

Supplemental List of R&D Fields and Example Disciplines

A. Agricultural sciences and natural resources and conservation

1. Agricultural, animal, plant, veterinary science and related fields

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. 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

B. Biological, biomedical, and health sciences

1. 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
Genetics
Microbiological sciences and immunology
Molecular medicine
Neurobiology and neuroscience
Pharmacology and toxicology
Physiology, pathology and related sciences
Zoology, animal biology

2. 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 medicine

C. 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
Information sciences, studies
Information technology

D. 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 technology, surveying

3. Ocean sciences and marine sciences

Biological oceanography

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

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
Nuclear physics
Optics, optical sciences
Plasma, high-temperature physics

5. Theoretical and mathematical physics

Data processing and data processing technology
Mathematical physics
Theoretical physics

G. Psychology

Animal behavior and ethology
Clinical psychology
Comparative psychology
Counseling psychology
Educational psychology
Experimental psychology
Human development and personality
Industrial and organization psychology
Personality psychology
Social psychology

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
Public finance

3. Political science and government

Comparative government
Legal systems
Political economy
Political science and government
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

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

I. 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 and petroleum engineering

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

4. Civil and environmental engineering

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

5. Electrical and computer engineering

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

6. Industrial and systems engineering

Industrial engineering
Manufacturing engineering
Operations research
Systems engineering

7. Mechanical engineering

Electromechanical engineering
Mechatronics, robotics, and automation engineering

8. Materials and geological engineering

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

9. Other engineering

Agricultural engineering
Engineering design
Engineering management, administration
Engineering mechanics, physics, and science
Engineering physics
Engineering science
Forest engineering
Nanotechnology
Naval architecture and marine engineering
Nuclear engineering
Ocean engineering
Power plant engineering

J. Other fields

1. Business, management, marketing, and related

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 research

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

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. Public administration and social services

Public administration
Public affairs
Human services
Social work

7. Visual and performing arts

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

8. All other fields

Architecture
City, urban, community and regional planning
Family, consumer sciences and human sciences
Foods, nutrition, and wellness studies
Landscape architecture
Library science
Parks, sports, recreation, leisure and fitness

Also, use the all other fields category for R&D that involves multiple fields if it is impossible to report multidisciplinary or interdisciplinary R&D expenditures in specific fields.