

HERD Codes

The Higher Education Research and Development Survey (HERD) is the primary source of information on R&D expenditures at U.S. colleges and universities. The annual survey collects information on R&D expenditures by field of research and source of funds.

Examples of Disciplines: Computer and Information Sciences and Engineering Fields of R&D

A. Computer and Information Sciences

| | | |
|---|--|-------------------------------|
| Artificial intelligence | Computer software and media applications | Data processing |
| Computer and information technology administration and management | Computer systems analysis | Information sciences, studies |
| Computer science | Computer systems networking and telecommunications | Information technology |

B. Engineering

1. Aerospace, Aeronautical, and Astronautical Engineering

Aerodynamics
Aerospace engineering
Space technology

2. Bioengineering and Biomedical Engineering

Biological and biosystems engineering
Biomaterials engineering
Biomedical technology
Medical engineering

3. Chemical Engineering

Biochemical engineering
Chemical and biomolecular engineering
Engineering chemistry
Paper science
Petroleum refining process
Polymer, plastics engineering

4. Civil Engineering

Architectural engineering
Construction engineering
Engineering management, administration
Environmental, environmental health engineering
Geotechnical and geoenvironmental engineering
Sanitary engineering
Structural engineering
Surveying engineering
Transportation and highway engineering
Water resources engineering

5. Electrical, Electronic, and Communications Engineering

Communications engineering
Computer engineering
Computer hardware engineering
Computer software engineering
Electrical and electronics engineering
Laser and optical engineering
Power
Telecommunications engineering

6. Industrial and Manufacturing Engineering

Industrial engineering
Manufacturing engineering
Operations research
Systems engineering

7. Mechanical Engineering

Electromechanical engineering
Mechatronics, robotics, and automation engineering

8. Metallurgical and Materials Engineering

Ceramic sciences and engineering
Geophysical, geological engineering
Materials engineering
Metallurgical engineering
Mining and mineral engineering
Textile sciences and engineering
Welding

9. Other Engineering

Agricultural engineering
Engineering design
Engineering mechanics, physics, and science
Engineering physics
Engineering science
Forest engineering
Nanotechnology
Naval architecture and marine engineering
Nuclear engineering
Ocean engineering
Petroleum engineering
Other engineering fields that cannot be classified using the fields listed above

Examples of Disciplines: Geosciences, Atmospheric Sciences, and Ocean Sciences Fields of R&D

C. Geosciences, Atmospheric Sciences, and Ocean Sciences

1. Atmospheric Science and Meteorology

Aeronomy
Atmospheric chemistry and climatology
Atmospheric physics and dynamics
Extraterrestrial atmospheres
Meteorology
Solar
Weather modification

2. Geological and Earth Sciences

Earth and planetary sciences
Geochemistry
Geodesy and gravity
Geology
Geomagnetism
Geophysics and seismology
Hydrology and water resources
Minerology and petrology
Paleomagnetism
Paleontology
Physical geography
Stratigraphy and sedimentation
Surveying

3. Ocean Sciences and Marine Sciences

Biological oceanography
Geological oceanography
Marine biology
Marine oceanography
Marine sciences
Oceanography, chemical and physical

4. Other Geosciences, Atmospheric Sciences, and Ocean Sciences

Other fields that cannot be classified using the fields listed above

Examples of Disciplines: Life Sciences Fields of R&D

D. Life Sciences

1. Agricultural Sciences

Agricultural business and management
 Agricultural chemistry
 Agricultural economics
 Agricultural engineering—report in Engineering
 Agricultural production operations
 Animal sciences
 Applied horticulture and horticultural business services
 Aquaculture
 Food science and technology
 International agriculture
 Plant sciences
 Soil sciences
 Wood science

Biomathematics, bioinformatics, and computational biology
 Biotechnology
 Botany and plant biology
 Cell, cellular biology, and anatomical sciences
 Epidemiology, ecology and population biology
 Genetics
 Microbiological sciences and immunology
 Molecular medicine
 Neurobiology and neuroscience
 Pharmacology and toxicology
 Physiology, pathology and related sciences
 Zoology, animal biology

3. Health Sciences

Advanced, graduate dentistry and oral sciences
 Allied health and medical assisting services
 Bioethics, medical ethics
 Clinical medicine research
 Clinical/medical laboratory science/research and allied professions

Communication disorders sciences and services
 Dentistry
 Dietetics and clinical nutrition services
 Health and medical administrative services
 Health, medical preparatory programs
 Gerontology, health sciences
 Kinesiology and exercise science
 Medical clinical science, graduate medical studies
 Medical illustration and informatics
 Medicine
 Mental health
 Nursing
 Optometry
 Osteopathic medicine, osteopathy
 Pharmacy, pharmaceutical sciences, and administration
 Podiatric medicine, podiatry
 Public health
 Radiological science

Registered nursing, nursing administration, nursing research and clinical nursing
 Rehabilitation and therapeutic professions
 Veterinary biomedical and clinical sciences
 Veterinary medicine
 Zoology

4. Natural Resources and Conservation

Fishing and fisheries sciences and management
 Forestry
 Natural resources conservation and research
 Natural resources economics
 Natural resources management and policy
 Renewable natural resources
 Wildlife and wildlands science and management

5. Other Life Sciences

Other life sciences that cannot be classified using the fields listed above

Examples of Disciplines: Mathematics and Statistics, Physical Sciences, and Psychology Fields of R&D

E. Mathematics and Statistics

Applied mathematics

Mathematics

Statistics

F. Physical Sciences

1. Astronomy and Astrophysics

Astronomy
 Astrophysics
 Planetary astronomy and science

2. Chemistry

(except Biochemistry—report in Biological and Biomedical Sciences)
 Analytical chemistry
 Chemical physics
 Environmental chemistry
 Forensic chemistry
 Inorganic chemistry
 Organic chemistry
 Organo-metallic chemistry
 Physical chemistry
 Polymer chemistry
 Theoretical chemistry

3. Materials Science

Materials chemistry
 Materials science

4. Physics

Acoustics
 Atomic, molecular physics
 Condensed matter and materials physics
 Elementary particle physics
 Mathematical physics
 Nuclear physics
 Optics, optical sciences
 Plasma, high-temperature physics
 Theoretical physics

5. Other Physical Sciences

Other physical sciences that cannot be classified using the fields listed above

G. Psychology

Clinical psychology

Counseling and applied psychology

Human development

Research and experimental psychology

Examples of Disciplines: Social Sciences and Other Sciences Fields of R&D

H. Social Sciences

1. Anthropology

Cultural anthropology
 Medical anthropology
 Physical and biological anthropology

2. Economics

Applied economics
 Business development
 Development economics and international development
 Econometrics and quantitative economics
 Industrial economics
 International economics
 Labor economics
 Managerial economics
 Public finance and fiscal policy

3. Political Science and Government

Comparative government
 Government
 Legal systems
 Political economy
 Political science
 Political theory

4. Sociology, Demography, and Population Studies

Comparative and historical sociology
 Complex organizations
 Cultural and social structure
 Demography and population studies
 Group interactions
 Rural sociology
 Social problems and welfare theory
 Sociology

5. Other Social Sciences

Archeology
 Area, ethnic, cultural, gender, and group studies
 Cartography
 Criminal science and corrections
 Criminology
 Geography
 Gerontology, social sciences
 International relations and national security studies
 Linguistics
 Public policy analysis
 Regional studies
 Urban studies, affairs

I. Other Sciences

Use this category for R&D that involves at least one S&E field (rows A–H) if it is impossible to report multidisciplinary or interdisciplinary R&D expenditures in specific fields.

Examples of Disciplines: Non-S&E Fields of R&D

J. Non-S&E Fields

1. Business

Management and Business Administration

Business administration
 Business management
 Business, managerial economics
 Management information systems and services
 Marketing management and research

2. Communication and Communications Technologies

Communication and media studies
 Communications technologies
 Journalism
 Radio, television, and digital communication

3. Education

Education administration and supervision
 Education research
 Teacher education, specific levels and methods
 Teaching fields

4. Humanities

English language and literature, letters
 Foreign languages and literatures
 History, including history and philosophy of science and technology
 Humanities, general
 Liberal arts and sciences
 Philosophy and religious studies
 Theology and religious vocations

5. Law

Law
 Legal studies

6. Social Work

(no specific examples)

7. Visual and Performing Arts

Drama, theatre arts and stagecraft
 Film, video, and photographic arts
 Fine and studio arts
 Music

8. Other Non-S&E Fields

Architecture
 City, urban, community and regional planning
 Family, consumer sciences and human sciences
 Foods, nutrition, and wellness studies
 Landscape architecture
 Library science
 Military technology and applied science
 Parks, sports, recreation, leisure and fitness
 Public administration and public affairs
 Other non-S&E fields that cannot be classified using the fields listed above

Also, use this category for R&D that involves multiple non-S&E fields if it is impossible to report multidisciplinary or interdisciplinary R&D expenditures in specific fields.
