Technical Notes

Data presented in *Doctorate Recipients from U.S. Universities: 2020* were collected by the Survey of Earned Doctorates (SED). The survey is sponsored by the National Center for Science and Engineering Statistics (NCSES) within the National Science Foundation (NSF) and by three other federal agencies: the National Institutes of Health (NIH), Department of Education (ED), and National Endowment for the Humanities (NEH). This report presents the summary of these survey data.

Survey Overview (2020 survey cycle)

Purpose. SED collects data on the number and characteristics of individuals receiving research doctoral degrees from U.S. academic institutions.

Data collection authority. The information collected by the SED is solicited under the authority of the National Science Foundation Act of 1950, as amended, and the America COMPETES Reauthorization Act of 2010. The Office of Management and Budget control number is 3145-0019, expiration date 30 April 2022.

Survey contractor. RTI International.

Survey sponsors. The SED is sponsored by NCSES within NSF and by NIH, ED, and NEH.

Key Survey Information

Frequency. Annual.

Initial survey year. Academic year 1957–58.

Reference period. Academic year 2019–20 (1 July 2019 to 30 June 2020).

Response unit. Individuals.

Sample or census. Census.

Population size. 55,283.

Sample size. Not applicable.

Survey Design

Target population. The population for the 2020 SED consists of all individuals receiving a research doctorate from a U.S. academic institution in the 12-month period beginning 1 July 2019 and ending 30 June 2020. A research doctorate is a doctoral degree that (1) requires completion of an original intellectual contribution in the form of a dissertation or an equivalent culminating project (e.g., musical composition) and (2) is not primarily intended as a degree for the practice of a profession. The SED recognized 18 distinct types of research doctorates in 2020 (table A-1). Recipients of professional doctoral degrees, such as MD, DDS, DVM, JD, DPharm, DMin, and PsyD, are not included in the SED.

The doctor of philosophy (PhD) constitutes the vast majority of research doctoral degrees. Of the 55,283 new research doctorates granted in 2020, 98.3% were PhDs (table A-2). The next most frequently occurring type of research doctorate was the doctor of education (EdD), which accounted for 0.9% of the total in 2020. No other type of doctoral degree accounted for more than 0.3% of the new research doctorates in 2020.

Sampling frame. The population eligible for the 2020 survey consisted of all individuals who received a research doctorate from a U.S. academic institution in the 12-month period ending 30 June 2020. Of the 456 institutions granting research doctorates, 7 institutions reported zero graduates, and 9 institutions refused to provide lists of graduates. For all 9 of the refusing institutions, the survey contractor was able to construct graduate lists using secondary data sources. Thus, the total universe consisted of 55,283 persons in 449 institutions that conferred research doctorates in 2020.

Sample design. The SED is a census.

Data Collection and Processing Methods

Data collection. In 2020, for the first time, the SED data collection did not use the self-administered paper questionnaire. The SED was completed primarily by self-administered Web survey with a small number of nonrespondents contacted to complete computer-assisted telephone interviewing (CATI).

When doctoral students apply for graduation, institutional coordinators at the universities give students the link to the SED Web survey registration website. Students who sign up at the survey registration website receive PIN and password information via e-mail, as well as the URL of the SED Web survey. The proportion of SED completions using the Web survey has increased each year since it was introduced in 2001, and it reached 97.3% in 2020.

Nonrespondents are contacted via e-mail and mail with the URL of the SED Web survey. If the series of follow-up emails and mailings is unsuccessful, the survey contractor attempts to reach nonrespondents to complete an abbreviated survey by CATI. Approximately 2.7% of SED completions were from CATI in 2020. At the end of data collection phase, institutional coordinators are contacted to obtain information on a small number of critical SED data items for nonrespondents from their institution.

A small but growing number of research doctoral degrees are awarded as a part of joint doctoral programs (i.e., a research doctorate recipient studied at more than one institution in pursuit of the doctoral degree). In these instances, the survey contractor relies on information provided by the institutions to appropriately attribute the doctorate to one of the doctorate-granting institutions.

The survey collects a complete college education history. To code U.S. postsecondary degree-granting institutions, survey staff use the Integrated Postsecondary Education Data System (IPEDS) institution codes. To code the degree-granting institutions of respondents from foreign countries, survey staff maintain a database of foreign institutions, updating it annually to include new entries for foreign institutions reported by SED respondents. About one-third of 2020 U.S. research doctorate recipients received undergraduate degrees from foreign institutions.

Mode. As noted earlier, two modes of data collection are used in the SED: Web survey and CATI. In 2020, 97.3% of survey responses were obtained via the Web survey and 2.7% via CATI.

Response rate. Of the 55,283 individuals who received a research doctorate in 2020, 92.1% completed the SED. Additional information on response rate can be found below, under “Nonresponse error.”

Data editing. Approved automated edits are applied to the SED, a number of which pertain to the education history section.

Imputation. No imputation was used in producing the 2020 SED Doctorate Records File (DRF) except for the following variables:

- *Age at doctorate*. Months (of birth and doctorate award) were included in the calculation of median age whenever available. If birth month was missing, the month value was randomly imputed.

- *Time to degree from bachelor's completion*. Months (of bachelor's completion and doctorate award) were included in the calculation of total time to degree. If months were missing, month values were logically imputed to the modal value for doctorate recipients who provided month of bachelor's completion and converted to the number of days corresponding to that month.
- *Time to degree from graduate school entry*. Months (of graduate school entry and doctorate award) were included in the calculation of graduate school time to degree. If months were missing, month values were logically imputed to the modal value for doctorate recipients who provided month of graduate entry.
- *Time to degree from doctoral program entry*. Doctoral program entry is based on master's degree program entry if the master's degree was at the doctoral institution in the same fine field of study or if it was a prerequisite to the doctorate; otherwise, it is based on doctoral program entry. Months are included in the calculation of doctoral program time to degree. If the month of entry used in the calculation (master's degree program entry or doctoral program entry) was not reported, the entry month was logically imputed to the modal value for all cases that did report the entry month in the academic year the case was added to the doctoral records file (typically the academic year matching the graduation date of the case).

Weighting. Survey data were not weighted.

Variance estimation. The SED is a census of all research doctorates with no weights calculated, so no variance estimation techniques were used.

Disclosure protection. Two strategies are used in data table production to protect against the disclosure of confidential information provided by SED respondents. In the first, used since 2004, data cell values based on counts of respondents that fall below a predetermined threshold are deemed to be sensitive to potential disclosure and are suppressed. The symbol "D" replaces the cell value. If a suppressed cell does not provide sufficient disclosure protection in tables that include marginal totals, additional (complementary) suppressions of above-threshold data cells are necessary, and the suppression symbol "D" is used to replace those cell values as well.

The second disclosure protection strategy is field aggregation. Field aggregation was applied to data table 16 and table 22 in the current report, which present counts of doctorate recipients classified by fine fields of study and by either sex or race and ethnicity. Because some fine fields of study award relatively few doctorates in a single year, the degree counts by race, ethnicity, or sex within these fields can be quite small, leading to extensive cell suppression. The field aggregation technique combines data from small fields of study with the data from related fields, so that the degree counts in the aggregated fields are sufficiently large to protect the confidentiality of respondent information.

Data by race, ethnicity, and sex in the fine fields shown in table 16 and table 22 are reported for fields in which at least 25 U.S. citizen or permanent resident individuals earn a doctoral degree in a given year, regardless of how small the count may be in a particular cell. Counts of doctorate recipients in fields having fewer than 25 U.S. citizen or permanent resident doctorates awarded are aggregated with those of one or more related fields until the total number of doctorates in the aggregated field reaches at least 25 U.S. citizens and permanent residents. The related fields chosen for aggregation to protect below-threshold fields may or may not also be below-threshold. The degree count in each racial, ethnic, or sex category of these aggregated fields is reported in the tables, but the constituent fine fields of the aggregated fields are not displayed.

In 2020, fewer than 25 doctorates were awarded to U.S. citizens or permanent residents in 86 of the 336 fine fields of study collected in the SED. These below-threshold fine fields were combined with related fields of study to produce 48 aggregated fields in 2020. Table 16 and table 22 report data on the 48 aggregated fields (comprising 151 fine fields) and the remaining 185 unaggregated fine fields. Table A-5 lists the aggregated fields and their constituent fine fields.

Data reported for "other" fine fields are not considered confidential. However, a total of 24 "other" fine fields, including 7 that fall under the threshold, are used as aggregation partner fields.

Survey Quality Measures

Sampling error. Not applicable because the SED is a census.

Coverage error. Due to the availability of comprehensive lists of doctorate-granting institutions and the institutions' high levels of participation in the survey, coverage error of institutions is minimal. Because the graduate schools collect the survey data from degree recipients at the time of doctorate completion, coverage error for the universe of doctorate recipients is also minimal. Comparisons of the institutions and the number of research doctorate recipients covered by the SED with the total number of doctorate recipients (including nonresearch doctorate degree recipients) reported by institutions to the National Center for Education Statistics confirm that there is minimal coverage error of doctorate recipients. Institutions that begin to confer research doctorates are invited to join the SED. If a university that confers research doctorates does not wish to participate in the SED, slight undercounts may result. In 2020, nine doctorate-granting universities declined to fully enumerate their doctorate recipients for academic year 2020. Information on the graduates for all of these institutions were found from other sources, such as ProQuest.

Nonresponse error.

- *Unit nonresponse.* Of the 55,283 individuals who received a research doctorate in 2020, 92.1% completed the survey (table A-3). This percentage is referred to as the self-report rate. Skeletal records for nonrespondents appear on the data file and contain a limited number of SED critical data items (doctoral institution, year of doctorate, field of doctorate, type of doctorate, and, if available, baccalaureate institution, master's degree institution, and sex) that are constructed for nonrespondents from administrative records of the university, such as commencement programs, graduation lists, and other public records. These nonresponding cases are included in the reported total of 55,283 doctorate recipients for 2020.

  Nonresponse was concentrated in certain institutions: 7 of the 449 doctorate-granting institutions accounted for 24% of the total nonrespondents, and 43 of these institutions accounted for 70% of the total nonrespondents.

  Counts for previous years were corrected by the addition of data from surveys received after the close of data collection for a given year.

- *Item nonresponse.* Among the 55,283 individuals who received a research doctorate in 2020, item nonresponse rates for the key SED demographic variables—sex, citizenship, country of citizenship, race and ethnicity, and location after graduation—range from 0.0% for sex to 7.2% for location after graduation. Table A-4 shows item response rates for 2010–20 for all variables, by variable name (see clarifying notes in the table).

Measurement error. The most likely source of measurement error in the SED is attributable to incomplete or vague information for degree or dissertation field of study provided by respondents or degree-granting institutions, and for educational history provided by respondents. For field of degree, some respondents (or institutions) fail to provide a degree code and instead provide a text string that must be manually coded by the survey contractor. Similarly, some aspects of the educational history timeline—including the field of study for earned associate's, bachelor's or master's degrees—require manual coding. When manual coding is required, a pair of trained reviewers independently code each text entry, and any discrepancies between the two coders are resolved by a third, more expert reviewer. All manual coding is subject to a final review by NCSES. Generally, the percentage of responses in these areas requiring manual coding is low. In 2020, 3.1% of PhD fields of study were manually coded, as well as 7.5% of associate's degree fields of study, 1.4% of bachelor's degree fields of study, and 3.0% of master's degree fields of study.

Data Comparability

Changes in survey coverage and population. For the 2020 cycle, two institutions were added to the SED universe.

Changes in questionnaire. The following changes were made to the questionnaire in 2020:

New questions. None.

Questions dropped. None.

Question response options changed. None.

Changes in reporting procedures or classification.

- *Citizenship*. The citizenship status variable is used to identify the appropriate citizenship category of respondents, including the citizenship category of respondents who did not respond to the citizenship status survey item on the SED. The code framework for the citizenship status variable is outlined below.

Code	Citizenship category
0	U.S. native born
1	U.S. naturalized citizen
2	Non-U.S. immigrant (permanent resident)
3	Non-U.S. non-immigrant (temporary U.S. visa)
4	Non-U.S., visa status unknown
U	U.S. citizen, unspecified
Blank	Missing or citizenship unknown

  Respondents who indicated a U.S. birthplace, regardless of what they reported for citizenship status, were assigned code 0.

  In 1999, code 4 (non-U.S., visa status unknown) was introduced, and data were back-coded through 1997. Respondents who designated a non-U.S. country for the country of citizenship item but did not respond to the citizenship status item were assigned code 4 for citizenship status. From 1997 to 2003, non-U.S.-born respondents who did not indicate their country of citizenship or citizenship status were assigned to code 4 if three out of four geographic variables—place of birth, place of high school, place of college entry, and postgraduation location—were non-U.S. locations. Beginning with the 2004 SED, the variable “place of baccalaureate institution” replaced “place of college entry” in the assignment of a citizenship code for respondents who did not indicate citizenship status.

  For tabulations in this report, code 4 was combined with code 3—that is, counts of doctorate recipients in the temporary visa holder category include non-U.S. citizens with unknown visa status. This is consistent with coding procedures in previous data collections. However, the existence of code 4 allows the microdata user to exclude cases for which visa status is unknown. Prospective data users should note, however, that the number of cases in the code 4 group is not sufficient to warrant analysis as a separate citizenship category.

  Non-U.S. citizens who did not report a country of citizenship but reported the same non-U.S. country for three out of four geographic variables—place of birth, place of high school, place of baccalaureate institution, and postgraduation location—were assigned that reported country as their country of citizenship.

- *Debt*. Since 2001, respondents have been asked to indicate the amount of education-related debt they owe, with separate response categories for graduate and undergraduate education. To estimate overall debt, the midpoint of the chosen range for undergraduate and for graduate debt was selected and summed to yield a total debt amount. Where mean debt levels are presented in this report (i.e., table 38 and table 40), the individual values for debt are assigned as the midpoint of the chosen range for graduate and undergraduate debt. Doctorate recipients who chose the lowest

debt category (no debt) were assigned a value of $0 for the computation of mean debt levels. Doctorate recipients who chose the uppermost category available prior to 2019 ($90,001 or more) were assigned a value of $95,000 for the computation of mean debt levels. In 2019, additional response options were added at the upper range for graduate debt with the highest being $160,001 or more. Doctorate recipients who choose this uppermost category are assigned a value of $165,000 for the computation of mean debt levels. All valid responses, including "no debt," are included in the computation of all average debt figures in this report.

- *Field of study*. Beginning in 2015, the broad field of study of "physical sciences" was broken out into two separate broad fields: "physical sciences and earth sciences" and "mathematics and computer sciences." Also beginning in 2015, the major fields of "mathematics and statistics" and "computer and information sciences" are listed under the new broad field of "mathematics and computer sciences." Prior to 2015, these major fields were listed under physical sciences.
- *Functional limitations (previously, disability)*. Beginning in 2012, the functional limitations items assess both the presence and severity of functional limitations in each of several domains, which do not precisely overlap with the domains in prior surveys.
- *Median computation*. Since 1994, medians have been computed as outlined below. When months are included, they are converted to the number of days corresponding to the first day of the month. In 2017, the method for accounting for leap days changed to reflect the actual number leap days during the time period specified, rather than the prior method of adding 0.25 days to each year.
    - *Median age*. Months (of birth and doctorate award) are included in the calculation of median age whenever available. Beginning in 2015, if birth month is missing, the month value is randomly imputed. Prior to 2015, the missing month value was assigned to the month the doctorate was received.
    - *Time to degree from bachelor's completion*. Months are included in the calculation of total time to degree. If months are missing, month values are assigned to the modal value for doctorate recipients who provide month of bachelor's completion and converted to the number of days corresponding to that month.
    - *Time to degree from graduate school entry*. Months are included in the calculation of graduate school time to degree. If months are missing in the calculation of graduate school time to degree, month values are assigned to the modal value for doctorate recipients who provided month of graduate entry. Reports published before 2004 reported a different time-to-degree measure: registered time to degree. Comparisons of graduate school time-to-degree data with pre-2004 registered time-to-degree data should be interpreted cautiously. For an explanation of registered time to degree, see the technical notes of any *Doctorate Recipients from United States Universities: Summary Report* published before 2004.
    - *Time to degree from doctoral program entry*. This variable was first included in 2015. Doctoral program entry is based on master's degree program entry if the master's degree was at the doctoral institution in the same fine field of study or if it was a prerequisite to the doctorate; otherwise, it is based on doctoral program entry. Months are included in the calculation of doctoral program time to degree. If the month of entry used in the calculation (master's degree program entry or doctoral program entry) was not reported, the entry month is assigned to the modal value for all cases that did report the entry month in the academic year the case was added to the doctoral records file (typically the academic year matching the graduation date of the case).
- *Race and Hispanic ethnicity*. Since 2001, respondents have been asked to first indicate whether they are Hispanic or Latino and then to check one or more racial group categories (i.e., American Indian or Alaska Native, Asian, Native Hawaiian or Other Pacific Islander, Black or African American, or White).

In data tables, doctorate recipients who report Hispanic or Latino ethnicity, regardless of race, are counted as Hispanic or Latino, and as of 2013, those who did not answer the Hispanic or Latino question are counted as "ethnicity not reported." Respondents who indicate that they are not Hispanic or Latino and indicate a single race are reported in their respective racial groups, except for those indicating Native Hawaiian or Other Pacific Islander, who are included in "other race or race not reported." Beginning in 2007, doctorate recipients who indicate they are not Hispanic or Latino and indicate more than one race are reported in the group "two or more races."

- *Research doctoral degree*. As doctoral degree programs change to meet the needs of students, the orientation of the degrees they award may change from research to professional, and vice versa. Survey staff review degree programs to ensure that the designation of research doctorate remains appropriate. As a result of degree reviews in past data collections, survey staff identified several research doctoral degrees that shifted to a professional orientation. The doctor of music (DM) and the doctor of industrial technology (DIT) were both dropped from the SED in 2008, and the graduates (approximately 40 to 60 per year) who earn these doctoral degrees are no longer included in the SED.

  After a multiyear review of doctoral programs offering the EdD degree, most were determined to have a professional orientation and were dropped from the SED in 2010 and 2011, and graduates earning EdD degrees from those programs are no longer included in the SED. As a result, the proportion of EdD degrees among the total number of research doctorate recipients fell from 5.5% in 2009 to 0.9% in 2020. Table A-1 lists the doctoral degrees that were eligible for inclusion in the SED in 2020.

- *Salary*. Median salary is calculated from exact salary values when provided by the respondent. Salary imputation was dropped as of 2015 due to the increase in exact salary response rate. From 2011–14, if a respondent selected a salary range instead of providing an exact salary value, exact salary values were imputed for median salary calculation purposes by applying hot-deck imputation based on salary range and other relevant respondent characteristics. Prior to 2011, median salary was calculated directly from the salary range values via interpolation methods, and exact salary values were not used in the calculation of median salary. Only salary data from doctorate recipients reporting definite commitments for employment or for a postdoc position in the United States are included in median salary calculations.

Definitions

- *Basic annual salary*. Annual salary expected to be earned from the doctorate recipient's principal job in the next year after receiving the doctorate, not including bonuses or additional compensation for summertime teaching or research.
- *Carnegie classification (institution categories).* In this report, four types of doctorate-granting institutions identified in the figures and tabulations are defined according to the Carnegie classification scheme as updated in 2018: doctoral very high research, doctoral high research, doctoral/professional universities, and other universities (comprised of all other classifications). Institutions are classified according to their aggregate and per-capita levels of research activity, using indicators of research and development expenditures, staffing (including postdoctoral appointees and other nonfaculty research staff with doctorates), and doctoral conferrals in science and engineering and other fields.
- *Definite plans to stay in the United States.* A respondent is coded as having definite plans to stay in the United States if the reported postgraduation location was in the United States and the reported postgraduation plans for employment or postdoc were coded "definite."
- *Definite postgraduation plans.* The status of postgraduation plans is coded using the values from item B2 of the survey questionnaire, which indicate whether the doctorate recipient's postgraduation plans for employment or a postdoc position were definite at the time the survey was completed.

- *Field of study.* The SED has 336 fine fields of doctoral study, which are grouped into 35 major fields of study. The major field groupings are further aggregated into eight broad fields: life sciences, psychology and social sciences, physical sciences and earth sciences, mathematics and computer sciences, engineering, education, humanities and arts, and other fields. The levels of this variable were derived by grouping related fine fields of study from the field of study taxonomy used in the SED (**table A-6**). See the survey questionnaire for a full listing of the fine fields of study in 2020.

  Doctorate recipients indicate their fields of specialty. Their choices may differ from departmental names. Field groupings may differ from those in other reports published by federal sponsors of the SED. The "general" field categories (e.g., "chemistry, general") include individuals who either received the doctorate in the general subject area or who did not indicate a particular specialty field. The "other" field categories (e.g., "chemistry, other") include individuals whose specified doctoral discipline was not among the specialty fields listed.

- *Median age at doctorate.* One-half of the respondents received the doctorate at or before this age. A recipient's age is obtained by subtracting the month and year of birth from the month and year of doctorate.

- *Percentage with master's.* This variable is the percentage of doctorate recipients in a field who received a master's degree in any field before earning the doctorate.

- *Research doctorate.* A research doctoral degree is oriented toward preparing students to make original intellectual contributions in a field of study and is not primarily intended for the practice of a profession. Research doctorates require the completion of a dissertation or equivalent project.

- *Time to doctorate.* The time it takes to complete a doctoral degree is measured in three ways: (1) the time elapsed from completion of the baccalaureate to completion of the doctorate (total time to degree), (2) the time elapsed from the start of any graduate school program to completion of the doctorate (graduate school time to degree), and (3) the time elapsed from the start of the doctoral program. Time-to-doctorate measures herein are reported as medians. In 2017, the method for accounting for leap days changed to reflect the actual number leap days during the time period specified, rather than the prior method of adding 0.25 days to each year.

  - *Total time to degree.* This variable is the total elapsed time between the baccalaureate and the doctorate, including time not enrolled in school. It can be computed only for individuals whose baccalaureate year is known. Baccalaureate year is often obtained from commencement programs or doctorate institutions when not reported by the recipient.

  - *Graduate school time to degree.* This variable is the elapsed time from the initiation of graduate study, in any program or capacity at any university, and the award of the doctorate. This variable can be computed only for individuals who provided the year they started graduate school. If an individual did not respond to this question, which asks for the month and year of first entry into any graduate school, then values for graduate school month and year of entry are imputed from the month and year of entry into the most recent master's degree program or, if that is missing, the month and year of entry into the doctoral degree program. Months are included in the computation.

  - *Doctoral program time to degree.* This variable is either (1) the elapsed time from the master's degree program entry, if the master's degree was awarded at the doctoral institution and was in the same fine field as the doctorate or if the master's degree was a prerequisite to the doctoral program until doctorate completion; otherwise, it is (2) the elapsed time from the doctoral program entry until doctorate completion. This variable is only computed for academic year 2015 and later doctorates.

- U.S. regions of employment. This variable is used to classify the location of U.S. employment after award of the doctorate.

New England	Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont

Middle Atlantic	New Jersey, New York, Pennsylvania
East North Central	Illinois, Indiana, Michigan, Ohio, Wisconsin
West North Central	Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota
South Atlantic	Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia
East South Central	Alabama, Kentucky, Mississippi, Tennessee
West South Central	Arkansas, Louisiana, Oklahoma, Texas
Mountain	Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming
Pacific and Insular	Alaska, California, Hawaii, Oregon, Washington, American Samoa, Guam, Puerto Rico, Trust Territories, Virgin Islands

Technical Tables

Table	Title
A-1	Types of research doctoral degrees recognized by the Survey of Earned Doctorates: 2020
A-2	Research degrees included in the Survey of Earned Doctorates: 2016–20
A-3	Survey response rates: 1970–2020
A-4	Item response rates: 2010–20
A-5	SED taxonomy of disciplines including aggregated fields and their constituent fine fields: 2020
A-6	Aggregations used to determine major fields of study: 2020

Table A-1

Types of research doctoral degrees recognized by the Survey of Earned Doctorates: 2020

(Type)

Abbreviation	Degree title
PhD	Doctor of Philosophy
DA	Doctor of Arts
DBA	Doctor of Business Administration
DDes	Doctor of Design
DEng, DESc, DES	Doctor of Engineering or Engineering Science
DFA	Doctor of Fine Arts
DHL	Doctor of Hebrew Letters
DMA	Doctor of Musical Arts
DME	Doctor of Music Education
DML	Doctor of Modern Languages
DNSc	Doctor of Nursing Science
DPH	Doctor of Public Health
DSc, ScD	Doctor of Science
EdD	Doctor of Education
JCD	Doctor of Canon Law
JSD, SJD	Doctor of Juridical Science
STD	Doctor of Sacred Theology
ThD	Doctor of Theology

Source(s):
National Center for Science and Engineering Statistics, Survey of Earned Doctorates.

Table A-2

Research degrees included in the Survey of Earned Doctorates: 2016–20

(Number and percent)

Research degree	Degree title	2016		2017		2018		2019		2020	
		Number	Percent	Number	Percent	Number	Percent	Number	Percent	Number	Percent
All research doctorates		54,809	100.0	54,552	100.0	55,085	100.0	55,614	100.0	55,283	100.0
PhD	Doctor of Philosophy	53,778	98.1	53,471	98.0	54,136	98.3	54,712	98.4	54,331	98.3
EdD	Doctor of Education	616	1.1	589	1.1	571	1.0	473	0.9	482	0.9
DSc, ScD	Doctor of Science	103	0.2	109	0.2	92	0.2	92	0.2	68	0.1
DEng, DESc, DES	Doctor of Engineering or Engineering Science	33	0.1	28	0.1	21	*	43	0.1	55	0.1
DA	Doctor of Arts	7	*	4	*	5	*	1	*	1	*
DBA	Doctor of Business Administration	32	0.1	32	0.1	24	*	17	*	22	*
DMA	Doctor of Musical Arts	141	0.3	139	0.3	116	0.2	115	0.2	172	0.3
DDes	Doctor of Design	5	*	7	*	9	*	8	*	8	*
DPH	Doctor of Public Health	20	*	53	0.1	41	0.1	37	0.1	38	0.1
DHL	Doctor of Hebrew Letters	1	*	0	0.0	0	0.0	1	*	1	*
DME	Doctor of Music Education	0	0.0	3	*	0	0.0	1	*	2	*
DML	Doctor of Modern Languages	5	*	6	*	4	*	6	*	5	*
DNSc	Doctor of Nursing Science	2	*	10	*	0	0.0	2	*	4	*
ThD	Doctor of Theology	14	*	23	*	11	*	11	*	3	*
DFA	Doctor of Fine Arts	2	*	4	*	3	*	2	*	1	*
JSD, SJD	Doctor of Juridical Science	45	0.1	67	0.1	50	0.1	91	0.2	84	0.2
STD	Doctor of Sacred Theology	2	*	1	*	0	0.0	1	*	2	*
JCD	Doctor of Canon Law	2	*	6	*	2	*	1	*	4	*
All other research doctorates[a]		1	*	0	0.0	0	0.0	0	0.0	0	0.0

* = value < 0.05%.

[a] Includes doctorates awarded that were determined to be ineligible for Survey of Earned Doctorates after the doctoral program was begun but before doctorate was granted.

Note(s):
Due to rounding, percentages may not sum to 100.

Source(s):
National Center for Science and Engineering Statistics, Survey of Earned Doctorates.

Table A-3

Survey response rates: 1970–2020

(Percent)

Year	Self-report rate
1970	98.1
1971	97.5
1972	97.3
1973	97.5
1974	94.2
1975	97.3
1976	97.2
1977	96.6
1978	96.3
1979	96.4
1980	96.2
1981	95.7
1982	95.3
1983	95.5
1984	95.1
1985	94.8
1986	93.5
1987	93.1
1988	92.9
1989	92.3
1990	93.6
1991	94.6
1992	95.1
1993	94.7
1994	94.6
1995	94.2
1996	93.0
1997	91.6
1998	91.9
1999	91.9
2000	92.4
2001	92.7
2002	91.3
2003	91.6
2004	91.3
2005	92.1
2006	93.1
2007	91.7
2008	92.3
2009	92.6
2010	93.0
2011	92.9
2012	92.5
2013	92.0
2014	90.6
2015	90.3
2016	92.0
2017	91.4
2018	92.2
2019	92.2

Table A-3

Survey response rates: 1970–2020

(Percent)

Year	Self-report rate
2020	92.1

Note(s):
Rates for 1970–2019 include late responses. Rate for 2020 may increase slightly in the next year if additional survey completions are submitted after survey closure.

Source(s):
National Center for Science and Engineering Statistics, Survey of Earned Doctorates.

Table A-4

Item response rates: 2010–20

(Percent)

Variable name	Variable description	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
AAEMONTH	First associate's degree start month	na	na	na	na	na	na	na	96.9	96.2	95.2	96.0
AAEYEAR	First associate's degree start year	na	na	na	na	na	na	na	97.6	96.3	95.8	96.5
AAFIELD	First associate's degree field	na	na	na	na	na	na	na	85.0	94.4	95.1	95.0
AAINST	First associate's degree institution	na	na	na	na	na	na	na	93.4	92.0	97.6	98.4
AAMONTH	First associate's degree month	na	na	na	na	na	na	na	97.6	96.7	95.9	96.4
AANID	First associate's degree institution (NCSES institution identification)	na	na	na	na	na	na	na	93.3	92.0	97.6	98.4
AAYEAR	First associate's degree year	na	na	na	na	na	na	na	98.3	97.0	96.7	97.1
AADEGRN	Number of associate's degrees received	na	na	na	na	na	na	na	90.3	93.5	93.6	93.6
AGEDOC	Age at doctorate	na	na	na	na	na	92.1	94.1	94.6	95.1	94.8	94.4
AMERIND	American Indian or Alaska Native race indicator	91.6	91.6	91.5	91.9	90.2	91.0	93.0	92.8	93.2	93.3	93.1
ASIAN	Asian race indicator	91.6	91.6	91.5	91.9	90.2	91.0	93.0	92.8	93.2	93.3	93.1
AUDIDIS	Deaf or hearing disability indicator	89.7	89.8	na	na	na	na	na	na	na	na	na
BA2EMONTH	Most recent baccalaureate start month	na	na	na	na	na	na	na	89.9	92.3	94.4	94.4
BA2EYEAR	Most recent baccalaureate start year	na	na	na	na	na	na	na	90.2	92.3	94.6	94.4
BA2FIELD	Most recent baccalaureate degree field	na	na	na	na	na	na	na	89.7	91.6	94.4	94.2
BA2INST	Most recent baccalaureate institution	na	na	na	na	na	na	na	88.5	90.5	94.5	95.0
BA2MONTH	Most recent baccalaureate month	na	na	na	na	na	na	na	90.0	92.4	94.4	94.5
BA2NID	Most recent baccalaureate institution (NCSES institution identification)	na	na	na	na	na	na	na	88.5	90.5	94.5	95.0
BA2YEAR	Most recent baccalaureate year	na	na	na	na	na	na	na	90.4	92.6	94.7	94.6
BADEGRN	Number of bachelor's degrees received	na	na	na	na	na	na	na	91.1	98.4	99.0	98.5
BADBLFIELD	First baccalaureate double major field	na	na	na	na	na	na	na	96.4	98.4	98.7	98.6
BADBLMAJ	First baccalaureate double major indicator	na	na	na	na	na	na	na	89.5	91.0	91.1	91.0
BAEMONTH	First baccalaureate start month	na	na	na	na	87.0	87.0	89.0	89.6	90.7	90.7	90.7
BAEYEAR[a]	First baccalaureate start year	86.9	87.6	88.2	88.8	87.3	87.3	89.4	89.7	90.7	90.7	90.7
BAFIELD	First baccalaureate field	88.5	89.0	88.5	89.5	87.9	87.9	89.7	90.4	90.7	90.9	90.9
BAINST	First baccalaureate institution	91.6	92.5	91.5	92.2	90.2	91.0	92.9	93.6	94.4	95.5	94.6
BAMONTH	First baccalaureate month	87.6	88.3	88.9	89.2	87.7	87.6	89.4	89.7	90.8	90.8	90.8
BANID	First baccalaureate institution (NCSES institution identification)	91.6	92.5	91.5	92.2	90.2	91.0	92.9	93.6	94.4	95.5	94.6
BANONE[b]	No bachelor's and/or master's degree indicator	14.6	16.4	18.2	20.4	21.4	21.7	22.4	85.5	91.7	91.8	91.8
BAPLACE	First baccalaureate institution location	91.6	92.5	91.5	92.2	90.2	91.0	92.9	93.6	94.4	95.5	94.6
BAYEAR	First baccalaureate year	91.7	92.3	92.0	92.3	90.3	90.8	93.1	94.4	94.9	95.4	94.8
BIRTHMO	Month of birth	92.3	92.2	92.1	92.5	90.7	91.6	93.2	93.9	94.6	94.4	93.9
BIRTHPL	Place of birth	93.4	94.3	94.2	93.5	91.9	92.1	94.5	95.1	96.0	96.5	96.6
BIRTHYR	Year of birth	93.0	93.0	92.8	93.1	91.3	92.1	94.1	94.5	95.1	94.8	94.4
BLACK	Black race indicator	91.6	91.6	91.5	91.9	90.2	91.0	93.0	92.8	93.2	93.3	93.1
CITIZ	Type of citizenship	94.2	94.0	93.8	94.2	92.3	93.3	95.2	95.4	96.1	96.3	95.8
CNTRYCIT[c]	Country of citizenship	93.8	93.7	93.6	93.8	92.1	93.1	94.8	95.0	95.2	95.2	95.2
COGNDIS	Learning or cognitive disability indicator	89.7	89.8	na	na	na	na	na	na	na	na	na
DDSDEG	Earned a professional dental degree	87.7	88.6	88.9	88.8	87.6	87.9	88.3	88.6	89.7	89.4	89.2
DDSSTUDY	Earning a professional dental degree	87.7	88.6	88.9	88.8	87.6	87.9	88.3	88.6	89.7	89.4	89.2
DEPEND18	Number of dependents-ages 6–18	88.3	89.2	89.9	89.5	88.4	88.3	89.7	90.1	90.8	90.7	90.7
DEPEND19	Number of dependents-ages 19 and older	88.3	89.2	89.9	89.5	88.4	88.3	89.7	90.1	90.8	90.7	90.7
DEPEND5	Number of dependents-ages 5 or younger	88.3	89.2	89.9	89.5	88.4	88.3	89.7	90.1	90.8	90.7	90.7

Table A-4

Item response rates: 2010–20

(Percent)

Variable name	Variable description	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
DIFAGE	Earliest age experienced difficulties	na	na	90.4	90.8	89.4	89.4	90.9	89.9	90.4	90.5	90.2
DIFCOGN	Degree of difficulty concentrating, remembering, or making decisions	na	na	91.1	91.0	89.6	89.6	91.1	90.1	90.6	90.7	90.4
DIFHEAR	Degree of difficulty hearing	na	na	91.1	91.0	89.6	89.6	91.1	90.1	90.6	90.7	90.4
DIFLIFT	Degree of difficulty lifting	na	na	90.5	91.0	89.6	89.6	91.1	90.1	90.6	90.7	90.4
DIFSEE	Degree of difficulty seeing	na	na	91.1	91.0	89.6	89.6	91.1	90.1	90.6	90.7	90.4
DIFWALK	Degree of difficulty walking	na	na	90.5	91.0	89.6	89.6	91.1	90.1	90.6	90.7	90.4
DISABILITY1	Disability status	89.7	89.8	na	na	na	na	na	na	na	na	na
DISABILITY2	Moderate or greater degree of difficulty in any domain	na	na	91.1	91.0	89.6	89.6	91.1	90.1	90.6	90.7	90.4
DOCCODE	Type of doctorate (since 2004)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
EDFATHER	Father/male guardian's education	90.8	90.8	90.7	90.0	88.6	88.4	89.9	89.9	89.4	88.7	88.4
EDMOTHER	Mother/female guardian's education	90.9	90.9	90.8	90.1	88.6	88.5	89.9	90.0	89.8	89.3	89.0
GDEBTLVL	Graduate debt level	92.7	93.3	92.9	89.7	88.2	90.1	93.1	92.3	92.7	93.4	93.5
GEMONTH	Month of graduate program entry	87.4	88.0	88.4	88.5	90.1	89.7	90.7	90.3	92.0	92.0	92.0
GEYEAR	Year of graduate program entry	87.8	88.3	88.6	88.7	90.3	89.9	90.9	90.4	92.0	92.0	92.0
HAWAIIAN	Native Hawaiian or Other Pacific Islander race indicator	91.6	91.6	91.5	91.9	90.2	91.0	93.0	92.8	93.2	93.3	93.1
HISPANIC	Hispanic origin indicator	91.4	92.2	92.0	92.1	90.3	91.5	93.0	93.7	94.7	94.7	94.6
HSPLACE	Place of high school	90.8	91.8	91.7	91.2	89.7	89.5	91.6	90.1	90.5	90.7	97.2
JRCOLL	Junior college indicator	91.2	93.1	93.0	92.6	91.1	90.8	93.4	93.2	93.8	94.1	94.2
MA1CRED	Credits from first master's degree counted toward doctoral degree	na	na	na	na	na	na	na	97.6	99.5	99.4	99.9
MA1EMONTH	First master's degree start month	na	na	na	na	na	na	na	99.6	98.9	98.5	98.3
MA1EYEAR	First master's degree start year	na	na	na	na	na	na	na	99.7	99.0	98.7	98.3
MA1FIELD	First master's degree field	na	na	na	na	na	na	na	99.4	98.8	98.8	98.5
MA1INST	First master's degree institution	na	na	na	na	na	na	na	97.9	97.8	98.8	98.4
MA1MONTH	First master's degree month	na	na	na	na	na	na	na	99.8	98.9	98.7	98.4
MA1NID	First master's degree institution (NCSES institution identification)	na	na	na	na	na	na	na	97.9	97.8	98.8	98.4
MA1PART	First master's degree was required for doctoral program	na	na	na	na	na	na	na	98.4	99.4	99.1	98.6
MA1YEAR	First master's degree year	na	na	na	na	na	na	na	99.9	99.0	98.9	98.4
MACRED	Credits from most recent master's degree counted toward doctoral degree	na	na	na	na	na	na	na	99.2	99.8	99.9	99.9
MADEGRN	Number of master's degrees received	na	na	na	na	na	na	na	99.3	93.8	94.0	94.1
MAEMONTH	Most recent master's degree start month	na	na	na	na	67.8	67.5	68.7	87.8	88.6	88.8	88.7
MAEYEAR[b]	Most recent master's degree start year	na	na	na	na	68.0	67.7	68.9	87.9	88.7	88.8	88.8
MAFIELD	Most recent master's degree field	71.1	70.8	70.5	70.1	68.6	68.3	69.3	87.9	88.7	88.8	88.9
MAINST	Most recent master's degree institution	71.6	71.5	70.8	70.0	68.5	68.0	69.2	88.2	88.3	88.9	89.0
MAMONTH	Most recent master's degree month	70.3	70.1	70.2	69.9	68.3	68.0	69.1	87.9	88.7	88.9	88.8
MANID[b]	Most recent master's degree institution (NCSES institution identification)	71.6	71.5	70.8	70.0	68.5	68.0	69.2	88.2	88.3	88.9	89.0
MAPART	Most recent master's degree was required for doctoral program	na	na	na	na	na	na	na	87.6	88.5	88.8	88.8
MARITAL	Marital status	91.0	91.0	91.0	90.4	89.0	88.9	90.5	90.3	90.9	90.8	90.7
MAYEAR	Most recent master's degree year	71.6	71.2	70.9	70.3	68.7	68.2	69.4	88.8	88.8	89.1	89.0
MDDEG	Earned a professional medical degree	87.7	88.6	88.9	88.8	87.6	87.9	88.3	83.7	89.6	89.4	89.2
MDSTUDY	Earning a professional medical degree	87.7	88.6	88.9	88.8	87.6	87.9	88.3	83.7	89.6	89.4	89.2
MEDDENT	Additional professional medical or dental degree	89.9	90.3	90.5	90.4	89.1	89.2	90.5	90.6	91.5	91.5	91.4

Table A-4

Item response rates: 2010–20

(Percent)

Variable name	Variable description	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
MSPREREQ	Prerequisite master's degree for doctoral program	91.5	91.5	91.1	90.7	89.2	89.1	90.8	88.0	89.0	89.0	88.9
ORTHDIS	Physical or orthopedic disability indicator	89.7	89.8	na	na	na	na	na	na	na	na	na
OTHRDIS	Other or unknown disability indicator	89.7	89.8	na	na	na	na	na	na	na	na	na
PDEMPLOY	Postgraduation employer type	97.8	98.6	98.5	99.0	99.5	99.3	98.1	99.7	98.8	98.8	98.8
PDFACULTY	Employment in faculty position	na	na	na	na	na	na	na	na	61.2	63.9	63.1
PDFORGN[b]	Postgraduation affiliation with a non-U.S. college or university	3.8	3.7	3.5	3.7	3.4	3.1	3.2	89.0	90.5	90.6	90.5
PDLOC	Postgraduation location	93.0	92.9	92.5	91.6	90.0	90.0	92.2	92.4	93.1	93.2	92.8
PDOCCODE[b]	Postgraduation institution affiliation in the U.S. (IPEDS)	31.9	31.1	30.6	28.4	26.7	26.1	26.4	78.9	87.1	89.2	90.1
PDOCNID[b]	Postgraduation institution affiliation in the U.S. (NCSES institution identification)	31.9	31.1	30.6	28.4	26.7	26.1	26.4	78.9	87.1	89.2	90.1
PDOCPLAN	Postgraduation plans	97.6	95.0	93.9	92.5	91.7	91.5	95.2	97.6	99.8	99.9	99.9
PDOCSTAT	Postgraduation status	91.3	91.4	91.4	90.8	89.3	89.3	90.9	90.8	91.4	91.4	91.4
PDSAMEEMP[b]	Postgraduation employer was employer before or during doctoral studies	na	na	na	na	na	na	na	6.9	51.3	55.4	55.2
PDSAMEPOSEMP	Employment in same position with same employer worked during doctoral studies	na	na	na	na	na	na	na	na	95.4	99.8	99.8
PDSEEKNEWEMP	Postgraduation plan to seek new employment	na	na	na	na	na	na	na	na	99.5	99.1	99.5
PDSTDSUP	Postdoctoral study support	93.9	94.6	95.8	96.7	97.5	97.8	95.5	96.9	97.0	96.5	96.2
PDUSFOR	Postgraduation location: U.S. or foreign	93.0	92.9	92.5	91.6	90.0	90.0	92.2	92.4	93.1	93.2	92.8
PDWK1ED	Edited primary work activity	92.8	91.8	91.5	90.7	90.8	90.5	91.3	97.7	98.6	98.8	98.7
PDWK2ED	Edited secondary work activity	50.6	50.1	50.8	50.2	49.8	49.4	50.6	93.2	96.5	96.8	96.9
PDWKPRIM	Primary work activity	92.8	91.8	91.5	90.7	90.8	90.5	91.3	97.7	98.6	98.8	98.7
PDWKSEC	Secondary work activity	50.6	50.1	50.8	50.2	49.8	49.4	50.6	93.2	96.5	96.8	96.9
PHDCY	Calendar year of doctorate	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
PHDDISS	Dissertation field	92.5	92.4	91.8	91.6	90.2	90.0	91.6	91.1	91.6	91.4	91.4
PHDDISS2[b]	Secondary dissertation field	30.2	32.1	34.7	36.2	35.0	35.0	41.0	86.7	89.9	90.1	90.1
PHDEMONTH	Doctoral program start month	na	na	na	na	89.6	89.6	91.2	91.3	91.7	91.8	91.7
PHDEYEAR[d]	Doctoral program start year	90.4	90.7	90.8	90.9	89.9	89.7	91.4	91.3	91.7	91.8	91.7
PHDFIELD	Doctorate field	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
PHDFY	Fiscal year of doctorate	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
PHDINST	Doctoral institution	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
PHDMONTH	Month of doctorate	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
PHDNID	Doctoral institution (NCSES institution identification)	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
POSTDOC	Intention to take postdoc position	91.5	91.5	91.6	91.1	89.6	89.6	91.5	na	na	na	na
PROFDEG[b]	Type of professional doctorate	0.9	1.0	0.8	0.8	0.9	1.0	1.0	96.0	100.0	100.0	100.0
PROFEARN	Earned or earning a professional doctoral degree	na	na	na	na	na	na	na	90.7	91.5	91.5	91.4
PROFEMONTH	Professional doctorate start month	na	na	na	na	na	na	na	99.7	99.3	99.4	99.6
PROFEYEAR	Professional doctorate start year	na	na	na	na	na	na	na	99.8	99.1	99.4	99.7
PROFINST	Professional doctorate institution	na	na	na	na	na	na	na	98.0	98.2	98.5	99.6
PROFMONTH	Professional doctorate month	na	na	na	na	na	na	na	99.8	99.2	99.4	99.5
PROFNID	Professional doctorate institution (NCSES institution identification)	na	na	na	na	na	na	na	99.2	98.2	98.5	99.6
PROFYEAR[b]	Professional doctorate year	0.9	0.9	0.7	0.8	0.9	0.9	1.0	99.7	99.0	99.4	99.6

Table A-4

Item response rates: 2010–20

(Percent)

Variable name	Variable description	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
QUESTMON	Month questionnaire filled out	na	na	na	na	na	90.0	92.0	93.2	92.2	92.2	92.1
QUESTYR	Year questionnaire filled out	92.2	92.8	92.4	92.0	90.6	90.3	92.0	93.4	92.2	92.2	92.1
RACE	Edited race or ethnicity code	93.4	93.2	93.0	93.2	91.4	92.4	94.3	94.6	95.5	95.7	95.5
RACE2	Edited ethnicity or race code (NSF-revised)	93.4	93.2	93.0	93.2	91.4	92.4	94.3	94.9	95.5	95.7	95.5
SALARYR[e]	Range of expected basic annual salary	91.0	89.7	89.0	87.6	88.7	88.7	89.3	97.3	96.3	96.3	96.1
SALARYV	Expected basic annual salary	51.5	46.6	41.2	36.8	76.9	83.9	85.5	94.2	93.2	93.1	93.5
SALMONTH	Number of months expected basic annual salary covers	90.9	90.1	89.5	88.7	89.0	88.9	89.1	95.2	96.5	96.4	96.3
SEEKEMPBUS	Seeking or negotiating position in business or industry	na	na	na	na	na	na	na	na	98.8	98.9	98.8
SEEKEMPCHOICE	Top choice of employer seeking or negotiating	na	na	na	na	na	na	na	na	97.7	97.7	97.5
SEEKEMPEDU	Seeking or negotiating position at an educational institution	na	na	na	na	na	na	na	na	98.8	98.9	98.8
SEEKEMPGOV	Seeking or negotiating position in government	na	na	na	na	na	na	na	na	98.8	98.9	98.8
SEEKEMPNPO	Seeking or negotiating position in nonprofit organization	na	na	na	na	na	na	na	na	98.8	98.9	98.8
SEEKEMPOTHR	Seeking or negotiating position in other sector	na	na	na	na	na	na	na	na	98.8	98.9	98.8
SEEKEMPSTAT	Employment status while seeking or negotiating employment	na	na	na	na	na	na	na	na	98.9	98.9	98.8
SEEKPOSEMP	Seeking or negotiating an employment position other than a postdoc	na	na	na	na	na	na	na	na	99.0	99.0	99.0
SEEKPOSOTHR	Seeking or negotiating other position	na	na	na	na	na	na	na	na	99.0	99.0	99.0
SEEKPOSPDOC	Seeking or negotiating a postdoc position	na	na	na	na	na	na	na	na	99.0	99.0	99.0
SEX	Sex of doctorate recipient	100.0	100.0	99.9	100.0	99.7	100.0	100.0	100.0	99.9	100.0	100.0
SRCE1ED	Edited primary source of support	90.9	91.0	91.1	90.7	89.7	89.5	91.2	90.0	90.7	90.6	90.6
SRCEPRIM	Primary source of support	90.9	91.0	91.1	90.7	89.7	89.5	91.2	90.0	90.7	90.6	90.6
SRCESEC	Secondary source of support	80.8	80.8	80.3	79.6	79.2	78.8	83.0	78.5	80.1	80.4	80.6
TICEPHD	Time in from college entry to doctorate	86.9	87.6	88.2	88.8	87.3	87.3	89.4	89.7	90.7	90.7	90.7
TOBAGE	Time out between baccalaureate to graduate school entry	85.8	86.4	86.9	87.2	87.2	87.2	88.5	87.4	88.5	88.6	88.5
TTDBAPHD	Total time elapsed from baccalaureate to doctorate	91.7	92.3	92.0	92.3	90.3	90.8	93.1	94.4	94.9	95.4	94.8
TTDDOC	Total elapsed time in doctorate	na	na	na	na	89.9	89.8	91.5	91.3	91.6	91.7	91.7
TTDGEPHD	Total time elapsed from graduate entry to doctorate	87.9	88.3	88.6	88.7	90.3	89.9	90.9	90.3	92.0	92.0	92.0
TUITREMS	Tuition remission-full or partial	90.4	91.3	91.5	91.2	90.0	89.8	91.4	91.0	91.7	91.6	91.6
UDEBTLVL	Undergraduate debt level	92.7	93.4	93.3	86.1	84.7	90.9	93.7	92.6	93.1	93.4	93.5
VISUDIS	Blind or visual disability indicator	89.7	89.8	na	na	na	na	na	na	na	na	na
VOCLDIS	Vocal or speech disability indicator	89.7	89.8	na	na	na	na	na	na	na	na	na
WHITE	White race indicator	91.6	91.6	91.5	91.9	90.2	91.0	93.0	92.8	93.2	93.3	93.1
YRSCOURS	Years of doctoral coursework	90.9	91.0	90.9	90.4	89.0	89.0	90.5	89.8	na	na	na
YRSDISST	Years preparing doctorate dissertation	91.0	91.1	91.0	90.5	89.0	89.0	90.5	89.7	na	na	na
YRSNOTWRK	Years not working on doctoral degree	91.0	91.2	91.0	90.8	89.2	89.2	90.8	90.9	na	na	na

na = not applicable; data either were not collected or derived, or were collected for the first time in that year (see "Notes").

IPEDS = Integrated Postsecondary Education Data System; NCSES = National Center for Science and Engineering Statistics.

[a] Methodology reports prior to 2014 reported BAEYEAR as CEYEAR.

[b] Logical skip edits to correct the universe of eligible respondents led to higher item response rates in the year it was implemented.

[c] Response rate counts respondents who reported being U.S. citizens or permanent residents or temporary visa holders and provided country of citizenship.

[d] Methodology reports prior to 2014 reported PHDEYEAR as PHDENTRY.

[e] Methodology reports prior to 2011 reported SALARYR as SALARY.

Note(s):
Item response rate is the percentage of cases providing data on an item divided by the universe of doctorate recipients eligible to answer that item. For most data items, all doctorate recipient respondents are in the universe of eligible respondents. For some data items introduced in the survey for the first time, not all eligible respondents were able to provide data because they completed earlier versions of the survey, leading to lower response rates.

Source(s):
National Center for Science and Engineering Statistics, Survey of Earned Doctorates.

Table A-5

SED taxonomy of disciplines including aggregated fields and their constituent fine fields: 2020

(Field)

Aggregated field name and constituent fields
Life sciences
Agricultural sciences and natural resources
Agricultural sciences
Agricultural economics
Agronomy, horticulture science, plant breeding, plant pathology, plant sciences-other†
Agricultural and horticultural plant breeding
Agronomy and crop science
Horticulture science
Plant pathology and phytopathology, agricultural
Plant sciences, other*
Animal nutrition, poultry science†
Animal nutrition*
Animal science, poultry or avian*
Animal sciences, other
Food science, food technology-other†
Food science
Food science and technology, other*
Soil chemistry and microbiology, soil sciences-other†
Soil chemistry, microbiology*
Soil sciences, other
Natural resources and conservation
Environmental science
Fishing and fisheries sciences and management
Forest biology, forest management, forestry sciences-other†
Forest management, forest resources management*
Forest sciences and biology*
Forestry, other
Natural resources policy and environmental economics†
Natural resource and environmental policy
Natural resources and environmental economics (agricultural sciences)*
Natural resources and conservation, wildlife and range management†
Natural resources and conservation
Wildlife, range management*
Agricultural sciences and natural resources, aggregated†
Agricultural sciences and natural resources, general*
Agricultural sciences and natural resources, other*
Biological and biomedical sciences
Anatomy, developmental biology†
Anatomy*
Developmental biology and embryology
Bacteriology, parasitology, and virology†
Bacteriology*
Parasitology*
Virology
Biochemistry (biological sciences)
Bioinformatics

Table A-5

SED taxonomy of disciplines including aggregated fields and their constituent fine fields: 2020

(Field)

Aggregated field name and constituent fields
Biomedical sciences
Biometrics and biostatistics
Biophysics (biological sciences)
Botany, plant pathology, plant physiology†
Botany and plant biology
Plant pathology and phytopathology (biological sciences)*
Plant physiology*
Cancer biology
Cell, cellular biology, and histology
Computational biology
Ecology
Endocrinology, human / animal pathology†
Endocrinology*
Pathology, human and animal
Entomology
Environmental toxicology
Epidemiology
Evolutionary biology
Genetics and genomics, human and animal
Immunology
Microbiology
Molecular biology
Molecular medicine
Neurosciences, neurobiology
Nutrition sciences
Pharmacology, human and animal
Physiology, human and animal
Plant genetics
Structural biology
Toxicology
Wildlife biology, zoology†
Wildlife biology
Zoology*
Biological and biomedical sciences, general
Biotechnology, biology / biomedical sciences-other†
Biotechnology*
Biological and biomedical sciences, other
Health sciences
Environmental health
Health and behavior
Health services / systems administration†
Health systems administration*
Health services research
Kinesiology, exercise science
Medical physics, radiological science
Nursing science
Pharmaceutical sciences
Public health

Table A-5

SED taxonomy of disciplines including aggregated fields and their constituent fine fields: 2020

(Field)

Aggregated field name and constituent fields
Rehabilitation, therapeutic services
Speech-language pathology and audiology
Health sciences, aggregated†
Gerontology (health sciences)*
Oral biology, oral pathology*
Veterinary sciences
Health sciences, general
Health sciences, other
Physical sciences and earth sciences
Chemistry
Analytical chemistry
Chemical biology
Inorganic chemistry
Medicinal chemistry
Organic chemistry
Physical chemistry
Polymer chemistry
Theoretical chemistry
Chemistry, general
Chemistry, other
Geosciences, atmospheric, and ocean sciences
Atmospheric science and meteorology
Atmospheric physics, meteorology†
Atmospheric physics and dynamics*
Meteorology*
Atmospheric chemistry, atmospheric sciences-general, atmospheric sciences-other†
Atmospheric chemistry and climatology
Atmospheric science and meteorology, general
Atmospheric science and meteorology, other*
Geological sciences
Geochemistry, mineralogy†
Geochemistry
Mineralogy and petrology*
Geology
Geomorphology, geological sciences-general, geological sciences-other†
Geomorphology, glacial geology*
Geological sciences, general
Geological sciences, other
Geophysics and seismology
Paleontology, stratigraphy†
Paleontology*
Stratigraphy and sedimentation*
Ocean and marine sciences
Marine biology and biological oceanography
Oceanography, chemical and physical
Ocean / marine sciences, aggregated†
Hydrology and water resources
Marine sciences

Table A-5

SED taxonomy of disciplines including aggregated fields and their constituent fine fields: 2020

(Field)

Aggregated field name and constituent fields
Ocean and marine sciences, other*
Physics and astronomy
Astronomy and astrophysics
Astronomy
Astrophysics
Astronomy and astrophysics, other*
Physics
Acoustics, optics / photonics†
Acoustics*
Optics, photonics
Applied physics
Atomic physics, polymer physics†
Atomic, molecular, chemical physics
Polymer physics*
Biophysics (physics)
Condensed matter, low-temperature physics
Elementary particle physics
Nuclear physics
Plasma, high-temperature physics
Physics, general
Physics, other
Mathematics and computer sciences
Computer and information sciences
Computer science
Information science, systems
Computer and information sciences, general
Computer and information sciences, other
Mathematics and statistics
Algebra
Analysis and functional analysis
Applied mathematics, computing theory†
Applied mathematics
Computing theory and practice*
Computational mathematics
Geometry, geometric analysis
Logic, topology / foundations†
Logic*
Topology and foundations*
Number theory
Operations research, mathematics / statistics-general, mathematics / statistics-other†
Operations research (mathematics)*
Mathematics and statistics, general
Mathematics and statistics, other
Statistics (mathematics)
Psychology and social sciences
Psychology
Behavioral analysis
Clinical psychology

Table A-5

SED taxonomy of disciplines including aggregated fields and their constituent fine fields: 2020

(Field)

Aggregated field name and constituent fields
Cognitive neuroscience
Cognitive psychology and psycholinguistics
Community psychology
Counseling
Developmental and child psychology
Educational psychology (psychology)
Experimental psychology
Family psychology, human development and family studies†
Family psychology*
Human development and family studies
Health, medical psychology
Industrial and organizational psychology
Marriage and family therapy, counseling
Neuropsychology, physiological psychology
School psychology (psychology)
Social psychology
Psychology, general
Psychology, aggregated†
Personality psychology*
Psychometrics and quantitative psychology
Psychology, other
Social sciences
Anthropology
Anthropology, cultural
Anthropology, general
Anthropology, physical and biological
Economics
Econometrics, economics†
Econometrics*
Other economics
Natural resources and environmental economics (social sciences)
Political science and government
Sociology
Other social sciences
American, U.S. studies
Applied linguistics
Archaeology (social sciences)
Area, ethnic, and cultural studies
Criminal justice and corrections
Criminology
Demography, gerontology, statistics, urban affairs, social sciences-general, social sciences-other†
Demography and population studies*
Gerontology (social sciences)*
Statistics (social sciences)*
Urban studies, affairs
Social sciences, general
Social sciences, other
Gender and women's studies
Geography

Table A-5

SED taxonomy of disciplines including aggregated fields and their constituent fine fields: 2020

(Field)

Aggregated field name and constituent fields
Health policy analysis
History, science and technology and society
International relations, international affairs
Linguistics
Public policy analysis
Urban, city, community and regional planning
Engineering
Aerospace, aeronautical, and astronautical engineering
Bioengineering and biomedical engineering
Chemical engineering
Civil engineering
Electrical, electronics, and communications engineering
Industrial and manufacturing engineering
Materials science engineering
Mechanical engineering
Other engineering
Computer engineering
Environmental, environmental health engineering
Nuclear engineering
Robotics
Structural engineering
Systems engineering
Other engineering, aggregated†
Agricultural engineering*
Communications engineering*
Engineering management, administration*
Engineering mechanics*
Engineering physics*
Engineering science
Geotechnical and geoenvironmental engineering*
Metallurgical engineering*
Ocean engineering*
Operations research (engineering)
Petroleum engineering*
Polymer, plastics engineering*
Transportation and highway engineering*
Engineering, general
Engineering, other
Education
Education administration
Educational administration and supervision
Educational and human resource studies, development
Educational leadership
Urban education and leadership
Education research
Counseling education, counseling and guidance
Curriculum, instruction, educational assessment/ measurement†
Curriculum and instruction

Table A-5

SED taxonomy of disciplines including aggregated fields and their constituent fine fields: 2020

(Field)

Aggregated field name and constituent fields
Educational assessment, testing, measurement*
Educational policy analysis
Educational psychology (education)
Educational statistics, research methods
Educational / instructional technology, media design†
Educational and instructional media design*
Educational and instructional technology
Higher education evaluation and research
Learning sciences
School psychology (education)
Social and philosophical foundations of education
Special education
Teacher education†
Adult and continuing teacher education
Elementary teacher education*
Pre-elementary, early childhood teacher education
Secondary teacher education*
Teaching fields
Health education
Literacy and reading education
Mathematics education
Music education
Science education
Teaching fields, aggregated†
Agricultural education
Art education*
Bilingual and multilingual education
English as a second or foreign language*
English education
Family, consumer, and human sciences*
Foreign languages education*
Nursing education
Physical education and coaching*
Social science education*
Teacher education and professional development, other
Other education
Education, general
Other education, aggregated†
International education*
Workforce education and development*
Education, other
Humanities and arts
Foreign languages and literature
French
German
Spanish
Other languages and literature, aggregated†

Table A-5

SED taxonomy of disciplines including aggregated fields and their constituent fine fields: 2020

(Field)

Aggregated field name and constituent fields
Arabic*
Chinese*
Italian*
Japanese*
Latin American*
Russian*
Foreign languages and literatures, other
History
American history, United States and Canada
Asian history
European history
Latin American history
Middle, Near East history
History, general
History, aggregated†
African history*
History, other
Letters
American literature, United States and Canada
Classics
Comparative literature
English language
English literature, British and Commonwealth
Rhetoric and composition
Speech and rhetorical studies
Letters, aggregated†
Creative writing
Letters, general*
Letters, other*
Other humanities and arts
African American studies, literature, and history
Art history, criticism, and conservation
Dance, drama†
Dance*
Drama, theater arts
Film, cinema, video studies
Music
Musicology and ethnomusicology
Music performance
Music theory and composition
Philosophy, ethics†
Ethics*
Philosophy
Religion / religious studies, Jewish / Judaic studies†
Jewish, Judaic studies*
Religion, religious studies
Theology, religious education

Table A-5

SED taxonomy of disciplines including aggregated fields and their constituent fine fields: 2020

(Field)

Aggregated field name and constituent fields
Other humanities, aggregated†
Archaeology (humanities)
Bible, biblical studies
Music, other*
Humanities, general
Humanities, other
Other[a]
Business management and administration
Accounting
Business administration and management
Finance
Human resources, organizational behavior†
Human resources development*
Organizational behavior
Management information systems, business statistics
Marketing management and research
Other aggregated business fields†
Business, managerial economics*
Hospitality, food service, and tourism management*
International business, trade, commerce*
Operations research (business)*
Business management and administration, general
Business management and administration, other
Communication
Communication research
Mass communication, media studies
Communication, general
Communication, aggregated†
Communication theory*
Film, radio, TV and digital communication*
Communication, other
Non-S&E fields nec
Architecture and environmental design
Family, consumer sciences and human sciences
Parks, sports, recreation, leisure and fitness
Public administration
Social work
Fields nec, aggregated†
Law*
Library science*
Other fields nec*
Unknown field

† = aggregated field in 2020; * = fine field with fewer than 25 U.S. citizen or permanent resident doctorate recipients in 2020.

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

[a] Includes other non-S&E fields not shown separately.

Note(s):
Aggregated fields appear in tables 16 and 22 only.

Source(s):
National Center for Science and Engineering Statistics, Survey of Earned Doctorates.

Table A-6

Aggregations used to determine major fields of study: 2020

(Field code)

Field of study	Survey of Earned Doctorates field code
Life sciences	000–299 (excluding 152, 217), 577, 685
Agricultural sciences and natural resources	000–099, 685
Biological and biomedical sciences	100–199 (excluding 152)
Health sciences	200–299 (excluding 217), 577
Physical sciences and earth sciences	500–599 (excluding 577), 152
Chemistry	520–539
Geosciences, atmospheric sciences, and ocean sciences	510–519, 540–559, 580–599, 152
Physics and astronomy	500–509, 560–579 (excluding 577)
Mathematics and computer sciences	400-499 (excluding 415)
Computer and information sciences	400–419 (excluding 415)
Mathematics and statistics	420–499
Psychology and social sciences	600–699, (excluding 685), 217, 770
Psychology	600–649
Anthropology	650, 655, 656
Economics	665, 667, 668
Political science and government	678
Sociology	686
Other social sciences	651-654, 657-662, 670-676, 682, 684, 690-699, 217, 710, 770
Engineering	300–399, 415
Aerospace, aeronautical, and astronautical engineering	300
Bioengineering and biomedical engineering	306
Chemical engineering	312
Civil engineering	315
Electrical, electronics, and communications engineering	324
Industrial and manufacturing engineering	339
Materials science engineering	342
Mechanical engineering	345
Other engineering	303, 309, 316-321, 327-337, 348-399, 415
Education	800–899
Education administration	804–807
Education research	800, 801, 808–845
Teacher education	850–858
Teaching fields	860–889
Other education	895–899
Humanities and arts	700–799 (excluding 770), 984
Foreign languages and literature	740–769
History	700–719 (excluding 710)
Letters	720–739 (excluding 731)
Other humanities and arts	731, 773–799, 984
Other[a]	900–999 (excluding 984)
Business management and administration	900–939
Communication	940–959
Non-S&E fields nec	960–989 (excluding 984)
Unknown field	999

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

[a] Includes other non-science and engineering fields not shown separately.

Note(s):
Major fields appear in tables 7, 8, 12, 15, 18, 24, 48, 49, 51, 52, and 56–71.

Source(s):
National Center for Science and Engineering Statistics, Survey of Earned Doctorates.