
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 8 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://shortform.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
mgibbons@nsf.gov
(703) 292-4590

Thank you for your participation.
What’s New for FY 2019

There were no changes to this questionnaire from the FY 2018 version.
### 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.

<table>
<thead>
<tr>
<th>R&amp;D includes:</th>
<th>R&amp;D does not include:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Sponsored research (federal and nonfederal)</td>
<td>• Public service grants or outreach programs</td>
</tr>
<tr>
<td>• University research (institutional funds that are separately budgeted for individual R&amp;D projects)</td>
<td>• Curriculum development (unless included as part of an overall research project)</td>
</tr>
<tr>
<td>• Startup, bridge, or seed funding provided to researchers within your institution</td>
<td>• R&amp;D conducted by university faculty or staff at outside institutions that is not accounted for in your financial records</td>
</tr>
<tr>
<td>• Other departmental funds designated for research</td>
<td>• Estimates of the proportion of time budgeted for instruction that is spent on research</td>
</tr>
<tr>
<td>• Recovered and unrecovered indirect costs (see definitions in Question 1)</td>
<td>• Capital projects (i.e., construction or renovation of research facilities)</td>
</tr>
<tr>
<td>• Equipment purchased from R&amp;D project accounts</td>
<td>• Non-research training grants</td>
</tr>
<tr>
<td>• R&amp;D funds passed through to a subrecipient organization, educational or other</td>
<td>• Unrecovered indirect costs that exceed your institution’s federally negotiated Facilities and Administrative (F&amp;A) rate</td>
</tr>
</tbody>
</table>
## Reporting Units

<table>
<thead>
<tr>
<th>Please <strong>include</strong> these components of your institution:</th>
<th>Please do <strong>not</strong> include:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• All units of your institution included in or with your financial statements, such as:</td>
<td>• Federally Funded R&amp;D Centers (FFRDCs). This information is collected separately. See the list of FFRDCs: <a href="http://www.nsf.gov/statistics/ffrdc/">http://www.nsf.gov/statistics/ffrc/</a>.</td>
</tr>
<tr>
<td>• Agricultural experiment stations</td>
<td>• Other organizations or institutions, such as teaching hospitals or research institutes, with which your institution has an affiliation or relationship, but which are <strong>not</strong> components of your institution.</td>
</tr>
<tr>
<td>• Branch campuses</td>
<td>• Other campuses headed by their own president, chancellor, or equivalent within your university system. Each campus is asked to respond separately.</td>
</tr>
<tr>
<td>• Medical schools</td>
<td></td>
</tr>
<tr>
<td>• Hospitals or clinics</td>
<td></td>
</tr>
<tr>
<td>• Research centers and facilities</td>
<td></td>
</tr>
<tr>
<td>• A university 501(c)3 foundation</td>
<td></td>
</tr>
</tbody>
</table>
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 on pages 10–12.

<table>
<thead>
<tr>
<th>Source of funds</th>
<th>R&amp;D expenditures (Dollars in thousands)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(for example, report $25,342 as $25)</td>
</tr>
<tr>
<td>a. U.S. federal government</td>
<td>$__________</td>
</tr>
<tr>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>b. State and local government</td>
<td>$__________</td>
</tr>
<tr>
<td>Any state, county, municipality, or other local government entity in the United States, including state health agencies. Include state funds that support R&amp;D at agricultural and other experiment stations. Public institutions should report state appropriations restricted for R&amp;D activities here rather than in row e, Institutional funds.</td>
<td></td>
</tr>
<tr>
<td>c. Business</td>
<td>$__________</td>
</tr>
<tr>
<td>Domestic or foreign for-profit organizations. Report funds from a company’s nonprofit foundation in row d.</td>
<td></td>
</tr>
<tr>
<td>d. Nonprofit organizations</td>
<td>$__________</td>
</tr>
<tr>
<td>Domestic or foreign nonprofit foundations and organizations, except universities and colleges. Report funds from your institution’s 501(c)3 foundation in row e1. Funds from other universities and colleges should be reported in row f.</td>
<td></td>
</tr>
<tr>
<td>e. Institutional funds</td>
<td></td>
</tr>
<tr>
<td>1. Institutionally financed research</td>
<td>$__________</td>
</tr>
<tr>
<td>All R&amp;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).</td>
<td></td>
</tr>
<tr>
<td>2. Cost sharing</td>
<td>$__________</td>
</tr>
<tr>
<td>Include committed cost sharing other than unrecovered indirect costs.</td>
<td></td>
</tr>
<tr>
<td>3. Unrecovered indirect costs</td>
<td>$__________</td>
</tr>
<tr>
<td>Calculate this amount as follows for your externally funded R&amp;D only (preferably on a project-specific basis) using the appropriate cost rate—on-campus, off-campus, etc.</td>
<td></td>
</tr>
<tr>
<td>• First, multiply the negotiated rate by the corresponding base.</td>
<td></td>
</tr>
<tr>
<td>• Second, subtract recovered indirect costs.</td>
<td></td>
</tr>
<tr>
<td>4. Total institutional funds</td>
<td>$ TOTAL</td>
</tr>
<tr>
<td>f. All other sources</td>
<td>$__________</td>
</tr>
<tr>
<td>Other sources not reported above, such as funds from foreign governments, foreign or U.S. universities, and gifts designated by the donors for research.</td>
<td></td>
</tr>
<tr>
<td>g. Total</td>
<td>$ TOTAL</td>
</tr>
</tbody>
</table>

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?

a. Competitively awarded internal grants for research
   Expenditures for organized research projects, involving a proposal or statement of work with expected research outcomes.
   - Included

b. Startup packages/bridge funding/seed funding
   Expenditures from funds provided to faculty members to begin or continue their research while seeking external sponsors.
   - Included

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.
   - Included

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.
   - Included
## Question 2

What were your FY 2019 R&D expenditures in the fields below? Please report federally funded expenditures in column (1) and all other expenditures in column (2).

- Examples of the disciplines included under each field are provided on pages 10–12.

<table>
<thead>
<tr>
<th>R&amp;D Fields</th>
<th>(1) Federal</th>
<th>(2) Nonfederal</th>
<th>(3) Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Computer and Information Sciences</td>
<td>$_________</td>
<td>$_________</td>
<td>$ TOTAL</td>
</tr>
<tr>
<td>B. Engineering</td>
<td>$_________</td>
<td>$_________</td>
<td>$ TOTAL</td>
</tr>
<tr>
<td>C. Geosciences, Atmospheric Sciences, and Ocean Sciences</td>
<td>$_________</td>
<td>$_________</td>
<td>$ TOTAL</td>
</tr>
<tr>
<td>D. Life Sciences</td>
<td>$_________</td>
<td>$_________</td>
<td>$ TOTAL</td>
</tr>
<tr>
<td>E. Mathematics and Statistics</td>
<td>$_________</td>
<td>$_________</td>
<td>$ TOTAL</td>
</tr>
<tr>
<td>F. Physical Sciences</td>
<td>$_________</td>
<td>$_________</td>
<td>$ TOTAL</td>
</tr>
<tr>
<td>G. Psychology</td>
<td>$_________</td>
<td>$_________</td>
<td>$ TOTAL</td>
</tr>
<tr>
<td>H. Social Sciences</td>
<td>$_________</td>
<td>$_________</td>
<td>$ TOTAL</td>
</tr>
<tr>
<td>I. Other Sciences</td>
<td>$_________</td>
<td>$_________</td>
<td>$ TOTAL</td>
</tr>
<tr>
<td>J. Non-S&amp;E Fields</td>
<td>$_________</td>
<td>$_________</td>
<td>$ TOTAL</td>
</tr>
<tr>
<td>K. Total for All Fields of R&amp;D&lt;sup&gt;1&lt;/sup&gt;</td>
<td>$ TOTAL</td>
<td>$ TOTAL</td>
<td>$ TOTAL</td>
</tr>
</tbody>
</table>

Total in row k, column (1) should match total reported in Question 1, row a.

Total in row k, column (2) should match total reported in Question 1, rows b–f.

<sup>1</sup> Row and column totals are automatically generated on the Web survey.
Question 3. How much of your R&D expenditures reported in Question 1 did your institution receive as a subrecipient from another U.S. university or college? Please report the original source of funds in columns (a) and (b).

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.

<table>
<thead>
<tr>
<th>Originating source of R&amp;D expenditures (Dollars in thousands)</th>
<th>(a) Federal</th>
<th>(b) Nonfederal</th>
<th>(c) Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funds received from other U.S. higher education institutions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Include colleges and universities and units owned, operated, and controlled by such institutions.</td>
<td>$_________</td>
<td>$_________</td>
<td>$ TOTAL</td>
</tr>
</tbody>
</table>

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

Question 4. How much of your R&D expenditures reported in Question 1 did your institution pass through to subrecipients at other U.S. universities or colleges? Please report the original source of funds in columns (a) and (b).

<table>
<thead>
<tr>
<th>Originating source of R&amp;D expenditures (Dollars in thousands)</th>
<th>(a) Federal</th>
<th>(b) Nonfederal</th>
<th>(c) Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Funds passed through to other U.S. higher education institutions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Include colleges and universities and units owned, operated, and controlled by such institutions.</td>
<td>$_________</td>
<td>$_________</td>
<td>$ TOTAL</td>
</tr>
</tbody>
</table>

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

Question 5. In what month did your institution’s 2019 fiscal year end? ________________
**Primary Contact Information.** Please complete the contact information for the person responsible for the survey.

<table>
<thead>
<tr>
<th>Field</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>__________________________</td>
</tr>
<tr>
<td>Job Title</td>
<td>__________________________</td>
</tr>
<tr>
<td>Institution name</td>
<td>__________________________</td>
</tr>
<tr>
<td>Office/Department</td>
<td>__________________________</td>
</tr>
<tr>
<td>Mailing address (line 1)</td>
<td>__________________________</td>
</tr>
<tr>
<td>Mailing address (line 2)</td>
<td>__________________________</td>
</tr>
<tr>
<td>City, state, and ZIP Code</td>
<td>__________________________</td>
</tr>
<tr>
<td>Phone number</td>
<td>__________________________</td>
</tr>
<tr>
<td>E-mail address</td>
<td>__________________________</td>
</tr>
</tbody>
</table>

**Other Contact Information.** List individuals who should be copied on all e-mails about the survey or can create a login account. Job Title should include information about office/department as appropriate (e.g., VP of Sponsored Programs, Department of Finance Manager, Analyst II in Grants Management).

**Other Contact 1**

<table>
<thead>
<tr>
<th>Field</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>__________________________</td>
</tr>
<tr>
<td>Job Title</td>
<td>__________________________</td>
</tr>
<tr>
<td>Phone Number</td>
<td>__________________________</td>
</tr>
<tr>
<td>E-mail address</td>
<td>__________________________</td>
</tr>
</tbody>
</table>

**Other Contact 2**

<table>
<thead>
<tr>
<th>Field</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>__________________________</td>
</tr>
<tr>
<td>Job Title</td>
<td>__________________________</td>
</tr>
<tr>
<td>Phone Number</td>
<td>__________________________</td>
</tr>
<tr>
<td>E-mail address</td>
<td>__________________________</td>
</tr>
</tbody>
</table>

**Other Contact 3**

<table>
<thead>
<tr>
<th>Field</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>__________________________</td>
</tr>
<tr>
<td>Job Title</td>
<td>__________________________</td>
</tr>
<tr>
<td>Phone Number</td>
<td>__________________________</td>
</tr>
<tr>
<td>E-mail address</td>
<td>__________________________</td>
</tr>
</tbody>
</table>
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

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
   - Mineralogy and petrology
   - Paleomagnetism
   - Paleontology
   - Physical geography
   - Stratigraphy and sedimentation
   - Surveying
3. Ocean Sciences and Marine Sciences
   - Biological oceanography
   - Geological oceanography
   - Marine biology
   - Marine oceanography
   - Marine sciences
   - Oceanography, chemical and physical
4. Other Geosciences, Atmospheric Sciences, and Ocean Sciences
   - Other fields that cannot be classified using the fields listed above

Examples of disciplines continue on next page.
### 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

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

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

### E. Mathematics and Statistics

<table>
<thead>
<tr>
<th>Applied mathematics</th>
<th>Mathematics</th>
<th>Statistics</th>
</tr>
</thead>
</table>

### 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
   - Organic-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

<table>
<thead>
<tr>
<th>Clinical psychology</th>
<th>Counseling and applied psychology</th>
<th>Human development</th>
<th>Research and experimental psychology</th>
</tr>
</thead>
</table>

Examples of disciplines continue on next page.
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.

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.