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NATIONAL SCIENCE FOUNDATION
ALEXANDRIA, VA 22314

HIGHER EDUCATION RESEARCH AND DEVELOPMENT SURVEY FY 2019

Please submit your survey data by January 31, 2020.

Your participation in this survey provides important information on the national level of R&D activity. The National Science Foundation (NSF) is authorized to collect this information under the National Science Foundation Act of 1950, as amended. Your institution's response is entirely voluntary.

Response to this survey is estimated to require 54 hours. If you wish to comment on the time required to complete this survey, please contact Suzanne H. Plimpton of NSF at (703) 292-7556, or e-mail splimpto@nsf.gov.

The Web address for submitting your data:

http://www.herdsurvey.org/

Or mail this form to:

ICF
530 Gaither Road, Suite 500
Rockville, MD 20850

Questions?

Technical support:

Support@HERDsurvey.org
(866) 936-9376

General survey questions:

Michael Gibbons
National Center for Science and Engineering Statistics
National Science Foundation
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(703) 292-4590

Thank you for your participation.

What's New for FY 2019

Changes to Questions

- **Question 4** was reformatted to include a question asking whether your institution had a medical school in FY 2019. This replaces a single checkbox previously included in the instructions. This change was made to eliminate ambiguity in some responses. There were no other changes to instructions or content of this question.
- **Question 5** was reformatted to include a question asking whether your institution conducted clinical trials in FY 2019. This replaces a single checkbox previously included in the instructions. This change was made to eliminate ambiguity in some responses. There were no other changes to instructions or content of this question.
- **Question 13** was revised to clarify that the values for capitalization thresholds should be reported as dollars in thousands (e.g., 5 = $5,000), like all expenditure values on the survey.

Survey Definitions and Instructions

This survey collects data on research and development (R&D) activities at higher education institutions. Please report R&D activities and expenditures for your institution's **2019** fiscal year.

Fiscal Year (FY)

Please report data for your institution's 2019 fiscal year.

Research and Development (R&D)

R&D activity is creative and systematic work undertaken in order to increase the stock of knowledge — including knowledge of humankind, culture, and society — and to devise new applications of available knowledge. R&D covers three activities defined below — basic research, applied research, and experimental development.

- **Basic research** is experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts, without any particular application or use in view.
- **Applied research** is original investigation undertaken in order to acquire new knowledge. It is directed primarily towards a specific, practical aim or objective.
- **Experimental development** is systematic work, drawing on knowledge gained from research and practical experience and producing additional knowledge, which is directed to producing new products or processes or to improving existing products or processes.

R&D Expenditures

Include all expenditures for R&D activities from your institution's current operating funds that are separately accounted for. For purposes of this survey, R&D includes expenditures for organized research as defined by 2 CFR Part 200 Appendix III and expenditures from funds designated for research.

R&D ***includes:***	R&D does ***not*** include:
• Sponsored research (federal and nonfederal) • University research (institutional funds that are separately budgeted for individual R&D projects) • Startup, bridge, or seed funding provided to researchers within your institution • Other departmental funds designated for research • Recovered and unrecovered indirect costs (see definitions in Question 1) • Equipment purchased from R&D project accounts • R&D funds passed through to a subrecipient organization, educational or other • Clinical trials, Phases I, II, or III (see definition in Question 5) • Research training grants funding work on organized research projects • Tuition remission provided to students working on research	• Public service grants or outreach programs • Curriculum development (unless included as part of an overall research project) • R&D conducted by university faculty or staff at outside institutions that is not accounted for in your financial records • Estimates of the proportion of time budgeted for instruction that is spent on research • Capital projects (i.e., construction or renovation of research facilities) • Non-research training grants • Unrecovered indirect costs that exceed your institution's federally negotiated Facilities and Administrative (F&A) rate

Reporting Units	
Please ***include*** these components of your institution:	Please do ***not*** include:

• All units of your institution included in or with your financial statements, such as:
  • Agricultural experiment stations
  • Branch campuses
  • Medical schools
  • Hospitals or clinics
  • Research centers and facilities
  • A university 501(c)3 foundation
	• Federally Funded R&D Centers (FFRDCs). This information is collected separately. See the list of FFRDCs: http://www.nsf.gov/statistics/ffrdc/.
	• Other organizations or institutions, such as teaching hospitals or research institutes, with which your institution has an affiliation or relationship, but which are ***not*** components of your institution.
	• Other campuses headed by their own president, chancellor, or equivalent within your university system. Each campus is asked to respond separately.

Question 1. **How much of your total expenditures for research and development (R&D) came from the following sources in FY 2019? (See definition of R&D on the previous page.)**

- In rows a, b, c, d, and f: Include both **direct** and **recovered indirect costs** (reimbursement of F&A costs from external sponsors).
- Report the **original source** of funds, when possible.
- Include **all** fields of R&D (e.g., sciences, engineering, humanities, education, law, arts). See full listing in Question 9.

Source of funds	R&D expenditures (Dollars in thousands) *(for example, report $25,342 as $25)*
a. U.S. federal government Any agency of the United States government. Include federal funds passed through from another institution. Funds from FFRDCs should be treated as direct federal funding.	$ 39880
b. State and local government Any state, county, municipality, or other local government entity in the United States, including state health agencies. Include state funds that support R&D at agricultural and other experiment stations. *Public institutions* should report state appropriations restricted for R&D activities here rather than in row e, Institutional funds.	$ 23288
c. Business Domestic or foreign for-profit organizations. Report funds from a company's nonprofit foundation in row d.	$ 13185
d. Nonprofit organizations Domestic or foreign nonprofit foundations and organizations, except universities and colleges. Report funds from your institution's 501(c)3 foundation in row e1. Funds from other universities and colleges should be reported in row f.	$ 698
e. Institutional funds	
1. Institutionally financed research All R&D funded by your institution from accounts that are only used for research. Exclude institution research administration and support (e.g., office of sponsored programs).	$ 98112 (Confidential[1])
2. Cost sharing Include committed cost sharing other than unrecovered indirect costs.	$ 1914 (Confidential[1])
3. Unrecovered indirect costs Calculate this amount as follows for your externally funded R&D only (preferably on a project-specific basis) using the appropriate cost rate—on-campus, off-campus, etc. • First, multiply the negotiated rate by the corresponding base. • Second, subtract recovered indirect costs.	$ 7101 (Confidential[1])
4. Total institutional funds[2]	$ 107127
f. All other sources Other sources not reported above, such as funds from foreign governments, foreign or U.S. universities, and gifts designated by the donors for research.	$ 98
g. Total[2]	$ 184276

[1] Information from confidential items is not published or released for individual institutions; only aggregate totals will appear in publications. In accordance with the National Science Foundation Act of 1950, as amended, and other applicable federal laws, your responses will not be disclosed in identifiable form to anyone other than agency employees or authorized persons. Per the Federal Cybersecurity Enhancement Act of 2015, your data are protected from cybersecurity risks through screening of the federal information systems that transmit your data.

[2] Totals for rows e4 and g are automatically generated on the Web survey.

Question 1.1. Did you include the following types of funding in your responses to Question 1, row e1?

	Included
a. Competitively awarded internal grants for research Expenditures for organized research projects, involving a proposal or statement of work with expected research outcomes.	☑
b. Startup packages/bridge funding/seed funding Expenditures from funds provided to faculty members to begin or continue their research while seeking external sponsors.	☑
c. Other departmental funds designated for research Expenditures for research from other departmental or central accounts which do not match the descriptions provided in rows a or b.	☑
d. Tuition assistance for student research personnel University tuition assistance, waivers, or remission provided to students working on organized research. Please check “Included” even if these funds are reported as part of the expenditures included under rows a, b, or c.	☑

Question 2. **How much of the total R&D expenditures reported in Question 1, row g, came from the following foreign sources?**

If you cannot break out expenditures for these categories, check here and enter total expenditures from foreign sources on row e. ☐

Source of funds	R&D expenditures (Dollars in thousands)
a. Foreign government — All levels of foreign government, including national, regional, municipality, or other local government.	$ 0
b. Business — Foreign for-profit organizations. Projects sponsored by a U.S. location of a foreign company are **not** considered foreign. Report funds from a company's nonprofit foundation in row c.	$ 98
c. Nonprofit organizations — Foreign nonprofit foundations and organizations, except higher education institutions. Funds from foreign universities should be reported in row d.	$ 0
d. Higher education — Foreign colleges and universities and units owned, operated, and controlled by such institutions.	$ 0
e. All other sources — Include international governmental organizations located in the U.S., such as the United Nations, the World Bank, and the International Monetary Fund and all other entities sending funds to the U.S. from a location outside the U.S. and its territories.	$ 0
f. Total[1]	$ 98

[1] The column total is automatically generated on the Web survey.

Question 3. **Of the total R&D expenditures that were externally funded (all sources other than the institutional funds reported in Question 1, row e4), how much was received under each of the following types of agreements?**

	R&D expenditures (Dollars in thousands)
a. Contracts (including direct or prime contracts and subcontracts) — Contracts are legal commitments in which a good or service is provided by your institution that benefits the sponsor. The sponsor specifies the deliverables and gains the rights to results.	$ 2563
b. Grants, reimbursements, and all other agreements — Include all other agreements in which payments are received but no good or service other than periodic reporting is required in exchange.	$ 74586
c. Total[1] — (Total should match Question 1, row g minus Question 1, row e4)	$ 77149

[1] The column total is automatically generated on the Web survey.

Question 4.

A. Did your institution have a medical school (that is, a school that awards the MD or DO degree) in FY 2019?

- Yes ☐ → Go to Question 4B.
- No ☑ → Go to Question 5.

B. Of the total R&D expenditures reported in Question 1, row g, how much was expended for R&D projects in your medical school?

Include projects that are assigned to the medical school or to research centers that are organizationally part of the medical school.

	R&D expenditures (Dollars in thousands)
Total R&D expenditures in the university's medical school	$ 0

Question 5.

A. Did your institution conduct any clinical trials in FY 2019?

- Yes ☐ → Go to Question 5B.
- No ☑ → Go to Question 6.

Clinical trials are research studies designed to answer specific questions about the effects of drugs, vaccines, medical devices, tests, treatments, and other therapies for patients. Clinical trials are used to determine safety and effectiveness.

For reference, the National Institutes of Health (NIH) categorizes human clinical trials into the following four phases.

Please **include:**

- Phase I uses a small group of human patients (20–80) to evaluate safety and identify side effects.
- Phase II uses a larger group (100–300) to test effectiveness and further evaluate safety.
- Phase III uses a large group (1,000–3,000) to confirm effectiveness, monitor side effects, compare to commonly used treatments, and collect safety information.

Please **exclude:**

- Phase IV is a post-market study that collects more information on risks, benefits, and optimal use.

B. Of the total R&D expenditures reported in Question 1, row g, how much was expended for Phase I, Phase II, and Phase III clinical trials with human patients?

	R&D expenditures (Dollars in thousands)		
	(1) Federal	(2) Nonfederal	(3) Total[1]
Human clinical trials	$ 0	$ 0	$ 0
Trials with human patients			

[1] The row total is automatically generated on the Web survey.

Question 6. **What amounts of your FY 2019 R&D expenditures were for basic research, applied research, and experimental development?**

If possible, these categories defining the type of R&D should be coded at the individual project level by the principal investigator. Estimates are acceptable if necessary.

See the table below this question for examples.

	R&D expenditures (Dollars in thousands)		
	(1) Federal	(2) Nonfederal	(3) Total[1]
a. Basic research Experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts, without any particular application or use in view.	$ 19941	$ 72198	$ 92139
b. Applied research Original investigation undertaken in order to acquire new knowledge. It is directed primarily towards a specific, practical aim or objective.	$ 11964	$ 43319	$ 55283
c. Experimental development Systematic work, drawing on knowledge gained from research and practical experience and producing additional knowledge, which is directed to producing new products or processes or to improving existing products or processes.	$ 7975	$ 28879	$ 36854
d. Total[1] Column 1 total should match Question 1, row a. Column 3 total should match Question 1, row g.	$ 39880	$ 144396	$ 184276

[1] Row and column totals are automatically generated on the Web survey.

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.

Question 7. **How much of your R&D expenditures reported in Question 1 did your institution receive as a subrecipient?**

Please report the original source of funds in columns (1) and (2) and the pass-through source in rows a–d.

Funds received directly from an FFRDC should be treated as direct federal funding and not included on this question.

The **subrecipient** for an award carries out the work but receives the funds from a pass-through entity rather than directly from the original funding source. Subrecipients tend to be the co-authors of publications, writers of technical reports discussing findings, inventors, etc. Do **not** include contractor or vendor relationships. A contractor or vendor receives payment for goods and services provided. See 2 CFR Part 200 Subpart D Section 330.

Examples:

- A university receives federal funds from another university as a subaward (Row a, column 1).
- A university receives federal funds from a company as a subaward (Row b, column 1).

Entity passing funds to your institution	Originating source of R&D expenditures (Dollars in thousands) (1) Federal	(2) Nonfederal	(3) Total[1]
a. U.S. higher education institutions Colleges and universities and units owned, operated, and controlled by such institutions	$ 5616	$ 0	$ 5616
b. Businesses For-profit organizations	$ 2728	$ 28	$ 2756
c. Nonprofit organizations Nonprofit foundations and organizations	$ 306	$ 2	$ 308
d. Other State and local governments, foreign institutions including foreign universities/colleges, and others	$ 3860	$ 0	$ 3860
e. Total[1]	$ 12510	$ 30	$ 12540

[1] Row and column totals are automatically generated on the Web survey.

Question 8. **How much of the R&D expenditures reported in Question 1 did your institution pass through to subrecipients?**

Please report the original source of funds in columns (1) and (2) and the entity receiving the funds in rows a–d.

Do **not** include contractor or vendor relationships. A contractor or vendor receives payment for goods and services provided. See 2 CFR Part 200 Subpart D Section 330.

Examples:

- Your institution passed through federal funds to another university (Row a, column 1).
- Your institution passed through funds from a company to another university (Row a, column 2).

Entity receiving funds from your institution	Originating source of R&D expenditures (Dollars in thousands) (1) Federal	(2) Nonfederal	(3) Total[1]
a. U.S. higher education institutions Colleges and universities and units owned, operated, and controlled by such institutions	$ 4849	$ 154	$ 5003
b. Businesses For-profit organizations	$ 751	$ 109	$ 860
c. Nonprofit organizations Nonprofit foundations and organizations	$ 64	$ 0	$ 64
d. Other State and local governments, foreign institutions including foreign universities/colleges, and others	$ 18	$ 14	$ 32
e. Total[1]	$ 5682	$ 277	$ 5959

[1] Row and column totals are automatically generated on the Web survey.

Question 9A–B. **What were your FY 2019 R&D expenditures in the computer and information sciences and engineering funded by the federal agency sources below? (R&D expenditures from nonfederal sources will be reported in Question 11.)**

- Question 9 total (page 18, row K, column h) should match Question 1, row a.
- A list of federal departments, agencies and subagencies is included as a link on the web survey question.
- If an individual project involves more than one of the 40 fields of R&D, please prorate expenditures when possible and report the amount for each field involved.
- For subrecipient funding, report the agency that sponsored the original award.
- Funding from FFRDCs should be reported under the primary sponsoring agency for that center.

R&D expenditures from federal sources[1]
(Dollars in thousands)

R&D Fields (Examples listed below)	(a) USDA	(b) DoD	(c) Energy	(d) HHS, includes NIH	(e) NASA	(f) NSF	(g) Other	(h) Total[2]
A. Computer and Information Sciences	$ 11	$ 4	$ 0	$ 0	$ 0	$ 532	$ 0	$ 547
B. Engineering								
1. Aerospace, Aeronautical, and Astronautical Engineering	$ 0	$ 960	$ 211	$ 163	$ 213	$ 2734	$ 363	$ 4644
2. Bioengineering and Biomedical Engineering	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
3. Chemical Engineering	$ 0	$ 0	$ 170	$ 103	$ 0	$ 423	$ 0	$ 696
4. Civil Engineering	$ 19	$ 58	$ 0	$ 0	$ 0	$ 225	$ 2446	$ 2748
5. Electrical, Electronic, and Communications Engineering	$ 0	$ 547	$ 0	$ 2	$ 2	$ 79	$ 89	$ 719
6. Industrial and Manufacturing Engineering	$ 0	$ 0	$ 0	$ 0	$ 0	$ 211	$ 136	$ 347
7. Mechanical Engineering	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
8. Metallurgical and Materials Engineering	$ 0	$ 0	$ 0	$ 0	$ 11	$ 159	$ 0	$ 170
9. Other Engineering	$ 2155	$ 0	$ 226	$ 0	$ 0	$ 233	$ 24	$ 2638
10. **Total[2]**	$ 2174	$ 1565	$ 607	$ 268	$ 226	$ 4064	$ 3058	$ 11962

[1] **Key:** USDA, Department of Agriculture; DoD, Department of Defense; Energy, Department of Energy; HHS, Department of Health and Human Services; NASA, National Aeronautics and Space Administration; NIH, National Institutes of Health; NSF, National Science Foundation. "Other" includes all other federal agencies.

[2] Row and column totals are automatically generated on the Web survey.

Question 9 continues on next page.

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

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

Question 9 continues on next page.

Question 9C. **What were your FY 2019 R&D expenditures in the geosciences, atmospheric sciences, and ocean sciences funded by the federal agency sources below? (R&D expenditures from nonfederal sources will be reported in Question 11.)**

R&D expenditures from federal sources[1]
(Dollars in thousands)

R&D Fields (Examples listed below)	(a) USDA	(b) DoD	(c) Energy	(d) HHS, includes NIH	(e) NASA	(f) NSF	(g) Other	(h) Total[2]
C. Geosciences, Atmospheric Sciences, and Ocean Sciences								
1. Atmospheric Science and Meteorology	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
2. Geological and Earth Sciences	$ 35	$ 0	$ 436	$ 0	$ 0	$ 83	$ 0	$ 554
3. Ocean Sciences and Marine Sciences	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
4. Other Geosciences, Atmospheric Sciences, and Ocean Sciences	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
5. **Total[2]**	$ 35	$ 0	$ 436	$ 0	$ 0	$ 83	$ 0	$ 554

[1] **Key:** USDA, Department of Agriculture; DoD, Department of Defense; Energy, Department of Energy; HHS, Department of Health and Human Services; NASA, National Aeronautics and Space Administration; NIH, National Institutes of Health; NSF, National Science Foundation. "Other" includes all other federal agencies.

[2] Row and column totals are automatically generated on the Web survey.

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

Question 9 continues on next page.

Question 9D. **What were your FY 2019 R&D expenditures in the life sciences funded by the federal agency sources below? (R&D expenditures from nonfederal sources will be reported in Question 11.)**

R&D expenditures from federal sources[1]
(Dollars in thousands)

R&D Fields (Examples listed below)	(a) USDA	(b) DoD	(c) Energy	(d) HHS, includes NIH	(e) NASA	(f) NSF	(g) Other	(h) Total[2]
D. Life Sciences								
1. Agricultural Sciences	$ 4216	$ 146	$ 83	$ 266	$ 0	$ 165	$ 185	$ 5061
2. Biological and Biomedical Sciences	$ 756	$ 294	$ 86	$ 4311	$ 19	$ 1735	$ 479	$ 7680
3. Health Sciences	$ 332	$ 0	$ 0	$ 771	$ 0	$ 38	$ 107	$ 1248
4. Natural Resources and Conservation	$ 1183	$ 74	$ 0	$ 0	$ 0	$ 213	$ 1921	$ 3391
5. Other Life Sciences	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
6. **Total[2]**	$ 6487	$ 514	$ 169	$ 5348	$ 19	$ 2151	$ 2692	$ 17380

[1] **Key:** USDA, Department of Agriculture; DoD, Department of Defense; Energy, Department of Energy; HHS, Department of Health and Human Services; NASA, National Aeronautics and Space Administration; NIH, National Institutes of Health; NSF, National Science Foundation. "Other" includes all other federal agencies.

[2] Row and column totals are automatically generated on the Web survey.

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

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

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

Question 9 continues on next page.

Question 9E–G. **What were your FY 2019 R&D expenditures in mathematics and statistics, the physical sciences, and psychology funded by the federal agency sources below? (R&D expenditures from nonfederal sources will be reported in Question 11.)**

R&D expenditures from federal sources[1]
(Dollars in thousands)

R&D Fields (Examples listed below)	(a) USDA	(b) DoD	(c) Energy	(d) HHS, includes NIH	(e) NASA	(f) NSF	(g) Other	(h) Total[2]
E. Mathematics and Statistics	$ 0	$ 55	$ 0	$ 0	$ 0	$ 620	$ 0	$ 675
F. Physical Sciences								
1. Astronomy and Astrophysics	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
2. Chemistry	$ 0	$ 808	$ 0	$ 534	$ 90	$ 462	$ 77	$ 1971
3. Materials Science	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
4. Physics	$ 0	$ 116	$ 821	$ 0	$ 87	$ 140	$ 0	$ 1164
5. Other Physical Sciences	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
6. **Total[2]**	$ 0	$ 924	$ 821	$ 534	$ 177	$ 602	$ 77	$ 3135
G. Psychology	$ 22	$ 0	$ 0	$ 2284	$ 0	$ 120	$ 14	$ 2440

[1] **Key:** USDA, Department of Agriculture; DoD, Department of Defense; Energy, Department of Energy; HHS, Department of Health and Human Services; NASA, National Aeronautics and Space Administration; NIH, National Institutes of Health; NSF, National Science Foundation. "Other" includes all other federal agencies.

[2] Row and column totals are automatically generated on the Web survey.

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

Question 9 continues on next page.

Question 9H–I. **What were your FY 2019 R&D expenditures in the social sciences and other sciences funded by the federal agency sources below? (R&D expenditures from nonfederal sources will be reported in Question 11.)**

R&D expenditures from federal sources[1]
(Dollars in thousands)

R&D Fields (Examples listed below)	(a) USDA	(b) DoD	(c) Energy	(d) HHS, includes NIH	(e) NASA	(f) NSF	(g) Other	(h) Total[2]
H. Social Sciences								
1. Anthropology	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
2. Economics	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
3. Political Science and Government	$ 0	$ 0	$ 0	$ 0	$ 0	$ 2	$ 0	$ 2
4. Sociology, Demography, and Population Studies	$ 0	$ 0	$ 0	$ 41	$ 0	$ 185	$ 0	$ 226
5. Other Social Sciences	$ 99	$ 0	$ 0	$ 0	$ 0	$ 90	$ 88	$ 277
6. **Total[2]**	$ 99	$ 0	$ 0	$ 41	$ 0	$ 277	$ 88	$ 505
I. Other Sciences	$ 0	$ 0	$ 0	$ 5	$ 0	$ 1554	$ 0	$ 1559

[1] **Key:** USDA, Department of Agriculture; DoD, Department of Defense; Energy, Department of Energy; HHS, Department of Health and Human Services; NASA, National Aeronautics and Space Administration; NIH, National Institutes of Health; NSF, National Science Foundation. "Other" includes all other federal agencies.

[2] Row and column totals are automatically generated on the Web survey.

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.

Question 9 continues on next page.

Question 9J–K. **What were your FY 2019 R&D expenditures in the non-science and engineering (non-S&E) fields funded by the federal agency sources below? (R&D expenditures from nonfederal sources will be reported in Question 11.)**

R&D expenditures from federal sources[1]
(Dollars in thousands)

R&D Fields (Examples listed below)	(a) USDA	(b) DoD	(c) Energy	(d) HHS, includes NIH	(e) NASA	(f) NSF	(g) Other	(h) Total[2]
J. Non-S&E Fields								
1. Business Management and Business Administration	$ 0	$ 0	$ 0	$ 52	$ 0	$ 25	$ 0	$ 77
2. Communication and Communications Technologies	$ 21	$ 0	$ 0	$ 0	$ 0	$ 0	$ 82	$ 103
3. Education	$ 0	$ 0	$ 0	$ 43	$ 0	$ 304	$ 5	$ 352
4. Humanities	$ 0	$ 0	$ 0	$ 0	$ 0	$ 36	$ 1	$ 37
5. Law	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
6. Social Work	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
7. Visual and Performing Arts	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0	$ 3	$ 3
8. Other Non-S&E Fields	$ 351	$ 0	$ 0	$ 23	$ 0	$ 83	$ 94	$ 551
9. **Total[2]**	$ 372	$ 0	$ 0	$ 118	$ 0	$ 448	$ 185	$ 1123
K. Total for All Fields of R&D[2]	$ 9200	$ 3062	$ 2033	$ 8598	$ 422	$ 10451	$ 6114	$ 39880

Total for row K, column h should equal Total for Question 1, row a.

[1] **Key:** USDA, Department of Agriculture; DoD, Department of Defense; Energy, Department of Energy; HHS, Department of Health and Human Services; NASA, National Aeronautics and Space Administration; NIH, National Institutes of Health; NSF, National Science Foundation. "Other" includes all other federal agencies.

[2] Row and column totals are automatically generated on the Web survey.

Question 9 continues on next page.

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.

Question 10. **Of the amount reported for Other federal sources in Question 9 (row K, column g), which agencies funded this R&D and how much of the reported amount was from each agency?**

If your institution reported $0 in Question 9, row K, column g, skip this question and go to Question 11.

- Use rows a–j to list up to 10 agencies that funded the largest R&D expenditures.
- Use row k to report any remaining amount.
- For subrecipient funding in this question, list the sponsor of the original award.
- A list of federal departments, agencies and subagencies is included as a link on the web survey question.

	Federal agencies (list up to 10)	**R&D expenditures (Dollars in thousands)**
a.	Department of Transportation (DOT)	$ 2741
b.	Department of the Interior	$ 2363
c.	Environmental Protection Agency (EPA)	$ 342
d.	General Services Administration (GSA)	$ 253
e.	Department of Justice (DOJ)	$ 146
f.	Agency for International Development (USAID)	$ 96
g.	Department of Homeland Security (DHS)	$ 82
h.	Department of Education (ED)	$ 44
i.	National Foundation on Arts and Humanities	$ 26
j.	Department of Commerce	$ 21
k.	Other agencies included in Question 9, column g, but not listed above	$ 0
l.	**Total (should match Question 9, row K, column g)[1]**	$ 6114

[1] The column total is automatically generated on the Web survey.

Question 11A–B. What were your FY 2019 R&D expenditures in the computer and information sciences and engineering fields funded by the nonfederal sources below?

- The totals in row K, page 24 should match the corresponding sources in Question 1, rows b–f.
- If an individual project involves more than one of the 40 fields of R&D, please prorate expenditures when possible and report the amount for each field involved.

R&D expenditures from nonfederal sources
(Dollars in thousands)

R&D Fields (See Question 9, p. 13)	(a) State and local government	(b) Business	(c) Nonprofit organizations	(d) Institutional funds	(e) Other nonfederal sources	(f) Total[1]
A. Computer and Information Sciences	$ 25	$ 94	$ 0	$ 3007	$ 0	$ 3126
B. Engineering						
1. Aerospace, Aeronautical, and Astronautical Engineering	$ 255	$ 860	$ 0	$ 5539	$ 0	$ 6654
2. Bioengineering and Biomedical Engineering	$ 0	$ 0	$ 0	$ 4	$ 0	$ 4
3. Chemical Engineering	$ 172	$ 1421	$ 0	$ 2975	$ 46	$ 4614
4. Civil Engineering	$ 106	$ 92	$ 20	$ 2111	$ 0	$ 2329
5. Electrical, Electronic, and Communications Engineering	$ 62	$ 64	$ 0	$ 2031	$ 0	$ 2157
6. Industrial and Manufacturing Engineering	$ 12	$ 125	$ 0	$ 920	$ 0	$ 1057
7. Mechanical Engineering	$ 0	$ 0	$ 0	$ 25	$ 0	$ 25
8. Metallurgical and Materials Engineering	$ 92	$ 19	$ 12	$ 237	$ 48	$ 408
9. Other Engineering	$ 1278	$ 405	$ 0	$ 2054	$ 0	$ 3737
10. **Total[1]**	$ 1977	$ 2986	$ 32	$ 15896	$ 94	$ 20985

[1] Row and column totals are automatically generated on the Web survey.

Examples of disciplines for the above fields of R&D are listed on page 13.

Question 11 continues on next page.

Question 11C–D. What were your FY 2019 R&D expenditures in the R&D fields listed below funded by the nonfederal sources below?

R&D Fields (See Question 9, pp. 14–15)	R&D expenditures from nonfederal sources (Dollars in thousands) (a) State and local government	(b) Business	(c) Nonprofit organizations	(d) Institutional funds	(e) Other nonfederal sources	(f) Total[1]
C. Geosciences, Atmospheric Sciences, and Ocean Sciences						
1. Atmospheric Science and Meteorology	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
2. Geological and Earth Sciences	$ 26	$ 13	$ 0	$ 2020	$ 0	$ 2059
3. Ocean Sciences and Marine Sciences	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
4. Other Geosciences, Atmospheric Sciences, and Ocean Sciences	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
5. **Total[1]**	$ 26	$ 13	$ 0	$ 2020	$ 0	$ 2059
D. Life Sciences						
1. Agricultural Sciences	$ 12792	$ 6358	$ 276	$ 12525	$ 4	$ 31955
2. Biological and Biomedical Sciences	$ 2447	$ 739	$ 262	$ 8806	$ 0	$ 12254
3. Health Sciences	$ 326	$ 752	$ 45	$ 7205	$ 0	$ 8328
4. Natural Resources and Conservation	$ 2898	$ 896	$ 0	$ 2990	$ 0	$ 6784
5. Other Life Sciences	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
6. **Total[1]**	$ 18463	$ 8745	$ 583	$ 31526	$ 4	$ 59321

[1] Row and column totals are automatically generated on the Web survey.

Examples of disciplines for the above fields of R&D are listed on pages 14–15.

Question 11 continues on next page.

Question 11E–I. What were your FY 2019 R&D expenditures in the R&D fields listed below funded by the nonfederal sources below?

R&D Fields (See Question 9, pp. 16–17)	R&D expenditures from nonfederal sources (Dollars in thousands) (a) State and local government	(b) Business	(c) Nonprofit organizations	(d) Institutional funds	(e) Other nonfederal sources	(f) Total[1]
E. Mathematics and Statistics	$ 3	$ 0	$ 26	$ 3881	$ 0	$ 3910
F. Physical Sciences						
1. Astronomy and Astrophysics	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
2. Chemistry	$ 2	$ 91	$ 0	$ 2740	$ 0	$ 2833
3. Materials Science	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
4. Physics	$ 13	$ 135	$ 0	$ 2342	$ 0	$ 2490
5. Other Physical Sciences	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
6. **Total[1]**	$ 15	$ 226	$ 0	$ 5082	$ 0	$ 5323
G. Psychology	$ 713	$ 106	$ 0	$ 5759	$ 0	$ 6578
H. Social Sciences						
1. Anthropology	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
2. Economics	$ 70	$ 10	$ 0	$ 1486	$ 0	$ 1566
3. Political Science and Government	$ 0	$ 0	$ 0	$ 871	$ 0	$ 871
4. Sociology, Demography, and Population Studies	$ 0	$ 0	$ 0	$ 1204	$ 0	$ 1204
5. Other Social Sciences	$ 274	$ 3	$ 17	$ 985	$ 0	$ 1279
6. **Total[1]**	$ 344	$ 13	$ 17	$ 4546	$ 0	$ 4920
I. Other Sciences	$ 114	$ 45	$ 0	$ 4883	$ 0	$ 5042

[1] Row and column totals are automatically generated on the Web survey.

Examples of disciplines for the above fields of R&D are listed on pages 16–17.

Question 11 continues on next page.

Question 11J–K. What were your FY 2019 R&D expenditures in the non-science and engineering (non-S&E) fields funded by the nonfederal sources below?

R&D expenditures from nonfederal sources
(Dollars in thousands)

R&D Fields (See Question 9, p. 19)	(a) State and local government	(b) Business	(c) Nonprofit organizations	(d) Institutional funds	(e) Other nonfederal sources	(f) Total[1]
J. Non-S&E Fields						
1. Business Management and Business Administration	$ 2	$ 413	$ 0	$ 16975	$ 0	$ 17390
2. Communication and Communications Technologies	$ 426	$ 46	$ 0	$ 1305	$ 0	$ 1777
3. Education	$ 0	$ 1	$ 1	$ 2452	$ 0	$ 2454
4. Humanities	$ 0	$ 0	$ 0	$ 5030	$ 0	$ 5030
5. Law	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
6. Social Work	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
7. Visual and Performing Arts	$ 0	$ 18	$ 0	$ 1180	$ 0	$ 1198
8. Other Non-S&E Fields	$ 1180	$ 479	$ 39	$ 3585	$ 0	$ 5283
9. **Total[1]**	$ 1608	$ 957	$ 40	$ 30527	$ 0	$ 33132
K. Total for All Fields of R&D[1]	$ 23288	$ 13185	$ 698	$ 107127	$ 98	$ 144396

Totals in row K, columns a–e should match corresponding sources in Question 1, rows b–f.

[1] Row and column totals are automatically generated on the Web survey.

Examples of disciplines for non-S&E fields of R&D are listed on page 19.

Question 12. Of the total amount of R&D expenditures reported in Question 1, row g, what were the amounts for the following types of costs?

- Please report only **direct costs** (including cost sharing) in rows a–e.
- Recovered and unrecovered **indirect costs** should be reported in rows f1 and f2.

	R&D expenditures (Dollars in thousands)
a. Salaries, wages, and fringe benefits Include compensation for all R&D personnel whether full-time or part-time, temporary or permanent. Include salaries, wages, and fringe benefits paid from your institution's funds and from external support.	$ 95954
b. Software purchases All payments for software. Include both purchases of software packages and license fees for systems.	
1. Noncapitalized software	$ 151
2. Capitalized software (If you are unable to distinguish capitalized software from capitalized equipment, report both in row c.)	$ 114
c. Capitalized equipment Payments for movable equipment exceeding your institution's capitalization threshold. Include ancillary costs such as delivery and setup.	$ 4447
d. Pass-throughs to other universities or organizations (should match the total in Question 8, row e, column 3)	$ 5959
e. Other direct costs Other costs that do not fit into one of the above categories, including (but not limited to) travel, tuition waivers, services such as consulting, computer usage fees, and supplies.	$ 61525
f. Indirect costs	
1. Recovered indirect costs Reimbursement of Facilities and Administrative (F&A) costs from external sponsors	$ 9025 (Confidential[1])
2. Unrecovered indirect costs (should equal Question 1, row e3)	$ 7101 (Confidential[1])
3. Total indirect costs[2]	$ 16126
g. Total[2] (should match total from Question 1, row g)	$ 184276

[1] Information from confidential items is not published or released for individual institutions; only aggregate totals will appear in publications. In accordance with the National Science Foundation Act of 1950, as amended, and other applicable federal laws, your responses will not be disclosed in identifiable form to anyone other than agency employees or authorized persons. Per the Federal Cybersecurity Enhancement Act of 2015, your data are protected from cybersecurity risks through screening of the federal information systems that transmit your data.

[2] Totals are automatically generated on the Web survey.

Question 13. At the end of FY 2019, what were your institution's capitalization thresholds for software and equipment?

	(Dollars in thousands) (1) Software	(2) Equipment
Capitalization thresholds	$ 5.0	$ 5.0

Question 14A–C. For the R&D fields below, what portion of your FY 2019 R&D expenditures went for the purchase of capitalized R&D equipment?

- Question 14 total (row K, column c) should match Question 12, row c (Capitalized equipment).

R&D Fields (See Question 9, pp. 13–14)	R&D equipment expenditures (Dollars in thousands) (a) Federal	(b) Nonfederal	(c) Total[1]
A. Computer and Information Sciences	$ 0	$ 0	$ 0
B. Engineering			
1. Aerospace, Aeronautical, and Astronautical Engineering	$ 44	$ 281	$ 325
2. Bioengineering and Biomedical Engineering	$ 0	$ 0	$ 0
3. Chemical Engineering	$ 0	$ 206	$ 206
4. Civil Engineering	$ 24	$ 67	$ 91
5. Electrical, Electronic, and Communications Engineering	$ 0	$ 249	$ 249
6. Industrial and Manufacturing Engineering	$ 0	$ 0	$ 0
7. Mechanical Engineering	$ 0	$ 0	$ 0
8. Metallurgical and Materials Engineering	$ 0	$ 9	$ 9
9. Other Engineering	$ 0	$ 27	$ 27
10. **Total[1]**	$ 68	$ 839	$ 907
C. Geosciences, Atmospheric Sciences, and Ocean Sciences			
1. Atmospheric Science and Meteorology	$ 0	$ 0	$ 0
2. Geological and Earth Sciences	$ 0	$ 68	$ 68
3. Ocean Sciences and Marine Sciences	$ 0	$ 0	$ 0
4. Other Geosciences, Atmospheric Sciences, and Ocean Sciences	$ 0	$ 0	$ 0
5. **Total[1]**	$ 0	$ 68	$ 68

[1] Row and column totals are automatically generated on the Web survey.

Examples of disciplines for the above fields of R&D are listed on pages 13–14.

Question 14 continues on next page.

Question 14D–I. For the R&D fields below, what portion of your FY 2019 R&D expenditures went for the purchase of capitalized R&D equipment?

R&D Fields (See Question 9, pp. 15–17)	R&D equipment expenditures (Dollars in thousands) (a) Federal	(b) Nonfederal	(c) Total[1]
D. Life Sciences			
1. Agricultural Sciences	$ 42	$ 898	$ 940
2. Biological and Biomedical Sciences	$ 275	$ 249	$ 524
3. Health Sciences	$ 75	$ 445	$ 520
4. Natural Resources and Conservation	$ 0	$ 263	$ 263
5. Other Life Sciences	$ 0	$ 0	$ 0
6. **Total[1]**	$ 392	$ 1855	$ 2247
E. Mathematics and Statistics	$ 0	$ 0	$ 0
F. Physical Sciences			
1. Astronomy and Astrophysics	$ 0	$ 0	$ 0
2. Chemistry	$ 104	$ 440	$ 544
3. Materials Science	$ 0	$ 0	$ 0
4. Physics	$ 15	$ 198	$ 213
5. Other Physical Sciences	$ 0	$ 0	$ 0
6. **Total[1]**	$ 119	$ 638	$ 757
G. Psychology	$ 0	$ 1	$ 1
H. Social Sciences			
1. Anthropology	$ 0	$ 0	$ 0
2. Economics	$ 0	$ 0	$ 0
3. Political Science and Government	$ 0	$ 0	$ 0
4. Sociology, Demography, and Population Studies	$ 0	$ 0	$ 0
5. Other Social Sciences	$ 0	$ 4	$ 4
6. **Total[1]**	$ 0	$ 4	$ 4
I. Other Sciences	$ 174	$ 201	$ 375

[1] Row and column totals are automatically generated on the Web survey.

Examples of disciplines for the above fields of R&D are listed on pages 15–17.

Question 14 continues on next page.

Question 14J–K. For the non-science and engineering (non-S&E) R&D fields below, what portion of your FY 2019 R&D expenditures went for the purchase of capitalized R&D equipment?

R&D Fields (See Question 9, p. 19)	R&D equipment expenditures (Dollars in thousands) (a) Federal	(b) Nonfederal	(c) Total[1]
J. Non-S&E Fields			
1. Business Management and Business Administration	$ 0	$ 15	$ 15
2. Communication and Communications Technologies	$ 0	$ 0	$ 0
3. Education	$ 0	$ 0	$ 0
4. Humanities	$ 0	$ 0	$ 0
5. Law	$ 0	$ 0	$ 0
6. Social Work	$ 0	$ 0	$ 0
7. Visual and Performing Arts	$ 0	$ 0	$ 0
8. Other Non-S&E Fields	$ 0	$ 73	$ 73
9. **Total[1]**	$ 0	$ 88	$ 88
K. Total for All Fields of R&D[1]	$ 753	$ 3694	$ 4447

Total for row K, column c, should match Question 12, row c (Capitalized equipment).

[1] Row and column totals are automatically generated on the Web survey.

Examples of disciplines for non-S&E fields of R&D are listed on page 19.

Question 15. How many principal investigators and other personnel (headcount) were paid from the R&D salaries, wages, and fringe benefits you reported in Question 12, row a?

- A **principal investigator (PI)** is designated by your institution to direct the R&D project or program and be responsible for the scientific and technical direction of the project. Co-investigators (co-PIs) may be designated for this role and should also be included in column 1.
- Count each person only once.
- If a person serves as a PI or co-PI on one project and other personnel on another project, count that person as a PI.
- Include all personnel and students paid from R&D accounts regardless of how much they received.

	(1) Principal investigators	(2) All other personnel	(3) Total[1]
Number of people (headcount)	843	1315	2158

[1] The row total is automatically generated on the Web survey.

Question 16. **In what month did your institution's 2019 fiscal year end?** June

Primary Contact Information. Please complete the contact information for the person responsible for the survey.

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