

TABLE 14

## Federally financed higher education R&amp;D expenditures, by federal agency and R&amp;D field: FY 2023

(Dollars in thousands)

| Field   | All federal R&D expenditures | DOD       | DOE       | HHS        | NASA      | NSF       | USDA      | Other <sup>a</sup> |
|---|------------------------------|-----------|-----------|------------|-----------|-----------|-----------|--------------------|
| All R&D fields  | 59,603,993                   | 9,047,729 | 2,671,326 | 33,097,927 | 2,295,593 | 6,699,546 | 1,700,216 | 4,091,656          |
| Science   | 46,947,867                   | 4,260,197 | 1,466,742 | 31,317,960 | 1,570,433 | 4,579,053 | 1,552,432 | 2,201,050          |
| Computer and information sciences                         | 2,417,938                    | 1,089,161 | 71,235    | 194,801    | 30,726    | 844,522   | 19,686    | 167,807            |
| Geosciences, atmospheric sciences, and ocean sciences     | 2,693,891                    | 321,866   | 123,855   | 59,854     | 538,770   | 886,194   | 40,799    | 722,553            |
| Atmospheric science and meteorology                       | 583,161                      | 76,730    | 27,141    | 3,750      | 178,388   | 110,762   | 2,386     | 184,004            |
| Geological and earth sciences                             | 921,482                      | 75,696    | 74,059    | 6,891      | 234,313   | 347,686   | 20,629    | 162,208            |
| Ocean sciences and marine sciences                        | 891,194                      | 157,043   | 12,613    | 12,340     | 82,347    | 364,017   | 5,816     | 257,018            |
| Geosciences, atmospheric sciences, and ocean sciences nec | 298,054                      | 12,397    | 10,042    | 36,873     | 43,722    | 63,729    | 11,968    | 119,323            |
| Life sciences   | 33,896,235                   | 1,632,039 | 236,841   | 28,903,440 | 91,364    | 907,224   | 1,385,357 | 739,970            |
| Agricultural sciences                                     | 1,458,868                    | 18,706    | 45,986    | 201,617    | 10,573    | 98,938    | 950,048   | 133,000            |
| Biological and biomedical sciences                        | 11,753,581                   | 428,195   | 142,053   | 10,127,080 | 28,376    | 630,442   | 226,729   | 170,706            |
| Health sciences   | 19,390,822                   | 1,060,987 | 24,669    | 17,877,236 | 36,780    | 82,761    | 44,231    | 264,158            |
| Natural resources and conservation                        | 512,675                      | 105,418   | 20,579    | 24,391     | 12,700    | 68,535    | 139,324   | 141,728            |
| Life sciences nec   | 780,289                      | 18,733    | 3,554     | 673,116    | 2,935     | 26,548    | 25,025    | 30,378             |
| Mathematics and statistics                                | 661,446                      | 185,496   | 10,810    | 73,821     | 101,103   | 251,663   | 7,056     | 31,497             |
| Physical sciences   | 4,621,763                    | 739,426   | 977,109   | 729,009    | 769,296   | 1,284,351 | 14,884    | 107,688            |
| Astronomy and astrophysics                                | 659,781                      | 19,836    | 21,740    | 639        | 475,657   | 138,298   | 81        | 3,530              |
| Chemistry   | 1,413,489                    | 151,600   | 194,936   | 616,933    | 17,360    | 403,844   | 6,270     | 22,546             |
| Materials science   | 205,797                      | 82,646    | 31,740    | 12,947     | 2,180     | 64,495    | 1,918     | 9,871              |
| Physics   | 2,123,118                    | 447,113   | 686,482   | 75,520     | 253,344   | 605,192   | 2,676     | 52,791             |
| Physical sciences nec                                     | 219,578                      | 38,231    | 42,211    | 22,970     | 20,755    | 72,522    | 3,939     | 18,950             |
| Psychology  | 978,784                      | 80,354    | 744       | 713,565    | 16,442    | 83,291    | 3,620     | 80,768             |
| Social sciences   | 1,202,546                    | 101,687   | 17,502    | 505,495    | 15,219    | 192,977   | 69,862    | 299,804            |
| Anthropology  | 46,631                       | 5,238     | 1,145     | 6,276      | 135       | 23,878    | 1,751     | 8,208              |
| Economics   | 206,477                      | 7,953     | 8,241     | 65,924     | 481       | 28,457    | 49,764    | 45,657             |
| Political science and government                          | 111,794                      | 18,621    | 2,798     | 24,266     | 385       | 29,655    | 740       | 35,329             |
| Sociology, demography, and population studies             | 317,113                      | 18,537    | 109       | 175,312    | 478       | 44,202    | 6,156     | 72,319             |
| Social sciences nec                                       | 520,531                      | 51,338    | 5,209     | 233,717    | 13,740    | 66,785    | 11,451    | 138,291            |
| Sciences nec  | 475,264                      | 110,168   | 28,646    | 137,975    | 7,513     | 128,831   | 11,168    | 50,963             |
| Engineering   | 10,931,327                   | 4,687,204 | 1,190,092 | 1,346,015  | 713,488   | 1,731,109 | 106,665   | 1,156,754          |
| Aerospace, aeronautical, and astronautical engineering    | 1,425,681                    | 934,883   | 24,542    | 8,032      | 243,344   | 47,170    | 882       | 166,828            |
| Bioengineering and biomedical engineering                 | 1,198,449                    | 180,574   | 18,976    | 809,336    | 10,653    | 112,066   | 25,480    | 41,364             |
| Chemical engineering                                      | 713,248                      | 122,331   | 194,182   | 115,522    | 12,700    | 189,820   | 9,669     | 69,024             |
| Civil engineering   | 929,044                      | 125,841   | 150,480   | 50,189     | 21,442    | 205,336   | 14,982    | 360,774            |
| Electrical, electronic, and communications engineering    | 2,794,497                    | 1,609,605 | 192,325   | 121,774    | 174,566   | 521,668   | 7,554     | 167,005            |
| Industrial and manufacturing engineering                  | 481,861                      | 296,911   | 21,269    | 14,111     | 33,466    | 58,221    | 2,175     | 55,708             |
| Mechanical engineering                                    | 1,551,973                    | 726,112   | 191,190   | 98,491     | 133,253   | 280,269   | 8,374     | 114,284            |
| Metallurgical and materials engineering                   | 693,211                      | 332,441   | 154,593   | 37,692     | 16,424    | 120,492   | 1,878     | 29,691             |
| Engineering nec   | 1,143,363                    | 358,506   | 242,535   | 90,868     | 67,640    | 196,067   | 35,671    | 152,076            |
| Non-S&E   | 1,724,799                    | 100,328   | 14,492    | 433,952    | 11,672    | 389,384   | 41,119    | 733,852            |

TABLE 14

**Federally financed higher education R&D expenditures, by federal agency and R&D field: FY 2023**

(Dollars in thousands)

| Field   | All federal R&D expenditures | DOD    | DOE   | HHS     | NASA  | NSF     | USDA   | Other <sup>a</sup> |
|---|------------------------------|--------|-------|---------|-------|---------|--------|--------------------|
| Business management and business administration | 109,626                      | 14,182 | 3,277 | 9,979   | 113   | 20,474  | 4,020  | 57,581             |
| Communication and communications technologies   | 58,280                       | 6,670  | 3,194 | 20,882  | 566   | 17,372  | 921    | 8,675              |
| Education                                       | 890,786                      | 18,407 | 1,882 | 111,763 | 6,200 | 265,552 | 10,904 | 476,078            |
| Humanities                                      | 65,170                       | 6,849  | 374   | 11,938  | 1     | 13,708  | 469    | 31,831             |
| Law   | 35,110                       | 285    | 323   | 8,057   | 0     | 2,267   | 281    | 23,897             |
| Social work                                     | 205,510                      | 907    | 6     | 183,042 | 2     | 1,281   | 1,350  | 18,922             |
| Visual and performing arts                      | 20,717                       | 883    | 452   | 2,518   | 2,575 | 4,851   | 253    | 9,185              |
| Non-S&E nec                                     | 339,600                      | 52,145 | 4,984 | 85,773  | 2,215 | 63,879  | 22,921 | 107,683            |

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; nec = not elsewhere classified; S&E = science and engineering; USDA = Department of Agriculture.

<sup>a</sup> Includes all other agencies reported.

**Note(s):**

This table includes only institutions reporting \$1 million or more in total R&D expenditures in 2022. Institutions reporting less than \$1 million in total R&D expenditures in 2022 completed a shorter version of the survey form in FY 2023, and that form did not collect federally financed R&D expenditures by source and detailed field. For federally financed R&D expenditures by major field at institutions completing the shorter version of the survey, see table 85.

**Source(s):**

National Center for Science and Engineering Statistics, Higher Education Research and Development Survey, FY 2023.