

Table 3-1**Research doctorate recipients, by detailed field of doctorate: 2021–22**

(Number)

Field of doctorate	2021	2022
All fields	52,194	57,596
Science and engineering	41,203	45,924
Agricultural sciences and natural resources	1,222	1,305
Agricultural, animal, plant, and veterinary sciences	806	857
Agronomy and crop science	69	68
Animal sciences	159	174
Food science and technology	175	156
Plant sciences	152	162
Soil sciences	79	100
Veterinary biomedical and clinical sciences	78	77
Agricultural, animal, plant, and veterinary sciences nec	94	120
Natural resources and conservation	416	448
Environmental science	117	147
Environmental/ natural resources management and policy	78	71
Forestry	74	69
Natural resources conservation and research	74	72
Natural resources and conservation nec	73	89
Biological and biomedical sciences	8,250	9,386
Biochemistry, biophysics, and molecular biology	1,346	1,555
Biochemistry	416	465
Biochemistry and molecular biology	263	326
Biophysics	234	251
Molecular biology	260	274
Biochemistry, biophysics, and molecular biology nec	173	239
Bioinformatics, biostatistics, and computational biology	562	688
Bioinformatics	136	169
Biostatistics	223	260
Computational biology	106	154
Bioinformatics, biostatistics, and computational biology nec	97	105
Cell/ cellular biology and anatomy	657	689
Cell/ cellular and molecular biology	482	526
Developmental biology and embryology	103	115
Cell/ cellular biology and anatomy nec	72	48
Ecology, evolutionary biology, and epidemiology	981	1,120
Ecology	227	238
Ecology and evolutionary biology	243	270
Epidemiology	296	386
Epidemiology and biostatistics	54	45
Evolutionary biology	68	83
Ecology, evolutionary biology, and epidemiology nec	93	98
Genetics and genomics	398	436
Genetics, general	121	122
Genome sciences and genomics	72	97
Human/ medical genetics	62	81
Molecular genetics	72	66
Genetics and genomics nec	71	70
Microbiology and immunology	973	1,089
Immunology	304	343
Microbiology and immunology	215	266
Microbiology, general	257	270
Virology	107	123

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(Number)

Field of doctorate	2021	2022
Microbiology and immunology nec	90	87
Neurobiology and neurosciences	1,014	1,177
Cognitive neuroscience	102	131
Neurobiology	138	79
Neuroscience	686	824
Neurobiology and neurosciences nec	88	143
Pharmacology and toxicology	311	386
Pharmacology	131	164
Toxicology	106	125
Pharmacology and toxicology nec	74	97
Physiology, oncology, and cancer biology	713	768
Biomechanics	77	69
Exercise physiology and kinesiology	76	96
Oncology and cancer biology	316	320
Physiology, general	75	99
Physiology, oncology, and cancer biology nec	169	184
Biological and biomedical sciences, other	1,295	1,478
Biology/ biological sciences, general	330	473
Biomedical sciences, general	330	374
Botany and plant biology	62	45
Entomology	114	134
Plant pathology and phytopathology	119	98
Plant physiology and biology nec	60	70
Zoology and animal biology	96	84
Biological and biomedical sciences nec	184	200
Computer and information sciences	2,194	2,188
Computer science	1,545	1,484
Computer science	1,545	1,484
Computer and information sciences, other	649	704
Artificial intelligence	167	205
Computer and information sciences, general	109	130
Computer systems networking and telecommunications	113	116
Informatics and information technology	88	94
Information sciences/ studies	103	92
Computer and information sciences nec	69	67
Engineering	9,579	10,763
Biological, biomedical, and biosystems engineering	1,071	1,236
Bioengineering and biomedical engineering	978	1,135
Biological/ biosystems engineering and biomedical technology	93	101
Chemical and petroleum engineering	1,202	1,255
Chemical and biomolecular engineering	189	205
Chemical engineering	801	885
Petroleum engineering	132	102
Chemical and petroleum engineering nec	80	63
Civil, environmental, and transportation engineering	1,012	1,315
Civil engineering	571	330
Civil and environmental engineering	na	503
Environmental/ environmental health engineering	93	65
Geotechnical and geoenvironmental engineering	76	87
Structural engineering	127	130
Transportation and highway engineering	76	112

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(Number)

Field of doctorate	2021	2022
Civil, environmental, and transportation engineering nec	69	88
Electrical and computer engineering	2,047	2,132
Computer engineering	264	263
Electrical and computer engineering	1,205	1,357
Electrical and electronics engineering	512	438
Electrical and computer engineering nec	66	74
Engineering technologies	452	361
Electrical and electronic engineering technologies	80	55
Electromechanical technologies	59	90
Environmental control technologies	148	58
Engineering technologies nec	165	158
Industrial engineering and operations research	604	655
Industrial engineering	325	211
Industrial and systems engineering	na	127
Operations research	160	183
Systems and manufacturing engineering	119	134
Materials and mining engineering	670	925
Materials engineering	193	85
Materials science and engineering	429	783
Materials and mining engineering nec	48	57
Mechanical engineering	1,501	1,545
Mechanical engineering, general	1,413	1,440
Mechanical engineering nec	88	105
Engineering, other	1,020	1,339
Aerospace, aeronautical, astronautical, and space engineering	372	374
Engineering mechanics, physics, and science	111	166
Mechanical and aerospace engineering	na	213
Nanotechnology	60	54
Nuclear engineering	155	163
Engineering nec	322	369
Geosciences, atmospheric, and ocean sciences	1,044	1,165
Geological and earth sciences	613	658
Geochemistry	60	42
Geology	109	79
Geology/ earth science, general	103	121
Geophysics and seismology	102	118
Hydrology and water resources science	81	89
Geological and earth sciences nec	158	209
Ocean, marine, and atmospheric sciences	431	507
Atmospheric sciences and meteorology, general	94	120
Atmospheric sciences and meteorology nec	47	95
Climatology, atmospheric chemistry/ physics	60	67
Marine biology and biological oceanography	89	97
Marine sciences	57	63
Oceanography, chemical/ physical	84	65
Health sciences	2,577	2,808
Nursing and nursing science	601	623
Nursing education	88	81
Nursing science	358	382
Nursing specialties and practice	155	160
Pharmacy and pharmaceutical sciences	408	460

Table 3-1**Research doctorate recipients, by detailed field of doctorate: 2021–22**

(Number)

Field of doctorate	2021	2022
Medicinal and pharmaceutical chemistry	64	75
Pharmaceutical sciences	243	281
Pharmacy, pharmaceutical sciences, and administration nec	101	104
Public health	696	795
Environmental health	66	68
Health services research	86	119
Health/ medical physics	71	68
Public health education and promotion	94	112
Public health, general	179	212
Public health nec	200	216
Health sciences, other	872	930
Communication disorders sciences	127	134
Exercise science and kinesiology	92	102
Health sciences, general	65	61
Marriage and family therapy/ counseling	58	68
Medical clinical sciences	60	75
Medical, biomedical, and health informatics	60	75
Mental health, counseling, and therapy services and sciences	91	93
Rehabilitation and therapeutic sciences	120	149
Health sciences nec	199	173
Mathematics and statistics	1,906	2,144
Applied mathematics	475	477
Applied mathematics, general	265	275
Computational and applied mathematics	141	139
Applied mathematics nec	69	63
Mathematics	814	980
Algebra and number theory	69	75
Mathematics, general	639	763
Mathematics nec	106	142
Statistics	617	687
Applied statistics, general	55	70
Mathematics and statistics	128	101
Statistics	401	469
Statistics nec	33	47
Multidisciplinary/ interdisciplinary sciences	1,272	1,788
Interdisciplinary computer sciences	448	625
Computer science and engineering	119	230
Electrical engineering and computer science	224	276
Interdisciplinary computer sciences nec	105	119
Multidisciplinary/ interdisciplinary sciences, other	824	1,163
Behavioral and cognitive sciences	79	89
Computational science and engineering	104	112
Data mining and machine learning	na	259
Data science and data analytics	106	94
History/ philosophy of science, technology, and society	67	67
Nanoscience/ nanoscale science	57	53
Nutrition sciences	137	129
Multidisciplinary/ interdisciplinary sciences nec	274	360
Physical sciences	4,809	5,428
Astronomy and astrophysics	263	289
Astronomy	71	109

Table 3-1**Research doctorate recipients, by detailed field of doctorate: 2021–22**

(Number)

Field of doctorate	2021	2022
Astrophysics	113	115
Astronomy and astrophysics nec	79	65
Chemistry	2,366	2,782
Analytical chemistry	320	366
Chemical biology	151	163
Chemistry, general	494	582
Inorganic chemistry	282	324
Organic chemistry	454	612
Physical chemistry	293	315
Polymer chemistry	121	98
Theoretical and computational chemistry	108	159
Chemistry nec	143	163
Materials sciences	429	385
Materials science	276	176
Materials chemistry and materials sciences nec	153	209
Physics	1,751	1,972
Applied physics	133	161
Atomic/ molecular physics	89	87
Condensed matter and materials physics	359	433
Elementary particle physics	166	151
Nuclear physics	80	104
Optics/ optical sciences	120	138
Physics and astronomy	193	232
Physics, general	337	402
Plasma and high-temperature physics	57	51
Theoretical and mathematical physics	99	101
Physics and physical sciences nec	118	112
Psychology	3,698	3,900
Clinical psychology	1,245	1,144
Clinical child psychology	52	55
Clinical psychology	1,193	1,089
Counseling and applied psychology	1,337	1,438
Applied behavior analysis	59	44
Counseling psychology	366	399
Educational psychology	229	247
Industrial and organizational psychology	181	198
School psychology	260	247
Counseling and applied psychology nec	242	303
Research and experimental psychology	651	854
Behavioral neuroscience	87	105
Cognitive psychology and psycholinguistics	106	100
Developmental and child psychology	78	114
Experimental psychology	98	131
Social psychology	143	221
Research and experimental psychology nec	139	183
Psychology, other	465	464
Human development	141	145
Psychology, general	256	266
Psychology nec	68	53
Social sciences	4,652	5,049
Anthropology	388	409

Table 3-1**Research doctorate recipients, by detailed field of doctorate: 2021–22**

(Number)

Field of doctorate	2021	2022
Anthropology, general	78	103
Cultural anthropology	187	197
Physical and biological anthropology	72	75
Anthropology nec	51	34
Area, ethnic, cultural, gender, and group studies	383	442
Area studies	224	245
Ethnic studies	81	101
Area, ethnic, cultural, gender, and group studies nec	78	96
Economics	1,315	1,391
Agricultural economics	76	97
Applied economics	134	131
Development economics and international development	54	50
Econometrics and quantitative economics	146	179
Economics, general	801	826
Environmental/ natural resource economics	55	50
Economics nec	49	58
Political science and government	581	678
Political science and government, general	488	553
Political science and government nec	93	125
Public policy analysis	400	433
Education policy analysis	132	130
Health policy analysis	52	53
Public policy analysis, general	158	120
Public policy nec	58	130
Sociology, demography, and population studies	578	626
Sociology, general	501	555
Sociology, demography, and population studies nec	77	71
Social sciences, other	1,007	1,070
Applied linguistics	74	71
Archeology	83	105
Criminology	97	118
Geography and cartography	223	220
International relations and national security studies	104	128
Linguistics	203	192
Social sciences nec	223	236
Non-science and engineering	10,991	11,672
Business	1,344	1,401
Business administration and management	459	445
Business management and administration	235	297
Organizational leadership	117	55
Business administration and management nec	107	93
Business, other	885	956
Accounting and accounting-related	135	159
Finance and financial management	194	210
Management information systems	88	92
Management sciences	72	77
Marketing	119	146
Organizational behavior studies	103	94
Business nec	174	178
Education	3,711	3,919
Education leadership and administration	1,082	1,167

Table 3-1**Research doctorate recipients, by detailed field of doctorate: 2021–22**

(Number)

Field of doctorate	2021	2022
Educational leadership and administration, general	500	488
Higher education and community college administration	391	438
Education leadership and administration nec	191	241
Education research	1,203	1,189
Curriculum and instruction	425	413
Educational assessment, evaluation, and research methods	222	219
Educational/ instructional technology and media design	155	172
Higher education evaluation and research	61	61
Student counseling and personnel services	266	246
Education research nec	74	78
Teacher education	1,010	1,099
Adult, continuing, and workforce education and development	66	64
Bilingual, multilingual, and multicultural education	77	62
Mathematics teacher education	75	49
Music teacher education	73	73
Special education and teaching	234	258
STEM educational methods	70	84
Teacher education, science and engineering	63	76
Teacher education, specific levels and methods	154	188
Teacher education, specific subject areas	198	245
Education, other	416	464
Education, general	268	327
Education nec	148	137
Humanities	3,109	3,369
English language and literature, letters	949	1,062
American literature (United States)	129	138
Creative writing	68	75
English language and literature, general	361	397
English literature (British and Commonwealth)	131	160
Rhetoric, composition, and writing studies	191	217
English language and literature nec	69	75
Foreign languages, literatures, and linguistics	505	538
Comparative literature	118	91
Hispanic/ Latin American languages, literatures, and linguistics	70	92
Romance languages, literatures, and linguistics	72	104
Spanish language and literature	79	92
Foreign languages, literatures, and linguistics nec	166	159
History	685	732
American history (United States)	222	245
European history	88	120
History, general	169	146
History, regional focus	133	145
History nec	73	76
Philosophy and religious studies	598	642
Philosophy	406	432
Religion/ religious studies	125	140
Philosophy and religious studies nec	67	70
Humanities, other	372	395
Bible/ biblical studies	71	90
Humanities and humanistic studies	62	79
Theological and ministerial studies	239	226

Table 3-1**Research doctorate recipients, by detailed field of doctorate: 2021–22**

(Number)

Field of doctorate	2021	2022
Visual and performing arts	771	842
Performing arts	491	495
Dance, drama, theatre arts, and stagecraft	82	85
Music performance	128	120
Music theory and composition	86	94
Musicology and ethnomusicology	116	112
Music nec	79	84
Visual arts, media studies, and design	280	347
Art history, criticism, and conservation	167	208
Film, cinema, and media studies	62	74
Visual arts, media studies, and design nec	51	65
Other non-science and engineering	2,056	2,141
Communications and journalism	521	586
Applied communication, advertising, and public relations	94	103
Communication and media studies	161	145
Communication, general	85	166
Mass communication/ media studies	95	94
Communications and journalism nec	86	78
Multidisciplinary/ interdisciplinary studies	307	391
Classical and ancient studies	91	100
Interdisciplinary leadership/ leadership studies	na	124
Multidisciplinary/ interdisciplinary studies nec	216	167
Public administration and social services	489	468
Public administration	175	178
Social work and human services	314	290
Non-science and engineering, other	739	696
Architecture and architectural studies	133	99
City/ urban, community, and regional planning	102	103
Family, consumer, and human sciences	139	128
Homeland security and protective services	169	154
Law/ legal studies and research	79	71
Parks, recreation, leisure, fitness, and sport studies and management	87	115
Other non-science and engineering nec	30	26

na = not applicable; data not collected at this level of detail in 2021.

nec = not elsewhere classified; STEM = science, technology, engineering, and mathematics.

Note(s):

Beginning in 2021, a modified version of the 2020 Classification of Instructional Programs (CIP) codes was used in the survey data collection, and new broad, major, and detailed fields are used in tables reporting data from 2021 to the present; see the field list in table A-4. 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>). Between 2021 and 2022, minor changes were made to the SED-CIP crosswalk for the SED detailed fields to better align with the National Center for Science and Engineering Statistics' Taxonomy of Disciplines. These changes affect the reported counts for 2021; see table A-5 for more information.

Source(s):

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