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

A. Computer and Information Sciences

Artificial intelligence Computer and information technology administration and management Computer science	Computer software and media applications Computer systems analysis Computer systems networking and telecommunications	Data processing Information sciences, studies Information technology
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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 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
 Veterinary biomedical and clinical sciences
 Veterinary medicine
 Wood science

2. Biological and Biomedical Sciences

Allergies and immunology
 Biochemistry, biophysics, and molecular biology
 Biogeography
 Biology and biomedical sciences, general

Biomathematics, bioinformatics, and computational biology
 Biotechnology
 Botany and plant biology
 Cell, cellular biology, and anatomical sciences
 Epidemiology, ecology and population biology
 Food, nutrition, and wellness studies
 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
 Zoology

4. Natural Resources and Conservation

Fishing and fisheries sciences and management
 Forestry
 Natural resources conservation and research
 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

Agricultural economics
Applied economics
Business development
Development economics and international development
Econometrics and quantitative economics
Industrial economics
International economics
Labor economics

Managerial economics
Natural resource 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
History and philosophy of science and technology
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
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
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.
