



NATIONAL CENTER FOR SCIENCE AND ENGINEERING STATISTICS

**Federal Facilities Research and Development (FFRD) Survey
Fiscal Year (FY) 2024**

Please submit your survey data by March 31, 2025.

The FY 2024 FFRD Survey collects information on research and experimental development (R&D) performed at federal facilities. Your data are critical to collecting high-quality information on R&D activity within federal facilities. NSF will use the collected information to produce national estimates of spending on R&D, and will make the facility level data from this survey available to the public through data tables and other resources on our website.

NSF is authorized to collect this information under Sections 1861-1876 of the National Science Foundation Act of 1950, as amended and Section 505 of the America COMPETES Reauthorization Act of 2010.

To submit your data online:

<https://nsf-ffrd.org>

The web survey is the **recommended method** for submitting the questionnaire. It includes several automated features for your convenience. However, if you are responding for multiple facilities, please use the multi-facility excel spreadsheet. If you are responding for a single facility but are unable to use the web survey, please use the single facility excel spreadsheet and email your completed survey to technical support.

Technical Support

ncses-ffrdsurvey@nsf.gov

(888) 882-0021

General Survey Questions

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Thank you for your participation.

Survey Instructions and Definitions

What's New in the FY 2024 Survey?

Specific Changes from FY 2022 survey

- Question 1 is a new question and requests total expenditures for R&D activities both within your facility by federal personnel or contractors and funding provided to others to conduct R&D outside your facility.
- Section 2: R&D Funding to Other Organizations (FY 2022 questions 6-8) was removed from the survey. The total funding provided to other organizations is now requested as part of new question 2.
- While the FFRD survey is an annual survey, FY 2023 data collection will be skipped. This year's data collection effort asks for FY 2024 data ONLY for ease and to improve the timing of the data collection. Moving forward, there are no plans to skip future fiscal years.

Instructions

This form is intended to serve as a worksheet for use offline, but can be used to submit your response if completing the web survey is not possible. This form works best in Adobe Acrobat.

- Report expenditures and personnel for your facility's 2024 fiscal year (October 1, 2023 through September 30, 2024).
- The questions in this survey are divided into several sections. Some sections may require assistance from other offices or individuals within your facility or agency or may be best completed by a different individual than yourself.
- If exact information is unknown, estimates are acceptable. *We encourage you to have each section completed by the staff member with access to the most complete data.*
- Please share relevant information about your responses in the comment boxes below each question, such as:
 - How you calculated your response.
 - Any assumptions you made coming up with your response.
 - Which offices were involved in preparing the response.
 - If applicable, an explanation for why you cannot answer a particular question.

Definitions and Questions About Key Terms

What is a Research & Development (R&D) facility?

For this survey, a **facility** is a unit in your agency that is responsible for performing R&D, generally with its own distinct budget and leadership. This may be a division, branch, center, lab, or other entity. The staff who work within the facility, and the facility itself, may be located in more than one physical location.

What is research and development (R&D)? [Source: Office of Management and Budget (OMB) Circular A11; Frascati Manual, 2015]

R&D comprises creative and systematic work undertaken in order to increase the stock of knowledge—including knowledge of people, culture, and society—and to devise new applications using available knowledge.

R&D has five major features:

- **Novel:** Advances current knowledge or creates new knowledge
- **Creative:** Focuses on original concepts and hypotheses
- **Uncertain:** Outcomes are not completely determined at the outset of a project
- **Systematic:** Projects are planned and budgeted
- **Transferable/Reproducible:** Methodology and results are transferable to or reproducible in other situations and locations

R&D also has three major types:

- **Basic research** is experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts. Basic research may include activities with broad or general applications in mind, such as the study of how plant genomes change, but should exclude research directed toward a specific application or requirement, such as the optimization of the genome of a specific crop species.
- **Applied research** is original investigation undertaken to acquire new knowledge. It is directed primarily toward a specific, practical aim or objective.
- **Experimental development** is systematic work, drawing on knowledge gained from research and practical experience, which is directed at producing new products or processes, or improving existing products or processes. Like research, experimental development will result in gaining additional knowledge.

Experimental development includes:

- Producing materials, devices, and systems or methods, including designing, constructing, and testing experimental prototypes.
- Technology demonstrations, in cases where a system or component is demonstrated at scale for the first time, and additional refinements to the design (feedback R&D) are expected following the demonstration. However, not all “technology demonstrations” are R&D.

Experimental development does not include:

- User demonstrations where the cost and benefits of a system are being validated for a specific use case. This includes low-rate initial production activities.
- Pre-production development, which is defined as non-experimental work on a product or system before it goes into full production, including activities such as tooling and development of production facilities. Activities and programs of this type should generally be reported as investments in other major equipment.

QUESTIONNAIRE SECTION 1—Total R&D Expenditures

What should I include in my answers for questions 1 and 2?

Please report your facility's FY 2024 **expenditures** for R&D, meaning the money that was spent in FY 2024 for R&D projects **both within and outside your facility**. These costs are sometimes also referred to as outlays.

Note the survey is not collecting appropriation or obligation totals, only final FY expenditures/outlays for R&D performed within and outside the facility.

Include:

- Labor costs for R&D projects
- Non-capital purchases of materials, supplies, equipment, and services to support R&D performance
- General administration costs in support of R&D activities
- Expenditures for funding provided to others to conduct R&D outside your facility

QUESTIONNAIRE SECTION 2—Expenditures for R&D Performed Within Your Facility

What should I include in my answers for questions 3–8?

Please report your facility's FY 2024 **expenditures** for R&D performed within your facility only.

QUESTIONNAIRE SECTION 3—R&D Personnel

What should I include in my answers for questions 9 and 10?

Please include all employees who work on R&D or provide direct support to R&D, such as researchers, R&D managers, technicians, support staff, and others assigned to R&D groups or projects. Personnel may include federal employees, military personnel (civilian and enlisted), contractors, consultants, or volunteers.

Include:

- All R&D personnel, whether full-time or part-time, temporary or permanent. Employees may perform scientific and technical work for an R&D project (e.g., designing experiments, building prototypes), plan and manage R&D projects, or provide *direct* support for administration of the financial and personnel aspects of R&D.

Do not include:

- Employees who provide general support services to the facility, such as services provided by personnel in central finance, computing, printing, maintenance, security, or similar departments in your agency that provide services to both R&D and non-R&D projects.

Contact Information

Please provide the contact information for the person responsible for the survey and an alternate contact.

Primary Contact Information

First name, last name:

Job title:

Email address:

Phone number: ext.

Alternate Contact Information

First name, last name:

Job title:

Email address:

Phone number: ext.

Other Contact Information

List individuals who should be copied on all emails about the survey or can create a login account.

- Check "All email" if this person should be copied on all emails.
- Check "Can log in" if this person can create a login account. Leave this check box blank if you are **not** using the Web survey.

First name, last name:

Job title:

Email address:

Phone number: ext.

All email Can log in

First name, last name:

Job title:

Email address:

Phone number: ext.

All email Can log in

First name, last name:

Job title:

Email address:

Phone number: ext.

All email Can log in

Facility Information

What is the name and address of the facility being reported?

Facility Name:

Address:

City, State, ZIP:

NOTE: If you are reporting for more than one location on this survey, please list all additional states where the R&D is also being conducted in the space below.

State(s):

Expenditure Acknowledgment

The focus of this survey is to collect expenditures or outlays and not obligations or appropriations. Please confirm below that you are reporting expenditures.

Are you able to report FY 2024 expenditures or outlays for questions 1-8?

Yes No

└─▶ Thank you for letting us know. We will consider the data you report in questions 1-8 as estimates for your facility's expenditures/outlays.

Section 1: Total R&D Expenditures

1. What were your facility's total FY 2024 expenditures for R&D?

Include:

- All of your facility's R&D expenditures, regardless of whether the funding was from direct appropriations, interagency agreements, reimbursable funds, or non-federal sources. Expenditures are often referred to as outlays.
- Expenditures for R&D performed by your facility's employees.
- Expenditures for R&D performed within **and** outside your facility by contractors or other entities.

Remember:

- For this survey, we are interested in expenditures, not obligations or appropriations.

R&D Expenditures (Dollars)

a. Total R&D expenditures

\$.00

Please provide any comments or additional information below. *(Some examples include how you calculated your response, any assumptions you made coming up with your response, or which offices were involved in preparing the response.)*

If applicable, please explain why you cannot answer this question.

2. What were your facility's total FY 2024 expenditures for R&D by the following types of costs?

R&D Expenditures (Dollars)

a. R&D expenditures for onsite contractors

Include expenditures for contract personnel hired to work on R&D within your facility in coordination with federal or military personnel. Report contract work conducted outside the facility in row d.

\$.00

b. All other costs for R&D performed within your facility

Include expenditures for R&D projects performed within your facility including labor costs for federal employees, military personnel, trainees, or fellows; non-capital purchases of materials, supplies, equipment, and services to support R&D performance; and general administration costs in support of R&D activities.

\$.00

c. Total R&D expenditures within your facility (rows a+b)

\$.00

d. R&D expenditures for work performed outside your facility

Include funds paid by your facility for R&D activities performed by others **outside** the facility (i.e. funding such as contracts, grants or inter-agency agreements provided to external recipients)

\$.00

e. Total R&D expenditures (should match total entered in question 1)

\$.00

Please provide any comments or additional information below. (Some examples include how you calculated your response, any assumptions you made coming up with your response, or which offices were involved in preparing the response.)

If applicable, please explain why you cannot answer this question.

Section 2: Expenditures for R&D Performed Within Your Facility

3. Which of the following is included in the total R&D expenditures within your facility (question 2, row c)? Select all that apply.

- Salaries and fringe benefits of federal R&D personnel, trainees and fellows
- Salaries and fringe benefits of onsite contractors working on R&D
 - Check here if your facility does not have onsite contractors*
- Salaries and fringe benefits of military R&D personnel
 - Check here if your facility does not have military personnel*
- Indirect costs associated with R&D activities
- Costs for equipment, materials, and supplies necessary for the R&D activities
- Other, please specify:

Please provide any comments or additional information below. (Some examples include how you calculated your response, any assumptions you made coming up with your response, or which offices were involved in preparing the response.)

If applicable, please explain why you cannot answer this question.

4. What were your facility's total FY 2024 expenditures for R&D (question 2, row c) by type of work?

- R&D type examples can be found below.
- Report expenditures funded by any agency of the United States government under the **Federal** column. Include federal funds passed through from another organization.
- Report expenditures funded by state or local governments, businesses, higher education, nonprofit organizations, or foreign sources under the **Nonfederal** column.
- If possible, the type of R&D should be coded at the individual project level by the researcher or project director. Please communicate with other colleagues to gather necessary information.

R&D expenditures (Dollars)

Type of R&D	(1) Federal	(2) Nonfederal	(3) Total
a. Basic research Experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts. Basic research may include activities with broad or general applications in mind, such as the study of how plant genomes change, but should exclude research directed toward a specific application or requirement, such as the optimization of the genome of a specific crop species.	\$ <input type="text"/> .00	\$ <input type="text"/> .00	\$ <input type="text"/> .00
b. Applied research Original investigation undertaken to acquire new knowledge. It is directed primarily toward a specific, practical aim or objective.	\$ <input type="text"/> .00	\$ <input type="text"/> .00	\$ <input type="text"/> .00
c. Experimental development Systematic work, drawing on knowledge gained from research and practical experience, which is directed at producing new products or processes, or improving existing products or processes. Like research, experimental development will result in gaining additional knowledge.	\$ <input type="text"/> .00	\$ <input type="text"/> .00	\$ <input type="text"/> .00
d. Total	\$ <input type="text"/> .00	\$ <input type="text"/> .00	\$ <input type="text"/> .00

Please provide any comments or additional information below. (Some examples include how you calculated your response, any assumptions you made coming up with your response, or which offices were involved in preparing the response.)

If applicable, please explain why you cannot answer this question.

R&D Type Examples

Basic research	Applied research	Experimental development
A researcher is studying the properties of human blood to determine what affects coagulation.	A researcher is conducting research on how a new chicken pox vaccine affects blood coagulation.	A researcher is conducting clinical trials to test a newly developed chicken pox vaccine for young children.
A researcher is studying the properties of molecules under various heat and cold conditions.	A researcher is investigating the properties of particular substances under various heat and cold conditions with the objective of finding longer-lasting components for highway pavement.	A researcher is working with state transportation officials to conduct tests of a newly developed highway pavement under various types of heat and cold conditions.
A researcher is investigating the effect of different types of manipulatives on the way first graders learn mathematical strategy by changing manipulatives and then measuring what students have learned through standardized instruments.	A researcher is studying the implementation of a specific math curriculum to determine what teachers needed to know to implement the curriculum successfully.	A researcher is developing and testing software and support tools, based on fieldwork, to improve mathematics cognition for student special education.

5. Of the FY 2024 R&D expenditures you reported in Question 2, row c, how much came from the following sources?
- Report the **original source** of funds, when possible. For example, if you received federal funds from another organization, report that amount under “U.S. federal government.”

Source of funds	R&D expenditures (Dollars)
a. U.S. federal government Any agency of the United States government. Include federal funds passed through from another organization.	<input style="width: 100%; border: 1px solid black;" type="text" value="\$"/> .00
b. State and local government State, county, municipality, or other local government entity in the United States. Do not include state and local universities and colleges or agricultural experiment stations; report these in row e.	<input style="width: 100%; border: 1px solid black;" type="text" value="\$"/> .00
c. Businesses Domestic or foreign for-profit businesses or industrial firms. Report funds from a company’s nonprofit foundation in row d.	<input style="width: 100%; border: 1px solid black;" type="text" value="\$"/> .00
d. Nonprofit organizations Domestic or foreign nonprofit foundations and organizations, except universities and colleges. Funds from universities and colleges should be reported in row e.	<input style="width: 100%; border: 1px solid black;" type="text" value="\$"/> .00
e. All other organizations Other sources not reported above, such as funds from foreign governments, and foreign or U.S. universities.	<input style="width: 100%; border: 1px solid black;" type="text" value="\$"/> .00
f. Total (should match total from Question 2, row c)	<input style="width: 100%; border: 1px solid black; background-color: #cccccc;" type="text" value="\$"/> .00

Please provide any comments or additional information below. (Some examples include how you calculated your response, any assumptions you made coming up with your response, or which offices were involved in preparing the response.)

If applicable, please explain why you cannot answer this question.

If you reported any federally funded expenditures (Question 5, row a), please respond to Question 6. Otherwise please go to Question 7 (page 14).

6. Of the federally funded FY 2024 R&D expenditures you reported in Question 5, which agencies funded this R&D and how much of the reported amount was from each agency?
- Report the agency that was the original source of funds, when possible.
 - Use rows l–n to list up to 3 other agencies that funded the largest R&D expenditures. Use row o to report any remaining amount.
 - A list of federal departments, agencies, and subagencies is included as a link on the web survey question.

Funding agency	R&D expenditures (Dollars)
a. Department of Agriculture	\$ <input type="text"/> .00
b. Department of Commerce	\$ <input type="text"/> .00
c. Department of Defense	\$ <input type="text"/> .00
d. Department of Energy	\$ <input type="text"/> .00
e. Department of Health and Human Services (including the National Institutes of Health)	\$ <input type="text"/> .00
f. Department of Homeland Security	\$ <input type="text"/> .00
g. Department of the Interior	\$ <input type="text"/> .00
h. Department of Transportation	\$ <input type="text"/> .00
i. Department of Veterans Affairs	\$ <input type="text"/> .00
j. Environmental Protection Agency	\$ <input type="text"/> .00
k. National Aeronautics and Space Administration	\$ <input type="text"/> .00
l. <input type="text"/>	\$ <input type="text"/> .00
m. <input type="text"/>	\$ <input type="text"/> .00
n. <input type="text"/>	\$ <input type="text"/> .00
o. Other federal agencies	\$ <input type="text"/> .00
p. Total (should match total from Question 5, row a)	\$ <input type="text"/> .00

Please provide any comments or additional information below. (Some examples include how you calculated your response, any assumptions you made coming up with your response, or which offices were involved in preparing the response.)

If applicable, please explain why you cannot answer this question.

7. Were any of your facility's FY 2024 R&D projects funded through public-private partnerships?

- Public-private partnerships are those in which the government and private companies share R&D costs.

Yes

No

8. Of the total FY 2024 R&D expenditures within your facility you reported in Question 2, row c, what were your expenditures in each field below?

- Examples of the fields and disciplines can be found in the supplemental list at the end of the survey.

R&D fields	R&D expenditures (Dollars)
a. Agricultural sciences and natural resources and conservation: e.g., agricultural sciences; animal sciences; applied horticulture; fishing and fisheries science; food science and technology; forestry; natural resources and conservation; plant sciences; soil sciences; or veterinary sciences	\$ <input type="text"/> .00
b. Biological, biomedical, and health sciences: e.g., biochemistry, biophysics, molecular biology; biotechnology; botany; cell biology; epidemiology; genetics; medicine; neuroscience; public health; or zoology	\$ <input type="text"/> .00
c. Computer and information sciences	\$ <input type="text"/> .00
d. Geosciences, atmospheric sciences, and ocean sciences: e.g., atmospheric sciences and meteorology; geological and earth sciences; or ocean and marine sciences	\$ <input type="text"/> .00
e. Mathematics and statistics	\$ <input type="text"/> .00
f. Physical sciences: e.g., astronomy and astrophysics; chemistry; materials science; or physics	\$ <input type="text"/> .00
g. Psychology	\$ <input type="text"/> .00
h. Social sciences: e.g., anthropology; archaeology; criminology; economics; geography; linguistics; political science and government; public policy analysis; or sociology, demography, and population studies	\$ <input type="text"/> .00
i. Engineering: e.g., aerospace, aeronautical, and astronautical engineering; bioengineering and biomedical engineering; chemical and petroleum engineering; civil and environmental engineering; electrical and computer engineering; industrial and systems engineering; mechanical engineering; or materials and geological engineering	\$ <input type="text"/> .00
j. Other fields: e.g., business, management, marketing and related; city, urban, community, and regional planning; communication and communications technologies; education research; humanities; law; public administration and social work; or visual and performing arts	\$ <input type="text"/> .00
k. Total (should match total from Question 2, row c)	\$ <input type="text"/> .00

Please provide any comments or additional information below. *(Some examples include how you calculated your response, any assumptions you made coming up with your response, or which offices were involved in preparing the response.)*

If applicable, please explain why you cannot answer this question.

Section 3: R&D Personnel

Questions in this section ask about personnel who work on R&D. You may have to reach out to your HR department to help get answers.

9. How many of your facility's total R&D personnel (headcount) worked in the job categories listed below in FY 2024?

- Count each person only once. A description of each R&D function can be found below.
- **Do not include:**
 - Personnel who provide general support services to both R&D and non-R&D projects.
 - Personnel working on R&D activities outside your facility.

Job category	Researchers	R&D technicians	R&D support staff	Total
a. Federal employees and military personnel Do not include contractors, consultants, or volunteers.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
b. Contractors Personnel hired under a contract to work on R&D within your facility.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
c. All other R&D personnel For example, trainees, volunteers, or fellows who are not federal employees or contractors.	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
d. Total	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Check here if you know the number of personnel but are unable to separate them by job category.
 If checked, please write in the total personnel in the Total column, Total row (d) box above and leave the other boxes blank.

Please provide any comments or additional information below. (Some examples include how you calculated your response, any assumptions you made coming up with your response, or which offices were involved in preparing the response.)

If applicable, please explain why you cannot answer this question.

Description of R&D Functions

Researchers	R&D technicians	R&D support staff
Professionals engaged in the conception or creation of new knowledge, products, processes, methods, and systems and also in the management of the projects concerned. Include R&D managers in this category.	Persons whose main tasks require technical knowledge and experience in one or more fields of science or engineering, but who contribute to R&D by performing technical tasks such as computer programming, data analysis, ensuring accurate testing, operating lab equipment, and preparing and processing samples under the supervision of researchers.	Not directly involved with the conduct of a research project, but support the researchers and technicians. These employees might include clerical staff, financial and personnel administrators, report writers, patent agents, safety trainers, equipment specialists, and other related employees.

Researcher versus R&D technician

Researchers contribute more to the creative aspects of R&D whereas technicians provide technical support. For example, a researcher would design an experiment, and a technician would run the experiment and assist in analyzing results.

10. How many federal full-time equivalents (FTEs) worked in the functions listed below in FY 2024?

- A description of each R&D function can be found above.
- An individual cannot be more than 1.0 FTE. FTE R&D personnel are calculated as the total working effort spent on R&D during a specific period divided by the total effort representing a full-time schedule within the same period.

Include:

- Federal employees and military personnel only (all personnel counted in Question 9, row a).

Example:

The following examples of FTE calculations assume a 40-hour work week and 12-month year (52 weeks). However, you should use the hours per week and weeks per year that typically represent a full-time employee at your facility.

- 2 R&D support staff who each work on R&D full-time for 32 weeks: $2 * (32/52) = 1.2$ FTE
- 1 researcher who works on R&D 50% of the time for 52 weeks: $(50% * 52) / 52 = 0.5$ FTE

R&D function	FTEs (round to 1 decimal place)
a. Researchers	<input type="text"/>
b. R&D technicians	<input type="text"/>
c. R&D support staff	<input type="text"/>
d. Total	<input type="text"/>

Check here if you know the number of FTEs but are unable to separate them by R&D function.

If checked, please write in the total FTEs in the Total box above and leave the other boxes blank.

Please provide any comments or additional information below. (Some examples include how you calculated your response, any assumptions you made coming up with your response, or which offices were involved in preparing the response.)

If applicable, please explain why you cannot answer this question.

Thank you for your participation!

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.