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<td>ENGINEERING - AERONAUTICAL &amp; ASTRONAUTICAL</td>
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<td>ENGINEERING - OTHER</td>
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<td>1417</td>
<td>ENGINEERING - METALLURGICAL &amp; MATERIALS</td>
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<td>ENGINEERING - BIOENGINEERING/BIOMED ENGINEERING</td>
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<td>ENVIRONMENTAL SCIENCES - OCEANOGRAPHY</td>
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<td>1434</td>
<td>ENVIRONMENTAL SCIENCES - OTHER</td>
</tr>
<tr>
<td>1441</td>
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<td>1442</td>
<td>COMPUTER SCIENCES</td>
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<td>1451</td>
<td>LIFE SCIENCES - AGRICULTURAL</td>
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<td>1452</td>
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<td>1453</td>
<td>LIFE SCIENCES - MEDICAL</td>
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<td>LIFE SCIENCES - OTHER</td>
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<td>1472</td>
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<td>1473</td>
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<td>1474</td>
<td>SOCIAL SCIENCES - OTHER</td>
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<td>1480</td>
<td>OTHER SCIENCES - NOT ELSEWHERE CLASSIFIED</td>
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<td>1510</td>
<td>EDUCATION</td>
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<td>1520</td>
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<td>HUMANITIES</td>
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<tr>
<td>1540</td>
<td>VISUAL &amp; PERFORMING ARTS</td>
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<tr>
<td>1550</td>
<td>BUSINESS &amp; MANAGEMENT</td>
</tr>
<tr>
<td>1560</td>
<td>COMMUNICATIONS, JOURNALISM, AND LIBRARY SCIENCE</td>
</tr>
<tr>
<td>1570</td>
<td>SOCIAL WORK</td>
</tr>
<tr>
<td>1580</td>
<td>OTHER NON-SCIENCE &amp; ENGINEERING FIELDS</td>
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<tr>
<td>9999</td>
<td>FIELD OF STUDY UNKNOWN</td>
</tr>
</tbody>
</table>
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

B Engineering

1411 1 Aerospace, Aeronautical, and Astronautical Engineering
- Aerodynamics
- Aerospace engineering
- Space technology

1418 2 Bioengineering and Biomedical Engineering
- Biological and biosystems engineering
- Biomaterials engineering
- Biomedical technology
- Medical engineering

1412 3 Chemical Engineering
- Biochemical engineering
- Chemical and biomolecular engineering
- Engineering chemistry
- Paper science
- Petroleum refining process
- Polymer, plastics engineering

1413 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

1414 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

1416 6 Industrial and Manufacturing Engineering
Industral engineering
Manufacturing engineering
Operations research
Systems engineering

1415 7 Mechanical Engineering
Electromechanical engineering
Mechatronics, robotics, and automation engineering

1417 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

1416 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

1431 1 Atmospheric Science and Meteorology
Aeronomy
Atmospheric chemistry and climatology
Atmospheric physics and dynamics
Extraterrestrial atmospheres
<table>
<thead>
<tr>
<th>1432</th>
<th>2</th>
<th><strong>Geological and Earth Sciences</strong></th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Earth and planetary sciences</td>
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<tr>
<td></td>
<td></td>
<td>Geochemistry</td>
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<tr>
<td></td>
<td></td>
<td>Geodesy and gravity</td>
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<tr>
<td></td>
<td></td>
<td>Geology</td>
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<tr>
<td></td>
<td></td>
<td>Geomagnetism</td>
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<tr>
<td></td>
<td></td>
<td>Geophysics and seismology</td>
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<tr>
<td></td>
<td></td>
<td>Hydrology and water resources</td>
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<tr>
<td></td>
<td></td>
<td>Minerology and petrology</td>
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<tr>
<td></td>
<td></td>
<td>Paleomagnetism</td>
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<tr>
<td></td>
<td></td>
<td>Paleontology</td>
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<tr>
<td></td>
<td></td>
<td>Physical geography</td>
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<tr>
<td></td>
<td></td>
<td>Stratigraphy and sedimentation</td>
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<td></td>
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<td>Surveying</td>
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<tr>
<th>1433</th>
<th>3</th>
<th><strong>Ocean Sciences and Marine Sciences</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Biological oceanography</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Geological oceanography</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Marine biology</td>
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<tr>
<td></td>
<td></td>
<td>Marine oceanography</td>
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<tr>
<td></td>
<td></td>
<td>Marine sciences</td>
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<tr>
<td></td>
<td></td>
<td>Oceanography, chemical and physical</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1434</th>
<th>4</th>
<th><strong>Other Geosciences, Atmospheric Sciences, and Ocean Sciences</strong></th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Other fields that cannot beclassified using the fields listed above</td>
</tr>
</tbody>
</table>

**Examples of Disciplines: Life Sciences Fields of R&D**

<table>
<thead>
<tr>
<th>1451</th>
<th>1</th>
<th><strong>Agricultural Sciences</strong></th>
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</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Agricultural business and management</td>
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<tr>
<td></td>
<td></td>
<td>Agricultural chemistry</td>
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<tr>
<td></td>
<td></td>
<td>Agricultural economics</td>
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<td></td>
<td></td>
<td>Agricultural engineering—report in Engineering</td>
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<tr>
<td></td>
<td></td>
<td>Agricultural production operations</td>
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<tr>
<td></td>
<td></td>
<td>Animal sciences</td>
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<tr>
<td></td>
<td></td>
<td>Applied horticulture and horticultural business services</td>
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<tr>
<td></td>
<td></td>
<td>Aquaculture</td>
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<tr>
<td></td>
<td></td>
<td>Fishing and fisheries sciences and management</td>
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<tr>
<td></td>
<td></td>
<td>Food science and technology</td>
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<tr>
<td></td>
<td></td>
<td>Forestry</td>
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<td></td>
<td></td>
<td>International agriculture</td>
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<tr>
<td></td>
<td></td>
<td>Plant sciences</td>
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<tr>
<td></td>
<td></td>
<td>Soil sciences</td>
</tr>
</tbody>
</table>
Wood science

1452  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
Genetics
Microbiological sciences and immunology
Molecular medicine
Neurobiology and neuroscience
Pharmacology and toxicology
Physiology, pathology and related sciences
Zoology, animal biology

1453  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

1454  4  **Natural Resources and Conservation**
Natural resources conservation and research
Natural resources economics
Natural resources management and policy
Renewable natural resources
Wildlife and wildlands science and management

1454  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

1441  E  **Mathematics and Statistics**
Applied mathematics
Mathematics
Statistics

1421  F  **Physical Sciences**
1 Astronomy and Astrophysics
Astronomy
Astrophysics
Planetary astronomy

2  Astronomy

1422  1  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

1480  3  **Materials Science**
Materials chemistry
Materials science

1423  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

1424 5 Other Physical Sciences
Other physical sciences that can not be classified using the fields listed above

1460 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

1474 1 Anthropology
Cultural anthropology
Medical anthropology
Physical and biological anthropology

1471 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

1472 3 Political Science and Government
Comparative government
Government
Legal systems
Political economy
Political science
Political theory

1473 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

**1474**  | 5  | **Other Social Sciences**  
| Archeology  
| Area, ethnic, cultural, gender, and group studies  
| Cartography  
| City, urban, community and regional planning  
| Criminal science and corrections  
| Criminology  
| Geography  
| Gerontology, social sciences  
| International relations and national security studies  
| Linguistics  
| Public policy analysis  
| Regional studies  
| Urban studies, affairs

**1480**  | 1  | **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  
| 1550 | **Business Management and Business Administration**  
| Business administration  
| Business management  
| Business, managerial economics  
| Management information systems and services  
| Marketing management and research

| 1560 | **Communication and Communications Technologies**  
| Communication and media studies  
| Communications technologies  
| Journalism  
| Radio, television, and digital communication

| 1510 | **Education**  
| Education administration and supervision  
| Education research  
| Teacher education, specific levels and methods  
| Teaching fields

| 1530 | **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

1520  5  Law
  Law
  Legal studies

1570  6  Social Work
  (no specific examples)

1540  7  Visual and Performing Arts
  Drama, theatre arts and stagecraft
  Film, video, and photographic arts
  Fine and studio arts
  Music

1580  8  Other Non-S&E Fields
  Architecture
  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 can not 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.