

TABLE 4-1

Distribution of graduate students, postdoctoral appointees, and doctorate-holding nonfaculty researchers across science, engineering, and health fields: 2021

(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	760,156	100.0	466,613	100.0	293,543	100.0	63,328	100.0	30,548	100.0
Science	509,784	67.1	305,796	65.5	203,988	69.5	37,189	58.7	18,728	61.3
Agricultural and veterinary sciences	11,244	1.5	6,801	1.5	4,443	1.5	1,595	2.5	902	3.0
Agricultural sciences	9,696	1.3	5,790	1.2	3,906	1.3	1,086	1.7	602	2.0
Veterinary biomedical and clinical sciences	1,548	0.2	1,011	0.2	537	0.2	509	0.8	300	1.0
Biological and biomedical sciences	100,883	13.3	42,728	9.2	58,155	19.8	20,245	32.0	8,187	26.8
Biochemistry	5,833	0.8	1,005	0.2	4,828	1.6	1,743	2.8	822	2.7
Biology	15,694	2.1	8,294	1.8	7,400	2.5	1,979	3.1	784	2.6
Biomedical sciences	10,620	1.4	5,794	1.2	4,826	1.6	1,906	3.0	419	1.4
Biophysics	979	0.1	6	*	973	0.3	156	0.2	77	0.3
Biostatistics and bioinformatics	7,110	0.9	3,519	0.8	3,591	1.2	733	1.2	338	1.1
Biotechnology	3,523	0.5	3,395	0.7	128	*	101	0.2	87	0.3
Botany and plant biology	1,632	0.2	363	0.1	1,269	0.4	520	0.8	230	0.8
Cell, cellular biology, and anatomical sciences	6,500	0.9	1,210	0.3	5,290	1.8	1,663	2.6	533	1.7
Ecology and population biology	3,991	0.5	1,201	0.3	2,790	1.0	430	0.7	250	0.8
Epidemiology	5,785	0.8	3,623	0.8	2,162	0.7	329	0.5	128	0.4
Genetics	3,167	0.4	718	0.2	2,449	0.8	1,384	2.2	591	1.9
Microbiological sciences and immunology	6,382	0.8	2,011	0.4	4,371	1.5	1,865	2.9	711	2.3
Molecular biology	1,670	0.2	405	0.1	1,265	0.4	634	1.0	239	0.8
Neurobiology and neuroscience	6,349	0.8	591	0.1	5,758	2.0	1,980	3.1	795	2.6
Nutrition science	3,864	0.5	2,871	0.6	993	0.3	152	0.2	137	0.4
Pathology and experimental pathology	949	0.1	100	*	849	0.3	1,043	1.6	382	1.3
Pharmacology and toxicology	3,300	0.4	926	0.2	2,374	0.8	884	1.4	433	1.4
Physiology	5,939	0.8	2,898	0.6	3,041	1.0	1,537	2.4	663	2.2
Zoology and animal biology	2,140	0.3	927	0.2	1,213	0.4	376	0.6	174	0.6
Biological and biomedical sciences nec	5,456	0.7	2,871	0.6	2,585	0.9	830	1.3	394	1.3
Computer and information sciences	121,730	16.0	102,199	21.9	19,531	6.7	880	1.4	457	1.5
Artificial intelligence, informatics, and computer and information science topics	5,191	0.7	4,504	1.0	687	0.2	32	0.1	39	0.1
Computer and information sciences	36,972	4.9	30,804	6.6	6,168	2.1	185	0.3	111	0.4
Computer and information systems security	8,743	1.2	8,401	1.8	342	0.1	9	*	18	0.1
Computer science	40,717	5.4	30,361	6.5	10,356	3.5	521	0.8	209	0.7
Information science and studies	14,449	1.9	13,098	2.8	1,351	0.5	56	0.1	19	0.1
Information technology	7,994	1.1	7,527	1.6	467	0.2	6	*	13	*
Computer and information sciences nec	7,664	1.0	7,504	1.6	160	0.1	71	0.1	48	0.2
Geosciences, atmospheric sciences, and ocean sciences	12,290	1.6	5,520	1.2	6,770	2.3	1,797	2.8	2,308	7.6
Atmospheric sciences and meteorology	1,389	0.2	487	0.1	902	0.3	248	0.4	471	1.5
Geological and earth sciences	7,871	1.0	3,534	0.8	4,337	1.5	869	1.4	1,121	3.7
Ocean and marine sciences	3,030	0.4	1,499	0.3	1,531	0.5	373	0.6	360	1.2
Geosciences, atmospheric sciences, and ocean sciences nec	ne	ne	ne	ne	ne	ne	307	0.5	356	1.2
Mathematics and statistics	34,258	4.5	20,639	4.4	13,619	4.6	1,112	1.8	235	0.8
Applied mathematics	11,154	1.5	8,899	1.9	2,255	0.8	202	0.3	66	0.2
Mathematics	12,128	1.6	4,164	0.9	7,964	2.7	721	1.1	110	0.4

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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
Statistics	10,976	1.4	7,576	1.6	3,400	1.2	189	0.3	59	0.2
Multidisciplinary and interdisciplinary studies	15,768	2.1	11,994	2.6	3,774	1.3	878	1.4	816	2.7
Biological and physical sciences	1,761	0.2	874	0.2	887	0.3	125	0.2	38	0.1
Computational science	2,435	0.3	2,088	0.4	347	0.1	28	*	56	0.2
Data science and data analytics	2,404	0.3	2,358	0.5	46	*	50	0.1	26	0.1
International and global studies	1,450	0.2	1,267	0.3	183	0.1	21	*	14	*
Multidisciplinary and interdisciplinary studies nec	7,718	1.0	5,407	1.2	2,311	0.8	654	1.0	682	2.2
Natural resources and conservation	13,922	1.8	10,012	2.1	3,910	1.3	889	1.4	620	2.0
Environmental science and studies	6,807	0.9	4,851	1.0	1,956	0.7	312	0.5	204	0.7
Forestry, natural resources, and conservation	7,115	0.9	5,161	1.1	1,954	0.7	577	0.9	416	1.4
Physical sciences	44,141	5.8	6,409	1.4	37,732	12.9	6,823	10.8	2,895	9.5
Astronomy and astrophysics	1,624	0.2	85	*	1,539	0.5	561	0.9	558	1.8
Chemistry	23,215	3.1	3,066	0.7	20,149	6.9	3,163	5.0	848	2.8
Materials sciences	1,441	0.2	439	0.1	1,002	0.3	213	0.3	64	0.2
Physics	16,779	2.2	2,278	0.5	14,501	4.9	2,677	4.2	1,235	4.0
Physical sciences nec	1,082	0.1	541	0.1	541	0.2	209	0.3	190	0.6
Psychology	73,325	9.6	51,878	11.1	21,447	7.3	1,325	2.1	803	2.6
Applied psychology	24,427	3.2	19,517	4.2	4,910	1.7	110	0.2	60	0.2
Clinical psychology	7,556	1.0	4,167	0.9	3,389	1.2	63	0.1	23	0.1
Counseling psychology	18,426	2.4	16,965	3.6	1,461	0.5	10	*	15	*
Human development	2,363	0.3	1,566	0.3	797	0.3	106	0.2	110	0.4
Psychology, general	13,883	1.8	7,329	1.6	6,554	2.2	705	1.1	389	1.3
Research and experimental psychology	6,670	0.9	2,334	0.5	4,336	1.5	331	0.5	206	0.7
Social sciences	82,223	10.8	47,616	10.2	34,607	11.8	1,645	2.6	1,505	4.9
Agricultural and natural resource economics	1,194	0.2	672	0.1	522	0.2	42	0.1	41	0.1
Anthropology	6,421	0.8	2,292	0.5	4,129	1.4	149	0.2	79	0.3
Area, ethnic, cultural, gender, and group studies	5,093	0.7	2,767	0.6	2,326	0.8	230	0.4	122	0.4
Criminal justice and safety studies	6,829	0.9	5,602	1.2	1,227	0.4	16	*	8	*
Criminology	1,580	0.2	1,272	0.3	308	0.1	3	*	11	*
Economics (except agricultural and natural resource)	15,148	2.0	6,882	1.5	8,266	2.8	165	0.3	164	0.5
Geography and cartography	4,876	0.6	3,147	0.7	1,729	0.6	127	0.2	106	0.3
International relations and national security studies	8,782	1.2	8,308	1.8	474	0.2	117	0.2	76	0.2
Linguistics	2,840	0.4	1,188	0.3	1,652	0.6	50	0.1	40	0.1
Political science and government	8,602	1.1	3,270	0.7	5,332	1.8	164	0.3	74	0.2
Public policy analysis	10,030	1.3	7,290	1.6	2,740	0.9	213	0.3	358	1.2
Sociology and population studies	7,206	0.9	2,331	0.5	4,875	1.7	168	0.3	145	0.5
Urban studies and affairs	1,218	0.2	827	0.2	391	0.1	10	*	28	0.1
Social sciences, other	2,404	0.3	1,768	0.4	636	0.2	191	0.3	253	0.8
Engineering	168,050	22.1	95,126	20.4	72,924	24.8	8,340	13.2	3,992	13.1
Aerospace, aeronautical, and astronautical engineering	7,838	1.0	5,065	1.1	2,773	0.9	277	0.4	144	0.5

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Biological, biomedical, and biosystems engineering	14,059	1.8	5,192	1.1	8,867	3.0	1,616	2.6	589	1.9
Chemical, petroleum, and chemical-related engineering	10,696	1.4	2,983	0.6	7,713	2.6	1,167	1.8	307	1.0
Chemical engineering	9,670	1.3	2,555	0.5	7,115	2.4	1,133	1.8	257	0.8
Petroleum engineering	1,026	0.1	428	0.1	598	0.2	34	0.1	50	0.2
Civil, environmental, transportation and related engineering fields	19,608	2.6	11,730	2.5	7,878	2.7	968	1.5	479	1.6
Civil engineering	16,112	2.1	9,352	2.0	6,760	2.3	879	1.4	446	1.5
Architectural, environmental, construction and surveying engineering	3,496	0.5	2,378	0.5	1,118	0.4	89	0.1	33	0.1
Electrical, electronics, communications and computer engineering	45,265	6.0	27,695	5.9	17,570	6.0	1,275	2.0	755	2.5
Electrical, electronics, and communications engineering	32,633	4.3	17,866	3.8	14,767	5.0	1,186	1.9	684	2.2
Computer engineering	12,632	1.7	9,829	2.1	2,803	1.0	89	0.1	71	0.2
Industrial, manufacturing, systems engineering and operations research	15,870	2.1	11,949	2.6	3,921	1.3	127	0.2	107	0.4
Industrial and manufacturing engineering	7,606	1.0	5,284	1.1	2,322	0.8	73	0.1	53	0.2
Systems engineering and operations research	8,264	1.1	6,665	1.4	1,599	0.5	54	0.1	54	0.2
Mechanical engineering	27,258	3.6	15,718	3.4	11,540	3.9	1,200	1.9	529	1.7
Metallurgical, mining, materials and related engineering fields	7,422	1.0	2,518	0.5	4,904	1.7	562	0.9	259	0.8
Other engineering	20,034	2.6	12,276	2.6	7,758	2.6	1,148	1.8	823	2.7
Agricultural engineering	1,187	0.2	519	0.1	668	0.2	112	0.2	55	0.2
Engineering mechanics, physics, and science	2,239	0.3	782	0.2	1,457	0.5	253	0.4	193	0.6
Nuclear engineering	1,516	0.2	484	0.1	1,032	0.4	99	0.2	40	0.1
Engineering, other	15,092	2.0	10,491	2.2	4,601	1.6	684	1.1	535	1.8
Health	82,322	10.8	65,691	14.1	16,631	5.7	17,799	28.1	7,828	25.6
Clinical medicine ^a	39,633	5.2	34,021	7.3	5,612	1.9	15,561	24.6	6,751	22.1
Medical clinical sciences and clinical and medical laboratory sciences	1,964	0.3	1,287	0.3	677	0.2	345	0.5	134	0.4
Public health	37,669	5.0	32,734	7.0	4,935	1.7	880	1.4	656	2.1
Anesthesiology	ne	ne	ne	ne	ne	ne	414	0.7	108	0.4
Cardiology and cardiovascular disease	ne	ne	ne	ne	ne	ne	660	1.0	215	0.7
Endocrinology, diabetes, and metabolism	ne	ne	ne	ne	ne	ne	319	0.5	103	0.3
Gastroenterology	ne	ne	ne	ne	ne	ne	315	0.5	112	0.4
Hematology	ne	ne	ne	ne	ne	ne	362	0.6	180	0.6
Neurology and neurosurgery	ne	ne	ne	ne	ne	ne	1,522	2.4	527	1.7
Obstetrics and gynecology	ne	ne	ne	ne	ne	ne	230	0.4	106	0.3
Oncology and cancer research	ne	ne	ne	ne	ne	ne	1,504	2.4	549	1.8
Ophthalmology	ne	ne	ne	ne	ne	ne	464	0.7	259	0.8
Otorhinolaryngology	ne	ne	ne	ne	ne	ne	279	0.4	119	0.4
Pediatrics	ne	ne	ne	ne	ne	ne	1,143	1.8	632	2.1
Psychiatry	ne	ne	ne	ne	ne	ne	1,109	1.8	279	0.9
Pulmonary disease	ne	ne	ne	ne	ne	ne	232	0.4	100	0.3

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Radiological sciences	ne	ne	ne	ne	ne	ne	1,100	1.7	381	1.2
Surgery	ne	ne	ne	ne	ne	ne	1,197	1.9	561	1.8
Clinical medicine nec	ne	ne	ne	ne	ne	ne	3,486	5.5	1,730	5.7
Other health	42,689	5.6	31,670	6.8	11,019	3.8	2,238	3.5	1,077	3.5
Communication disorders sciences	18,198	2.4	17,406	3.7	792	0.3	88	0.1	83	0.3
Dental sciences	1,719	0.2	1,500	0.3	219	0.1	304	0.5	123	0.4
Kinesiology and exercise science	5,993	0.8	4,962	1.1	1,031	0.4	67	0.1	31	0.1
Nursing science	5,174	0.7	1,662	0.4	3,512	1.2	122	0.2	117	0.4
Pharmaceutical sciences	4,875	0.6	1,939	0.4	2,936	1.0	1,101	1.7	372	1.2
Other health nec	6,730	0.9	4,201	0.9	2,529	0.9	556	0.9	351	1.1

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

nec = not elsewhere classified.

^a Clinical medicine includes graduate students in public health and clinical medicine nec. Clinical medicine includes postdoctoral appointees and nonfaculty researchers in anesthesiology, cardiology, endocrinology, gastroenterology, hematology, neurology, obstetrics and gynecology, oncology and cancer research, ophthalmology, otorhinolaryngology, pediatrics, psychiatry, public health, pulmonary disease, radiological sciences, surgery, and clinical medicine nec.

Note(s):

"Field" refers to the field of the unit that reports postdoctoral appointees and doctorate-holding nonfaculty researchers 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.

Source(s):

National Center for Science and Engineering Statistics, Survey of Graduate Students and Postdoctorates in Science and Engineering, 2021.