

TABLE 4-2

**Graduate students, postdoctoral appointees, and doctorate-holding nonfaculty researchers, by detailed field and sex: 2022**

(Number and percent)

Detailed field	Graduate students						Postdoctoral appointees		Doctorate-holding nonfaculty researchers	
	All graduate students		Master's		Doctoral					
	Total number	Percent female	Total number	Percent female	Total number	Percent female	Total number	Percent female	Total number	Percent female
All detailed fields	798,534	48.4	501,311	49.8	297,223	46.0	62,750	42.6	32,279	42.6
Science	538,166	50.6	331,983	51.0	206,183	49.8	36,673	42.1	19,423	42.0
Agricultural and veterinary sciences	11,596	59.3	6,949	62.0	4,647	55.3	1,705	45.0	1,068	49.0
Agricultural sciences	10,310	58.1	6,165	60.3	4,145	54.8	1,201	41.0	755	46.4
Veterinary biomedical and clinical sciences	1,286	69.1	784	75.3	502	59.6	504	54.4	313	55.3
Biological and biomedical sciences	102,700	61.9	43,062	66.9	59,638	58.3	19,585	46.5	8,207	46.8
Biochemistry	5,905	53.7	911	58.4	4,994	52.9	1,756	41.3	843	40.2
Biology	15,569	61.3	7,969	64.2	7,600	58.2	2,064	45.3	754	48.0
Biomedical sciences	10,836	64.9	5,681	69.2	5,155	60.2	1,553	50.4	571	45.4
Biophysics	895	41.6	8	37.5	887	41.6	126	42.9	79	30.4
Biostatistics and bioinformatics	7,651	52.7	3,852	58.0	3,799	47.3	691	43.1	357	47.1
Biotechnology	4,021	61.9	3,916	61.9	105	61.9	155	38.1	87	42.5
Botany and plant biology	1,670	55.7	369	57.7	1,301	55.2	507	44.2	218	45.4
Cell, cellular biology, and anatomical sciences	6,511	59.5	1,137	64.0	5,374	58.6	1,599	48.1	590	48.3
Ecology and population biology	3,866	61.5	1,058	65.5	2,808	60.0	438	47.9	221	45.2
Epidemiology	6,057	72.9	3,844	73.6	2,213	71.6	377	61.0	122	64.8
Genetics	3,333	63.0	749	77.2	2,584	58.9	1,288	43.2	551	44.5
Microbiological sciences and immunology	6,492	62.7	2,026	69.4	4,466	59.7	1,811	50.6	708	47.6
Molecular biology	1,639	59.8	408	67.6	1,231	57.2	549	39.2	210	39.0
Neurobiology and neuroscience	6,448	60.7	515	66.0	5,933	60.2	1,932	45.4	800	48.1
Nutrition science	3,955	84.1	2,905	86.3	1,050	78.1	146	60.3	98	67.3
Pathology and experimental pathology	1,023	62.7	106	67.9	917	62.1	925	46.3	308	52.9
Pharmacology and toxicology	3,405	62.3	996	68.7	2,409	59.7	915	47.2	387	46.8
Physiology	5,912	57.5	2,891	58.7	3,021	56.4	1,512	48.6	714	50.7
Zoology and animal biology	2,059	57.8	861	61.2	1,198	55.4	411	44.0	187	41.7
Biological and biomedical sciences nec	5,453	65.4	2,860	70.0	2,593	60.3	830	47.1	402	46.3
Computer and information sciences	150,555	32.5	129,972	33.2	20,583	27.9	859	27.2	507	28.0
Artificial intelligence, informatics, and computer and information science topics	6,142	36.7	5,379	36.4	763	38.3	46	32.6	40	32.5
Computer and information sciences	46,151	29.4	39,719	30.3	6,432	24.3	166	25.9	134	26.9
Computer and information systems security	9,695	27.2	9,254	27.4	441	23.8	11	36.4	18	11.1
Computer science	52,924	28.7	42,092	29.5	10,832	25.6	496	24.2	192	29.7
Information science and studies	16,872	46.7	15,478	46.2	1,394	51.5	65	52.3	30	36.7
Information technology	11,151	40.6	10,601	40.5	550	42.7	3	66.7	11	27.3
Computer and information sciences nec	7,620	36.7	7,449	36.7	171	34.5	72	22.2	82	24.4

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(Number and percent)

Detailed field	Graduate students						Postdoctoral appointees		Doctorate-holding nonfaculty researchers	
	All graduate students		Master's		Doctoral					
	Total number	Percent female	Total number	Percent female	Total number	Percent female	Total number	Percent female	Total number	Percent female
Geosciences, atmospheric sciences, and ocean sciences	11,970	51.9	5,186	53.0	6,784	50.9	1,787	42.2	2,448	33.5
Atmospheric sciences and meteorology	1,434	41.7	489	42.1	945	41.5	253	37.9	515	27.8
Geological and earth sciences	7,468	48.9	3,183	48.0	4,285	49.6	844	40.4	1,127	34.3
Ocean and marine sciences	3,068	63.8	1,514	67.2	1,554	60.4	414	47.1	385	43.4
Geosciences, atmospheric sciences, and ocean sciences nec	ne	ne	ne	ne	ne	ne	276	44.6	421	29.0
Mathematics and statistics	34,387	36.3	20,798	40.4	13,589	29.9	1,110	24.5	251	29.5
Applied mathematics	11,224	37.6	9,097	38.4	2,127	34.2	221	23.1	73	26.0
Mathematics	12,022	31.4	3,905	41.0	8,117	26.8	689	25.4	125	28.0
Statistics	11,141	40.1	7,796	42.5	3,345	34.7	200	23.0	53	37.7
Multidisciplinary and interdisciplinary sciences	20,945	50.7	16,931	49.8	4,014	54.4	840	45.7	931	43.0
Biological and physical sciences	1,855	55.6	899	58.1	956	53.3	56	53.6	43	25.6
Computational science	3,424	36.3	3,089	37.2	335	28.1	31	25.8	62	30.6
Data science and data analytics	6,104	36.8	6,000	36.9	104	34.6	48	31.3	32	31.3
International and global studies	1,258	62.6	1,083	63.3	175	58.9	27	55.6	17	64.7
Multidisciplinary and interdisciplinary sciences nec	8,304	63.9	5,860	66.0	2,444	58.9	678	46.6	777	44.9
Natural resources and conservation	13,762	60.2	9,807	61.4	3,955	57.3	936	46.0	605	39.0
Environmental science and studies	6,402	62.8	4,422	64.0	1,980	60.0	339	49.3	201	45.8
Forestry, natural resources, and conservation	7,360	58.0	5,385	59.2	1,975	54.6	597	44.2	404	35.6
Physical sciences	44,092	36.8	6,256	39.6	37,836	36.4	6,877	25.8	2,894	23.2
Astronomy and astrophysics	1,703	46.0	100	43.0	1,603	46.2	634	33.3	573	23.4
Chemistry	22,710	45.0	3,015	49.9	19,695	44.3	3,157	27.8	876	29.3
Materials sciences	1,625	33.7	402	30.6	1,223	34.8	246	24.4	77	24.7
Physics	17,000	24.6	2,253	23.5	14,747	24.7	2,618	21.4	1,162	18.2
Physical sciences nec	1,054	47.8	486	57.6	568	39.4	222	28.8	206	23.8
Psychology	69,442	80.3	48,321	82.3	21,121	75.8	1,308	65.6	786	66.8
Applied psychology	25,195	81.8	20,091	82.9	5,104	77.2	109	79.8	70	77.1
Clinical psychology	7,793	80.7	4,519	81.5	3,274	79.6	56	87.5	9	88.9
Counseling psychology	13,800	82.6	12,400	83.3	1,400	76.7	14	100.0	11	90.9
Human development	2,293	88.7	1,525	91.4	768	83.3	119	79.0	148	71.6
Psychology, general	13,181	76.0	7,346	77.3	5,835	74.4	735	60.8	417	62.1
Research and experimental psychology	7,180	75.6	2,440	82.5	4,740	72.1	275	60.7	131	67.2
Social sciences	78,717	55.1	44,701	56.8	34,016	52.8	1,666	51.6	1,726	54.2
Agricultural and natural resource economics	901	45.6	485	45.4	416	45.9	53	30.2	31	29.0
Anthropology	6,220	67.7	2,173	69.9	4,047	66.5	150	54.7	74	63.5
Area, ethnic, cultural, gender, and group studies	4,979	66.2	2,634	67.1	2,345	65.1	235	59.1	96	62.5

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	Total number	Percent female	Total number	Percent female	Total number	Percent female	Total number	Percent female	Total number	Percent female
Criminal justice and safety studies	6,613	62.9	5,223	65.0	1,390	54.9	15	73.3	21	57.1
Criminology	1,502	70.5	1,180	70.3	322	71.4	8	62.5	15	73.3
Economics (except agricultural and natural resource)	14,935	39.7	6,734	42.9	8,201	37.1	152	38.2	152	46.1
Geography and cartography	4,354	49.4	2,807	46.9	1,547	53.8	131	51.9	100	38.0
International relations and national security studies	8,164	49.8	7,833	49.9	331	47.4	98	54.1	92	34.8
Linguistics	2,854	61.5	1,159	65.3	1,695	58.8	58	44.8	55	47.3
Political science and government	8,235	46.3	2,925	46.7	5,310	46.1	162	46.3	87	41.4
Public policy analysis	9,391	58.2	6,701	60.5	2,690	52.5	241	58.9	468	58.8
Sociology and population studies	6,845	67.9	2,190	72.9	4,655	65.5	166	59.0	168	58.3
Urban studies and affairs	1,069	62.4	671	64.5	398	58.8	18	50.0	37	62.2
Social sciences, other	2,655	64.8	1,986	67.2	669	57.7	179	43.0	330	60.0
Engineering	176,000	27.9	103,020	27.0	72,980	29.1	8,335	27.5	4,355	23.7
Aerospace, aeronautical, and astronautical engineering	8,095	19.3	5,263	19.2	2,832	19.4	244	16.4	153	19.6
Biological, biomedical, and biosystems engineering	14,442	48.0	5,177	50.9	9,265	46.4	1,540	38.5	685	38.4
Chemical, petroleum, and chemical-related engineering	10,601	34.1	3,011	33.4	7,590	34.4	1,239	28.8	313	27.2
Chemical engineering	9,668	35.4	2,599	35.6	7,069	35.3	1,215	29.0	265	30.9
Petroleum engineering	933	20.5	412	19.4	521	21.3	24	20.8	48	6.3
Civil, environmental, transportation and related engineering fields	20,375	34.4	12,621	34.3	7,754	34.7	1,018	31.0	569	23.9
Civil engineering	16,321	32.5	9,692	32.5	6,629	32.5	929	30.5	497	23.1
Architectural, environmental, construction and surveying engineering	4,054	42.2	2,929	40.2	1,125	47.6	89	37.1	72	29.2
Electrical, electronics, communications and computer engineering	49,901	23.5	32,316	25.0	17,585	20.8	1,217	20.4	734	14.9
Electrical, electronics, and communications engineering	34,537	21.4	19,757	22.0	14,780	20.7	1,129	20.5	673	14.1
Computer engineering	15,364	28.2	12,559	29.7	2,805	21.7	88	19.3	61	23.0
Industrial, manufacturing, systems engineering and operations research	16,435	28.3	12,579	27.0	3,856	32.8	143	23.1	197	23.9
Industrial and manufacturing engineering	8,650	26.8	6,349	24.0	2,301	34.7	72	22.2	74	24.3
Systems engineering and operations research	7,785	30.0	6,230	30.0	1,555	29.9	71	23.9	123	23.6
Mechanical engineering	27,552	18.5	16,029	16.9	11,523	20.8	1,189	19.4	527	16.7
Metallurgical, mining, materials and related engineering fields	7,118	31.7	2,545	32.3	4,573	31.4	542	22.1	280	20.4
Other engineering	21,481	28.8	13,479	28.8	8,002	28.8	1,203	29.1	897	24.3
Agricultural engineering	1,020	39.2	389	42.4	631	37.2	136	35.3	48	33.3

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Engineering mechanics, physics, and science	2,350	28.6	762	29.5	1,588	28.1	265	25.3	199	18.1
Nuclear engineering	1,578	20.2	493	18.1	1,085	21.2	82	23.2	41	24.4
Engineering, other	16,533	29.0	11,835	28.8	4,698	29.6	720	30.0	609	25.6
Health	84,368	77.2	66,308	79.1	18,060	70.0	17,742	50.6	8,501	53.5
Clinical medicine	39,217	76.5	33,251	77.4	5,966	71.6	15,630	50.4	7,351	52.9
Medical clinical sciences and clinical and medical laboratory sciences	2,122	63.7	1,168	63.4	954	64.2	450	53.3	128	54.7
Public health	37,095	77.2	32,083	77.9	5,012	73.0	796	63.6	742	66.4
Anesthesiology	ne	ne	ne	ne	ne	ne	313	47.0	129	44.2
Cardiology and cardiovascular disease	ne	ne	ne	ne	ne	ne	672	42.4	227	45.4
Endocrinology, diabetes, and metabolism	ne	ne	ne	ne	ne	ne	355	51.8	109	56.9
Gastroenterology	ne	ne	ne	ne	ne	ne	310	49.7	105	44.8
Hematology	ne	ne	ne	ne	ne	ne	379	44.3	199	51.3
Neurology and neurosurgery	ne	ne	ne	ne	ne	ne	1,618	51.0	580	48.6
Obstetrics and gynecology	ne	ne	ne	ne	ne	ne	218	64.2	107	74.8
Oncology and cancer research	ne	ne	ne	ne	ne	ne	1,391	50.3	648	57.9
Ophthalmology	ne	ne	ne	ne	ne	ne	476	47.7	303	46.9
Otorhinolaryngology	ne	ne	ne	ne	ne	ne	267	47.2	119	55.5
Pediatrics	ne	ne	ne	ne	ne	ne	1,125	59.0	742	55.1
Psychiatry	ne	ne	ne	ne	ne	ne	951	63.3	351	61.0
Pulmonary disease	ne	ne	ne	ne	ne	ne	238	47.1	116	56.9
Radiological sciences	ne	ne	ne	ne	ne	ne	1,218	40.0	444	34.2
Surgery	ne	ne	ne	ne	ne	ne	1,213	42.9	572	45.1
Clinical medicine nec	ne	ne	ne	ne	ne	ne	3,640	49.2	1,730	52.5
Other health	45,151	77.8	33,057	80.9	12,094	69.3	2,112	52.6	1,150	57.9
Communication disorders sciences	18,589	95.0	17,768	95.6	821	81.6	72	66.7	86	68.6
Dental sciences	1,773	54.1	1,545	53.5	228	57.9	311	52.7	140	52.1
Kinesiology and exercise science	5,724	50.9	4,743	51.2	981	49.4	71	52.1	49	51.0
Nursing science	5,192	85.9	1,535	86.5	3,657	85.6	141	85.1	166	85.5
Pharmaceutical sciences	5,201	60.7	2,142	66.9	3,059	56.4	1,107	46.3	379	45.4
Other health nec	8,672	68.9	5,324	70.2	3,348	66.8	410	55.6	330	59.1

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.