

Table B-2**Crosswalk of historical broad fields and their constituent fields in the SED data tables and the summary report**

(Crosswalk)

Historical field aggregations in the data tables	Trend field aggregations in the summary report
Science and engineering	Science and engineering
Life sciences	Not applicable
Agricultural sciences and natural resources	Agricultural sciences and natural resources
Agricultural sciences	Agricultural sciences
Agricultural and horticultural plant breeding	Agricultural and horticultural plant breeding
Agricultural economics	Agricultural economics
Agronomy and crop science	Agronomy and crop science
Animal nutrition	Animal nutrition
Animal science, poultry or avian	Animal science, poultry or avian
Animal sciences, other	Animal sciences, other
Food science	Food science
Food science and technology, other	Food science and technology, other
Horticulture science	Horticulture science
Plant pathology/ phytopathology (agricultural sciences)	Plant pathology/ phytopathology (agricultural sciences)
Plant sciences, other	Plant sciences, other
Soil chemistry/ microbiology	Soil chemistry/ microbiology
Soil sciences, other	Soil sciences, other
Natural resources and conservation	Natural resources and conservation
Environmental science	Environmental science
Fishing and fisheries sciences/ management	Fishing and fisheries sciences/ management
Forest sciences and biology	Forest sciences and biology
Forest/ forest resources management	Forest/ forest resources management
Forestry, other	Forestry, other
Natural resource/ environmental policy	Natural resource/ environmental policy
Natural resources/ conservation	Natural resources/ conservation
Natural resources/ environmental economics (agricultural sciences)	Natural resources/ environmental economics (agricultural sciences)
Wildlife/ range management	Wildlife/ range management
Agricultural sciences/ natural resources, general	Agricultural sciences/ natural resources, general
Agricultural sciences/ natural resources, other	Agricultural sciences/ natural resources, other
Biological and biomedical sciences	Biological and biomedical sciences
Anatomy	Anatomy
Bacteriology	Bacteriology
Biochemistry (biological sciences)	Biochemistry (biological sciences)
Bioinformatics	Bioinformatics
Biomedical sciences	Biomedical sciences
Biometrics and biostatistics	Biometrics and biostatistics
Biophysics (biological sciences)	Biophysics (biological sciences)
Biotechnology	Biotechnology
Botany/ plant biology	Botany/ plant biology
Cancer biology	Cancer biology
Cell/ cellular biology and histology	Cell/ cellular biology and histology
Computational biology	Computational biology
Developmental biology/ embryology	Developmental biology/ embryology
Ecology	Ecology
Endocrinology	Endocrinology
Entomology	Entomology
Environmental toxicology	Environmental toxicology
Epidemiology	Epidemiology
Evolutionary biology	Evolutionary biology
Genetics/ genomics, human and animal	Genetics/ genomics, human and animal

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(Crosswalk)

Historical field aggregations in the data tables	Trend field aggregations in the summary report
Immunology	Immunology
Microbiology	Microbiology
Molecular biology	Molecular biology
Molecular medicine	Molecular medicine
Neurosciences and neurobiology	Neurosciences and neurobiology
Nutrition sciences	Nutrition sciences
Parasitology	Parasitology
Pathology, human and animal	Pathology, human and animal
Pharmacology, human and animal	Pharmacology, human and animal
Physiology, human and animal	Physiology, human and animal
Plant genetics	Plant genetics
Plant pathology and phytopathology (biological sciences)	Plant pathology and phytopathology (biological sciences)
Plant physiology	Plant physiology
Structural biology	Structural biology
Toxicology	Toxicology
Virology	Virology
Wildlife biology	Wildlife biology
Zoology	Zoology
Biological/ biomedical sciences, general	Biological/ biomedical sciences, general
Biological/ biomedical sciences, other	Biological/ biomedical sciences, other
Health sciences	Health sciences
Environmental health	Environmental health
Gerontology (health sciences)	Gerontology (health sciences)
Health and behavior	Health and behavior
Health services research	Health services research
Health systems administration	Health systems administration
Kinesiology/ exercise science	Kinesiology/ exercise science
Medical physics/ radiological science	Medical physics/ radiological science
Nursing science	Nursing science
Oral biology/ oral pathology	Oral biology/ oral pathology
Pharmaceutical sciences	Pharmaceutical sciences
Public health	Public health
Rehabilitation/ therapeutic services	Rehabilitation/ therapeutic services
Speech-language pathology and audiology	Speech-language pathology and audiology
Veterinary sciences	Veterinary sciences
Health sciences, general	Health sciences, general
Health sciences, other	Health sciences, other
Mathematics and computer sciences	Not applicable
Computer and information sciences	Computer and information sciences
Computer science	Computer science
Information science and systems	Information science and systems
Computer and information sciences, general	Computer and information sciences, general
Computer and information sciences, other	Computer and information sciences, other
Mathematics and statistics	Mathematics and statistics
Algebra	Algebra
Analysis and functional analysis	Analysis and functional analysis
Applied mathematics	Applied mathematics
Computational mathematics	Computational mathematics
Computing theory and practice	Computing theory and practice
Geometry/ geometric analysis	Geometry/ geometric analysis
Logic	Logic

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(Crosswalk)

Historical field aggregations in the data tables	Trend field aggregations in the summary report
Number theory	Number theory
Operations research (mathematics)	Operations research (mathematics)
Statistics (mathematics)	Statistics (mathematics)
Topology/ foundations	Topology/ foundations
Mathematics/ statistics, general	Mathematics/ statistics, general
Mathematics/ statistics, other	Mathematics/ statistics, other
Engineering	Engineering
Aerospace, aeronautical, and astronautical engineering	Aerospace, aeronautical, and astronautical engineering
Bioengineering and biomedical engineering	Bioengineering and biomedical engineering
Chemical engineering	Chemical engineering
Civil engineering	Civil engineering
Electrical, electronics, and communications engineering	Electrical, electronics, and communications engineering
Industrial and manufacturing engineering	Industrial and manufacturing engineering
Materials science engineering	Materials science engineering
Mechanical engineering	Mechanical engineering
Other engineering	Other engineering
Agricultural engineering	Agricultural engineering
Communications engineering	Communications engineering
Computer engineering	Computer engineering
Engineering management and administration	Engineering management and administration
Engineering mechanics	Engineering mechanics
Engineering physics	Engineering physics
Engineering science	Engineering science
Environmental/ environmental health engineering	Environmental/ environmental health engineering
Geotechnical and geoenvironmental engineering	Geotechnical and geoenvironmental engineering
Metallurgical engineering	Metallurgical engineering
Nuclear engineering	Nuclear engineering
Ocean engineering	Ocean engineering
Operations research (engineering)	Operations research (engineering)
Petroleum engineering	Petroleum engineering
Polymer and plastics engineering	Polymer and plastics engineering
Robotics	Robotics
Structural engineering	Structural engineering
Systems engineering	Systems engineering
Transportation and highway engineering	Transportation and highway engineering
Engineering, general	Engineering, general
Engineering, other	Engineering, other
Physical sciences and earth sciences	Not applicable
Physical sciences	Physical sciences
Astronomy and astrophysics	Astronomy and astrophysics
Astronomy	Astronomy
Astrophysics	Astrophysics
Astronomy and astrophysics, other	Astronomy and astrophysics, other
Chemistry	Chemistry
Analytical chemistry	Analytical chemistry
Chemical biology	Chemical biology
Inorganic chemistry	Inorganic chemistry
Medicinal chemistry	Medicinal chemistry
Organic chemistry	Organic chemistry
Physical chemistry	Physical chemistry
Polymer chemistry	Polymer chemistry

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(Crosswalk)

Historical field aggregations in the data tables	Trend field aggregations in the summary report
Theoretical chemistry	Theoretical chemistry
Chemistry, general	Chemistry, general
Chemistry, other	Chemistry, other
Physics	Physics
Acoustics	Acoustics
Applied physics	Applied physics
Atomic/ molecular/ chemical physics	Atomic/ molecular/ chemical physics
Biophysics (physics)	Biophysics (physics)
Condensed matter/ low-temperature physics	Condensed matter/ low-temperature physics
Elementary particle physics	Elementary particle physics
Nuclear physics	Nuclear physics
Optics and photonics	Optics and photonics
Plasma/ high-temperature physics	Plasma/ high-temperature physics
Polymer physics	Polymer physics
Physics, general	Physics, general
Physics, other	Physics, other
Geosciences, atmospheric sciences, and ocean sciences	Geosciences, atmospheric sciences, and ocean sciences
Atmospheric science and meteorology	Atmospheric science and meteorology
Atmospheric chemistry and climatology	Atmospheric chemistry and climatology
Atmospheric physics and dynamics	Atmospheric physics and dynamics
Meteorology	Meteorology
Atmospheric science/ meteorology, general	Atmospheric science/ meteorology, general
Atmospheric science/ meteorology, other	Atmospheric science/ meteorology, other
Geological sciences	Geological sciences
Geochemistry	Geochemistry
Geology	Geology
Geomorphology and glacial geology	Geomorphology and glacial geology
Geophysics and seismology	Geophysics and seismology
Mineralogy and petrology	Mineralogy and petrology
Paleontology	Paleontology
Stratigraphy and sedimentation	Stratigraphy and sedimentation
Geological and earth sciences, general	Geological and earth sciences, general
Geological and earth sciences, other	Geological and earth sciences, other
Ocean and marine sciences	Ocean and marine sciences
Hydrology and water resources	Hydrology and water resources
Marine biology and biological oceanography	Marine biology and biological oceanography
Marine sciences	Marine sciences
Oceanography, chemical and physical	Oceanography, chemical and physical
Ocean/ marine sciences, other	Ocean/ marine sciences, other
Psychology and social sciences	Not applicable
Psychology	Psychology
Behavioral analysis	Behavioral analysis
Clinical psychology	Clinical psychology
Cognitive neuroscience	Cognitive neuroscience
Cognitive psychology and psycholinguistics	Cognitive psychology and psycholinguistics
Community psychology	Community psychology
Counseling	Counseling
Developmental and child psychology	Developmental and child psychology
Educational psychology (psychology)	Educational psychology (psychology)
Experimental psychology	Experimental psychology
Family psychology	Family psychology

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(Crosswalk)

Historical field aggregations in the data tables	Trend field aggregations in the summary report
Health and medical psychology	Health and medical psychology
Human development and family studies	Human development and family studies
Industrial and organizational psychology	Industrial and organizational psychology
Marriage and family therapy/ counseling	Marriage and family therapy/ counseling
Neuropsychology/ physiological psychology	Neuropsychology/ physiological psychology
Personality psychology	Personality psychology
Psychometrics and quantitative psychology	Psychometrics and quantitative psychology
School psychology (psychology)	School psychology (psychology)
Social psychology	Social psychology
Psychology, general	Psychology, general
Psychology, other	Psychology, other
Social sciences	Social sciences
Anthropology	Anthropology
Anthropology, cultural	Anthropology, cultural
Anthropology, general	Anthropology, general
Anthropology, physical and biological	Anthropology, physical and biological
Economics	Economics
Econometrics	Econometrics
Natural resources/ environmental economics (social sciences)	Natural resources/ environmental economics (social sciences)
Other economics	Other economics
Political science and government	Political science and government
Sociology	Sociology
Other social sciences	Other social sciences
American/ U.S. studies	American/ U.S. studies
Applied linguistics	Applied linguistics
Archaeology (social sciences)	Archaeology (social sciences)
Area/ ethnic/ cultural studies	Area/ ethnic/ cultural studies
Criminal justice and corrections	Criminal justice and corrections
Criminology	Criminology
Demography/ population studies	Demography/ population studies
Gender and women's studies	Gender and women's studies
Geography	Geography
Gerontology (social sciences)	Gerontology (social sciences)
Health policy analysis	Health policy analysis
History, science and technology and society	History, science and technology and society
International relations/ affairs	International relations/ affairs
Linguistics	Linguistics
Public policy analysis	Public policy analysis
Statistics (social sciences)	Statistics (social sciences)
Urban studies/ affairs	Urban studies/ affairs
Urban, city, community and regional planning	Urban, city, community and regional planning
Social sciences, general	Social sciences, general
Social sciences, other	Social sciences, other
Non-science and engineering	Non-science and engineering
Education	Education
Education administration	Education administration
Educational administration and supervision	Educational administration and supervision
Educational and human resource studies/ development	Educational and human resource studies/ development
Educational leadership	Educational leadership
Urban education and leadership	Urban education and leadership
Education research	Education research

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(Crosswalk)

Historical field aggregations in the data tables	Trend field aggregations in the summary report
Counseling education/ counseling and guidance	Counseling education/ counseling and guidance
Curriculum and instruction	Curriculum and instruction
Educational assessment/ testing/ measurement	Educational assessment/ testing/ measurement
Educational policy analysis	Educational policy analysis
Educational psychology (education)	Educational psychology (education)
Educational statistics/ research methods	Educational statistics/ research methods
Educational/ instructional media design	Educational/ instructional media design
Educational/ instructional technology	Educational/ instructional technology
Higher education evaluation and research	Higher education evaluation and research
International education	International education
Learning sciences	Learning sciences
School psychology (education)	School psychology (education)
Social/ philosophical foundations of education	Social/ philosophical foundations of education
Special education	Special education
Teacher education	Teacher education
Adult and continuing teacher education	Adult and continuing teacher education
Elementary teacher education	Elementary teacher education
Pre-elementary/ early childhood teacher education	Pre-elementary/ early childhood teacher education
Secondary teacher education	Secondary teacher education
Teaching fields	Teaching fields
Agricultural education	Agricultural education
Art education	Art education
Bilingual and multilingual education	Bilingual and multilingual education
English as a second or foreign language	English as a second or foreign language
English education	English education
Family and consumer/ human science education	Family and consumer/ human science education
Foreign languages education	Foreign languages education
Health education	Health education
Literacy and reading education	Literacy and reading education
Mathematics education	Mathematics education
Music education	Music education
Nursing education	Nursing education
Physical education and coaching	Physical education and coaching
Science education	Science education
Social science education	Social science education
Teacher education and professional development, other	Teacher education and professional development, other
Other education	Other education
Workforce education and development	Workforce education and development
Education, general	Education, general
Education, other	Education, other
Humanities and arts	Humanities and arts
Foreign languages and literature	Foreign languages and literature
Arabic language and literature	Arabic language and literature
Chinese language and literature	Chinese language and literature
French language and literature	French language and literature
Germanic language and literature	Germanic language and literature
Italian language and literature	Italian language and literature
Japanese language and literature	Japanese language and literature
Latin American languages and literature	Latin American languages and literature
Russian language and literature	Russian language and literature
Spanish language and literature	Spanish language and literature

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(Crosswalk)

Historical field aggregations in the data tables	Trend field aggregations in the summary report
Foreign languages and literatures, other	Foreign languages and literatures, other
History	History
African history	African history
American history (U.S. and Canada)	American history (U.S. and Canada)
Asian history	Asian history
European history	European history
Latin American history	Latin American history
Middle/ Near East history	Middle/ Near East history
History, general	History, general
History, other	History, other
Letters	Letters
American literature (U.S. and Canada)	American literature (U.S. and Canada)
Classics	Classics
Comparative literature	Comparative literature
Creative writing	Creative writing
English language	English language
English literature (British and Commonwealth)	English literature (British and Commonwealth)
Rhetoric and composition	Rhetoric and composition
Speech and rhetorical studies	Speech and rhetorical studies
Letters, general	Letters, general
Letters, other	Letters, other
Other humanities and arts	Other humanities and arts
African American studies/ literature/ history	African American studies/ literature/ history
Archaeology (humanities)	Archaeology (humanities)
Art history/ criticism/ conservation	Art history/ criticism/ conservation
Bible/ biblical studies	Bible/ biblical studies
Dance	Dance
Drama/ theater arts/ performance studies	Drama/ theater arts/ performance studies
Ethics	Ethics
Film/ cinema/ media studies	Film/ cinema/ media studies
Jewish/ Judaic studies	Jewish/ Judaic studies
Music	Music
Music performance	Music performance
Music theory and composition	Music theory and composition
Music, other	Music, other
Musicology/ ethnomusicology	Musicology/ ethnomusicology
Philosophy	Philosophy
Religion/ religious studies	Religion/ religious studies
Theology/ religious education	Theology/ religious education
Humanities, general	Humanities, general
Humanities, other	Humanities, other
Other non-science and engineering	Not applicable
Business management and administration	Business
Accounting	Accounting
Business administration and management	Business administration and management
Business/ managerial economics	Business/ managerial economics
Finance	Finance
Hospitality, food service and tourism management	Hospitality, food service and tourism management
Human resources development	Human resources development
International business/ trade/ commerce	International business/ trade/ commerce
Management information systems/ business statistics	Management information systems/ business statistics

Table B-2**Crosswalk of historical broad fields and their constituent fields in the SED data tables and the summary report**

(Crosswalk)

Historical field aggregations in the data tables	Trend field aggregations in the summary report
Marketing management and research	Marketing management and research
Operations research (business)	Operations research (business)
Organizational behavior	Organizational behavior
Business management/ administration, general	Business management/ administration, general
Business management/ administration, other	Business management/ administration, other
Not applicable	Other non-science and engineering
Communication	Communication
Communication research	Communication research
Communication theory	Communication theory
Film, radio, TV and digital communication	Film, radio, TV and digital communication
Mass communication/ media studies	Mass communication/ media studies
Communication, general	Communication, general
Communication, other	Communication, other
Non-science and engineering fields nec	Non-science and engineering fields nec
Architecture/ environmental design	Architecture/ environmental design
Family/ consumer sciences/ human sciences	Family/ consumer sciences/ human sciences
Law	Law
Library science	Library science
Parks/ sports/ recreation/ leisure/ fitness	Parks/ sports/ recreation/ leisure/ fitness
Public administration	Public administration
Social work	Social work
Other fields nec	Other fields nec

nec = not elsewhere classified; SED = Survey of Earned Doctorates.

Note(s):

Beginning in 2021, a modified version of the 2020 Classification of Instructional Programs (CIP) codes was used in the survey data collection; the historical fields were constructed using the SED-CIP code crosswalk in table A-6. The trend data at the broad field level are comparable across the years but may be less so at the detailed field level. For more information, see the "Technical Notes" and the SED 2021 Taxonomy Changes Working Paper (available at <https://nces.nsf.gov/pubs/nces23200>). The data tables that present trend data use 5 broad science and engineering (S&E) fields: life sciences; mathematics and computer sciences; engineering, physical sciences and earth sciences; psychology and social sciences; and 3 broad non-S&E fields: education, humanities; and other non-science and engineering. The trend data presented in the summary report use 10 broad S&E fields: agricultural sciences and natural resources; biological and biomedical sciences; computer and information sciences; engineering; geosciences, atmospheric sciences, and ocean sciences; health sciences; mathematics and statistics; physical sciences; psychology; social sciences; and the non-S&E field total, or 4 broad non-S&E fields: business, education, humanities and arts; and other non-S&E fields.

Source(s):

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