

TABLE 4-4a

Citizenship, ethnicity, and race of graduate students, by detailed field: 2022

(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		
All detailed fields	798,534	100.0	69,621	100.0	2,082	100.0	61,426	100.0	44,016	100.0	738	100.0	279,657	100.0	19,331	100.0	23,428	100.0	298,235	100.0
Science	538,166	67.4	48,508	69.7	1,335	64.1	40,603	66.1	29,714	67.5	537	72.8	190,960	68.3	13,393	69.3	15,914	67.9	197,202	66.1
Agricultural and veterinary sciences	11,596	1.5	886	1.3	29	1.4	396	0.6	457	1.0	14	1.9	5,680	2.0	237	1.2	256	1.1	3,641	1.2
Agricultural sciences	10,310	1.3	773	1.1	29	1.4	344	0.6	407	0.9	13	1.8	5,044	1.8	207	1.1	200	0.9	3,293	1.1
Veterinary biomedical and clinical sciences	1,286	0.2	113	0.2	0	0.0	52	0.1	50	0.1	1	0.1	636	0.2	30	0.2	56	0.2	348	0.1
Biological and biomedical sciences	102,700	12.9	10,691	15.4	239	11.5	10,386	16.9	6,413	14.6	115	15.6	44,818	16.0	3,271	16.9	3,271	14.0	23,496	7.9
Biochemistry	5,905	0.7	628	0.9	20	1.0	507	0.8	234	0.5	7	0.9	2,525	0.9	196	1.0	127	0.5	1,661	0.6
Biology	15,569	1.9	1,785	2.6	42	2.0	1,044	1.7	893	2.0	29	3.9	7,782	2.8	504	2.6	437	1.9	3,053	1.0
Biomedical sciences	10,836	1.4	1,178	1.7	23	1.1	1,594	2.6	1,272	2.9	8	1.1	4,138	1.5	329	1.7	360	1.5	1,934	0.6
Biophysics	895	0.1	86	0.1	0	0.0	114	0.2	20	*	0	0.0	352	0.1	32	0.2	16	0.1	275	0.1
Biostatistics and bioinformatics	7,651	1.0	397	0.6	7	0.3	1,072	1.7	230	0.5	8	1.1	2,051	0.7	172	0.9	255	1.1	3,459	1.2
Biotechnology	4,021	0.5	417	0.6	6	0.3	580	0.9	308	0.7	2	0.3	1,240	0.4	129	0.7	159	0.7	1,180	0.4
Botany and plant biology	1,670	0.2	145	0.2	5	0.2	83	0.1	38	0.1	1	0.1	778	0.3	50	0.3	48	0.2	522	0.2
Cell, cellular biology, and anatomical sciences	6,511	0.8	784	1.1	18	0.9	690	1.1	267	0.6	9	1.2	2,816	1.0	187	1.0	219	0.9	1,521	0.5
Ecology and population biology	3,866	0.5	357	0.5	15	0.7	167	0.3	130	0.3	5	0.7	2,325	0.8	125	0.6	103	0.4	639	0.2
Epidemiology	6,057	0.8	607	0.9	8	0.4	814	1.3	545	1.2	8	1.1	2,221	0.8	186	1.0	176	0.8	1,492	0.5
Genetics	3,333	0.4	326	0.5	5	0.2	312	0.5	148	0.3	2	0.3	1,622	0.6	113	0.6	95	0.4	710	0.2
Microbiological sciences and immunology	6,492	0.8	830	1.2	21	1.0	606	1.0	349	0.8	4	0.5	3,119	1.1	223	1.2	240	1.0	1,100	0.4
Molecular biology	1,639	0.2	213	0.3	2	0.1	187	0.3	87	0.2	3	0.4	654	0.2	52	0.3	44	0.2	397	0.1
Neurobiology and neuroscience	6,448	0.8	787	1.1	14	0.7	663	1.1	320	0.7	1	0.1	2,992	1.1	246	1.3	207	0.9	1,218	0.4
Nutrition science	3,955	0.5	442	0.6	7	0.3	263	0.4	190	0.4	5	0.7	2,083	0.7	111	0.6	153	0.7	701	0.2
Pathology and experimental pathology	1,023	0.1	94	0.1	3	0.1	92	0.1	50	0.1	2	0.3	467	0.2	26	0.1	54	0.2	235	0.1
Pharmacology and toxicology	3,405	0.4	317	0.5	8	0.4	367	0.6	212	0.5	1	0.1	1,365	0.5	101	0.5	116	0.5	918	0.3
Physiology	5,912	0.7	506	0.7	12	0.6	600	1.0	433	1.0	8	1.1	2,694	1.0	199	1.0	217	0.9	1,243	0.4
Zoology and animal biology	2,059	0.3	163	0.2	7	0.3	73	0.1	59	0.1	0	0.0	1,266	0.5	69	0.4	50	0.2	372	0.1
Biological and biomedical sciences nec	5,453	0.7	629	0.9	16	0.8	558	0.9	628	1.4	12	1.6	2,328	0.8	221	1.1	195	0.8	866	0.3
Computer and information sciences	150,555	18.9	5,615	8.1	121	5.8	13,558	22.1	5,590	12.7	93	12.6	25,030	9.0	2,028	10.5	3,359	14.3	95,161	31.9
Artificial intelligence, informatics, and computer and information science topics	6,142	0.8	250	0.4	7	0.3	585	1.0	238	0.5	4	0.5	1,298	0.5	112	0.6	139	0.6	3,509	1.2
Computer and information sciences	46,151	5.8	1,549	2.2	14	0.7	4,671	7.6	1,012	2.3	19	2.6	7,860	2.8	571	3.0	681	2.9	29,774	10.0
Computer and information systems security	9,695	1.2	899	1.3	32	1.5	1,108	1.8	1,490	3.4	15	2.0	3,081	1.1	282	1.5	433	1.8	2,355	0.8
Computer science	52,924	6.6	1,065	1.5	22	1.1	4,113	6.7	709	1.6	22	3.0	6,000	2.1	536	2.8	1,195	5.1	39,262	13.2

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Citizenship, ethnicity, and race of graduate students, by detailed field: 2022

(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
Information science and studies	16,872	2.1	926	1.3	24	1.2	1,659	2.7	1,332	3.0	20	2.7	3,809	1.4	289	1.5	556	2.4	8,257	2.8	
Information technology	11,151	1.4	498	0.7	17	0.8	832	1.4	499	1.1	10	1.4	1,467	0.5	127	0.7	193	0.8	7,508	2.5	
Computer and information sciences nec	7,620	1.0	428	0.6	5	0.2	590	1.0	310	0.7	3	0.4	1,515	0.5	111	0.6	162	0.7	4,496	1.5	
Geosciences, atmospheric sciences, and ocean sciences	11,970	1.5	1,109	1.6	34	1.6	417	0.7	313	0.7	6	0.8	6,686	2.4	426	2.2	303	1.3	2,676	0.9	
Atmospheric sciences and meteorology	1,434	0.2	99	0.1	1	*	41	0.1	43	0.1	1	0.1	800	0.3	43	0.2	28	0.1	378	0.1	
Geological and earth sciences	7,468	0.9	704	1.0	28	1.3	266	0.4	185	0.4	2	0.3	4,033	1.4	242	1.3	162	0.7	1,846	0.6	
Ocean and marine sciences	3,068	0.4	306	0.4	5	0.2	110	0.2	85	0.2	3	0.4	1,853	0.7	141	0.7	113	0.5	452	0.2	
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	34,387	4.3	1,926	2.8	37	1.8	2,686	4.4	737	1.7	12	1.6	9,472	3.4	563	2.9	898	3.8	18,056	6.1	
Applied mathematics	11,224	1.4	499	0.7	8	0.4	704	1.1	206	0.5	3	0.4	2,175	0.8	159	0.8	248	1.1	7,222	2.4	
Mathematics	12,022	1.5	898	1.3	21	1.0	864	1.4	281	0.6	5	0.7	4,780	1.7	250	1.3	396	1.7	4,527	1.5	
Statistics	11,141	1.4	529	0.8	8	0.4	1,118	1.8	250	0.6	4	0.5	2,517	0.9	154	0.8	254	1.1	6,307	2.1	
Multidisciplinary and interdisciplinary sciences	20,945	2.6	1,698	2.4	32	1.5	1,927	3.1	1,218	2.8	21	2.8	7,096	2.5	501	2.6	739	3.2	7,713	2.6	
Biological and physical sciences	1,855	0.2	154	0.2	6	0.3	192	0.3	105	0.2	6	0.8	736	0.3	66	0.3	80	0.3	510	0.2	
Computational science	3,424	0.4	212	0.3	3	0.1	286	0.5	72	0.2	3	0.4	979	0.4	68	0.4	65	0.3	1,736	0.6	
Data science and data analytics	6,104	0.8	420	0.6	7	0.3	716	1.2	393	0.9	2	0.3	1,814	0.6	121	0.6	347	1.5	2,284	0.8	
International and global studies	1,258	0.2	253	0.4	5	0.2	84	0.1	104	0.2	2	0.3	463	0.2	45	0.2	26	0.1	276	0.1	
Multidisciplinary and interdisciplinary sciences nec	8,304	1.0	659	0.9	11	0.5	649	1.1	544	1.2	8	1.1	3,104	1.1	201	1.0	221	0.9	2,907	1.0	
Natural resources and conservation	13,762	1.7	1,290	1.9	121	5.8	484	0.8	478	1.1	31	4.2	8,430	3.0	454	2.3	387	1.7	2,087	0.7	
Environmental science and studies	6,402	0.8	713	1.0	55	2.6	297	0.5	252	0.6	24	3.3	3,633	1.3	192	1.0	192	0.8	1,044	0.4	
Forestry, natural resources, and conservation	7,360	0.9	577	0.8	66	3.2	187	0.3	226	0.5	7	0.9	4,797	1.7	262	1.4	195	0.8	1,043	0.3	
Physical sciences	44,092	5.5	3,288	4.7	66	3.2	2,789	4.5	1,143	2.6	18	2.4	17,289	6.2	1,062	5.5	1,034	4.4	17,403	5.8	
Astronomy and astrophysics	1,703	0.2	169	0.2	4	0.2	123	0.2	50	0.1	1	0.1	814	0.3	83	0.4	51	0.2	408	0.1	
Chemistry	22,710	2.8	1,854	2.7	32	1.5	1,554	2.5	670	1.5	14	1.9	8,816	3.2	529	2.7	496	2.1	8,745	2.9	
Materials sciences	1,625	0.2	87	0.1	3	0.1	124	0.2	47	0.1	1	0.1	473	0.2	26	0.1	54	0.2	810	0.3	
Physics	17,000	2.1	1,124	1.6	26	1.2	942	1.5	302	0.7	2	0.3	6,705	2.4	399	2.1	404	1.7	7,096	2.4	
Physical sciences nec	1,054	0.1	54	0.1	1	*	46	0.1	74	0.2	0	0.0	481	0.2	25	0.1	29	0.1	344	0.1	
Psychology	69,442	8.7	13,177	18.9	264	12.7	3,967	6.5	6,991	15.9	115	15.6	34,375	12.3	2,558	13.2	2,917	12.5	5,078	1.7	
Applied psychology	25,195	3.2	5,302	7.6	84	4.0	1,306	2.1	2,493	5.7	48	6.5	12,675	4.5	860	4.4	1,252	5.3	1,175	0.4	
Clinical psychology	7,793	1.0	1,678	2.4	26	1.2	549	0.9	564	1.3	22	3.0	3,889	1.4	340	1.8	440	1.9	285	0.1	
Counseling psychology	13,800	1.7	2,928	4.2	72	3.5	683	1.1	1,978	4.5	23	3.1	6,619	2.4	489	2.5	584	2.5	424	0.1	

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(Number and percent)

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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		
Human development	2,293	0.3	345	0.5	9	0.4	97	0.2	214	0.5	1	0.1	1,212	0.4	87	0.5	82	0.4	246	0.1	
Psychology, general	13,181	1.7	2,019	2.9	56	2.7	724	1.2	1,280	2.9	20	2.7	6,660	2.4	553	2.9	415	1.8	1,454	0.5	
Research and experimental psychology	7,180	0.9	905	1.3	17	0.8	608	1.0	462	1.0	1	0.1	3,320	1.2	229	1.2	144	0.6	1,494	0.5	
Social sciences	78,717	9.9	8,828	12.7	392	18.8	3,993	6.5	6,374	14.5	112	15.2	32,084	11.5	2,293	11.9	2,750	11.7	21,891	7.3	
Agricultural and natural resource economics	901	0.1	56	0.1	4	0.2	28	*	29	0.1	1	0.1	300	0.1	8	*	17	0.1	458	0.2	
Anthropology	6,220	0.8	772	1.1	65	3.1	219	0.4	245	0.6	10	1.4	3,316	1.2	267	1.4	233	1.0	1,093	0.4	
Area, ethnic, cultural, gender, and group studies	4,979	0.6	948	1.4	130	6.2	269	0.4	573	1.3	28	3.8	1,566	0.6	218	1.1	150	0.6	1,097	0.4	
Criminal justice and safety studies	6,613	0.8	1,090	1.6	32	1.5	152	0.2	1,328	3.0	6	0.8	3,075	1.1	244	1.3	485	2.1	201	0.1	
Criminology	1,502	0.2	309	0.4	3	0.1	26	*	193	0.4	3	0.4	745	0.3	60	0.3	28	0.1	135	*	
Economics (except agricultural and natural resource)	14,935	1.9	652	0.9	5	0.2	790	1.3	339	0.8	13	1.8	3,474	1.2	195	1.0	305	1.3	9,162	3.1	
Geography and cartography	4,354	0.5	414	0.6	24	1.2	161	0.3	152	0.3	5	0.7	2,317	0.8	102	0.5	146	0.6	1,033	0.3	
International relations and national security studies	8,164	1.0	1,053	1.5	16	0.8	514	0.8	591	1.3	14	1.9	3,974	1.4	258	1.3	332	1.4	1,412	0.5	
Linguistics	2,854	0.4	236	0.3	27	1.3	182	0.3	88	0.2	2	0.3	1,148	0.4	73	0.4	88	0.4	1,010	0.3	
Political science and government	8,235	1.0	834	1.2	18	0.9	359	0.6	550	1.2	5	0.7	3,689	1.3	275	1.4	253	1.1	2,252	0.8	
Public policy analysis	9,391	1.2	1,013	1.5	27	1.3	655	1.1	1,004	2.3	10	1.4	4,065	1.5	252	1.3	392	1.7	1,973	0.7	
Sociology and population studies	6,845	0.9	1,119	1.6	26	1.2	359	0.6	806	1.8	9	1.2	2,799	1.0	231	1.2	207	0.9	1,289	0.4	
Urban studies and affairs	1,069	0.1	97	0.1	5	0.2	60	0.1	186	0.4	1	0.1	496	0.2	31	0.2	21	0.1	172	0.1	
Social sciences, other	2,655	0.3	235	0.3	10	0.5	219	0.4	290	0.7	5	0.7	1,120	0.4	79	0.4	93	0.4	604	0.2	
Engineering	176,000	22.0	10,629	15.3	339	16.3	13,268	21.6	4,752	10.8	80	10.8	48,988	17.5	3,430	17.7	3,788	16.2	90,726	30.4	
Aerospace, aeronautical, and astronautical engineering	8,095	1.0	703	1.0	12	0.6	868	1.4	176	0.4	10	1.4	3,894	1.4	274	1.4	182	0.8	1,976	0.7	
Biological, biomedical, and biosystems engineering	14,442	1.8	1,119	1.6	20	1.0	1,863	3.0	562	1.3	11	1.5	5,010	1.8	411	2.1	423	1.8	5,023	1.7	
Chemical, petroleum, and chemical-related engineering	10,601	1.3	558	0.8	20	1.0	899	1.5	238	0.5	6	0.8	3,049	1.1	173	0.9	186	0.8	5,472	1.8	
Chemical engineering	9,668	1.2	532	0.8	18	0.9	873	1.4	202	0.5	6	0.8	2,922	1.0	168	0.9	176	0.8	4,771	1.6	
Petroleum engineering	933	0.1	26	*	2	0.1	26	*	36	0.1	0	0.0	127	*	5	*	10	*	701	0.2	
Civil, environmental, transportation and related engineering fields	20,375	2.6	1,471	2.1	54	2.6	1,088	1.8	562	1.3	10	1.4	5,820	2.1	345	1.8	337	1.4	10,688	3.6	
Civil engineering	16,321	2.0	1,126	1.6	44	2.1	915	1.5	410	0.9	9	1.2	4,534	1.6	257	1.3	260	1.1	8,766	2.9	
Architectural, environmental, construction and surveying engineering	4,054	0.5	345	0.5	10	0.5	173	0.3	152	0.3	1	0.1	1,286	0.5	88	0.5	77	0.3	1,922	0.6	
Electrical, electronics, communications and computer engineering	49,901	6.2	2,141	3.1	130	6.2	3,595	5.9	1,018	2.3	12	1.6	8,815	3.2	706	3.7	873	3.7	32,611	10.9	
Electrical, electronics, and communications engineering	34,537	4.3	1,670	2.4	121	5.8	2,643	4.3	738	1.7	9	1.2	6,977	2.5	555	2.9	621	2.7	21,203	7.1	
Computer engineering	15,364	1.9	471	0.7	9	0.4	952	1.5	280	0.6	3	0.4	1,838	0.7	151	0.8	252	1.1	11,408	3.8	
Industrial, manufacturing, systems engineering and operations research	16,435	2.1	1,161	1.7	19	0.9	1,012	1.6	560	1.3	10	1.4	4,420	1.6	275	1.4	474	2.0	8,504	2.9	

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Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent	
Industrial and manufacturing engineering	8,650	1.1	519	0.7	8	0.4	353	0.6	226	0.5	5	0.7	1,518	0.5	86	0.4	93	0.4	5,842	2.0
Systems engineering and operations research	7,785	1.0	642	0.9	11	0.5	659	1.1	334	0.8	5	0.7	2,902	1.0	189	1.0	381	1.6	2,662	0.9
Mechanical engineering	27,552	3.5	1,891	2.7	32	1.5	2,044	3.3	587	1.3	4	0.5	8,462	3.0	609	3.2	602	2.6	13,321	4.5
Metallurgical, mining, materials and related engineering fields	7,118	0.9	463	0.7	15	0.7	522	0.8	163	0.4	1	0.1	2,449	0.9	202	1.0	119	0.5	3,184	1.1
Other engineering	21,481	2.7	1,122	1.6	37	1.8	1,377	2.2	886	2.0	16	2.2	7,069	2.5	435	2.3	592	2.5	9,947	3.3
Agricultural engineering	1,020	0.1	45	0.1	2	0.1	39	0.1	23	0.1	1	0.1	315	0.1	23	0.1	14	0.1	558	0.2
Engineering mechanics, physics, and science	2,350	0.3	119	0.2	3	0.1	177	0.3	68	0.2	0	0.0	722	0.3	57	0.3	40	0.2	1,164	0.4
Nuclear engineering	1,578	0.2	136	0.2	2	0.1	75	0.1	31	0.1	1	0.1	832	0.3	66	0.3	55	0.2	380	0.1
Engineering, other	16,533	2.1	822	1.2	30	1.4	1,086	1.8	764	1.7	14	1.9	5,200	1.9	289	1.5	483	2.1	7,845	2.6
Health	84,368	10.6	10,484	15.1	408	19.6	7,555	12.3	9,550	21.7	121	16.4	39,709	14.2	2,508	13.0	3,726	15.9	10,307	3.5
Clinical medicine	39,217	4.9	4,991	7.2	270	13.0	4,461	7.3	5,843	13.3	75	10.2	15,660	5.6	1,367	7.1	2,051	8.8	4,499	1.5
Medical clinical sciences and clinical and medical laboratory sciences	2,122	0.3	194	0.3	14	0.7	277	0.5	229	0.5	1	0.1	991	0.4	50	0.3	119	0.5	247	0.1
Public health	37,095	4.6	4,797	6.9	256	12.3	4,184	6.8	5,614	12.8	74	10.0	14,669	5.2	1,317	6.8	1,932	8.2	4,252	1.4
Other health	45,151	5.7	5,493	7.9	138	6.6	3,094	5.0	3,707	8.4	46	6.2	24,049	8.6	1,141	5.9	1,675	7.1	5,808	1.9
Communication disorders sciences	18,589	2.3	2,841	4.1	77	3.7	914	1.5	855	1.9	15	2.0	12,278	4.4	456	2.4	779	3.3	374	0.1
Dental sciences	1,773	0.2	100	0.1	3	0.1	279	0.5	68	0.2	2	0.3	757	0.3	51	0.3	89	0.4	424	0.1
Kinesiology and exercise science	5,724	0.7	848	1.2	21	1.0	162	0.3	694	1.6	13	1.8	3,001	1.1	205	1.1	135	0.6	645	0.2
Nursing science	5,192	0.7	492	0.7	13	0.6	364	0.6	700	1.6	5	0.7	2,873	1.0	105	0.5	165	0.7	475	0.2
Pharmaceutical sciences	5,201	0.7	292	0.4	5	0.2	427	0.7	393	0.9	2	0.3	1,443	0.5	123	0.6	140	0.6	2,376	0.8
Other health nec	8,672	1.1	920	1.3	19	0.9	948	1.5	997	2.3	9	1.2	3,697	1.3	201	1.0	367	1.6	1,514	0.5

* = value < 0.05%.

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. 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.