

Table 1-5

Research doctorate recipients, by historical major field of doctorate and sex: 2012–22

(Number and percent)

Field and sex	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	% change 2012–22
All doctorate recipients ^a	50,943	52,703	53,986	54,886	54,809	54,552	55,078	55,609	55,208	52,194	57,596	13.1
Life sciences	11,964	12,207	12,484	12,493	12,539	12,554	12,754	12,748	12,541	11,800	13,211	10.4
Agricultural sciences and natural resources	1,255	1,324	1,338	1,434	1,379	1,493	1,442	1,488	1,469	1,334	1,434	14.3
Biological and biomedical sciences	8,322	8,354	8,868	8,783	8,863	8,566	8,782	8,678	8,403	8,138	9,218	10.8
Health sciences	2,387	2,529	2,278	2,276	2,297	2,495	2,530	2,582	2,669	2,328	2,559	7.2
Physical sciences and earth sciences	5,419	5,584	5,910	5,916	6,251	6,082	6,329	6,579	6,241	5,776	6,649	22.7
Chemistry	2,416	2,484	2,673	2,666	2,703	2,699	2,807	2,939	2,761	2,552	3,060	26.7
Geosciences, atmospheric sciences, and ocean sciences	941	989	1,098	1,057	1,227	1,169	1,185	1,272	1,241	1,064	1,181	25.5
Physics and astronomy	2,062	2,111	2,139	2,193	2,321	2,214	2,337	2,368	2,239	2,160	2,408	16.8
Mathematics and computer sciences	3,496	3,660	3,862	3,818	3,954	3,842	4,022	4,230	4,387	4,370	4,854	38.8
Computer and information sciences	1,793	1,843	1,988	2,003	2,082	1,998	2,000	2,220	2,363	2,360	2,606	45.3
Mathematics and statistics	1,703	1,817	1,874	1,815	1,872	1,844	2,022	2,010	2,024	2,010	2,248	32.0
Psychology and social sciences	8,498	8,580	8,748	9,073	9,037	9,034	8,875	9,043	8,928	8,655	9,235	8.7
Psychology	3,599	3,592	3,724	3,776	3,910	3,925	3,821	3,909	3,868	3,779	3,990	10.9
Anthropology	547	550	523	492	460	446	424	445	447	400	415	-24.1
Economics	1,243	1,183	1,196	1,255	1,236	1,239	1,244	1,247	1,212	1,229	1,287	3.5
Political science and government	724	803	775	859	745	743	734	707	636	581	678	-6.4
Sociology	633	636	678	741	613	683	668	632	605	560	611	-3.5
Other social sciences	1,752	1,816	1,852	1,950	2,073	1,998	1,984	2,103	2,160	2,106	2,254	28.7
Engineering	8,469	9,000	9,626	9,875	9,459	9,776	10,164	10,298	10,468	10,233	11,530	36.1
Aerospace, aeronautical, and astronautical engineering	307	348	386	361	370	379	383	379	399	372	374	21.8
Bioengineering and biomedical engineering	943	1,039	1,046	1,125	1,089	1,032	1,133	1,163	1,082	1,064	1,228	30.2
Chemical engineering	840	824	973	1,002	921	931	981	980	994	1,022	1,142	36.0
Civil engineering	495	542	617	632	564	713	675	700	795	621	898	81.4
Electrical, electronics, and communications engineering	1,938	1,897	1,952	1,997	1,823	1,879	1,943	1,799	1,971	2,081	2,193	13.2
Industrial and manufacturing engineering	226	241	298	243	256	249	272	234	304	361	381	68.6
Materials science engineering	743	815	832	871	984	937	992	992	879	934	1,136	52.9
Mechanical engineering	1,220	1,277	1,331	1,466	1,297	1,398	1,503	1,532	1,633	1,444	1,676	37.4
Other engineering	1,757	2,017	2,191	2,178	2,155	2,258	2,282	2,519	2,411	2,334	2,502	42.4
Education	4,802	4,934	4,789	5,098	5,146	4,826	4,818	4,633	4,714	4,252	4,509	-6.1
Education administration	1,057	965	893	920	824	922	895	839	931	710	734	-30.6
Education research	2,516	2,638	2,490	2,717	2,328	2,373	2,457	2,253	2,275	2,198	2,289	-9.0
Teacher education	156	109	152	156	180	114	96	104	113	111	110	-29.5
Teaching fields	757	892	915	953	1,166	925	959	957	938	797	890	17.6
Other education	316	330	339	352	648	492	411	480	457	436	486	53.8
Humanities and arts	5,561	5,715	5,524	5,594	5,482	5,286	5,139	5,051	4,924	4,134	4,464	-19.7

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Research doctorate recipients, by historical major field of doctorate and sex: 2012–22

(Number and percent)

Field and sex	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	% change 2012–22
Foreign languages and literature	684	701	674	656	599	618	617	610	564	377	442	-35.4
History	1,086	1,148	1,186	1,146	1,148	1,058	948	912	884	725	750	-30.9
Letters	1,638	1,606	1,551	1,583	1,531	1,462	1,439	1,386	1,389	1,192	1,292	-21.1
Other humanities and arts	2,153	2,260	2,113	2,209	2,204	2,148	2,135	2,143	2,087	1,840	1,980	-8.0
Other	2,734	3,023	3,043	3,019	2,941	3,152	2,977	3,027	3,005	2,974	3,144	15.0
Business management and administration	1,404	1,551	1,584	1,582	1,509	1,565	1,473	1,533	1,468	1,389	1,450	3.3
Communication	595	645	663	667	672	622	630	543	591	508	580	-2.5
Non-science and engineering fields nec	735	827	796	770	760	965	874	951	946	1,077	1,114	51.6
Male	27,362	28,326	29,008	29,532	29,572	29,446	29,742	30,111	29,846	28,056	30,522	11.5
Life sciences	5,335	5,492	5,514	5,563	5,628	5,662	5,648	5,806	5,543	5,232	5,729	7.4
Agricultural sciences and natural resources	698	702	691	746	755	763	746	758	745	672	694	-0.6
Biological and biomedical sciences	3,891	3,941	4,088	4,100	4,154	4,088	4,079	4,192	3,883	3,811	4,219	8.4
Health sciences	746	849	735	717	719	811	823	856	915	749	816	9.4
Physical sciences and earth sciences	3,684	3,717	3,968	3,928	4,285	4,103	4,211	4,363	4,173	3,751	4,300	16.7
Chemistry	1,521	1,497	1,642	1,592	1,712	1,676	1,741	1,788	1,668	1,471	1,806	18.7
Geosciences, atmospheric sciences, and ocean sciences	538	539	622	600	716	657	659	738	736	594	634	17.8
Physics and astronomy	1,625	1,681	1,704	1,736	1,857	1,770	1,811	1,837	1,769	1,686	1,860	14.5
Mathematics and computer sciences	2,638	2,792	2,912	2,877	2,994	2,906	3,036	3,137	3,295	3,227	3,569	35.3
Computer and information sciences	1,419	1,502	1,580	1,581	1,662	1,566	1,565	1,711	1,861	1,774	1,958	38.0
Mathematics and statistics	1,219	1,290	1,332	1,296	1,332	1,340	1,471	1,426	1,434	1,453	1,611	32.2
Psychology and social sciences	3,539	3,501	3,507	3,757	3,741	3,718	3,634	3,666	3,582	3,481	3,593	1.5
Psychology	1,040	997	1,063	1,057	1,133	1,132	1,095	1,113	1,079	1,064	1,055	1.4
Anthropology	187	188	195	185	171	159	126	155	144	120	128	-31.6
Economics	840	767	785	821	819	827	848	818	808	820	850	1.2
Political science and government	420	469	433	527	462	456	429	433	387	339	399	-5.0
Sociology	230	259	247	284	257	266	250	229	243	211	231	0.4
Other social sciences	822	821	784	883	899	878	886	918	921	927	930	13.1
Engineering	6,565	6,946	7,401	7,578	7,267	7,449	7,710	7,830	7,875	7,576	8,415	28.2
Aerospace, aeronautical, and astronautical engineering	268	293	330	308	314	337	337	323	329	310	309	15.3
Bioengineering and biomedical engineering	608	684	660	698	686	613	687	720	652	631	671	10.4
Chemical engineering	583	566	682	685	624	665	688	664	695	695	745	27.8
Civil engineering	388	417	465	457	437	520	505	541	586	429	598	54.1
Electrical, electronics, and communications engineering	1,594	1,616	1,614	1,704	1,529	1,550	1,599	1,501	1,628	1,720	1,793	12.5
Industrial and manufacturing engineering	164	176	209	154	185	169	204	172	209	245	262	59.8
Materials science engineering	556	598	617	648	721	698	718	701	637	648	771	38.7
Mechanical engineering	1,042	1,081	1,126	1,265	1,096	1,179	1,285	1,283	1,372	1,182	1,361	30.6

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Research doctorate recipients, by historical major field of doctorate and sex: 2012–22

(Number and percent)

Field and sex	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	% change 2012–22
Other engineering	1,362	1,515	1,698	1,659	1,675	1,718	1,687	1,925	1,767	1,716	1,905	39.9
Education	1,500	1,570	1,468	1,605	1,545	1,535	1,494	1,422	1,457	1,239	1,285	-14.3
Education administration	389	372	371	344	304	349	323	342	349	247	233	-40.1
Education research	751	802	701	837	703	764	751	644	664	640	633	-15.7
Teacher education	43	22	35	36	43	21	18	20	28	18	20	-53.5
Teaching fields	229	275	265	294	313	265	271	259	291	216	256	11.8
Other education	88	99	96	94	182	136	131	157	125	118	143	62.5
Humanities and arts	2,741	2,829	2,760	2,763	2,639	2,606	2,564	2,478	2,506	2,113	2,191	-20.1
Foreign languages and literature	238	271	248	238	228	239	247	215	223	170	177	-25.6
History	602	632	664	632	621	602	513	529	510	409	396	-34.2
Letters	659	665	657	647	600	593	585	560	587	489	504	-23.5
Other humanities and arts	1,242	1,261	1,191	1,246	1,190	1,172	1,219	1,174	1,186	1,045	1,114	-10.3
Other	1,360	1,479	1,478	1,461	1,473	1,467	1,445	1,409	1,415	1,437	1,440	5.9
Business management and administration	837	909	909	934	932	900	863	872	851	793	808	-3.5
Communication	244	244	277	256	261	200	234	205	228	213	197	-19.3
Non-science and engineering fields nec	279	326	292	271	280	367	348	332	336	431	435	55.9
Female	23,526	24,365	24,813	25,347	25,222	25,084	25,308	25,488	25,356	24,128	27,069	15.1
Life sciences	6,614	6,712	6,930	6,929	6,908	6,887	7,100	6,941	6,997	6,566	7,482	13.1
Agricultural sciences and natural resources	554	622	646	688	623	728	693	730	723	662	740	33.6
Biological and biomedical sciences	4,422	4,410	4,747	4,682	4,707	4,476	4,700	4,485	4,520	4,325	4,999	13.0
Health sciences	1,638	1,680	1,537	1,559	1,578	1,683	1,707	1,726	1,754	1,579	1,743	6.4
Physical sciences and earth sciences	1,730	1,864	1,924	1,987	1,963	1,978	2,115	2,212	2,066	2,023	2,349	35.8
Chemistry	894	985	1,021	1,074	991	1,022	1,066	1,151	1,091	1,081	1,254	40.3
Geosciences, atmospheric sciences, and ocean sciences	403	449	475	457	510	512	526	533	505	470	547	35.7
Physics and astronomy	433	430	428	456	462	444	523	528	470	472	548	26.6
Mathematics and computer sciences	855	868	934	939	959	935	982	1,092	1,092	1,143	1,285	50.3
Computer and information sciences	374	341	400	422	420	432	434	508	502	586	648	73.3
Mathematics and statistics	481	527	534	517	539	503	548	584	590	557	637	32.4
Psychology and social sciences	4,955	5,077	5,217	5,315	5,295	5,312	5,239	5,377	5,346	5,171	5,641	13.8
Psychology	2,558	2,594	2,648	2,719	2,776	2,793	2,726	2,796	2,789	2,715	2,935	14.7
Anthropology	360	362	328	307	289	287	298	290	303	280	287	-20.3
Economics	402	416	404	434	417	410	396	429	404	408	437	8.7
Political science and government	303	333	341	332	283	287	304	274	249	242	279	-7.9
Sociology	402	377	431	457	356	416	418	403	362	349	380	-5.5
Other social sciences	930	995	1,065	1,066	1,174	1,119	1,097	1,185	1,239	1,177	1,323	42.3
Engineering	1,887	2,052	2,184	2,297	2,189	2,321	2,450	2,466	2,591	2,656	3,115	65.1

Table 1-5**Research doctorate recipients, by historical major field of doctorate and sex: 2012–22**

(Number and percent)

Field and sex	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	% change 2012–22
Aerospace, aeronautical, and astronautical engineering	39	55	55	53	56	42	46	56	70	62	65	66.7
Bioengineering and biomedical engineering	335	355	384	427	403	419	445	443	430	432	557	66.3
Chemical engineering	256	258	290	317	296	265	293	316	299	327	397	55.1
Civil engineering	106	125	147	175	127	191	170	159	209	192	300	183.0
Electrical, electronics, and communications engineering	336	279	325	293	293	329	344	297	343	361	400	19.0
Industrial and manufacturing engineering	62	65	89	89	71	79	68	62	95	116	119	91.9
Materials science engineering	184	217	211	223	262	239	274	290	242	286	365	98.4
Mechanical engineering	177	196	197	201	201	219	216	249	261	262	315	78.0
Other engineering	392	502	486	519	480	538	594	594	642	618	597	52.3
Education	3,298	3,364	3,311	3,492	3,601	3,289	3,323	3,211	3,256	3,012	3,224	-2.2
Education administration	665	593	522	576	520	573	572	497	581	463	501	-24.7
Education research	1,765	1,836	1,783	1,879	1,625	1,608	1,705	1,609	1,611	1,558	1,656	-6.2
Teacher education	113	87	117	120	137	92	78	84	85	93	90	-20.4
Teaching fields	527	617	649	659	853	660	688	698	647	580	634	20.3
Other education	228	231	240	258	466	356	280	323	332	318	343	50.4
Humanities and arts	2,818	2,885	2,760	2,830	2,842	2,679	2,572	2,571	2,418	2,020	2,271	-19.4
Foreign languages and literature	446	430	424	418	371	379	370	394	341	207	265	-40.6
History	484	516	521	514	527	456	435	383	374	316	354	-26.9
Letters	978	941	894	936	931	869	853	826	802	702	787	-19.5
Other humanities and arts	910	998	921	962	1,013	975	914	968	901	795	865	-4.9
Other	1,369	1,543	1,553	1,558	1,465	1,683	1,527	1,618	1,590	1,537	1,702	24.3
Business management and administration	564	641	669	648	575	664	607	661	617	596	642	13.8
Communication	350	401	383	411	410	422	395	338	363	295	383	9.4
Non-science and engineering fields nec	455	501	501	499	480	597	525	619	610	646	677	48.8

nec = not elsewhere classified.

^a Includes doctorate recipients who did not report sex.**Note(s):**

Beginning in 2021, a modified version of the 2020 Classification of Instructional Programs (CIP) codes was used in the survey data collection; the historical fields were constructed using the SED-CIP code crosswalk in table A-6. Therefore, the field of doctorate data prior to 2021 may not be comparable to subsequent years. For more information, see the "Technical Notes" and the SED 2021 Taxonomy Changes Working Paper (available at <https://nces.nsf.gov/pubs/nces23200>).

Source(s):

National Center for Science and Engineering Statistics, Survey of Earned Doctorates.