

Table 16**Doctorate recipients, by subfield of study and sex: 2019**

(Number and percent)

Field of study	Total ^a	Male	Female	% female
All fields	55,703	30,151	25,542	45.9
Life sciences	12,781	5,819	6,961	54.5
Agricultural sciences and natural resources	1,491	761	730	49.0
Agricultural sciences	917	477	440	48.0
Agricultural economics	117	79	38	32.5
Agronomy, horticulture science, plant breeding, plant pathology, plant sciences-other	362	212	150	41.4
Animal nutrition, poultry science	81	39	42	51.9
Animal sciences, other	120	45	75	62.5
Food science, food technology-other	156	61	95	60.9
Soil chemistry and microbiology, soil sciences-other	81	41	40	49.4
Natural resources and conservation	497	241	256	51.5
Environmental science	229	103	126	55.0
Fishing and fisheries sciences and management	63	30	33	52.4
Forest biology, forest management, forestry sciences-other	74	41	33	44.6
Natural resources policy and environmental economics	75	38	37	49.3
Natural resources and conservation, wildlife and range management	56	29	27	48.2
Agricultural sciences, aggregated	77	43	34	44.2
Biological and biomedical sciences	8,702	4,200	4,501	51.7
Anatomy, developmental biology	138	52	86	62.3
Bacteriology, parasitology, and virology	168	87	81	48.2
Biochemistry (biological sciences)	793	449	343	43.3
Bioinformatics	242	173	69	28.5
Biomedical sciences	386	182	204	52.8
Biometrics and biostatistics	221	115	106	48.0
Biophysics (biological sciences)	175	110	65	37.1
Botany, plant pathology, plant physiology	142	68	74	52.1
Cancer biology	364	172	192	52.7
Cell, cellular biology, and histology	201	92	109	54.2
Computational biology	184	117	67	36.4
Ecology	433	185	248	57.3
Endocrinology, human/ animal pathology	62	24	38	61.3
Entomology	124	63	61	49.2
Environmental toxicology	67	22	45	67.2
Epidemiology	362	128	234	64.6
Evolutionary biology	238	126	112	47.1
Genetics and genomics, human and animal	342	159	183	53.5
Immunology	413	201	212	51.3
Microbiology	430	175	255	59.3
Molecular biology	555	244	311	56.0
Molecular medicine	34	16	18	52.9
Neurosciences, neurobiology	1,042	538	504	48.4
Nutrition sciences	201	52	149	74.1
Pharmacology, human and animal	199	86	113	56.8
Physiology, human and animal	177	83	94	53.1
Plant genetics	58	36	22	37.9
Structural biology	73	39	34	46.6
Toxicology	84	41	43	51.2
Wildlife biology, zoology	92	43	49	53.3
Biological and biomedical sciences, general	536	231	305	56.9
Biotechnology, biology/ biomedical sciences-other	166	91	75	45.2

Table 16**Doctorate recipients, by subfield of study and sex: 2019**

(Number and percent)

Field of study	Total ^a	Male	Female	% female
Health sciences	2,588	858	1,730	66.8
Environmental health	90	32	58	64.4
Health and behavior	88	29	59	67.0
Health services/ systems administration	160	55	105	65.6
Kinesiology, exercise science	260	156	104	40.0
Medical physics, radiological science	90	62	28	31.1
Nursing science	548	66	482	88.0
Pharmaceutical sciences	359	182	177	49.3
Public health	452	115	337	74.6
Rehabilitation, therapeutic services	109	48	61	56.0
Speech-language pathology and audiology	116	17	99	85.3
Health sciences, aggregated	316	96	220	69.6
Physical sciences and earth sciences	6,585	4,368	2,213	33.6
Chemistry	2,941	1,790	1,151	39.1
Analytical chemistry	367	184	183	49.9
Chemical biology	185	102	83	44.9
Inorganic chemistry	386	240	146	37.8
Medicinal chemistry	94	63	31	33.0
Organic chemistry	564	392	172	30.5
Physical chemistry	390	250	140	35.9
Polymer chemistry	174	113	61	35.1
Theoretical chemistry	96	72	24	25.0
Chemistry, general	477	270	207	43.4
Chemistry, other	208	104	104	50.0
Geosciences, atmospheric sciences, and ocean sciences	1,274	740	533	41.8
Atmospheric science and meteorology	236	147	89	37.7
Atmospheric physics, meteorology	45	33	12	26.7
Atmospheric chemistry, atmospheric sciences-general, atmospheric sciences-other	191	114	77	40.3
Geological sciences	622	393	229	36.8
Geochemistry, mineralogy	74	44	30	40.5
Geology	149	84	65	43.6
Geomorphology, geological sciences-general, geological sciences-other	233	154	79	33.9
Geophysics and seismology	136	90	46	33.8
Paleontology, stratigraphy	30	21	9	30.0
Ocean and marine sciences	416	200	215	51.7
Marine biology and biological oceanography	88	36	52	59.1
Oceanography, chemical and physical	81	35	46	56.8
Ocean/ marine sciences, aggregated	247	129	117	47.4
Physics and astronomy	2,370	1,838	529	22.3
Astronomy and astrophysics	362	251	111	30.7
Astronomy	125	76	49	39.2
Astrophysics	231	172	59	25.5
Astronomy and astrophysics, other	6	3	3	50.0
Physics	2,008	1,587	418	20.8
Acoustics, optics/ photonics	235	189	46	19.6
Applied physics	164	121	43	26.2
Atomic physics, polymer physics	166	131	35	21.1
Biophysics (physics)	154	115	39	25.3
Condensed matter, low-temperature physics	400	327	73	18.3
Elementary particle physics	234	186	48	20.5

Table 16**Doctorate recipients, by subfield of study and sex: 2019**

(Number and percent)

Field of study	Total ^a	Male	Female	% female
Nuclear physics	116	92	24	20.7
Plasma, high-temperature physics	63	56	7	11.1
Physics, general	321	246	73	22.7
Physics, other	155	124	30	19.4
Mathematics and computer sciences	4,240	3,144	1,095	25.8
Computer and information sciences	2,228	1,717	510	22.9
Computer science	1,821	1,456	365	20.0
Information science, systems	127	70	57	44.9
Computer and information sciences, general	154	100	54	35.1
Computer and information sciences, other	126	91	34	27.0
Mathematics and statistics	2,012	1,427	585	29.1
Algebra	82	61	21	25.6
Analysis and functional analysis	66	44	22	33.3
Applied mathematics, computing theory	438	305	133	30.4
Computational mathematics	94	71	23	24.5
Geometry, geometric analysis	72	63	9	12.5
Logic, topology/ foundations	62	48	14	22.6
Number theory	60	43	17	28.3
Operations research, mathematics/ statistics-general, mathematics/ statistics-other	773	570	203	26.3
Statistics (mathematics)	365	222	143	39.2
Psychology and social sciences	9,071	3,672	5,399	59.5
Psychology	3,936	1,118	2,818	71.6
Behavioral analysis	54	10	44	81.5
Clinical psychology	1,264	308	956	75.6
Cognitive neuroscience	215	101	114	53.0
Cognitive psychology and psycholinguistics	135	56	79	58.5
Community psychology	34	3	31	91.2
Counseling	295	81	214	72.5
Developmental and child psychology	176	24	152	86.4
Educational psychology (psychology)	108	22	86	79.6
Experimental psychology	137	55	82	59.9
Family psychology, human development and family studies	173	44	129	74.6
Health, medical psychology	82	14	68	82.9
Industrial and organizational psychology	183	66	117	63.9
Marriage and family therapy, counseling	96	19	77	80.2
Neuropsychology, physiological psychology	62	16	46	74.2
School psychology (psychology)	132	20	112	84.8
Social psychology	236	96	140	59.3
Psychology, general	251	85	166	66.1
Psychology, aggregated	303	98	205	67.7
Social sciences	5,135	2,554	2,581	50.3
Anthropology	445	155	290	65.2
Anthropology, cultural	294	102	192	65.3
Anthropology, general	77	35	42	54.5
Anthropology, physical and biological	74	18	56	75.7
Economics	1,247	818	429	34.4
Econometrics, economics	1,187	786	401	33.8
Natural resources and environmental economics (social sciences)	60	32	28	46.7
Political science and government	707	433	274	38.8
Sociology	633	229	404	63.8

Table 16**Doctorate recipients, by subfield of study and sex: 2019**

(Number and percent)

Field of study	Total ^a	Male	Female	% female
Other social sciences	2,103	919	1,184	56.3
American, U.S. studies	67	20	47	70.1
Applied linguistics	100	37	63	63.0
Archaeology (social sciences)	117	52	65	55.6
Area, ethnic, and cultural studies	137	45	92	67.2
Criminal justice and corrections	142	63	79	55.6
Criminology	100	40	60	60.0
Demography, gerontology, statistics, urban affairs, social sciences- general, social sciences-other	259	97	162	62.5
Gender and women's studies	55	9	46	83.6
Geography	265	139	126	47.5
Health policy analysis	55	21	34	61.8
History, science and technology and society	74	31	43	58.1
International relations, international affairs	138	89	49	35.5
Linguistics	245	103	142	58.0
Public policy analysis	231	117	114	49.4
Urban, city, community and regional planning	118	56	62	52.5
Engineering	10,303	7,833	2,468	24.0
Aerospace, aeronautical, and astronautical engineering	379	323	56	14.8
Bioengineering and biomedical engineering	1,164	720	444	38.1
Chemical engineering	981	665	316	32.2
Civil engineering	701	542	159	22.7
Electrical, electronics, and communications engineering	1,799	1,501	297	16.5
Industrial and manufacturing engineering	234	172	62	26.5
Materials science engineering	992	701	290	29.2
Mechanical engineering	1,533	1,283	250	16.3
Other engineering	2,520	1,926	594	23.6
Computer engineering	446	389	57	12.8
Environmental, environmental health engineering	251	136	115	45.8
Nuclear engineering	156	127	29	18.6
Robotics	145	127	18	12.4
Structural engineering	146	111	35	24.0
Systems engineering	125	104	21	16.8
Other engineering, aggregated	1,251	932	319	25.5
Education	4,635	1,422	3,213	69.3
Education administration	839	342	497	59.2
Educational administration and supervision	154	75	79	51.3
Educational and human resource studies, development	57	25	32	56.1
Educational leadership	563	219	344	61.1
Urban education and leadership	65	23	42	64.6
Education research	2,303	653	1,650	71.6
Counseling education, counseling and guidance	255	58	197	77.3
Curriculum and instruction	391	102	289	73.9
Educational assessment, testing, measurement	46	14	32	69.6
Educational policy analysis	146	57	89	61.0
Educational psychology (education)	198	52	146	73.7
Educational statistics, research methods	86	29	57	66.3
Educational/ instructional technology, media design	195	69	126	64.6
Higher education evaluation and research	389	126	263	67.6
International education	51	10	41	80.4
Learning sciences	80	35	45	56.3

Table 16**Doctorate recipients, by subfield of study and sex: 2019**

(Number and percent)

Field of study	Total ^a	Male	Female	% female
School psychology (education)	126	22	104	82.5
Social and philosophical foundations of education	78	25	53	67.9
Special education	262	54	208	79.4
Teacher education	104	20	84	80.8
Teaching fields	960	260	700	72.9
Health education	54	15	39	72.2
Literacy and reading education	127	26	101	79.5
Mathematics education	153	53	100	65.4
Music education	78	39	39	50.0
Science education	116	34	82	70.7
Teaching fields, aggregated	432	93	339	78.5
Other education	429	147	282	65.7
Workforce education and development	35	17	18	51.4
Education, general	216	68	148	68.5
Education, other	178	62	116	65.2
Humanities and arts	5,054	2,479	2,573	50.9
Foreign languages and literature	610	215	394	64.6
French	100	23	77	77.0
Germanic language and literature	74	29	45	60.8
Spanish language and literature	161	69	92	57.1
Other languages, aggregated	275	94	180	65.5
History	912	529	383	42.0
American history, United States and Canada	319	180	139	43.6
Asian history	71	47	24	33.8
European history	149	83	66	44.3
Latin American history	71	43	28	39.4
Middle, Near East history	61	37	24	39.3
History, general	139	83	56	40.3
History, aggregated	102	56	46	45.1
Letters	1,387	560	827	59.6
American literature, United States and Canada	255	112	143	56.1
Classics	96	60	36	37.5
Comparative literature	165	58	107	64.8
English language	120	40	80	66.7
English literature, British and Commonwealth	378	132	246	65.1
Rhetoric and composition	191	65	126	66.0
Speech and rhetorical studies	50	29	21	42.0
Letters, aggregated	132	64	68	51.5
Other humanities and arts	2,145	1,175	969	45.2
African American studies, literature, and history	65	26	39	60.0
Art history, criticism, and conservation	250	56	194	77.6
Dance, drama	109	41	67	61.5
Film, cinema, video studies	112	58	54	48.2
Music	57	37	20	35.1
Musicology and ethnomusicology	128	60	68	53.1
Music performance	76	40	36	47.4
Music theory and composition	111	82	29	26.1
Philosophy, ethics	474	312	162	34.2
Religion/ religious studies, Jewish/ Judaic studies	245	151	94	38.4
Theology, religious education	202	153	49	24.3

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(Number and percent)

Field of study	Total ^a	Male	Female	% female
Other humanities, aggregated	316	159	157	49.7
Other ^b	3,034	1,414	1,620	53.4
Business management and administration	1,536	874	662	43.1
Accounting	162	89	73	45.1
Business administration and management	265	161	104	39.2
Finance	235	169	66	28.1
Human resources, organizational behavior	249	100	149	59.8
Management information systems, business statistics	99	63	36	36.4
Marketing management and research	107	45	62	57.9
Other aggregated business fields	419	247	172	41.1
Communication	543	205	338	62.2
Communication research	161	59	102	63.4
Mass communication, media studies	171	68	103	60.2
Communication, general	118	46	72	61.0
Communication, aggregated	93	32	61	65.6
Non-S&E fields nec	955	335	620	64.9
Architecture and environmental design	128	49	79	61.7
Family, consumer sciences and human sciences	78	18	60	76.9
Parks, sports, recreation, leisure and fitness	53	27	26	49.1
Public administration	208	90	118	56.7
Social work	330	70	260	78.8
Fields nec, aggregated	158	81	77	48.7

nec = not elsewhere classified; S&E = science and engineering.

^a Includes respondents who did not report sex.^b Includes other non-S&E fields not shown separately.**Note(s):**

See table A-5 in the technical notes for a listing of aggregated fields and their constituent fine fields.

Source(s):

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