

TABLE 4-1

Distribution of graduate students, postdoctoral appointees, and doctorate-holding nonfaculty researchers across science, engineering, and health fields: 2022

(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	798,534	100.0	501,311	100.0	297,223	100.0	62,750	100.0	32,279	100.0
Science	538,166	67.4	331,983	66.2	206,183	69.4	36,673	58.4	19,423	60.2
Agricultural and veterinary sciences	11,596	1.5	6,949	1.4	4,647	1.6	1,705	2.7	1,068	3.3
Agricultural sciences	10,310	1.3	6,165	1.2	4,145	1.4	1,201	1.9	755	2.3
Veterinary biomedical and clinical sciences	1,286	0.2	784	0.2	502	0.2	504	0.8	313	1.0
Biological and biomedical sciences	102,700	12.9	43,062	8.6	59,638	20.1	19,585	31.2	8,207	25.4
Biochemistry	5,905	0.7	911	0.2	4,994	1.7	1,756	2.8	843	2.6
Biology	15,569	1.9	7,969	1.6	7,600	2.6	2,064	3.3	754	2.3
Biomedical sciences	10,836	1.4	5,681	1.1	5,155	1.7	1,553	2.5	571	1.8
Biophysics	895	0.1	8	*	887	0.3	126	0.2	79	0.2
Biostatistics and bioinformatics	7,651	1.0	3,852	0.8	3,799	1.3	691	1.1	357	1.1
Biotechnology	4,021	0.5	3,916	0.8	105	*	155	0.2	87	0.3
Botany and plant biology	1,670	0.2	369	0.1	1,301	0.4	507	0.8	218	0.7
Cell, cellular biology, and anatomical sciences	6,511	0.8	1,137	0.2	5,374	1.8	1,599	2.5	590	1.8
Ecology and population biology	3,866	0.5	1,058	0.2	2,808	0.9	438	0.7	221	0.7
Epidemiology	6,057	0.8	3,844	0.8	2,213	0.7	377	0.6	122	0.4
Genetics	3,333	0.4	749	0.1	2,584	0.9	1,288	2.1	551	1.7
Microbiological sciences and immunology	6,492	0.8	2,026	0.4	4,466	1.5	1,811	2.9	708	2.2
Molecular biology	1,639	0.2	408	0.1	1,231	0.4	549	0.9	210	0.7
Neurobiology and neuroscience	6,448	0.8	515	0.1	5,933	2.0	1,932	3.1	800	2.5
Nutrition science	3,955	0.5	2,905	0.6	1,050	0.4	146	0.2	98	0.3
Pathology and experimental pathology	1,023	0.1	106	*	917	0.3	925	1.5	308	1.0
Pharmacology and toxicology	3,405	0.4	996	0.2	2,409	0.8	915	1.5	387	1.2
Physiology	5,912	0.7	2,891	0.6	3,021	1.0	1,512	2.4	714	2.2
Zoology and animal biology	2,059	0.3	861	0.2	1,198	0.4	411	0.7	187	0.6
Biological and biomedical sciences nec	5,453	0.7	2,860	0.6	2,593	0.9	830	1.3	402	1.2
Computer and information sciences	150,555	18.9	129,972	25.9	20,583	6.9	859	1.4	507	1.6
Artificial intelligence, informatics, and computer and information science topics	6,142	0.8	5,379	1.1	763	0.3	46	0.1	40	0.1
Computer and information sciences	46,151	5.8	39,719	7.9	6,432	2.2	166	0.3	134	0.4
Computer and information systems security	9,695	1.2	9,254	1.8	441	0.1	11	*	18	0.1
Computer science	52,924	6.6	42,092	8.4	10,832	3.6	496	0.8	192	0.6
Information science and studies	16,872	2.1	15,478	3.1	1,394	0.5	65	0.1	30	0.1
Information technology	11,151	1.4	10,601	2.1	550	0.2	3	*	11	*
Computer and information sciences nec	7,620	1.0	7,449	1.5	171	0.1	72	0.1	82	0.3
Geosciences, atmospheric sciences, and ocean sciences	11,970	1.5	5,186	1.0	6,784	2.3	1,787	2.8	2,448	7.6
Atmospheric sciences and meteorology	1,434	0.2	489	0.1	945	0.3	253	0.4	515	1.6
Geological and earth sciences	7,468	0.9	3,183	0.6	4,285	1.4	844	1.3	1,127	3.5
Ocean and marine sciences	3,068	0.4	1,514	0.3	1,554	0.5	414	0.7	385	1.2
Geosciences, atmospheric sciences, and ocean sciences nec	ne	ne	ne	ne	ne	ne	276	0.4	421	1.3
Mathematics and statistics	34,387	4.3	20,798	4.1	13,589	4.6	1,110	1.8	251	0.8
Applied mathematics	11,224	1.4	9,097	1.8	2,127	0.7	221	0.4	73	0.2
Mathematics	12,022	1.5	3,905	0.8	8,117	2.7	689	1.1	125	0.4
Statistics	11,141	1.4	7,796	1.6	3,345	1.1	200	0.3	53	0.2

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(Number and percent)

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	All graduate students		Master's		Doctoral					
	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Multidisciplinary and interdisciplinary sciences	20,945	2.6	16,931	3.4	4,014	1.4	840	1.3	931	2.9
Biological and physical sciences	1,855	0.2	899	0.2	956	0.3	56	0.1	43	0.1
Computational science	3,424	0.4	3,089	0.6	335	0.1	31	*	62	0.2
Data science and data analytics	6,104	0.8	6,000	1.2	104	*	48	0.1	32	0.1
International and global studies	1,258	0.2	1,083	0.2	175	0.1	27	*	17	0.1
Multidisciplinary and interdisciplinary sciences nec	8,304	1.0	5,860	1.2	2,444	0.8	678	1.1	777	2.4
Natural resources and conservation	13,762	1.7	9,807	2.0	3,955	1.3	936	1.5	605	1.9
Environmental science and studies	6,402	0.8	4,422	0.9	1,980	0.7	339	0.5	201	0.6
Forestry, natural resources, and conservation	7,360	0.9	5,385	1.1	1,975	0.7	597	1.0	404	1.3
Physical sciences	44,092	5.5	6,256	1.2	37,836	12.7	6,877	11.0	2,894	9.0
Astronomy and astrophysics	1,703	0.2	100	*	1,603	0.5	634	1.0	573	1.8
Chemistry	22,710	2.8	3,015	0.6	19,695	6.6	3,157	5.0	876	2.7
Materials sciences	1,625	0.2	402	0.1	1,223	0.4	246	0.4	77	0.2
Physics	17,000	2.1	2,253	0.4	14,747	5.0	2,618	4.2	1,162	3.6
Physical sciences nec	1,054	0.1	486	0.1	568	0.2	222	0.4	206	0.6
Psychology	69,442	8.7	48,321	9.6	21,121	7.1	1,308	2.1	786	2.4
Applied psychology	25,195	3.2	20,091	4.0	5,104	1.7	109	0.2	70	0.2
Clinical psychology	7,793	1.0	4,519	0.9	3,274	1.1	56	0.1	9	*
Counseling psychology	13,800	1.7	12,400	2.5	1,400	0.5	14	*	11	*
Human development	2,293	0.3	1,525	0.3	768	0.3	119	0.2	148	0.5
Psychology, general	13,181	1.7	7,346	1.5	5,835	2.0	735	1.2	417	1.3
Research and experimental psychology	7,180	0.9	2,440	0.5	4,740	1.6	275	0.4	131	0.4
Social sciences	78,717	9.9	44,701	8.9	34,016	11.4	1,666	2.7	1,726	5.3
Agricultural and natural resource economics	901	0.1	485	0.1	416	0.1	53	0.1	31	0.1
Anthropology	6,220	0.8	2,173	0.4	4,047	1.4	150	0.2	74	0.2
Area, ethnic, cultural, gender, and group studies	4,979	0.6	2,634	0.5	2,345	0.8	235	0.4	96	0.3
Criminal justice and safety studies	6,613	0.8	5,223	1.0	1,390	0.5	15	*	21	0.1
Criminology	1,502	0.2	1,180	0.2	322	0.1	8	*	15	*
Economics (except agricultural and natural resource)	14,935	1.9	6,734	1.3	8,201	2.8	152	0.2	152	0.5
Geography and cartography	4,354	0.5	2,807	0.6	1,547	0.5	131	0.2	100	0.3
International relations and national security studies	8,164	1.0	7,833	1.6	331	0.1	98	0.2	92	0.3
Linguistics	2,854	0.4	1,159	0.2	1,695	0.6	58	0.1	55	0.2
Political science and government	8,235	1.0	2,925	0.6	5,310	1.8	162	0.3	87	0.3
Public policy analysis	9,391	1.2	6,701	1.3	2,690	0.9	241	0.4	468	1.4
Sociology and population studies	6,845	0.9	2,190	0.4	4,655	1.6	166	0.3	168	0.5
Urban studies and affairs	1,069	0.1	671	0.1	398	0.1	18	*	37	0.1
Social sciences, other	2,655	0.3	1,986	0.4	669	0.2	179	0.3	330	1.0
Engineering	176,000	22.0	103,020	20.6	72,980	24.6	8,335	13.3	4,355	13.5
Aerospace, aeronautical, and astronautical engineering	8,095	1.0	5,263	1.0	2,832	1.0	244	0.4	153	0.5
Biological, biomedical, and biosystems engineering	14,442	1.8	5,177	1.0	9,265	3.1	1,540	2.5	685	2.1

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Chemical, petroleum, and chemical-related engineering	10,601	1.3	3,011	0.6	7,590	2.6	1,239	2.0	313	1.0
Chemical engineering	9,668	1.2	2,599	0.5	7,069	2.4	1,215	1.9	265	0.8
Petroleum engineering	933	0.1	412	0.1	521	0.2	24	*	48	0.1
Civil, environmental, transportation and related engineering fields	20,375	2.6	12,621	2.5	7,754	2.6	1,018	1.6	569	1.8
Civil engineering	16,321	2.0	9,692	1.9	6,629	2.2	929	1.5	497	1.5
Architectural, environmental, construction and surveying engineering	4,054	0.5	2,929	0.6	1,125	0.4	89	0.1	72	0.2
Electrical, electronics, communications and computer engineering	49,901	6.2	32,316	6.4	17,585	5.9	1,217	1.9	734	2.3
Electrical, electronics, and communications engineering	34,537	4.3	19,757	3.9	14,780	5.0	1,129	1.8	673	2.1
Computer engineering	15,364	1.9	12,559	2.5	2,805	0.9	88	0.1	61	0.2
Industrial, manufacturing, systems engineering and operations research	16,435	2.1	12,579	2.5	3,856	1.3	143	0.2	197	0.6
Industrial and manufacturing engineering	8,650	1.1	6,349	1.3	2,301	0.8	72	0.1	74	0.2
Systems engineering and operations research	7,785	1.0	6,230	1.2	1,555	0.5	71	0.1	123	0.4
Mechanical engineering	27,552	3.5	16,029	3.2	11,523	3.9	1,189	1.9	527	1.6
Metallurgical, mining, materials and related engineering fields	7,118	0.9	2,545	0.5	4,573	1.5	542	0.9	280	0.9
Other engineering	21,481	2.7	13,479	2.7	8,002	2.7	1,203	1.9	897	2.8
Agricultural engineering	1,020	0.1	389	0.1	631	0.2	136	0.2	48	0.1
Engineering mechanics, physics, and science	2,350	0.3	762	0.2	1,588	0.5	265	0.4	199	0.6
Nuclear engineering	1,578	0.2	493	0.1	1,085	0.4	82	0.1	41	0.1
Engineering, other	16,533	2.1	11,835	2.4	4,698	1.6	720	1.1	609	1.9
Health	84,368	10.6	66,308	13.2	18,060	6.1	17,742	28.3	8,501	26.3
Clinical medicine	39,217	4.9	33,251	6.6	5,966	2.0	15,630	24.9	7,351	22.8
Medical clinical sciences and clinical and medical laboratory sciences	2,122	0.3	1,168	0.2	954	0.3	450	0.7	128	0.4
Public health	37,095	4.6	32,083	6.4	5,012	1.7	796	1.3	742	2.3
Anesthesiology	ne	ne	ne	ne	ne	ne	313	0.5	129	0.4
Cardiology and cardiovascular disease	ne	ne	ne	ne	ne	ne	672	1.1	227	0.7
Endocrinology, diabetes, and metabolism	ne	ne	ne	ne	ne	ne	355	0.6	109	0.3
Gastroenterology	ne	ne	ne	ne	ne	ne	310	0.5	105	0.3
Hematology	ne	ne	ne	ne	ne	ne	379	0.6	199	0.6
Neurology and neurosurgery	ne	ne	ne	ne	ne	ne	1,618	2.6	580	1.8
Obstetrics and gynecology	ne	ne	ne	ne	ne	ne	218	0.3	107	0.3
Oncology and cancer research	ne	ne	ne	ne	ne	ne	1,391	2.2	648	2.0
Ophthalmology	ne	ne	ne	ne	ne	ne	476	0.8	303	0.9
Otorhinolaryngology	ne	ne	ne	ne	ne	ne	267	0.4	119	0.4
Pediatrics	ne	ne	ne	ne	ne	ne	1,125	1.8	742	2.3
Psychiatry	ne	ne	ne	ne	ne	ne	951	1.5	351	1.1
Pulmonary disease	ne	ne	ne	ne	ne	ne	238	0.4	116	0.4
Radiological sciences	ne	ne	ne	ne	ne	ne	1,218	1.9	444	1.4
Surgery	ne	ne	ne	ne	ne	ne	1,213	1.9	572	1.8

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Clinical medicine nec	ne	ne	ne	ne	ne	ne	3,640	5.8	1,730	5.4
Other health	45,151	5.7	33,057	6.6	12,094	4.1	2,112	3.4	1,150	3.6
Communication disorders sciences	18,589	2.3	17,768	3.5	821	0.3	72	0.1	86	0.3
Dental sciences	1,773	0.2	1,545	0.3	228	0.1	311	0.5	140	0.4
Kinesiology and exercise science	5,724	0.7	4,743	0.9	981	0.3	71	0.1	49	0.2
Nursing science	5,192	0.7	1,535	0.3	3,657	1.2	141	0.2	166	0.5
Pharmaceutical sciences	5,201	0.7	2,142	0.4	3,059	1.0	1,107	1.8	379	1.2
Other health nec	8,672	1.1	5,324	1.1	3,348	1.1	410	0.7	330	1.0

* = 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, 2022.