


 NATIONAL SCIENCE FOUNDATION  
 ARLINGTON, VA 22230

**SURVEY OF RESEARCH AND DEVELOPMENT EXPENDITURES  
 AT UNIVERSITIES AND COLLEGES, FY 2008**

**Please submit your survey data by January 30, 2009.**

The Web address for submitting your data:

<http://www.nsfdrsurvey.org/>

Or, mail this form to:

Macro International Inc.  
 7315 Wisconsin Avenue, Suite 400W  
 Bethesda, MD 20814-3202

Or, e-mail your response to:

[support@nsfdrsurvey.org](mailto:support@nsfdrsurvey.org)

The Web password and user ID were e-mailed to each institution. If you have questions about this or any other issue, please call: Survey Support at Macro, 1-866-349-8626. For general survey questions, you may also contact Ronda Britt of NSF at [rbritt@nsf.gov](mailto:rbritt@nsf.gov) or (703) 292-7765.

Your cooperation in returning the survey questionnaire promptly is very important. This information is solicited under the authority of the National Science Foundation Act of 1950, as amended. Your response is entirely voluntary; your failure to provide some or all of the information will in no way adversely affect your institution.

Report data for your institution's 2008 fiscal year. All financial data should be reported in thousands of dollars; for example, an expenditure of \$25,342 should be rounded to the nearest thousand dollars and reported as \$25.

Where exact data are not available, estimates are acceptable. Your estimates will be better than ours.

Include data for branches and all organizational units of your institution, such as medical schools and agricultural experiment stations. Data on research centers and facilities administered by your institution should be included. In addition, include hospitals or clinics owned, operated, or controlled by universities, and integrated operationally with the clinical programs of your medical schools.

**NOTE:** Academic institutions should exclude data for federally funded research and development centers (FFRDCs). Data for these facilities are collected separately.

It is estimated that response to this survey will require 22 hours. If you wish to comment on this burden, please contact Suzanne H. Plimpton of NSF at (703) 292-7556, or e-mail [splimpto@nsf.gov](mailto:splimpto@nsf.gov).

**Scope:**

This survey collects data on expenditures by universities and colleges for separately budgeted research and development (R&D). Definitions used are compatible with OMB Circular A-21, revised May 10, 2004. Items 1 and 2 ask for *current fund expenditures* by source of funds and by field of science and engineering. Item 3 collects data on that *portion of current fund expenditures* reported in Items 1 and 2 that went for the purchase of scientific and engineering research equipment. Item 2A asks for current fund expenditures in non-science and engineering fields, and Item 2B requests information on the Federal Government agency sources of current fund expenditures by field of science and engineering.

**Definitions:**

**Research and Development (R&D).** R&D for purposes of this survey is the same as "organized research" as defined in Section B.1.b. of OMB Circular A-21 (revised). It includes all R&D activities of an institution that are separately budgeted and accounted for. R&D includes both "sponsored research" activities (sponsored by Federal and non-Federal agencies and organizations) and "university research" (separately budgeted under an internal application of institutional funds).

**Research** is systematic study directed toward fuller knowledge or understanding of the subject studied. Research is classified as either basic or applied, according to the objectives of the investigator.

**Development** is systematic use of the knowledge or understanding gained from research, directed toward the production of useful materials, devices, systems, or methods, including design and development of prototypes and processes.

**Current fund expenditures.** These are expenditures of funds available for current operations. Such expenditures include all unrestricted gifts and restricted current funds to the extent that such funds were expended for current operating purposes.

Please circle the month in which your institution's fiscal year begins:

Jan Feb Mar Apr May Jun Jul Aug Sept Oct Nov Dec

Primary Contact—Person who is responsible for your institution's survey answers:

|                                          |                 |
|------------------------------------------|-----------------|
| Name (Mr., Mrs., Ms., Dr. (circle one)): |                 |
| Title:                                   | E-mail:         |
| Telephone number:                        | Fax:            |
| Address:                                 | Date submitted: |
|                                          |                 |

Alternate Contact—Person to contact if the Primary Contact is unavailable. This person should know that you are the Primary Contact for the survey. Examples include your supervisor, the data preparer, or another coworker:

|                                          |         |
|------------------------------------------|---------|
| Name (Mr., Mrs., Ms., Dr. (circle one)): |         |
| Title:                                   | E-mail: |
| Telephone number:                        | Fax:    |

## Instructions for Items 1 and 2

Separately budgeted research and development (R&D) includes all funds expended for activities specifically organized to produce research outcomes and commissioned by an agency either external to the institution or separately budgeted by an organizational unit within the institution. *Include* research equipment purchased under research project awards from “current fund” accounts. Also *include* research funds for which an outside organization, educational or other, is a subrecipient. *Exclude* training grants, public service grants, demonstration projects, clinical trials, and departmental research expenditures that are not separately budgeted. Also, *exclude* any R&D expenditures in the fields of education, law, humanities, music, the arts, physical education, library science, and all other non-science fields. These non-science and engineering R&D expenditures are reported in Item 2A. Allocate funding to the original sources whenever possible, as specified below. If this information is unknown, report the proximate funding source.

### Total

- a. **Federal Government.** Report awards for R&D (including direct and reimbursed indirect costs) by all agencies of the Federal Government.
- b. **State and local governments.** Include funds for R&D (including direct and reimbursed indirect costs) from State, county, municipal, or other local governments and their agencies. Include here State funds that support R&D at agricultural and other experiment stations.
- c. **Industry.** Include all awards for R&D (including direct and reimbursed indirect costs) from profit-making organizations, whether engaged in production, distribution, research, service, or other activities. Do not include awards from nonprofit foundations financed by industry; these should be included under “All other sources.”
- d. **Institution funds.** Report funds, *including* related indirect costs, that your institution spent for R&D activities from the following unrestricted sources: general-purpose State or local government appropriations; general-purpose awards from industry, foundations, or other outside sources; tuition and fees; endowment income; gifts; and other institutional funds. In addition, estimate your institution's on-campus and off-campus unreimbursed indirect costs associated with externally funded R&D projects, including mandatory and voluntary cost sharing. To estimate unreimbursed indirect costs, preferably on a project-by-project basis, use your appropriate on-campus or off-campus **negotiated research indirect cost rate(s)** multiplied by the corresponding base(s) minus actual indirect cost recovery.
- e. **All other sources.** Include awards for R&D (including direct and reimbursed indirect costs) from nonprofit foundations and voluntary health agencies as well as from all other sources not elsewhere classified. Also include gifts from individuals that are restricted by the donor to research. Funds from foundations that are affiliated with, or granted solely to your institution, should be included under “Institution funds.” Funds for R&D received from a health agency that is a unit of a State or local government should be included under “State and local governments.”

## Instructions for Items 1A and 1B

For Federal awards, **subrecipient** means the non-Federal entity that expends Federal awards received from a pass-through entity to carry out a Federal program, but does not include an individual that is a beneficiary of such a program. A subrecipient may also be a recipient of other Federal awards directly from a Federal awarding agency.

—OMB Circular A-133, Section .105 (revised June 27, 2003). For awards from non-Federal sources, the subrecipient definition is analogous to the Federal one.

**Higher Education** [subrecipients] refers to all academic colleges and universities and all units owned, operated, and controlled by such institutions.

**Item 1. How much of your current fund expenditures for separately budgeted research and development in the sciences and engineering (including indirect costs) came from the following sources in FY 2008?**

| Source of Funds                                                | Line No. | (1)<br>Total<br>(Dollars in thousands) | (2)<br>What Percentage of<br>Federal & Total<br>Funds Are Basic<br>Research? | <p><b>BASIC RESEARCH</b><br/>Please provide the percentages of Federal and total expenditures that are basic research (not applied research) as defined in column (2).</p> <p><b>CONFIDENTIALITY</b><br/>Information received from individual institutions in lines d(1) and d(2), or estimates for basic research expenditures, will NOT be published or released; only aggregate totals will appear in tabulations.</p> |
|----------------------------------------------------------------|----------|----------------------------------------|------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| a. Federal Government                                          | 1110     | \$                                     | %                                                                            | <p><b>Basic research</b> is directed toward an increase of knowledge; it is research where the primary aim of the <b>investigator</b> is a fuller knowledge or understanding of the subject under study rather than a specific application thereof.</p>                                                                                                                                                                   |
| b. State and local governments                                 | 1125     |                                        |                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                           |
| c. Industry                                                    | 1150     |                                        |                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                           |
| d. Institution funds (sum of lines 1161 and 1162)              | 1160     |                                        |                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                           |
| (1) Institutionally financed organized research                | 1161     |                                        |                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                           |
| (2) Unreimbursed indirect costs and related sponsored research | 1162     |                                        |                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                           |
| e. All other sources                                           | 1175     |                                        |                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                           |
| f. TOTAL (sum of a through e)                                  | 1100     | \$                                     | %                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                           |

**Item 1A. How much of your total (item 1, line f) and Federal (item 1, line a) R&D expenditures were passed through by your institution to subrecipients? (If all information is not available, report those amounts that are available. Exclude vendor relationships.)**

| Subrecipients                         | Line No. | (Dollars in thousands) |             |
|---------------------------------------|----------|------------------------|-------------|
|                                       |          | (1) Total              | (2) Federal |
| To higher education subrecipients     | 1910     |                        |             |
| To other subrecipients                | 1921     |                        |             |
| To all subrecipients (sum of a and b) | 1900     | \$                     | \$          |

**Item 1B. How much of your total (item 1, line f) and Federal (item 1, line a) R&D expenditures did your institution receive as a subrecipient? (If all information is not available, report those amounts that are available. Exclude vendor relationships.)**

| Your Institution as a Subrecipient              | Line No. | (Dollars in thousands) |             |
|-------------------------------------------------|----------|------------------------|-------------|
|                                                 |          | (1) Total              | (2) Federal |
| From higher education pass-through entities     | 1610     |                        |             |
| From other pass-through entities                | 1620     |                        |             |
| From all pass-through entities (sum of a and b) | 1600     | \$                     | \$          |

**Item 2. Allocate your FY 2008 current fund expenditures (total and federally financed) for separately budgeted research and development (including indirect costs) by field of science and engineering.**

Please note that total R&D expenditures in line j, column (1) should be the same as reported in Item 1, line f.

Total Federal R&D expenditures in line j, column (2) should be the same as reported in Item 1, line a.

Please see pages 8 and 9 for the NSF/NCES Crosswalk of Discipline Codes.

| Field of Science and Engineering                           | Line No. | (Dollars in thousands) |             |
|------------------------------------------------------------|----------|------------------------|-------------|
|                                                            |          | (1) Total              | (2) Federal |
| <b>a. Engineering (Total)</b>                              | 1410     | \$                     | \$          |
| (1) Aeronautical & astronautical                           | 1411     |                        |             |
| (2) Bioengineering/biomedical engineering                  | 1418     |                        |             |
| (3) Chemical                                               | 1412     |                        |             |
| (4) Civil                                                  | 1413     |                        |             |
| (5) Electrical                                             | 1414     |                        |             |
| (6) Mechanical                                             | 1415     |                        |             |
| (7) Metallurgical & materials                              | 1417     |                        |             |
| (8) Other                                                  | 1416     |                        |             |
| <b>b. Physical Sciences (Total)</b>                        | 1420     |                        |             |
| (1) Astronomy                                              | 1421     |                        |             |
| (2) Chemistry                                              | 1422     |                        |             |
| (3) Physics                                                | 1423     |                        |             |
| (4) Other                                                  | 1424     |                        |             |
| <b>c. Environmental Sciences (Total)</b>                   | 1430     |                        |             |
| (1) Atmospheric                                            | 1431     |                        |             |
| (2) Earth sciences                                         | 1432     |                        |             |
| (3) Oceanography                                           | 1433     |                        |             |
| (4) Other                                                  | 1434     |                        |             |
| <b>d. Mathematical Sciences (Total)</b>                    | 1441     |                        |             |
| <b>e. Computer Sciences (Total)</b>                        | 1442     |                        |             |
| <b>f. Life Sciences (Total)</b>                            | 1450     |                        |             |
| (1) Agricultural                                           | 1451     |                        |             |
| (2) Biological                                             | 1452     |                        |             |
| (3) Medical                                                | 1453     |                        |             |
| (4) Other                                                  | 1454     |                        |             |
| <b>g. Psychology (Total)</b>                               | 1460     |                        |             |
| <b>h. Social Sciences (Total)</b>                          | 1470     |                        |             |
| (1) Economics                                              | 1471     |                        |             |
| (2) Political science                                      | 1472     |                        |             |
| (3) Sociology                                              | 1473     |                        |             |
| (4) Other                                                  | 1474     |                        |             |
| <b>i. Other Sciences, not elsewhere classified (Total)</b> | 1480     |                        |             |
| <b>j. Total (sum of a through i)</b>                       | 1400     | \$                     | \$          |

Please EXCLUDE from your response any R&D expenditures in the fields of education, law, humanities, music, the arts, physical education, library science, and all other non-science and engineering fields. These non-science and engineering R&D expenditures are reported in Item 2A.

**Item 3. Allocate the portion of your FY 2008 current fund expenditures (total and federally financed) for separately budgeted research and development that went for the purchase of research equipment by field of science and engineering.**

Please report that portion of current fund expenditures reported in items 1 and 2 that went for the purchase of research equipment. This includes all research equipment purchased under sponsored research project awards from current fund accounts.

For column (1), report current fund expenditures for R&D from all sources: Federal Government, State, county, municipal or other governments and their agencies (including State funds supporting R&D at agricultural experiment stations); industry; institution funds; and private foundations and voluntary health agencies, individuals, and associations.

For column (2), include funds from awards for R&D sponsored by agencies of the Federal Government.

Please see pages 8 and 9 for the NSF/NCES Crosswalk of Discipline Codes.

| Field of Science and Engineering                           | Line No. | (Dollars in thousands) |             |
|------------------------------------------------------------|----------|------------------------|-------------|
|                                                            |          | (1) Total              | (2) Federal |
| <b>a. Engineering (Total)</b>                              | 1810     | \$                     | \$          |
| (1) Aeronautical & astronautical                           | 1811     |                        |             |
| (2) Bioengineering/biomedical engineering                  | 1818     |                        |             |
| (3) Chemical                                               | 1812     |                        |             |
| (4) Civil                                                  | 1813     |                        |             |
| (5) Electrical                                             | 1814     |                        |             |
| (6) Mechanical                                             | 1815     |                        |             |
| (7) Metallurgical & materials                              | 1817     |                        |             |
| (8) Other                                                  | 1816     |                        |             |
| <b>b. Physical Sciences (Total)</b>                        | 1820     |                        |             |
| (1) Astronomy                                              | 1821     |                        |             |
| (2) Chemistry                                              | 1822     |                        |             |
| (3) Physics                                                | 1823     |                        |             |
| (4) Other                                                  | 1824     |                        |             |
| <b>c. Environmental Sciences (Total)</b>                   | 1830     |                        |             |
| (1) Atmospheric                                            | 1831     |                        |             |
| (2) Earth sciences                                         | 1832     |                        |             |
| (3) Oceanography                                           | 1833     |                        |             |
| (4) Other                                                  | 1834     |                        |             |
| <b>d. Mathematical Sciences (Total)</b>                    | 1841     |                        |             |
| <b>e. Computer Sciences (Total)</b>                        | 1842     |                        |             |
| <b>f. Life Sciences (Total)</b>                            | 1850     |                        |             |
| (1) Agricultural                                           | 1851     |                        |             |
| (2) Biological                                             | 1852     |                        |             |
| (3) Medical                                                | 1853     |                        |             |
| (4) Other                                                  | 1854     |                        |             |
| <b>g. Psychology (Total)</b>                               | 1860     |                        |             |
| <b>h. Social Sciences (Total)</b>                          | 1870     |                        |             |
| (1) Economics                                              | 1871     |                        |             |
| (2) Political science                                      | 1872     |                        |             |
| (3) Sociology                                              | 1873     |                        |             |
| (4) Other                                                  | 1874     |                        |             |
| <b>i. Other Sciences, not elsewhere classified (Total)</b> | 1880     |                        |             |
| <b>j. Total (sum of a through i)</b>                       | 1800     | \$                     | \$          |

Current fund expenditures in each field for scientific research equipment is that PORTION or SUBTOTAL of the amounts reported in the corresponding cells of the "Total" and "Federal" columns in Item 2.

**Item 2A. What were your current fund expenditures (total and federally financed) for separately budgeted research and development (including indirect costs) for non-science and engineering fields in FY 2008?**

**NOTE:** For rows 2A(a) through 2A(i), report only data that have not been reported in Items 1 and 2 on this survey. Non-S&E R&D should **include** any separately budgeted scholarly and creative activity, but should **exclude** training.

| Non-Science & Engineering Fields                  | Line No. | (Dollars in thousands) |             |
|---------------------------------------------------|----------|------------------------|-------------|
|                                                   |          | (1) Total              | (2) Federal |
| a. Education                                      | 1510     | \$                     | \$          |
| b. Law                                            | 1520     |                        |             |
| c. Humanities                                     | 1530     |                        |             |
| d. Visual & Performing Arts                       | 1540     |                        |             |
| e. Business and Management                        | 1550     |                        |             |
| f. Communication, Journalism, and Library Science | 1560     |                        |             |
| g. Social Work                                    | 1570     |                        |             |
| h. Other Non-S&E Fields (please specify)          | 1580     |                        |             |
|                                                   |          |                        |             |
| i. Total, Non-S&E Fields (sum of a through h)     | 1500     |                        |             |
|                                                   |          |                        |             |
| j. Total, S&E (from Item 2, line j)               | 1400     |                        |             |
| k. Grand Total (sum of i and j)                   | 2000     | \$                     | \$          |

**CROSSWALK BETWEEN NSF NON-SCIENCE & ENGINEERING FIELDS AND THE NATIONAL CENTER FOR EDUCATION STATISTICS (NCES) CLASSIFICATION OF INSTRUCTIONAL PROGRAMS (CIP)**

| Questionnaire Field                                   | CIP Code | CIP Program Category Title                                    |
|-------------------------------------------------------|----------|---------------------------------------------------------------|
| <b>Education</b>                                      | 13.xx    | Education                                                     |
| <b>Law</b>                                            | 22.xx    | Legal Professions and Studies                                 |
| <b>Humanities</b>                                     | 16.xx    | Foreign Languages, Literatures, and Linguistics               |
|                                                       | 23.xx    | English Language and Literature/Letters                       |
|                                                       | 24.xx    | Liberal Arts and Sciences, General Studies and Humanities     |
|                                                       | 38.xx    | Philosophy and Religious Studies                              |
|                                                       | 39.xx    | Theology and Religious Vocations                              |
|                                                       | 54.xx    | History (except History of Science)                           |
| <b>Visual &amp; Performing Arts</b>                   | 50.xx    | Visual and Performing Arts                                    |
| <b>Business and Management</b>                        | 52.xx    | Business, Management, Marketing, and Related Support Services |
| <b>Communication, Journalism, and Library Science</b> | 09.xx    | Communication, Journalism and Related Programs                |
|                                                       | 25.xx    | Library Science                                               |
|                                                       | 10.xx    | Communications Technologies/Technicians and Support Services  |
| <b>Social Work</b>                                    | 44.07    | Social Work                                                   |
| <b>Other Non-S&amp;E Fields</b>                       | 31.xx    | Parks, Recreation, Leisure and Fitness Studies                |
|                                                       | 29.xx    | Military Technologies                                         |

**Item 2B. What were the Federal Government agency sources for your FY 2008 federally financed current fund expenditures for separately budgeted research and development (including indirect costs) (item 2, column 2) by field of science and engineering?**

Total Federal expenditures reported in Item 2B, column 1 should be the same as the Federal expenditures reported in Item 2, column 2.

**Allocate funding to the original sources whenever possible. If that information is unknown, report the proximate funding source.**

**KEY:** USDA, Department of Agriculture; DoD, Department of Defense; DOE, Department of Energy; HHS, Department of Health and Human Services; NASA, National Aeronautics and Space Administration; NSF, National Science Foundation. "Other" Federal sources include all other Federal agencies.

|                                           |          | (Dollars in thousands) |                           |            |            |             |             |            |              |
|-------------------------------------------|----------|------------------------|---------------------------|------------|------------|-------------|-------------|------------|--------------|
| Field of Science and Engineering          | Line No. | (1)<br>Total Federal   | Specific Federal Agencies |            |            |             |             |            |              |
|                                           |          |                        | (2)<br>USDA               | (3)<br>DoD | (4)<br>DOE | (5)<br>HHS* | (6)<br>NASA | (7)<br>NSF | (8)<br>Other |
| a. Engineering (Total)                    | 1410     | \$                     |                           |            |            |             |             |            |              |
| (1) Aeronautical & astronautical          | 1411     |                        |                           |            |            |             |             |            |              |
| (2) Bioengineering/biomedical engineering | 1418     |                        |                           |            |            |             |             |            |              |
| (3) Chemical                              | 1412     |                        |                           |            |            |             |             |            |              |
| (4) Civil                                 | 1413     |                        |                           |            |            |             |             |            |              |
| (5) Electrical                            | 1414     |                        |                           |            |            |             |             |            |              |
| (6) Mechanical                            | 1415     |                        |                           |            |            |             |             |            |              |
| (7) Metallurgical & materials             | 1417     |                        |                           |            |            |             |             |            |              |
| (8) Other                                 | 1416     |                        |                           |            |            |             |             |            |              |
| b. Physical Sciences (Total)              | 1420     |                        |                           |            |            |             |             |            |              |
| (1) Astronomy                             | 1421     |                        |                           |            |            |             |             |            |              |
| (2) Chemistry                             | 1422     |                        |                           |            |            |             |             |            |              |
| (3) Physics                               | 1423     |                        |                           |            |            |             |             |            |              |
| (4) Other                                 | 1424     |                        |                           |            |            |             |             |            |              |
| c. Environmental Sciences (Total)         | 1430     |                        |                           |            |            |             |             |            |              |
| (1) Atmospheric                           | 1431     |                        |                           |            |            |             |             |            |              |
| (2) Earth sciences                        | 1432     |                        |                           |            |            |             |             |            |              |
| (3) Oceanography                          | 1433     |                        |                           |            |            |             |             |            |              |
| (4) Other                                 | 1434     |                        |                           |            |            |             |             |            |              |
| d. Mathematical Sciences (Total)          | 1441     |                        |                           |            |            |             |             |            |              |
| e. Computer Sciences (Total)              | 1442     |                        |                           |            |            |             |             |            |              |
| f. Life Sciences (Total)                  | 1450     |                        |                           |            |            |             |             |            |              |
| (1) Agricultural                          | 1451     |                        |                           |            |            |             |             |            |              |
| (2) Biological                            | 1452     |                        |                           |            |            |             |             |            |              |
| (3) Medical                               | 1453     |                        |                           |            |            |             |             |            |              |
| (4) Other                                 | 1454     |                        |                           |            |            |             |             |            |              |
| g. Psychology (Total)                     | 1460     |                        |                           |            |            |             |             |            |              |
| h. Social Sciences (Total)                | 1470     |                        |                           |            |            |             |             |            |              |
| (1) Economics                             | 1471     |                        |                           |            |            |             |             |            |              |
| (2) Political science                     | 1472     |                        |                           |            |            |             |             |            |              |
| (3) Sociology                             | 1473     |                        |                           |            |            |             |             |            |              |
| (4) Other                                 | 1474     |                        |                           |            |            |             |             |            |              |
| i. Other Sciences (Total)                 | 1480     |                        |                           |            |            |             |             |            |              |
| j. Total (sum of a through i)             | 1400     | \$                     |                           |            |            |             |             |            |              |

\* Includes NIH.

Please EXCLUDE from your response any R&D expenditures in the fields of education, law, humanities, music, the arts, physical education, library science, and all other non-science and engineering fields.

# CROSSWALK BETWEEN NSF FIELDS OF SCIENCE & ENGINEERING AND THE NATIONAL CENTER FOR EDUCATION STATISTICS (NCES) CLASSIFICATION OF INSTRUCTIONAL PROGRAMS

The left-hand column shows each of the detailed fields as displayed on the questionnaire form. The right-hand column shows the NCES fields that are included within the NSF category as well as some additional illustrative disciplines. These additional disciplines are intended to be guidelines—not sharp definitions—as to what should be reported under a particular field.

| QUESTIONNAIRE FIELD                        | NCES CLASSIFICATION AND ADDITIONAL ILLUSTRATIVE DISCIPLINES                                                                                                                                                           |                                                                                                                                                              |         |                                                                                                                                                       |         |                                   |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------|-----------------------------------|
| a. ENGINEERING                             |                                                                                                                                                                                                                       |                                                                                                                                                              |         |                                                                                                                                                       |         |                                   |
| (1) Aeronautical and Astronautical         | 14.02                                                                                                                                                                                                                 | Aerospace, Aeronautical and Astronautical Engineering<br>(also aerodynamics, space technology)                                                               |         |                                                                                                                                                       |         |                                   |
| (2) Bioengineering/ Biomedical Engineering | 14.05                                                                                                                                                                                                                 | Biomedical/Medical Engineering<br>(also all bioengineering)                                                                                                  |         |                                                                                                                                                       |         |                                   |
| (3) Chemical                               | 03.0509                                                                                                                                                                                                               | Wood Science and Wood Products/Pulp and Paper Technology                                                                                                     | 14.25   | Petroleum Engineering                                                                                                                                 |         |                                   |
|                                            |                                                                                                                                                                                                                       |                                                                                                                                                              | 14.32   | Polymer/Plastics Engineering                                                                                                                          |         |                                   |
|                                            | 14.07                                                                                                                                                                                                                 | Chemical Engineering<br>(also petroleum refining process)                                                                                                    |         |                                                                                                                                                       |         |                                   |
| (4) Civil                                  | 04.02                                                                                                                                                                                                                 | Architecture                                                                                                                                                 | 14.08   | Civil Engineering                                                                                                                                     |         |                                   |
|                                            | 14.04                                                                                                                                                                                                                 | Architectural Engineering                                                                                                                                    | 14.14   | Environmental/ Environmental Health Engineering<br>(also geotechnical, hydraulic, hydrologic, sanitary and environmental, structural, transportation) |         |                                   |
| (5) Electrical                             | 14.09                                                                                                                                                                                                                 | Computer Engineering, General                                                                                                                                |         |                                                                                                                                                       |         |                                   |
|                                            | 14.10                                                                                                                                                                                                                 | Electrical, Electronics, and Communications Engineering<br>(also power engineering)                                                                          |         |                                                                                                                                                       |         |                                   |
| (6) Mechanical                             | 14.11                                                                                                                                                                                                                 | Engineering Mechanics                                                                                                                                        | 14.19   | Mechanical Engineering                                                                                                                                |         |                                   |
| (7) Metallurgical & Materials              | 14.06                                                                                                                                                                                                                 | Ceramic Sciences and Engineering                                                                                                                             | 14.21   | Mining and Mineral Engineering                                                                                                                        | 14.31   | Materials Science                 |
|                                            | 14.18                                                                                                                                                                                                                 | Materials Engineering                                                                                                                                        |         |                                                                                                                                                       | 40.9999 | Physical Sciences, Other          |
|                                            | 14.20                                                                                                                                                                                                                 | Metallurgical Engineering                                                                                                                                    | 14.28   | Textile Sciences and Engineering                                                                                                                      |         |                                   |
|                                            | (also welding)                                                                                                                                                                                                        |                                                                                                                                                              |         |                                                                                                                                                       |         |                                   |
| (8) Other                                  | 14.01                                                                                                                                                                                                                 | Engineering, General                                                                                                                                         | 14.22   | Naval Architecture and Marine Engineering                                                                                                             | 14.24   | Ocean Engineering                 |
|                                            | 14.12                                                                                                                                                                                                                 | Engineering Physics                                                                                                                                          |         |                                                                                                                                                       | 14.27   | Systems Engineering               |
|                                            | 14.13                                                                                                                                                                                                                 | Engineering Science                                                                                                                                          | 14.23   | Nuclear Engineering                                                                                                                                   | 14.99   | Engineering, Other                |
|                                            |                                                                                                                                                                                                                       |                                                                                                                                                              |         |                                                                                                                                                       | 30.06   | Systems Science and Theory        |
|                                            | (also agricultural engineering, marine and ocean engineering systems)                                                                                                                                                 |                                                                                                                                                              |         |                                                                                                                                                       |         |                                   |
| b. PHYSICAL SCIENCES                       |                                                                                                                                                                                                                       |                                                                                                                                                              |         |                                                                                                                                                       |         |                                   |
| (1) Astronomy                              | 40.02                                                                                                                                                                                                                 | Astronomy and Astrophysics<br>(also Gamma-ray, neutrino, optical and radio, X-ray)                                                                           |         |                                                                                                                                                       |         |                                   |
| (2) Chemistry                              | 40.05                                                                                                                                                                                                                 | Chemistry<br>(also analytical, inorganic, organic, organo-metallic, pharmaceutical, physical, polymer sciences (except biochemistry))                        |         |                                                                                                                                                       |         |                                   |
| (3) Physics                                | 40.08                                                                                                                                                                                                                 | Physics<br>(also acoustics, atomic/molecular, chemical, condensed matter, elementary particles, nuclear structure, optics, plasma, theoretical/mathematical) |         |                                                                                                                                                       |         |                                   |
| (4) Other                                  | 40.01                                                                                                                                                                                                                 | Physical Sciences                                                                                                                                            |         |                                                                                                                                                       |         |                                   |
|                                            | 40.99                                                                                                                                                                                                                 | Physical Sciences, Other<br>(used for multidisciplinary projects within physical sciences and for disciplines not requested separately)                      |         |                                                                                                                                                       |         |                                   |
| c. ENVIRONMENTAL SCIENCES                  |                                                                                                                                                                                                                       |                                                                                                                                                              |         |                                                                                                                                                       |         |                                   |
| (1) Atmospheric                            | 40.04                                                                                                                                                                                                                 | Atmospheric Sciences and Meteorology<br>(also aeronomy, extraterrestrial atmospheres, solar, weather modification)                                           |         |                                                                                                                                                       |         |                                   |
| (2) Earth Sciences                         | 15.1102                                                                                                                                                                                                               | Survey Technology/ Surveying                                                                                                                                 | 40.0601 | Geology/Earth Science, General                                                                                                                        |         |                                   |
|                                            | 40.06                                                                                                                                                                                                                 | Geological and Earth Sciences/ Geosciences                                                                                                                   | 45.0702 | Cartography                                                                                                                                           |         |                                   |
|                                            | (also engineering geophysics, general geology, geodesy and gravity, geomagnetism, hydrology, inorganic, isotopic, lab geophysics, organic geochemistry, paleomagnetism, paleontology, physical geography, seismology) |                                                                                                                                                              |         |                                                                                                                                                       |         |                                   |
| (3) Oceanography                           | 26.1302                                                                                                                                                                                                               | Marine Biology and Biological Oceanography                                                                                                                   |         |                                                                                                                                                       |         |                                   |
|                                            | 40.0607                                                                                                                                                                                                               | Oceanography, Chemical and Physical<br>(also biological, chemical, geological, physical)                                                                     |         |                                                                                                                                                       |         |                                   |
| (4) Other                                  | (used for multidisciplinary projects within Earth, Atmospheric, and Ocean Sciences)                                                                                                                                   |                                                                                                                                                              |         |                                                                                                                                                       |         |                                   |
| d. MATHEMATICAL SCIENCES                   | 14.3701                                                                                                                                                                                                               | Operations Research                                                                                                                                          | 27.03   | Applied Mathematics                                                                                                                                   | 27.99   | Mathematics and Statistics, Other |
|                                            | 27.01                                                                                                                                                                                                                 | Mathematics                                                                                                                                                  | 27.05   | Statistics                                                                                                                                            | 30.08   | Mathematics and Computer Science  |
|                                            | (also algebra, analysis, foundations and logic, geometry, numerical analysis, topology)                                                                                                                               |                                                                                                                                                              |         |                                                                                                                                                       |         |                                   |

| QUESTIONNAIRE FIELD   | NCES Classification and Additional Illustrative Disciplines (cont.) |                                                                                                                                                                                            |         |                                                            |         |                                                         |
|-----------------------|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|------------------------------------------------------------|---------|---------------------------------------------------------|
| e. COMPUTER SCIENCES  | 11.                                                                 | Computer and Information Sciences and Support Services<br>(also design, development, and application of computer capabilities to data storage and manipulation, information science)       | 52.1201 | Management Information Systems, General                    |         |                                                         |
| f. LIFE SCIENCES      | 01.03                                                               | Agricultural Production Operations                                                                                                                                                         | 01.07   | International Agriculture                                  | 03.     | Natural Resources and Conservation                      |
| (1) Agricultural      | 01.0303                                                             | Aquaculture<br>(also agricultural chemistry, agronomy, animal science, conservation, fish and wildlife, forestry, horticulture)                                                            | 01.12   | Soil Sciences                                              | 04.06   | Landscape Architecture                                  |
| (2) Biological        | 19.05                                                               | Foods, Nutrition, and Related Services                                                                                                                                                     | 26.0505 | Parasitology                                               | 26.1001 | Pharmacology                                            |
|                       | 26.01                                                               | Biology, General                                                                                                                                                                           | 26.0507 | Immunology                                                 | 26.1004 | Toxicology                                              |
|                       | 26.0202                                                             | Biochemistry                                                                                                                                                                               | 26.0701 | Zoology/Animal Biology                                     | 26.1101 | Biometry/Biometrics                                     |
|                       | 26.0203                                                             | Biophysics                                                                                                                                                                                 | 26.0702 | Entomology                                                 | 26.1102 | Biostatistics                                           |
|                       | 26.03                                                               | Botany/Plant Biology                                                                                                                                                                       | 26.0707 | Animal Physiology                                          | 26.1301 | Ecology                                                 |
|                       | 26.04                                                               | Cell/Cellular Biology and Anatomical Sciences                                                                                                                                              | 26.0799 | Zoology/Animal Biology, Other                              | 26.1309 | Epidemiology                                            |
|                       | 26.0403                                                             | Anatomy                                                                                                                                                                                    | 26.0804 | Animal Genetics                                            | 26.99   | Biological and Biomedical Sciences, Other               |
|                       | 26.05                                                               | Microbiological Sciences and Immunology                                                                                                                                                    | 26.09   | Physiology, Pathology and Related Sciences                 | 30.1901 | Nutrition Sciences                                      |
|                       | 26.0503                                                             | Medical Microbiology and Bacteriology<br>(also allergies and immunology, biogeography, biotechnology, pathology, physical anthropology, virology)                                          | 26.0910 | Pathology/Experimental Pathology                           |         |                                                         |
| (3) Medical           | 26.0209                                                             | Radiation Biology/Radiobiology                                                                                                                                                             | 51.1201 | Medicine (MD)                                              | 51.20   | Pharmacy, Pharmaceutical Sciences, and Administration   |
|                       | 26.9999                                                             | Biological and Biomedical Sciences, Other                                                                                                                                                  | 51.1610 | Psychiatric/Mental Health Nurse/Nursing                    | 51.21   | Podiatric Medicine/Podiatry (DPM)                       |
|                       | 30.2401                                                             | Neuroscience                                                                                                                                                                               | 51.17   | Optometry (OD)                                             | 51.22   | Public Health                                           |
|                       | 51.04                                                               | Dentistry (DDS, DMD)                                                                                                                                                                       | 51.19   | Osteopathic Medicine/Osteopathy (DO)                       | 51.24   | Veterinary Medicine (DVM) <sup>1</sup>                  |
|                       |                                                                     | Anesthesiology                                                                                                                                                                             |         | Internal Medicine                                          |         | Ophthalmology                                           |
|                       |                                                                     | Cardiology                                                                                                                                                                                 |         | Medical Programs                                           |         | Orthopedics/Orthopedic Surgery                          |
|                       |                                                                     | Colon and Rectal Surgery                                                                                                                                                                   |         | Other                                                      |         | Otorhinolaryngology                                     |
|                       |                                                                     | Dental/Oral Surgery                                                                                                                                                                        |         | Neonatal-Perinatal Medicine                                |         | Pediatrics                                              |
|                       |                                                                     | Dermatology                                                                                                                                                                                |         | Neurological Surgery                                       |         | Pharmacology                                            |
|                       |                                                                     | Family Medicine                                                                                                                                                                            |         | Neurology                                                  |         | Physical and Rehabilitative Medicine                    |
|                       |                                                                     | Gastroenterology                                                                                                                                                                           |         | Nuclear Medicine                                           |         | Plastic Surgery                                         |
|                       |                                                                     | General Surgery                                                                                                                                                                            |         | Nuclear Radiology                                          |         | Preventive Medicine                                     |
|                       |                                                                     | Geriatric Medicine                                                                                                                                                                         |         | Obstetrics and Gynecology                                  |         | Psychiatry                                              |
|                       |                                                                     | Hematology                                                                                                                                                                                 |         | Oncology                                                   |         | Thoracic Surgery                                        |
|                       |                                                                     | (exclude all residency programs)                                                                                                                                                           |         |                                                            |         | Urology                                                 |
| (4) Other             | 30.11                                                               | Gerontology                                                                                                                                                                                | 51.10   | Clinical/Medical Laboratory Science and Allied Professions | 51.2308 | Physical Therapy/Therapist                              |
|                       | 51.02                                                               | Communication Disorders Sciences and Services                                                                                                                                              | 51.16   | Nursing                                                    | 51.2399 | Rehabilitation and Therapeutic Professions, Other       |
|                       | 51.07                                                               | Health and Medical Administrative Services                                                                                                                                                 | 51.2306 | Occupational Therapy/Therapist                             | 51.99   | Health Professions and Related Clinical Sciences, Other |
|                       |                                                                     | (used for multidisciplinary projects within life sciences)                                                                                                                                 |         |                                                            |         |                                                         |
| g. PSYCHOLOGY         | 42.01                                                               | Psychology, General                                                                                                                                                                        | 42.17   | School Psychology                                          |         |                                                         |
|                       | 42.02                                                               | Clinical Psychology                                                                                                                                                                        | 51.2301 | Art Therapy/Therapist                                      |         |                                                         |
|                       |                                                                     | (also animal behavior, educational, experimental, human development and personality, social)                                                                                               |         |                                                            |         |                                                         |
| h. SOCIAL SCIENCES    | 01.0103                                                             | Agricultural Economics                                                                                                                                                                     | 45.06   | Economics                                                  | 52.06   | Business/Managerial Economics                           |
| (1) Economics         |                                                                     | (also applied, development, econometrics, industrial, international, labor, public finance and fiscal policy, quantitative, resource)                                                      |         |                                                            |         |                                                         |
| (2) Political Science | 44.04                                                               | Public Administration                                                                                                                                                                      | 45.09   | International Relations and Affairs                        |         |                                                         |
|                       | 44.05                                                               | Public Policy Analysis                                                                                                                                                                     | 45.10   | Political Science and Government                           |         |                                                         |
|                       | 44.99                                                               | Public Administration and Social Service Professions, Other<br>(also comparative government, legal systems, political theory, regional studies)                                            |         |                                                            |         |                                                         |
| (3) Sociology         | 45.02                                                               | Anthropology (Social and Cultural only)<br>(also comparative and historical, complex organizations, cultural and social structure, group interactions, social problems and welfare theory) | 45.05   | Demography and Population Studies                          | 45.11   | Sociology                                               |
| (4) Other             | 04.03                                                               | City/Urban, Community and Regional Planning                                                                                                                                                | 43.01   | Criminal Justice and Corrections                           | 45.03   | Archeology                                              |
|                       | 05.                                                                 | Area, Ethnic, Cultural, and Gender Studies                                                                                                                                                 | 44.02   | Community Organization and Advocacy                        | 45.07   | Geography and Cartography                               |
|                       | 16.0102                                                             | Linguistics<br>(also history of science, socioeconomic geography)                                                                                                                          | 45.01   | Social Sciences, General                                   | 45.12   | Urban Studies/Affairs                                   |
|                       |                                                                     |                                                                                                                                                                                            |         |                                                            | 45.99   | Social Sciences, Other                                  |
| i. OTHER, n.e.c.      |                                                                     | (used when the multidisciplinary and interdisciplinary aspects make the classification under one primary field impossible)                                                                 |         |                                                            |         |                                                         |

<sup>1</sup> Institutions with schools of veterinary medicine should distribute R&D expenditures among the appropriate disciplines (agricultural, biological, and medical) rather than only in medical sciences.

# Questions and Answers

This document answers common questions about the academic R&D expenditures survey.

## DATA USES AND AVAILABILITY

### How are these data typically used?

Congress has directed NSF to provide “a central clearinghouse for the collection, interpretation, and analysis of data on scientific and engineering resources and to provide a source of information for policy formulation by other agencies of the Federal Government....” As part of its response, the Division of Science Resources Statistics (SRS) conducts annual surveys of the research and development (R&D) expenditures at the Nation’s universities and colleges.

Congress and Federal and State government planners use the data for science policy analysis, national and international studies, legislative hearing reports, budget formulation sessions, and other measurements of the adequacy of the Nation’s research base. Academic institutions use the information for policy analysis, publicity, and other purposes. Industrial firms often request data to prepare for on-campus recruiting. The data often appear in higher education studies and publications.

### How are the data made available?

NSF’s annual *Survey of Research and Development Expenditures at Universities and Colleges* compiles detailed data in a comprehensive document, available on request. Institutional profiles show trend data for responses at the institutional level from all academic science and engineering (S&E) surveys.

Survey data are now available on the Web. To obtain the most recent survey publications and data tables, data files, institutional profiles, and access to WebCASPAR, the Web-based Computer-Aided Science Policy Analysis and Research database system, direct your browser to <http://www.nsf.gov/statistics/>.

## FIELD OF SCIENCE CLASSIFICATIONS

### How should I assign field classifications for R&D performed in multidisciplinary centers?

Multidisciplinary research should be categorized by individual research project according to the nature of the research performed. When individual projects encompass multiple fields of S&E, prorate expenditures to report the proportions of each discipline involved. Do not lump funds together into “other” field categories unless the type of research is actually defined as “other.” NSF recommends crediting such research to the appropriate S&E discipline when the project first begins.

### How should I allocate research dollars spent for computing or supercomputing services?

Report research dollars spent for computer usage to the individual fields of science and engineering for which the R&D is performed. Do not report these funds in computer science, unless computer science research was performed.

### What fields should be excluded from the science and engineering totals?

Exclude fields that are considered to be non-science—education, law, humanities, business, music, the arts, library science, and physical education. Note that you would report separately budgeted R&D for the philosophy of science (a science category), but not philosophy (one of the humanities). The NSF/NCES Crosswalk included with the questionnaire lists all S&E fields.

## BASIC RESEARCH

### How should basic research be calculated?

The percentage of basic research should be defined at the individual grant level by each principal researcher. Where this is not possible, grants should be reviewed by each department head or other relevant research coordinator.

## SOURCES OF FUNDING

### Should faculty practice plan income be included in the survey?

Expenditures for faculty practice plans are not considered research and should not be included. If income from such plans is used to fund other research and the funds are separately budgeted, then the expenditures should be included in institutional funds.

### How much of our administrative costs can be reported in the survey?

Administrative salaries and other administrative costs, particularly at your organized research units, can be reported only if funded through projects specifically restricted and budgeted for research. General administrative costs should not be reported.

### How should I report institutional funds?

All research dollars reported for your institution should be funds that are separately budgeted and restricted for research, such as sponsored research accounts or general accounts that are specifically budgeted for research. Do not include funds not specifically budgeted for research.

If your institution does not track underrecovery of indirect costs, use the underrecovery formula included in the questionnaire instructions. Do not forget to include and distribute unreimbursed indirect costs by detailed field in survey Item 2.

Be sure to report all indirect costs related to your institutional funds.

### Can I report donated research equipment in the survey?

Since donated research equipment is not typically captured in university accounting systems, the value of donated research equipment should not be reported.

## COLLABORATIVE RESEARCH ARRANGEMENTS

### Should I report expenditures received through collaborative research ventures with other institutions?

Report only what your institution actually expends and accounts for when participating in joint research ventures.

### How do I distinguish between being a subrecipient of pass-through funds and being a subcontractor of R&D services?

For Federal awards, a subrecipient is an entity that receives Federal financial assistance from the State or any other entity to administer a program (OMB Circular A-133, Section .210 (revised)). The subrecipient actually administers or controls the program, as opposed to the subcontractor who contracts for a specific service on a per-unit basis. A key factor in determining if a subrecipient arrangement exists is determining if the entity assumes the responsibility to administer the program. Subrecipients tend to be the co-authors of publications, writers of technical reports discussing findings, inventors, etc. Unlike a subrecipient relationship, a subcontract is a procurement of goods and/or services. Payments to subcontractors are expenditures for services, not expenditures for research, and are different from pass-through funds to subrecipients.

## ORGANIZATIONAL UNITS

### Which organizational units should I include in the survey?

Include research conducted through units that are considered part of your institution's organizational structure. For example, report expenditures from branch campuses, medical schools, agricultural stations, research centers and institutes, and any other units whose expenditures are separately budgeted **and are accounted for by your institution's financial system**. Exclude R&D expenditures performed by federally funded research and development centers (FFRDCs), nonprofit institutions, and private laboratories. Do not report salaries of faculty doing research at outside institutions unless your institution accounts for the funding of that research.

*For more information, contact Survey Support at 1-866-349-8626 or [support@nsfrdsurvey.org](mailto:support@nsfrdsurvey.org). For general questions regarding survey procedures and data reporting, contact Ronda Britt of NSF at [rbritt@nsf.gov](mailto:rbritt@nsf.gov) or (703) 292-7765.*