

TABLE 127

Federal obligations for applied research, by detailed field of science and engineering: FYs 2012–21

(Dollars in millions)

| Field | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 (preliminary) |
|---|----------|----------|----------|----------|----------|----------|----------|----------|----------|-----------------------|
| All fields | 31,027.4 | 29,753.2 | 31,603.5 | 32,298.4 | 34,812.0 | 36,599.8 | 38,392.4 | 41,100.5 | 43,758.1 | 43,924.2 |
| Computer sciences and mathematics | 1,732.6 | 1,736.2 | 1,965.5 | 1,878.2 | 2,113.1 | 2,016.9 | 2,122.3 | 2,024.0 | 3,387.9 | 3,472.2 |
| Computer sciences | 1,469.7 | 1,501.7 | 1,654.0 | 1,621.1 | 1,818.5 | 1,736.0 | 1,855.6 | 1,746.1 | 3,050.4 | NA |
| Mathematics | 119.1 | 106.5 | 154.9 | 131.8 | 140.7 | 117.7 | 112.7 | 118.1 | 177.7 | NA |
| Other computer sciences and mathematics | 143.8 | 128.0 | 156.6 | 125.4 | 153.9 | 163.2 | 154.0 | 159.9 | 159.9 | NA |
| Engineering | 7,944.5 | 7,540.7 | 8,343.0 | 8,289.7 | 9,313.9 | 9,521.8 | 10,172.8 | 11,661.4 | 10,324.1 | 11,366.7 |
| Aeronautical engineering | 1,413.0 | 1,433.2 | 1,386.2 | 1,356.4 | 1,357.5 | 1,442.2 | 1,018.8 | 1,128.2 | 1,023.1 | NA |
| Astronautical engineering | 610.8 | 652.3 | 575.9 | 561.9 | 551.4 | 550.4 | 787.5 | 821.0 | 901.0 | NA |
| Chemical engineering | 255.2 | 334.8 | 431.7 | 314.1 | 303.3 | 226.1 | 620.7 | 379.2 | 694.1 | NA |
| Civil engineering | 478.3 | 418.7 | 417.3 | 403.3 | 424.0 | 579.2 | 462.4 | 554.8 | 459.4 | NA |
| Electrical engineering | 1,025.9 | 903.9 | 992.4 | 669.0 | 835.2 | 877.7 | 771.6 | 751.2 | 675.3 | NA |
| Mechanical engineering | 215.7 | 401.7 | 374.1 | 198.1 | 251.3 | 325.9 | 387.7 | 526.7 | 407.3 | NA |
| Metallurgy and materials engineering | 513.1 | 528.2 | 536.0 | 467.0 | 696.1 | 634.6 | 551.5 | 619.7 | 423.4 | NA |
| Other engineering | 3,432.4 | 2,867.8 | 3,629.4 | 4,320.0 | 4,895.0 | 4,885.7 | 5,572.7 | 6,880.6 | 5,740.5 | NA |
| Environmental sciences | 1,625.6 | 1,645.2 | 1,612.9 | 1,675.4 | 1,685.4 | 1,782.8 | 1,571.1 | 1,822.9 | 1,872.5 | 1,888.1 |
| Atmospheric sciences | 516.9 | 547.6 | 530.9 | 516.5 | 516.6 | 563.5 | 288.2 | 310.5 | 345.4 | NA |
| Geological sciences | 224.1 | 215.4 | 143.2 | 210.6 | 129.3 | 141.3 | 44.6 | 38.8 | 44.2 | NA |
| Oceanography | 319.1 | 331.1 | 365.3 | 294.2 | 331.3 | 389.7 | 359.1 | 387.1 | 476.0 | NA |
| Other environmental sciences | 565.5 | 551.1 | 573.5 | 654.2 | 708.2 | 688.3 | 879.2 | 1,086.5 | 1,007.0 | NA |
| Life sciences | 14,990.3 | 14,345.5 | 14,931.8 | 15,415.4 | 16,468.4 | 17,515.8 | 18,818.3 | 19,423.1 | 21,720.0 | 21,126.8 |
| Agricultural sciences | 462.3 | 440.7 | 490.5 | 766.1 | 717.0 | 769.3 | 728.4 | 810.9 | 730.8 | NA |
| Biological sciences (excluding environmental biology) | 7,141.0 | 6,669.3 | 7,027.0 | 7,081.3 | 7,896.5 | 7,982.4 | 8,669.6 | 9,124.6 | 9,839.4 | NA |
| Environmental biology | 390.0 | 397.6 | 425.8 | 420.5 | 407.5 | 411.5 | 408.9 | 434.0 | 430.8 | NA |
| Medical sciences | 5,550.5 | 5,591.5 | 5,721.1 | 5,816.3 | 6,021.3 | 6,931.4 | 7,149.6 | 7,385.6 | 8,722.2 | NA |
| Other life sciences | 1,446.5 | 1,246.5 | 1,267.4 | 1,331.2 | 1,426.0 | 1,421.1 | 1,861.8 | 1,668.0 | 1,996.8 | NA |
| Physical sciences | 1,850.8 | 1,849.7 | 1,845.6 | 1,889.5 | 1,998.7 | 1,864.1 | 1,950.7 | 1,909.2 | 1,906.9 | 1,331.0 |
| Astronomy | 174.4 | 173.1 | 155.6 | 156.7 | 153.7 | 152.9 | 8.4 | 6.2 | 0.9 | NA |
| Chemistry | 326.7 | 267.4 | 290.6 | 295.3 | 310.9 | 274.8 | 382.3 | 434.2 | 389.8 | NA |
| Physics | 1,140.3 | 1,013.0 | 989.2 | 471.0 | 1,138.7 | 1,078.7 | 1,023.4 | 875.3 | 1,061.2 | NA |
| Other physical sciences | 209.3 | 396.1 | 410.3 | 966.4 | 395.4 | 357.7 | 536.6 | 593.4 | 455.0 | NA |
| Psychology | 998.8 | 919.2 | 930.5 | 995.0 | 1,031.6 | 1,053.9 | 1,179.6 | 1,387.5 | 1,664.2 | 1,627.1 |
| Biological aspects | 1.1 | 0.5 | 1.4 | 4.9 | 4.1 | 0.5 | 0.5 | 1.4 | 0.6 | NA |
| Social aspects | 48.4 | 48.5 | 46.2 | 44.9 | 44.3 | 42.9 | 38.1 | 42.1 | 30.0 | NA |
| Other psychological sciences | 949.3 | 870.2 | 882.8 | 945.2 | 983.2 | 1,010.6 | 1,140.9 | 1,343.9 | 1,633.5 | NA |
| Social sciences | 743.1 | 863.4 | 1,049.0 | 791.6 | 848.6 | 667.9 | 665.3 | 704.5 | 697.9 | 827.1 |
| Anthropology | 3.4 | 2.3 | 2.4 | 1.7 | 2.1 | 3.1 | 3.7 | 2.3 | 1.1 | NA |
| Economics | 289.0 | 274.6 | 286.1 | 289.5 | 320.4 | 237.8 | 229.9 | 209.2 | 163.8 | NA |
| Political science | 2.6 | 2.1 | 1.3 | 3.6 | 1.0 | 5.4 | 1.8 | 3.9 | 7.9 | NA |
| Sociology | 116.0 | 112.8 | 126.9 | 101.5 | 173.2 | 154.8 | 119.2 | 187.4 | 132.5 | NA |
| Other social sciences | 332.2 | 471.7 | 632.2 | 395.2 | 352.0 | 266.7 | 310.7 | 301.7 | 392.6 | NA |
| Other sciences nec | 1,141.7 | 853.5 | 925.4 | 1,363.7 | 1,352.3 | 2,176.5 | 1,912.4 | 2,168.0 | 2,184.6 | 2,285.0 |

NA = not available; data were not collected at that level for that fiscal year.

nec = not elsewhere classified.

Note(s):

Because of rounding, detail may not add to total. FYs 2020 and 2021 obligations include additional funding provided by supplemental COVID-19 related appropriations (e.g., Coronavirus Aid, Relief, and Economic Security [CARES] Act).

Source(s):

National Center for Science and Engineering Statistics, Survey of Federal Funds for Research and Development.