


 NATIONAL SCIENCE FOUNDATION  
 ARLINGTON, VA 22230

**SURVEY OF RESEARCH AND DEVELOPMENT EXPENDITURES  
 AT UNIVERSITIES AND COLLEGES, FY 1997**

Organizations are requested to complete and return this form to:

**Quantum Research Corporation**  
**7315 Wisconsin Avenue, Suite 400W**  
**Bethesda, MD 20814-3202**

 If you prefer, your response to the survey may be sent by e-mail to:  
**kgreenbe@qrc.com**
**This form should be returned by January 9, 1998.**

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 and your failure to provide some or all of the information will in no way adversely affect your institution.

All financial data requested on this form 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. **Exclude** data for federally funded research and development centers (FFRDCs). Data for these facilities are collected separately.

Please correct if name or address has changed

**If you have any questions please contact Marge Machen of NSF at (703) 306-1772, or Kevin Greenberg of QRC at (301) 657-3077, ext. 180.**
**Financial data are requested for your institution's 1997 fiscal year.**

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

|     |   |   |   |   |   |   |   |   |    |    |     |
|-----|---|---|---|---|---|---|---|---|----|----|-----|
| 1   | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12  |
| JAN |   |   |   |   |   |   |   |   |    |    | DEC |

**Yes No**
**Does your institution have a medical school?**
 
**If so, do you include the data for the medical school on this survey?**
 

It is estimated that response to this survey will require 18 hours. If you wish to comment on this burden, please contact Gail A. McHenry of NSF at (703) 306-1125, ext. 2010, or e-mail gmchenry@nsf.gov.

How many person hours were required to complete this form? \_\_\_\_\_

Date submitted \_\_\_\_\_

**Scope:**

 This survey collects data on expenditures by universities and colleges for separately budgeted research and development (R&D) in science and engineering. Definitions used are compatible with OMB Circular A-21, revised April 26, 1996. 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.

**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.

**PERSON WHO SUBMITTED THIS FORM (PLEASE TYPE OR PRINT)**

|        |                   |
|--------|-------------------|
| NAME:  | TELEPHONE NUMBER: |
| TITLE: | E-MAIL:           |

**PERSON WHO PREPARED THIS FORM (IF DIFFERENT FROM ABOVE)**

|        |                   |
|--------|-------------------|
| NAME:  | TELEPHONE NUMBER: |
| TITLE: | E-MAIL:           |

**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, as well as all other non-science fields. 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 reported under "All other sources" (line 1175).
- 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. Funds from foundations that are affiliated with, or granted solely to your institution, should be included under line 1160, "Institution funds." Funds for R&D received from a health agency that is a unit of a State or local government should be reported under "State and local governments" (line 1125). Also include gifts from individuals that are restricted by the donor to research.

**ITEM 1. CURRENT FUND EXPENDITURES FOR SEPARATELY BUDGETED RESEARCH AND DEVELOPMENT IN THE SCIENCES AND ENGINEERING, BY SOURCE OF FUNDS: FY 1997 (Include indirect costs)**

| Source of Funds  | Line No. | (1)<br>Total<br>(Dollars in<br>Thousands) | (2)<br>Percentages of<br>Total & Federal<br>Funds<br>That Are Basic<br>Research   |
|--|----------|---|---|
| a. Federal Government  | 1110     | \$  | _____ %   |
| b. State and local governments                                 | 1125     |   | <b>Basic research</b> is directed toward an increase of knowledge; it is research where the primary aim of the investigator is a fuller knowledge or understanding of the subject under study rather than a specific application thereof. |
| 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     | \$  | _____ %   |

**BASIC RESEARCH**  
Please provide the percentages of total and Federal expenditures that are basic research (not applied research) as defined in column (2).

**CONFIDENTIALITY**  
Information received from individual institutions in lines 1161 and 1162, estimates for basic research expenditures, or data provided in item 1A will NOT be published or released; only aggregate totals will appear in tabulations.

**ITEM 1A. CURRENT FUND EXPENDITURES (TOTAL AND FEDERALLY FINANCED) FOR SEPARATELY BUDGETED RESEARCH AND DEVELOPMENT IN THE SCIENCES AND ENGINEERING PASSED THROUGH THE INSTITUTION TO SUBRECIPIENTS**

How much of your total R&D (line 1100) and Federal R&D (line 1110) expenditures was passed through by your institution to subrecipients?

| Subrecipients             | Line No. | Dollars in Thousands |             |
|---------------------------|----------|----------------------|-------------|
|                           |          | (1) Total            | (2) Federal |
| Educational subrecipients | 1910     |                      |             |
| Other subrecipients       | 1920     |                      |             |
| Total                     | 1900     |                      |             |

For Federal awards, **subrecipient** means the 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 April 22, 1996) For awards from nonfederal sources, the subrecipient definition is analogous to the Federal one.

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

**ITEM 2. CURRENT FUND EXPENDITURES  
(TOTAL AND FEDERALLY FINANCED)  
FOR SEPARATELY BUDGETED RESEARCH AND DEVELOPMENT,  
BY FIELD OF SCIENCE AND ENGINEERING: FY 1997  
(Include indirect costs)**

Please note that total R&D expenditures in line 1400, column (1) should be the same as reported in item 1, line 1100, column 1.

Federally financed R&D expenditures in line 1400, column (2) should be the same as reported in item 1, line 1110, column 1.

| Field of science & engineering                      | Line No. | (Dollars in thousands) |             |
|---|----------|------------------------|-------------|
|   |          | (1) Total              | (2) Federal |
| 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, not elsewhere classified (TOTAL) | 1480     |                        |             |
| j. TOTAL (sum of a through i)                       | 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.

**ITEM 3. CURRENT FUND EXPENDITURES FOR RESEARCH EQUIPMENT (TOTAL AND FEDERALLY FINANCED)  
FOR SEPARATELY BUDGETED RESEARCH AND DEVELOPMENT,  
BY FIELD OF SCIENCE AND ENGINEERING: FY 1997**

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.

| Field of science & engineering                      | Line No. | (Dollars in thousands) |             |
|---|----------|------------------------|-------------|
|   |          | (1) Total              | (2) Federal |
| a. ENGINEERING (TOTAL)                              | 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. PHYSICAL SCIENCES (TOTAL)                        | 1820     |                        |             |
| (1) Astronomy                                       | 1821     |                        |             |
| (2) Chemistry                                       | 1822     |                        |             |
| (3) Physics   | 1823     |                        |             |
| (4) Other   | 1824     |                        |             |
| c. ENVIRONMENTAL SCIENCES (TOTAL)                   | 1830     |                        |             |
| (1) Atmospheric                                     | 1831     |                        |             |
| (2) Earth sciences                                  | 1832     |                        |             |
| (3) Oceanography                                    | 1833     |                        |             |
| (4) Other   | 1834     |                        |             |
| d. MATHEMATICAL SCIENCES (TOTAL)                    | 1841     |                        |             |
| e. COMPUTER SCIENCES (TOTAL)                        | 1842     |                        |             |
| f. LIFE SCIENCES (TOTAL)                            | 1850     |                        |             |
| (1) Agricultural                                    | 1851     |                        |             |
| (2) Biological                                      | 1852     |                        |             |
| (3) Medical   | 1853     |                        |             |
| (4) Other   | 1854     |                        |             |
| g. PSYCHOLOGY (TOTAL)                               | 1860     |                        |             |
| h. SOCIAL SCIENCES (TOTAL)                          | 1870     |                        |             |
| (1) Economics                                       | 1871     |                        |             |
| (2) Political science                               | 1872     |                        |             |
| (3) Sociology                                       | 1873     |                        |             |
| (4) Other   | 1874     |                        |             |
| i. OTHER SCIENCES, not elsewhere classified (TOTAL) | 1880     |                        |             |
| j. TOTAL (sum of a through i)                       | 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.

**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.

| <b>Questionnaire Field</b>   | <b>NCES Classification and Additional Illustrative Disciplines</b>   |  |   |
|--|--|--|---|
| <b>a. ENGINEERING</b>  |  |  |   |
| (1) <b>Aeronautical &amp; Astronautical</b>                        | 14.02 Aerospace, Aeronautical, and Astronautical Engineering<br>(also aerodynamics, space technology)  |  |   |
| (2) <b>Bioengineering/ Biomedical Engineering</b>                  | 14.05 Bioengineering and Biomedical Engineering  |  |   |
| (3) <b>Chemical</b>  | 03.0509 Wood Science<br>(also petroleum refining process)  | 14.07 Chemical Engineering<br>14.32 Polymer/Plastics Engineering   | 14.25 Petroleum Engineering   |
| (4) <b>Civil</b>   | 04.02 Architecture<br>14.14 Environmental/Environmental Health Engineering<br>(also geotechnical, hydraulic, hydrologic, sanitary and environmental, structural, transportation)   |  | 14.04 Architectural Engineering<br>14.08 Civil Engineering  |
| (5) <b>Electrical</b>  | 14.09 Computer Engineering<br>(also power engineering)   | 14.10 Electrical, Electronics, and Communications Engineering  |   |
| (6) <b>Mechanical</b>  | 14.11 Engineering Mechanics  | 14.19 Mechanical Engineering   |   |
| (7) <b>Metallurgical &amp; Materials</b>                           | 14.06 Ceramic Sciences and Eng.<br>14.18 Materials Engineering<br>14.28 Textile Sciences and Eng.<br>(also welding)  | 14.15 Geological Engineering<br>14.20 Metallurgical Engineering<br>14.31 Materials Science   | 14.16 Geophysical Engineering<br>14.21 Mining and Mineral Eng.<br>40.0701 Metallurgy  |
| (8) <b>Other</b>   | 14.01 Engineering, General<br>14.13 Engineering Science<br>14.23 Nuclear Engineering<br>14.27 Systems Engineering<br>14.99 Engineering, Other<br>(also marine and ocean engineering systems)   | 14.03 Agricultural Engineering<br>14.17 Industrial/Manufacturing Eng.<br>14.24 Ocean Engineering<br>14.29 Engineering Design<br>30.06 Systems Science and Theory | 14.12 Engineering Physics<br>14.22 Naval Architecture and Marine Engineering<br>14.30 Eng./Industrial Management                              |
| <b>b. PHYSICAL SCIENCES</b>  |  |  |   |
| (1) <b>Astronomy</b>   | 40.02 Astronomy<br>(also Gamma-ray, neutrino, optical and radio, X-ray)  |  |   |
| (2) <b>Chemistry</b>   | 40.05 Chemistry (also analytical, inorganic, organic, organo-metallic, pharmaceutical, physical, polymer sciences (except biochemistry))   |  |   |
| (3) <b>Physics</b>   | 40.08 Physics (also acoustics, atomic/molecular, chemical, condensed matter, elementary particles, nuclear structure, optics, plasma, theoretical/mathematical)  |  |   |
| (4) <b>Other</b>   | 40.01 Physical Sciences, General   | 40.0799 Miscellaneous Physical Sciences, Other   | 40.99 Physical Sciences, Other<br>(used for multidisciplinary projects within physical sciences and for disciplines not requested separately) |
| <b>c. ENVIRONMENTAL SCIENCES (Earth, Atmospheric, &amp; Ocean)</b> |  |  |   |
| (1) <b>Atmospheric</b>   | 40.04 Atmospheric Sciences and Meteorology<br>(also aeronomy, extraterrestrial atmospheres, solar, weather modification)   |  |   |
| (2) <b>Earth Sciences</b>  | 15.1102 Surveying<br>40.0703 Earth & Planetary Sciences<br>(also engineering geophysics, general geology, geodesy and gravity, geomagnetism, hydrology, inorganic, isotopic, lab geophysics, organic geochemistry, paleomagnetism, paleontology, physical geography, seismology) |  |   |
| (3) <b>Oceanography</b>  | 26.0607 Marine/Aquatic Biology<br>(also biological, chemical, geological, physical)  | 40.0702 Oceanography   |   |
| (4) <b>Other</b>   | (used for multidisciplinary projects within Earth, Atmospheric, and Ocean Sciences)  |  |   |
| <b>d. MATHEMATICAL SCIENCES</b>                                    |  |  |   |
|  | 27.01 Mathematics, General<br>27.05 Mathematical Statistics<br>(also algebra, analysis, foundations and logic, geometry, numerical analysis, topology)   | 27.03 Applied Mathematics<br>27.99 Mathematics, Other  | 27.0302 Operations Research<br>30.08 Math./Computer Sciences  |

| Questionnaire Field                                    | NCES Classification and Additional Illustrative Disciplines (cont.)  |  |  |  |
|--|--|--|--|--|
| e. <b>COMPUTER SCIENCES</b>                            | 11 Computer and Information Science, General 52.1201 Management Information Systems<br>(also design, development, and application of computer capabilities to data storage and manipulation, information science)  |  |  |  |
| f. <b>LIFE SCIENCES</b><br><br>(1) <b>Agricultural</b> | 01.03 Agricultural Production 01.0303 Aquaculture 01.07 International Agriculture<br>02.01 Agricultural Sciences 02.04 Plant Sciences 02.05 Soil Science<br>03 Renewable Natural Resources 04.06 Landscape Architecture<br>(also agricultural chemistry, agronomy, animal science, conservation, fish and wildlife, forestry, horticulture)  |  |  |  |
| (2) <b>Biological</b>                                  | 19.05 Foods and Nutrition Studies 26.01 Biology, General 26.0202 Biochemistry<br>26.0203 Biophysics 26.03 Botany 26.04 Cell and Molecular Biology<br>26.05 Microbiology/Bacteriology 26.0601 Anatomy 26.0603 Ecology<br>26.0609 Nutritional Sciences 26.0610 Parasitology 26.0612 Toxicology<br>26.0613 Genetics, Plant and Animal 26.0614 Biometrics 26.0615 Biostatistics<br>26.0699 Misc. Bio. Specializations, Other 26.0701 Zoology 26.0702 Entomology<br>26.0704 Pathology, Human and Animal 26.0705 Pharmacology, Human and 26.0706 Physiology, Human and<br>26.0799 Zoology, Other Animal Animal<br>26.99 Biolog./Life Sciences, Other 51.1301 Medical Anatomy 51.1302 Medical Biochemistry<br>51.1307 Medical Immunology 51.1308 Medical Microbiology 51.1312 Medical Pathology<br>51.1313 Medical Physiology 51.1314 Medical Toxicology 51.2203 Epidemiology<br>(also allergies and immunology, biogeography, biotechnology, pathology, physical anthropology, virology) |  |  |  |
| (3) <b>Medical</b>                                     | 26.0608 Neurosciences 26.0611 Radiation Biology/Radiobiol. 51.04 Dentistry<br>51.1201 Medicine, General 51.1399 Med. Basic Sciences, Other 51.1610 Nursing Psychiatry/<br>51.17 Optometry 51.19 Osteopathic Medicine Mental Health<br>51.20 Pharmacy 51.21 Podiatry 51.22 Public Health<br>51.24 Veterinary Medicine <sup>1</sup><br>Anesthesiology Cardiology Colon and Rectal Surgery<br>Dental/Oral Surgery Dermatology Family Medicine<br>Gastroenterology General Surgery Geriatric Medicine<br>Hematology Internal Medicine Medical Programs, Other<br>Neonatal-Perinatal Medicine Neurological Surgery Neurology<br>Nuclear Medicine Nuclear Radiology Obstetrics and Gynecology<br>Oncology Ophthalmology Orthopedics/Orthopedic Surgery<br>Otorhinolaryngology Pediatrics Pharmacology<br>Physical and Rehabilitative Medicine Plastic Surgery Preventive Medicine<br>Psychiatry Thoracic Surgery Urology<br>(exclude all residency programs)                             |  |  |  |
| (4) <b>Other</b>                                       | 30.11 Gerontology 51.02 Communication Disorders 51.07 Health and Medical<br>51.10 Health and Medical Laboratory Sciences and Services Administrative Services<br>Technologies 51.16 Nursing Technologies 51.2306 Occupational Therapy<br>51.2308 Physical Therapy 51.2399 Rehab./Therapeutic Services 51.99 Health Professions and<br>Related Services, Other<br>(used for multidisciplinary projects within life sciences)  |  |  |  |
| g. <b>PSYCHOLOGY</b>                                   | 42.01 Psychology, General 42.02 Clinical Psychology 42.17 School Psychology<br>51.2301 Art Therapy<br>(also animal behavior, educational, experimental, human development and personality, social)   |  |  |  |
| h. <b>SOCIAL SCIENCES</b><br>(1) <b>Economics</b>      | 01.0103 Agricultural Economics 45.06 Economics 52.06 Business/Managerial Econ.<br>(also applied, development, econometrics, industrial, international, labor, public finance and fiscal policy, quantitative, resource)  |  |  |  |
| (2) <b>Political Science</b>                           | 44.04 Public Administration 44.05 Public Policy Analysis<br>44.99 Public Admin. and Services, Other 45.09 International Relations and Affairs<br>45.10 Political Science and Government<br>(also comparative government, legal systems, political theory, regional studies)  |  |  |  |
| (3) <b>Sociology</b>                                   | 45.02 Anthropology (Social and 45.05 Demography and 45.11 Sociology<br>Cultural only) Population Studies<br>(also comparative and historical, complex organizations, cultural and social structure, group interactions, social problems and welfare theory)  |  |  |  |
| (4) <b>Other</b>                                       | 04.03 City/Urban, Community, and 05 Area and Ethnic Studies 16.0102 Linguistics<br>Regional Planning 43.01 Crim'l. Justice & Corrections 44.02 Community Services<br>45.01 Social Sciences, General 45.03 Archaeology 45.07 Geography<br>45.12 Urban Studies/Affairs 45.99 Social Sciences, Other<br>(also history of science, socioeconomic geography)  |  |  |  |
| i. <b>OTHER SCIENCES, n.e.c.</b>                       | (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.



**OPTIONAL ITEM 2A. CURRENT FUND EXPENDITURES  
(TOTAL AND FEDERALLY FINANCED)  
FOR SEPARATELY BUDGETED RESEARCH AND DEVELOPMENT  
BY NON-SCIENCE AND ENGINEERING FIELD: FY 1997  
(Include indirect costs)**

**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. COMMUNICATIONS, JOURNALISM, AND LIBRARY SCIENCE | 1560     |                        |             |
| g. SOCIAL WORK                                     | 1570     |                        |             |
| h. OTHER NON-S&E FIELDS, please specify:           | 1580     |                        |             |
| i. TOTAL, NON-S&E FIELDS                           | 1500     |                        |             |
| j. TOTAL, S&E (from Item 2, line j)                | 1400     |                        |             |
| k. GRAND TOTAL                                     | 1600     |                        |             |

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

| Questionnaire Field                             | CIP Code   | CIP Program Category Title  |
|---|--|---|
| Education                                       | 13.xx  | Education   |
| Law   | 22.xx  | Law and Legal Studies   |
| Humanities                                      | 16.xx<br>23.xx<br>24.xx<br>38.xx<br>39.xx<br>45.08 | Foreign Languages & Literature<br>English Language and Literature/Letters<br>Liberal Arts & Sciences, General Studies & Humanities<br>Philosophy and Religion<br>Theological Studies and Religious Vocations<br>History (except History of Science) |
| Visual & Performing Arts                        | 50.xx  | Visual and Performing Arts  |
| Business and Management                         | 52.xx<br>08.xx                                     | Business Management and Administrative Services<br>Marketing Operations/Marketing Distribution  |
| Communications, Journalism, and Library Science | 09.xx<br>25.xx<br>10.xx                            | Communications<br>Library Science<br>Communications Technologies  |
| Social Work                                     | 44.07  | Social Work   |
| Other Non-S&E Fields                            | 31.xx<br>29.xx                                     | Parks, Recreation, Leisure and Fitness Studies<br>Military Technologies   |

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4201 WILSON BOULEVARD  
ARLINGTON, VIRGINIA 22230

**Survey of Research and Development Expenditures at  
Universities and Colleges, FY 1997**

**OPTIONAL ITEM 3A**  
Current Fund Expenditures for Research Equipment

The National Science Foundation is continuing its evaluation of data provided in item 3 of its Survey of Research and Development Expenditures at Universities and Colleges (academic R&D expenditures survey). To help NSF better understand what is being reported as current fund expenditures for research equipment, please complete the optional item printed below.

**OPTIONAL ITEM 3A**

For reporting on item 3 of this survey, please indicate the dollar threshold value that your institution uses to classify expenditures for research equipment as current fund expenditures.

**FY 1997:**

- \$500
- \$1,000
- \$1,500
- \$2,000
- \$3,000
- \$5,000
- Other (specify) \$\_\_\_\_\_

**FY 1998 Plans:**

- \$500
- \$1,000
- \$1,500
- \$2,000
- \$3,000
- \$5,000
- Other (specify) \$\_\_\_\_\_

Comments:

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NATIONAL SCIENCE FOUNDATION  
4201 WILSON BOULEVARD  
ARLINGTON, VIRGINIA 22230

Dear Colleague:

One of NSF's primary concerns is to find out how much money is being spent on research, and who is supplying those funds. Currently, the "source of funds" component of Item 1 on the NSF Survey of Research and Development Expenditures at Universities and Colleges (academic R&D expenditures survey) collects data by Federal Government, state and local governments, industry, institution funds, and "all other sources." On Item 2 of the survey—current funds expenditures data—total and Federal dollars are also collected by field of science.

In order to obtain a more detailed picture of Federal support for research, NSF proposes to start collecting the expenditures data by major Federal agency by field. Separate data for federally financed R&D expenditures will be requested for six major agencies such as Department of Defense and NSF. These six major agencies represent 96 percent of total Federal R&D obligations.

NSF discussed the feasibility of collecting the source of academic R&D expenditures survey data by major Federal agency by field with academic representatives at a workshop held in April 1997. The workshop participants agreed that with some advance notice, they would be able to respond to this item.

On the back of this letter, you will find the proposed form that NSF would like to include as an optional item in the **FY 1998 survey**. Please review this proposed item and provide your comments and suggestions in the space below. We are particularly interested in your assessment of your institution's ability to provide these data.

Thank you for your efforts in providing timely and meaningful statistics to NSF.

Sincerely,



John E. Jankowski, Jr., Program Director  
Research and Development Statistics Program  
Division of Science Resources Studies

COMMENTS/SUGGESTIONS:

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**PROPOSED OPTIONAL ITEM FOR FY 1998**

**ITEM 2. CURRENT FUND EXPENDITURES (TOTAL AND FEDERALLY FINANCED) FOR SEPARATELY BUDGETED RESEARCH AND DEVELOPMENT, BY FIELD OF SCIENCE & ENGINEERING: FY 1998 (Include indirect costs)**

Please note that total R&D expenditures in line 1400, column (1) should be the same as reported in item 1, line 1100, column 1. Federally financed R&D expenditures in line 1400, column (2) should be the same as reported in item 1, line 1110, column 1.

**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. | TOTAL ALL              | TOTAL FEDERAL | SPECIFIC FEDERAL AGENCIES |     |     |      |      |     |       |
|   |          |                        |               | USDA                      | DoD | DOE | HHS* | NASA | NSF | Other |
| <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 (Total)</b>          | 1480     |                        |               |                           |     |     |      |      |     |       |
| <b>j. Total (sum of a through i)</b>      | 1400     |                        |               |                           |     |     |      |      |     |       |

SAMPLE

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. \* Includes NIH.