	1.4
Research and experimental psychology	7,678	0.9	2,638	0.5	5,040	1.6	273	0.4	174	0.5
Social sciences	74,591	9.1	41,600	8.1	32,991	10.7	1,854	2.8	1,854	5.4
Agricultural and natural resource economics	740	0.1	436	0.1	304	0.1	72	0.1	51	0.1
Anthropology	5,796	0.7	1,971	0.4	3,825	1.2	152	0.2	70	0.2

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	All graduate students		Master's		Doctoral					
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Area, ethnic, cultural, gender, and group studies	4,920	0.6	2,582	0.5	2,338	0.8	273	0.4	143	0.4
Criminal justice and safety studies	6,424	0.8	4,942	1.0	1,482	0.5	19	*	22	0.1
Criminology	1,477	0.2	1,161	0.2	316	0.1	8	*	10	*
Economics (except agricultural and natural resource)	14,559	1.8	6,398	1.3	8,161	2.7	147	0.2	152	0.4
Geography and cartography	3,837	0.5	2,517	0.5	1,320	0.4	141	0.2	118	0.3
International relations and national security studies	7,473	0.9	7,147	1.4	326	0.1	119	0.2	139	0.4
Linguistics	2,727	0.3	1,117	0.2	1,610	0.5	51	0.1	59	0.2
Political science and government	7,684	0.9	2,649	0.5	5,035	1.6	173	0.3	93	0.3
Public policy analysis	7,370	0.9	4,645	0.9	2,725	0.9	305	0.5	475	1.4
Sociology and population studies	6,404	0.8	1,888	0.4	4,516	1.5	189	0.3	196	0.6
Urban studies and affairs	966	0.1	648	0.1	318	0.1	7	*	21	0.1
Social sciences, other	4,214	0.5	3,499	0.7	715	0.2	198	0.3	305	0.9
Engineering	175,559	21.5	100,567	19.7	74,992	24.4	9,051	13.7	4,575	13.3
Aerospace, aeronautical, and astronautical engineering	8,264	1.0	5,380	1.1	2,884	0.9	254	0.4	166	0.5
Biological, biomedical, and biosystems engineering	15,203	1.9	5,204	1.0	9,999	3.3	1,594	2.4	674	2.0
Chemical, petroleum, and chemical-related engineering	10,546	1.3	2,658	0.5	7,888	2.6	1,501	2.3	349	1.0
Chemical engineering	9,701	1.2	2,271	0.4	7,430	2.4	1,471	2.2	303	0.9
Petroleum engineering	845	0.1	387	0.1	458	0.1	30	*	46	0.1
Civil, environmental, transportation and related engineering fields	19,934	2.4	12,082	2.4	7,852	2.6	1,070	1.6	654	1.9
Civil engineering	15,851	1.9	9,149	1.8	6,702	2.2	960	1.5	571	1.7
Architectural, environmental, construction and surveying engineering	4,083	0.5	2,933	0.6	1,150	0.4	110	0.2	83	0.2
Electrical, electronics, communications and computer engineering	48,799	6.0	31,093	6.1	17,706	5.8	1,339	2.0	799	2.3
Electrical, electronics, and communications engineering	32,988	4.0	18,215	3.6	14,773	4.8	1,257	1.9	731	2.1
Computer engineering	15,811	1.9	12,878	2.5	2,933	1.0	82	0.1	68	0.2
Industrial, manufacturing, systems engineering and operations research	15,762	1.9	11,873	2.3	3,889	1.3	170	0.3	221	0.6
Industrial and manufacturing engineering	8,113	1.0	5,821	1.1	2,292	0.7	107	0.2	83	0.2
Systems engineering and operations research	7,649	0.9	6,052	1.2	1,597	0.5	63	0.1	138	0.4
Mechanical engineering	27,014	3.3	15,335	3.0	11,679	3.8	1,317	2.0	560	1.6
Metallurgical, mining, materials and related engineering fields	7,244	0.9	2,462	0.5	4,782	1.6	557	0.8	249	0.7
Other engineering	22,793	2.8	14,480	2.8	8,313	2.7	1,249	1.9	903	2.6
Agricultural engineering	1,032	0.1	377	0.1	655	0.2	154	0.2	53	0.2
Engineering mechanics, physics, and science	2,390	0.3	696	0.1	1,694	0.6	291	0.4	190	0.6
Nuclear engineering	1,606	0.2	516	0.1	1,090	0.4	103	0.2	35	0.1
Engineering, other	17,765	2.2	12,891	2.5	4,874	1.6	701	1.1	625	1.8

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	All graduate students		Master's		Doctoral					
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Health	81,047	9.9	61,779	12.1	19,268	6.3	18,817	28.6	9,167	26.7
Clinical medicine	34,658	4.2	28,484	5.6	6,174	2.0	16,393	24.9	7,798	22.7
Medical clinical sciences and clinical and medical laboratory sciences	2,117	0.3	1,242	0.2	875	0.3	521	0.8	477	1.4
Public health	32,541	4.0	27,242	5.3	5,299	1.7	848	1.3	911	2.7
Anesthesiology	ne	ne	ne	ne	ne	ne	366	0.6	129	0.4
Cardiology and cardiovascular disease	ne	ne	ne	ne	ne	ne	679	1.0	228	0.7
Endocrinology, diabetes, and metabolism	ne	ne	ne	ne	ne	ne	314	0.5	122	0.4
Gastroenterology	ne	ne	ne	ne	ne	ne	296	0.4	89	0.3
Hematology	ne	ne	ne	ne	ne	ne	354	0.5	168	0.5
Neurology and neurosurgery	ne	ne	ne	ne	ne	ne	1,715	2.6	533	1.6
Obstetrics and gynecology	ne	ne	ne	ne	ne	ne	274	0.4	121	0.4
Oncology and cancer research	ne	ne	ne	ne	ne	ne	1,512	2.3	587	1.7
Ophthalmology	ne	ne	ne	ne	ne	ne	537	0.8	295	0.9
Otorhinolaryngology	ne	ne	ne	ne	ne	ne	279	0.4	148	0.4
Pediatrics	ne	ne	ne	ne	ne	ne	1,134	1.7	743	2.2
Psychiatry	ne	ne	ne	ne	ne	ne	1,031	1.6	346	1.0
Pulmonary disease	ne	ne	ne	ne	ne	ne	258	0.4	118	0.3
Radiological sciences	ne	ne	ne	ne	ne	ne	1,359	2.1	465	1.4
Surgery	ne	ne	ne	ne	ne	ne	1,275	1.9	608	1.8
Clinical medicine nec	ne	ne	ne	ne	ne	ne	3,641	5.5	1,710	5.0
Other health	46,389	5.7	33,295	6.5	13,094	4.3	2,424	3.7	1,369	4.0
Communication disorders sciences	19,109	2.3	18,183	3.6	926	0.3	94	0.1	85	0.2
Dental sciences	2,231	0.3	1,420	0.3	811	0.3	310	0.5	159	0.5
Kinesiology and exercise science	5,254	0.6	4,286	0.8	968	0.3	83	0.1	50	0.1
Nursing science	5,510	0.7	1,701	0.3	3,809	1.2	154	0.2	187	0.5
Pharmaceutical sciences	5,219	0.6	2,265	0.4	2,954	1.0	1,295	2.0	469	1.4
Other health nec	9,066	1.1	5,440	1.1	3,626	1.2	488	0.7	419	1.2

* = value < 0.05%; ne = not eligible.

nec = not elsewhere classified.

Note(s):

For postdoctoral appointees and doctorate-holding nonfaculty researchers, "field" refers to the field of the unit that reports information on these groups to the Survey of Graduate Students and Postdoctorates in Science and Engineering (GSS). Percentages may not add to total because of rounding. For more information on the mapping of GSS fields and codes, see technical table A-17. Graduate student data in this table include master's students in health sciences. 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."

Source(s):
National Center for Science and Engineering Statistics, Survey of Graduate Students and Postdoctorates in Science and Engineering, 2023.