

TABLE 13

Federally financed higher education R&D expenditures, by federal agency and R&D field: FY 2020

(Dollars in thousands)

| Field | All federal R&D expenditures | DOD | DOE | HHS | NASA | NSF | USDA | Other ^a |
|---|------------------------------|-----------|-----------|------------|-----------|-----------|-----------|--------------------|
| All R&D fields | 46,143,829 | 7,080,598 | 2,037,915 | 25,397,976 | 1,758,375 | 5,414,611 | 1,244,633 | 3,209,721 |
| Science | 36,778,903 | 3,498,772 | 1,162,091 | 24,178,402 | 1,240,545 | 3,753,051 | 1,131,680 | 1,814,362 |
| Computer and information sciences | 2,000,937 | 942,322 | 48,280 | 126,088 | 18,865 | 746,405 | 6,186 | 112,791 |
| Geosciences, atmospheric sciences, and ocean sciences | 2,109,065 | 248,527 | 92,962 | 51,293 | 438,075 | 665,890 | 32,505 | 579,813 |
| Atmospheric science and meteorology | 471,158 | 55,455 | 20,986 | 2,048 | 148,271 | 80,696 | 1,567 | 162,135 |
| Geological and earth sciences | 696,991 | 40,074 | 58,667 | 5,407 | 222,067 | 231,574 | 18,676 | 120,526 |
| Ocean sciences and marine sciences | 713,086 | 139,961 | 6,731 | 7,623 | 44,068 | 309,197 | 2,665 | 202,841 |
| Geosciences, atmospheric sciences, and ocean sciences nec | 227,830 | 13,037 | 6,578 | 36,215 | 23,669 | 44,423 | 9,597 | 94,311 |
| Life sciences | 26,254,002 | 1,332,269 | 234,655 | 22,249,750 | 93,502 | 716,140 | 1,022,353 | 605,333 |
| Agricultural sciences | 1,072,057 | 20,692 | 40,477 | 139,918 | 5,776 | 76,048 | 691,183 | 97,963 |
| Biological and biomedical sciences | 9,339,917 | 394,172 | 132,678 | 7,948,302 | 33,105 | 501,548 | 172,972 | 157,140 |
| Health sciences | 14,733,751 | 816,468 | 17,158 | 13,540,664 | 45,156 | 61,821 | 38,031 | 214,453 |
| Natural resources and conservation | 410,120 | 85,043 | 37,198 | 20,785 | 8,440 | 52,741 | 100,145 | 105,768 |
| Life sciences nec | 698,157 | 15,894 | 7,144 | 600,081 | 1,025 | 23,982 | 20,022 | 30,009 |
| Mathematics and statistics | 486,259 | 139,892 | 9,124 | 65,383 | 3,004 | 225,661 | 6,034 | 37,161 |
| Physical sciences | 3,789,237 | 636,550 | 753,512 | 599,475 | 636,982 | 1,069,626 | 3,737 | 89,355 |
| Astronomy and astrophysics | 542,725 | 15,842 | 13,783 | 1,590 | 397,617 | 109,402 | 17 | 4,474 |
| Chemistry | 1,166,743 | 134,989 | 151,890 | 511,568 | 18,030 | 329,356 | 2,377 | 18,533 |
| Materials science | 156,894 | 61,472 | 24,813 | 7,744 | 3,762 | 50,143 | 155 | 8,805 |
| Physics | 1,736,916 | 381,911 | 533,889 | 62,000 | 185,140 | 526,027 | 904 | 47,045 |
| Physical sciences nec | 185,959 | 42,336 | 29,137 | 16,573 | 32,433 | 54,698 | 284 | 10,498 |
| Psychology | 808,565 | 49,265 | 1,148 | 578,882 | 20,927 | 81,117 | 6,330 | 70,896 |
| Social sciences | 969,278 | 81,961 | 5,930 | 404,318 | 23,654 | 150,122 | 46,934 | 256,359 |
| Anthropology | 38,847 | 4,197 | 914 | 6,388 | 56 | 16,416 | 2,559 | 8,317 |
| Economics | 121,461 | 3,211 | 1,448 | 28,466 | 32 | 25,090 | 30,835 | 32,379 |
| Political science and government | 78,462 | 14,078 | 1,390 | 16,579 | 2,826 | 18,319 | 1,005 | 24,265 |
| Sociology, demography, and population studies | 253,213 | 22,171 | 29 | 133,713 | 345 | 32,519 | 5,220 | 59,216 |
| Social sciences nec | 477,295 | 38,304 | 2,149 | 219,172 | 20,395 | 57,778 | 7,315 | 132,182 |
| Sciences nec | 361,560 | 67,986 | 16,480 | 103,213 | 5,536 | 98,090 | 7,601 | 62,654 |
| Engineering | 8,120,891 | 3,524,858 | 869,885 | 936,241 | 510,515 | 1,362,626 | 74,101 | 842,665 |
| Aerospace, aeronautical, and astronautical engineering | 957,795 | 616,586 | 24,891 | 4,492 | 186,586 | 38,584 | 477 | 86,179 |
| Bioengineering and biomedical engineering | 906,145 | 158,736 | 18,258 | 582,665 | 8,809 | 90,978 | 18,288 | 28,411 |
| Chemical engineering | 521,758 | 93,188 | 142,913 | 80,932 | 8,921 | 144,497 | 7,622 | 43,685 |
| Civil engineering | 606,519 | 68,539 | 78,222 | 27,321 | 15,197 | 148,763 | 10,368 | 258,109 |
| Electrical, electronic, and communications engineering | 2,143,397 | 1,258,392 | 161,982 | 81,429 | 119,467 | 398,138 | 4,098 | 119,891 |
| Industrial and manufacturing engineering | 384,795 | 232,322 | 24,230 | 10,051 | 20,998 | 42,808 | 1,580 | 52,806 |
| Mechanical engineering | 1,160,117 | 573,744 | 151,385 | 65,710 | 84,575 | 200,183 | 3,473 | 81,047 |
| Metallurgical and materials engineering | 504,528 | 209,610 | 114,375 | 24,568 | 13,195 | 101,793 | 1,316 | 39,671 |
| Engineering nec | 935,837 | 313,741 | 153,629 | 59,073 | 52,767 | 196,882 | 26,879 | 132,866 |
| Non-S&E | 1,244,035 | 56,968 | 5,939 | 283,333 | 7,315 | 298,934 | 38,852 | 552,694 |

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(Dollars in thousands)

| Field | All federal R&D expenditures | DOD | DOE | HHS | NASA | NSF | USDA | Other ^a |
|---|------------------------------|--------|-------|---------|-------|---------|--------|--------------------|
| Business management and business administration | 74,126 | 9,711 | 1,440 | 6,212 | 168 | 16,337 | 1,106 | 39,152 |
| Communication and communications technologies | 40,830 | 5,457 | 601 | 14,954 | 669 | 10,725 | 485 | 7,939 |
| Education | 667,043 | 10,760 | 1,126 | 79,342 | 5,699 | 211,930 | 5,154 | 353,032 |
| Humanities | 54,155 | 5,926 | 512 | 9,754 | 226 | 10,696 | 333 | 26,708 |
| Law | 26,697 | 585 | 37 | 6,912 | 1 | 831 | 283 | 18,048 |
| Social work | 140,836 | 2,751 | 0 | 125,238 | 0 | 602 | 716 | 11,529 |
| Visual and performing arts | 15,140 | 899 | 126 | 3,909 | 34 | 2,414 | 75 | 7,683 |
| Non-S&E nec | 225,208 | 20,879 | 2,097 | 37,012 | 518 | 45,399 | 30,700 | 88,603 |

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.

^a Includes all other agencies reported.

Note(s):

This table includes only institutions reporting \$1 million or more in total R&D expenditures in 2019. Institutions reporting less than \$1 million in total R&D expenditures in 2019 completed a shorter version of the survey form in FY 2020, 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 83.

Source(s):

National Center for Science and Engineering Statistics, Higher Education Research and Development Survey, FY 2020.