

TABLE 4-4c

Citizenship, ethnicity, and race of doctoral students, by detailed field: 2023

(Number and percent)

Detailed field	Total		U.S. citizens and permanent residents																	Temporary visa holders		
			Hispanic or Latino		Not Hispanic or Latino														Unknown ethnicity and race			
					American Indian or Alaska Native		Asian		Black or African American		Native Hawaiian or Other Pacific Islander		White		More than one race							
					Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent				Number
All detailed fields	307,229	100.0	22,329	100.0	773	100.0	21,619	100.0	14,512	100.0	210	100.0	106,230	100.0	7,884	100.0	8,642	100.0	125,030	100.0		
Science	212,969	69.3	17,184	77.0	604	78.1	14,988	69.3	10,434	71.9	159	75.7	79,530	74.9	5,968	75.7	6,436	74.5	77,666	62.1		
Agricultural and veterinary sciences	4,854	1.6	243	1.1	14	1.8	136	0.6	99	0.7	1	0.5	1,755	1.7	75	1.0	70	0.8	2,461	2.0		
Agricultural sciences	4,354	1.4	214	1.0	14	1.8	118	0.5	89	0.6	1	0.5	1,566	1.5	67	0.8	61	0.7	2,224	1.8		
Veterinary biomedical and clinical sciences	500	0.2	29	0.1	0	0.0	18	0.1	10	0.1	0	0.0	189	0.2	8	0.1	9	0.1	237	0.2		
Biological and biomedical sciences	60,863	19.8	5,951	26.7	159	20.6	5,637	26.1	2,605	18.0	51	24.3	25,726	24.2	1,919	24.3	1,633	18.9	17,182	13.7		
Biochemistry	4,985	1.6	502	2.2	23	3.0	446	2.1	185	1.3	5	2.4	2,094	2.0	163	2.1	101	1.2	1,466	1.2		
Biology	7,543	2.5	700	3.1	18	2.3	475	2.2	272	1.9	3	1.4	3,323	3.1	237	3.0	140	1.6	2,375	1.9		
Biomedical sciences	5,415	1.8	506	2.3	15	1.9	536	2.5	304	2.1	1	0.5	2,159	2.0	156	2.0	131	1.5	1,607	1.3		
Biophysics	943	0.3	85	0.4	1	0.1	112	0.5	22	0.2	0	0.0	346	0.3	40	0.5	37	0.4	300	0.2		
Biostatistics and bioinformatics	4,043	1.3	200	0.9	1	0.1	541	2.5	92	0.6	6	2.9	1,062	1.0	106	1.3	132	1.5	1,903	1.5		
Biotechnology	123	*	11	*	1	0.1	9	*	5	*	1	0.5	48	*	4	0.1	3	*	41	*		
Botany and plant biology	1,299	0.4	113	0.5	3	0.4	62	0.3	34	0.2	1	0.5	575	0.5	34	0.4	37	0.4	440	0.4		
Cell, cellular biology, and anatomical sciences	5,447	1.8	669	3.0	13	1.7	552	2.6	216	1.5	9	4.3	2,234	2.1	157	2.0	176	2.0	1,421	1.1		
Ecology and population biology	2,798	0.9	267	1.2	8	1.0	157	0.7	96	0.7	2	1.0	1,500	1.4	96	1.2	55	0.6	617	0.5		
Epidemiology	2,301	0.7	167	0.7	5	0.6	264	1.2	183	1.3	2	1.0	818	0.8	57	0.7	78	0.9	727	0.6		
Genetics	2,494	0.8	269	1.2	9	1.2	258	1.2	113	0.8	1	0.5	1,108	1.0	86	1.1	55	0.6	595	0.5		
Microbiological sciences and immunology	4,654	1.5	536	2.4	15	1.9	451	2.1	221	1.5	1	0.5	2,221	2.1	149	1.9	122	1.4	938	0.8		
Molecular biology	1,280	0.4	155	0.7	2	0.3	148	0.7	51	0.4	1	0.5	513	0.5	45	0.6	27	0.3	338	0.3		
Neurobiology and neuroscience	6,100	2.0	743	3.3	11	1.4	640	3.0	295	2.0	5	2.4	2,746	2.6	242	3.1	176	2.0	1,242	1.0		
Nutrition science	1,109	0.4	81	0.4	0	0.0	71	0.3	53	0.4	1	0.5	412	0.4	27	0.3	23	0.3	441	0.4		
Pathology and experimental pathology	963	0.3	97	0.4	2	0.3	78	0.4	46	0.3	3	1.4	419	0.4	29	0.4	62	0.7	227	0.2		
Pharmacology and toxicology	2,460	0.8	261	1.2	11	1.4	248	1.1	154	1.1	0	0.0	1,028	1.0	80	1.0	83	1.0	595	0.5		
Physiology	3,150	1.0	274	1.2	8	1.0	329	1.5	126	0.9	4	1.9	1,360	1.3	77	1.0	89	1.0	883	0.7		
Zoology and animal biology	1,141	0.4	86	0.4	1	0.1	40	0.2	31	0.2	0	0.0	593	0.6	47	0.6	26	0.3	317	0.3		
Biological and biomedical sciences nec	2,615	0.9	229	1.0	12	1.6	220	1.0	106	0.7	5	2.4	1,167	1.1	87	1.1	80	0.9	709	0.6		
Computer and information sciences	22,484	7.3	634	2.8	27	3.5	1,855	8.6	822	5.7	12	5.7	4,258	4.0	382	4.8	623	7.2	13,871	11.1		
Artificial intelligence, informatics, and computer and information science topics	942	0.3	20	0.1	1	0.1	98	0.5	35	0.2	0	0.0	209	0.2	18	0.2	29	0.3	532	0.4		
Computer and information sciences	7,247	2.4	204	0.9	6	0.8	480	2.2	238	1.6	4	1.9	1,304	1.2	94	1.2	184	2.1	4,733	3.8		
Computer and information systems security	724	0.2	59	0.3	9	1.2	74	0.3	183	1.3	0	0.0	244	0.2	22	0.3	39	0.5	94	0.1		
Computer science	11,342	3.7	248	1.1	4	0.5	1,018	4.7	183	1.3	5	2.4	1,977	1.9	191	2.4	317	3.7	7,399	5.9		
Information science and studies	1,522	0.5	82	0.4	6	0.8	123	0.6	125	0.9	3	1.4	400	0.4	42	0.5	35	0.4	706	0.6		

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					Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent				Number
Information technology	590	0.2	18	0.1	1	0.1	50	0.2	37	0.3	0	0.0	89	0.1	15	0.2	14	0.2	366	0.3		
Computer and information sciences nec	117	*	3	*	0	0.0	12	0.1	21	0.1	0	0.0	35	*	0	0.0	5	0.1	41	*		
Geosciences, atmospheric sciences, and ocean sciences	6,801	2.2	550	2.5	10	1.3	256	1.2	168	1.2	2	1.0	3,216	3.0	265	3.4	175	2.0	2,159	1.7		
Atmospheric sciences and meteorology	990	0.3	63	0.3	0	0.0	34	0.2	36	0.2	0	0.0	468	0.4	34	0.4	24	0.3	331	0.3		
Geological and earth sciences	4,256	1.4	361	1.6	7	0.9	170	0.8	92	0.6	0	0.0	1,906	1.8	146	1.9	82	0.9	1,492	1.2		
Ocean and marine sciences	1,555	0.5	126	0.6	3	0.4	52	0.2	40	0.3	2	1.0	842	0.8	85	1.1	69	0.8	336	0.3		
Geosciences, atmospheric sciences, and ocean sciences nec	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	ne	
Mathematics and statistics	13,788	4.5	708	3.2	11	1.4	1,010	4.7	220	1.5	4	1.9	4,158	3.9	274	3.5	360	4.2	7,043	5.6		
Applied mathematics	2,163	0.7	119	0.5	1	0.1	145	0.7	47	0.3	1	0.5	660	0.6	56	0.7	53	0.6	1,081	0.9		
Mathematics	8,178	2.7	480	2.1	4	0.5	592	2.7	131	0.9	2	1.0	2,863	2.7	177	2.2	215	2.5	3,714	3.0		
Statistics	3,447	1.1	109	0.5	6	0.8	273	1.3	42	0.3	1	0.5	635	0.6	41	0.5	92	1.1	2,248	1.8		
Multidisciplinary and interdisciplinary sciences	4,501	1.5	339	1.5	10	1.3	321	1.5	252	1.7	5	2.4	1,729	1.6	126	1.6	126	1.5	1,593	1.3		
Biological and physical sciences	975	0.3	66	0.3	1	0.1	95	0.4	31	0.2	3	1.4	383	0.4	29	0.4	25	0.3	342	0.3		
Computational science	289	0.1	18	0.1	0	0.0	17	0.1	7	*	0	0.0	101	0.1	5	0.1	14	0.2	127	0.1		
Data science and data analytics	173	0.1	4	*	0	0.0	17	0.1	5	*	0	0.0	31	*	3	*	2	*	111	0.1		
International and global studies	131	*	34	0.2	0	0.0	8	*	12	0.1	0	0.0	25	*	2	*	4	*	46	*		
Multidisciplinary and interdisciplinary sciences nec	2,933	1.0	217	1.0	9	1.2	184	0.9	197	1.4	2	1.0	1,189	1.1	87	1.1	81	0.9	967	0.8		
Natural resources and conservation	4,004	1.3	287	1.3	44	5.7	153	0.7	158	1.1	3	1.4	1,960	1.8	99	1.3	126	1.5	1,174	0.9		
Environmental science and studies	1,989	0.6	174	0.8	15	1.9	100	0.5	98	0.7	1	0.5	952	0.9	47	0.6	69	0.8	533	0.4		
Forestry, natural resources, and conservation	2,015	0.7	113	0.5	29	3.8	53	0.2	60	0.4	2	1.0	1,008	0.9	52	0.7	57	0.7	641	0.5		
Physical sciences	38,329	12.5	2,547	11.4	41	5.3	2,403	11.1	818	5.6	13	6.2	14,101	13.3	942	11.9	795	9.2	16,669	13.3		
Astronomy and astrophysics	1,557	0.5	153	0.7	6	0.8	112	0.5	48	0.3	2	1.0	741	0.7	74	0.9	48	0.6	373	0.3		
Chemistry	20,116	6.5	1,463	6.6	18	2.3	1,327	6.1	455	3.1	10	4.8	7,255	6.8	473	6.0	409	4.7	8,706	7.0		
Materials sciences	1,198	0.4	52	0.2	0	0.0	94	0.4	35	0.2	1	0.5	348	0.3	26	0.3	24	0.3	618	0.5		
Physics	14,940	4.9	864	3.9	17	2.2	852	3.9	222	1.5	0	0.0	5,602	5.3	363	4.6	309	3.6	6,711	5.4		
Physical sciences nec	518	0.2	15	0.1	0	0.0	18	0.1	58	0.4	0	0.0	155	0.1	6	0.1	5	0.1	261	0.2		
Psychology	24,354	7.9	3,307	14.8	113	14.6	1,522	7.0	3,043	21.0	33	15.7	11,286	10.6	988	12.5	1,326	15.3	2,736	2.2		
Applied psychology	4,768	1.6	744	3.3	34	4.4	277	1.3	562	3.9	4	1.9	2,294	2.2	168	2.1	138	1.6	547	0.4		
Clinical psychology	3,270	1.1	651	2.9	11	1.4	248	1.1	224	1.5	2	1.0	1,654	1.6	143	1.8	154	1.8	183	0.1		
Counseling psychology	2,910	0.9	285	1.3	12	1.6	142	0.7	815	5.6	8	3.8	1,061	1.0	114	1.4	357	4.1	116	0.1		
Human development	759	0.2	79	0.4	3	0.4	35	0.2	93	0.6	0	0.0	334	0.3	40	0.5	8	0.1	167	0.1		
Psychology, general	7,607	2.5	986	4.4	41	5.3	388	1.8	1,053	7.3	18	8.6	3,633	3.4	327	4.1	566	6.5	595	0.5		

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					American Indian or Alaska Native		Asian		Black or African American		Native Hawaiian or Other Pacific Islander		White		More than one race							
					Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent				Number
Research and experimental psychology	5,040	1.6	562	2.5	12	1.6	432	2.0	296	2.0	1	0.5	2,310	2.2	196	2.5	103	1.2	1,128	0.9		
Social sciences	32,991	10.7	2,618	11.7	175	22.6	1,695	7.8	2,249	15.5	35	16.7	11,341	10.7	898	11.4	1,202	13.9	12,778	10.2		
Agricultural and natural resource economics	304	0.1	10	*	0	0.0	10	*	7	*	0	0.0	66	0.1	3	*	2	*	206	0.2		
Anthropology	3,825	1.2	408	1.8	39	5.0	159	0.7	174	1.2	7	3.3	1,774	1.7	136	1.7	139	1.6	989	0.8		
Area, ethnic, cultural, gender, and group studies	2,338	0.8	383	1.7	70	9.1	146	0.7	332	2.3	3	1.4	653	0.6	103	1.3	90	1.0	558	0.4		
Criminal justice and safety studies	1,482	0.5	158	0.7	8	1.0	29	0.1	269	1.9	3	1.4	694	0.7	54	0.7	189	2.2	78	0.1		
Criminology	316	0.1	43	0.2	1	0.1	8	*	24	0.2	0	0.0	169	0.2	10	0.1	5	0.1	56	*		
Economics (except agricultural and natural resource)	8,161	2.7	215	1.0	3	0.4	459	2.1	114	0.8	1	0.5	1,668	1.6	89	1.1	146	1.7	5,466	4.4		
Geography and cartography	1,320	0.4	104	0.5	9	1.2	57	0.3	36	0.2	0	0.0	491	0.5	29	0.4	47	0.5	547	0.4		
International relations and national security studies	326	0.1	25	0.1	0	0.0	17	0.1	17	0.1	1	0.5	134	0.1	6	0.1	12	0.1	114	0.1		
Linguistics	1,610	0.5	87	0.4	12	1.6	93	0.4	37	0.3	1	0.5	555	0.5	43	0.5	36	0.4	746	0.6		
Political science and government	5,035	1.6	358	1.6	5	0.6	236	1.1	222	1.5	2	1.0	2,015	1.9	160	2.0	140	1.6	1,897	1.5		
Public policy analysis	2,725	0.9	210	0.9	14	1.8	159	0.7	468	3.2	6	2.9	915	0.9	83	1.1	223	2.6	647	0.5		
Sociology and population studies	4,516	1.5	553	2.5	11	1.4	263	1.2	468	3.2	6	2.9	1,779	1.7	163	2.1	126	1.5	1,147	0.9		
Urban studies and affairs	318	0.1	19	0.1	1	0.1	16	0.1	40	0.3	1	0.5	124	0.1	4	0.1	10	0.1	103	0.1		
Social sciences, other	715	0.2	45	0.2	2	0.3	43	0.2	41	0.3	4	1.9	304	0.3	15	0.2	37	0.4	224	0.2		
Engineering	74,992	24.4	3,400	15.2	83	10.7	5,136	23.8	1,836	12.7	30	14.3	18,549	17.5	1,437	18.2	1,470	17.0	43,051	34.4		
Aerospace, aeronautical, and astronautical engineering	2,884	0.9	190	0.9	6	0.8	238	1.1	64	0.4	2	1.0	1,161	1.1	96	1.2	48	0.6	1,079	0.9		
Biological, biomedical, and biosystems engineering	9,999	3.3	761	3.4	12	1.6	1,202	5.6	362	2.5	6	2.9	3,279	3.1	284	3.6	323	3.7	3,770	3.0		
Chemical, petroleum, and chemical-related engineering	7,888	2.6	355	1.6	8	1.0	643	3.0	157	1.1	3	1.4	2,123	2.0	138	1.8	122	1.4	4,339	3.5		
Chemical engineering	7,430	2.4	352	1.6	8	1.0	630	2.9	152	1.0	3	1.4	2,087	2.0	137	1.7	114	1.3	3,947	3.2		
Petroleum engineering	458	0.1	3	*	0	0.0	13	0.1	5	*	0	0.0	36	*	1	*	8	0.1	392	0.3		
Civil, environmental, transportation and related engineering fields	7,852	2.6	272	1.2	15	1.9	297	1.4	162	1.1	6	2.9	1,442	1.4	106	1.3	105	1.2	5,447	4.4		
Civil engineering	6,702	2.2	209	0.9	11	1.4	251	1.2	132	0.9	5	2.4	1,157	1.1	69	0.9	86	1.0	4,782	3.8		
Architectural, environmental, construction and surveying engineering	1,150	0.4	63	0.3	4	0.5	46	0.2	30	0.2	1	0.5	285	0.3	37	0.5	19	0.2	665	0.5		
Electrical, electronics, communications and computer engineering	17,706	5.8	507	2.3	6	0.8	1,082	5.0	311	2.1	5	2.4	2,953	2.8	240	3.0	306	3.5	12,296	9.8		
Electrical, electronics, and communications engineering	14,773	4.8	436	2.0	5	0.6	909	4.2	260	1.8	3	1.4	2,470	2.3	199	2.5	265	3.1	10,226	8.2		
Computer engineering	2,933	1.0	71	0.3	1	0.1	173	0.8	51	0.4	2	1.0	483	0.5	41	0.5	41	0.5	2,070	1.7		
Industrial, manufacturing, systems engineering and operations research	3,889	1.3	115	0.5	3	0.4	214	1.0	151	1.0	1	0.5	864	0.8	58	0.7	80	0.9	2,403	1.9		
Industrial and manufacturing engineering	2,292	0.7	68	0.3	2	0.3	81	0.4	83	0.6	0	0.0	389	0.4	15	0.2	32	0.4	1,622	1.3		
Systems engineering and operations research	1,597	0.5	47	0.2	1	0.1	133	0.6	68	0.5	1	0.5	475	0.4	43	0.5	48	0.6	781	0.6		
Mechanical engineering	11,679	3.8	551	2.5	12	1.6	656	3.0	221	1.5	2	1.0	2,858	2.7	223	2.8	204	2.4	6,952	5.6		

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	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Metallurgical, mining, materials and related engineering fields	4,782	1.6	302	1.4	6	0.8	345	1.6	107	0.7	1	0.5	1,420	1.3	116	1.5	71	0.8	2,414	1.9
Other engineering	8,313	2.7	347	1.6	15	1.9	459	2.1	301	2.1	4	1.9	2,449	2.3	176	2.2	211	2.4	4,351	3.5
Agricultural engineering	655	0.2	17	0.1	1	0.1	20	0.1	8	0.1	1	0.5	146	0.1	10	0.1	9	0.1	443	0.4
Engineering mechanics, physics, and science	1,694	0.6	75	0.3	3	0.4	137	0.6	39	0.3	1	0.5	471	0.4	42	0.5	29	0.3	897	0.7
Nuclear engineering	1,090	0.4	83	0.4	2	0.3	48	0.2	26	0.2	0	0.0	550	0.5	43	0.5	27	0.3	311	0.2
Engineering, other	4,874	1.6	172	0.8	9	1.2	254	1.2	228	1.6	2	1.0	1,282	1.2	81	1.0	146	1.7	2,700	2.2
Health	19,268	6.3	1,745	7.8	86	11.1	1,495	6.9	2,242	15.4	21	10.0	8,151	7.7	479	6.1	736	8.5	4,313	3.4
Clinical medicine	6,174	2.0	671	3.0	53	6.9	553	2.6	930	6.4	11	5.2	2,308	2.2	207	2.6	187	2.2	1,254	1.0
Medical clinical sciences and clinical and medical laboratory sciences	875	0.3	108	0.5	5	0.6	82	0.4	72	0.5	2	1.0	420	0.4	23	0.3	36	0.4	127	0.1
Public health	5,299	1.7	563	2.5	48	6.2	471	2.2	858	5.9	9	4.3	1,888	1.8	184	2.3	151	1.7	1,127	0.9
Other health	13,094	4.3	1,074	4.8	33	4.3	942	4.4	1,312	9.0	10	4.8	5,843	5.5	272	3.5	549	6.4	3,059	2.4
Communication disorders sciences	926	0.3	97	0.4	0	0.0	51	0.2	72	0.5	0	0.0	486	0.5	13	0.2	21	0.2	186	0.1
Dental sciences	811	0.3	190	0.9	1	0.1	123	0.6	25	0.2	0	0.0	234	0.2	6	0.1	80	0.9	152	0.1
Kinesiology and exercise science	968	0.3	70	0.3	2	0.3	32	0.1	50	0.3	0	0.0	514	0.5	22	0.3	22	0.3	256	0.2
Nursing science	3,809	1.2	270	1.2	16	2.1	243	1.1	535	3.7	5	2.4	2,044	1.9	79	1.0	139	1.6	478	0.4
Pharmaceutical sciences	2,954	1.0	133	0.6	3	0.4	248	1.1	152	1.0	0	0.0	706	0.7	57	0.7	92	1.1	1,563	1.3
Other health nec	3,626	1.2	314	1.4	11	1.4	245	1.1	478	3.3	5	2.4	1,859	1.7	95	1.2	195	2.3	424	0.3

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

nec = not elsewhere classified.

Note(s):

Percentages may not add to total because of rounding. Ethnicity and race data are available only for U.S. citizens and permanent residents. For more information on the mapping of Survey of Graduate Students and Postdoctorates in Science and Engineering 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, 2023.