

TABLE 14

Federally financed higher education R&D expenditures, by federal agency and R&D field: FY 2021

(Dollars in thousands)

Field	All federal R&D expenditures	DOD	DOE	HHS	NASA	NSF	USDA	Other ^a
All R&D fields	49,143,460	7,363,495	2,218,358	27,532,379	1,768,703	5,410,561	1,302,288	3,547,676
Science	39,063,689	3,597,249	1,251,321	26,181,063	1,199,758	3,704,300	1,189,603	1,940,395
Computer and information sciences	1,994,728	928,400	57,159	139,417	23,132	707,395	8,684	130,541
Geosciences, atmospheric sciences, and ocean sciences	2,145,163	236,137	111,482	53,852	453,130	653,911	32,879	603,772
Atmospheric science and meteorology	484,265	68,114	21,933	2,362	150,262	73,350	1,800	166,444
Geological and earth sciences	772,157	62,003	74,207	4,668	230,496	251,254	17,605	131,924
Ocean sciences and marine sciences	640,634	93,993	8,197	8,143	45,096	271,474	3,223	210,508
Geosciences, atmospheric sciences, and ocean sciences nec	248,107	12,027	7,145	38,679	27,276	57,833	10,251	94,896
Life sciences	28,452,956	1,421,696	239,568	24,181,089	89,649	734,797	1,068,850	717,307
Agricultural sciences	1,099,585	19,218	42,978	141,437	5,478	66,185	725,870	98,419
Biological and biomedical sciences	10,001,728	442,545	129,637	8,513,706	30,566	524,700	181,468	179,106
Health sciences	16,138,445	847,117	15,434	14,823,315	42,877	72,526	33,488	303,688
Natural resources and conservation	429,905	94,289	44,570	19,981	9,384	48,017	109,621	104,043
Life sciences nec	783,293	18,527	6,949	682,650	1,344	23,369	18,403	32,051
Mathematics and statistics	475,827	152,714	9,301	68,098	2,895	205,576	4,813	32,430
Physical sciences	3,852,415	652,400	794,714	642,915	588,836	1,070,906	6,267	96,377
Astronomy and astrophysics	509,733	19,188	11,758	538	361,877	110,762	55	5,555
Chemistry	1,239,825	135,906	158,928	554,214	17,072	346,826	3,520	23,359
Materials science	174,331	75,358	29,578	8,713	2,637	48,568	531	8,946
Physics	1,767,740	388,232	565,051	62,605	183,582	516,595	1,345	50,330
Physical sciences nec	160,786	33,716	29,399	16,845	23,668	48,155	816	8,187
Psychology	812,660	53,146	1,173	584,427	18,586	80,771	4,848	69,709
Social sciences	955,852	69,670	10,741	407,047	17,391	154,079	57,977	238,947
Anthropology	29,533	3,793	1,083	3,396	65	12,858	911	7,427
Economics	137,555	3,678	5,636	27,872	30	25,971	38,716	35,652
Political science and government	86,443	11,484	1,405	17,289	1,234	20,147	2,997	31,887
Sociology, demography, and population studies	232,318	11,952	7	131,453	357	34,809	5,190	48,550
Social sciences nec	470,003	38,763	2,610	227,037	15,705	60,294	10,163	115,431
Sciences nec	374,088	83,086	27,183	104,218	6,139	96,865	5,285	51,312
Engineering	8,714,829	3,703,852	959,702	1,028,791	560,071	1,391,029	75,250	996,134
Aerospace, aeronautical, and astronautical engineering	1,110,088	689,207	22,505	6,859	215,099	39,014	625	136,779
Bioengineering and biomedical engineering	960,152	158,176	14,020	624,742	9,237	96,008	18,886	39,083
Chemical engineering	572,307	101,384	167,568	91,275	10,121	146,621	7,229	48,109
Civil engineering	664,620	82,386	93,917	27,599	14,779	147,225	10,677	288,037
Electrical, electronic, and communications engineering	2,209,153	1,287,744	177,223	89,522	124,523	389,034	4,398	136,709

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(Dollars in thousands)

Field	All federal R&D expenditures	DOD	DOE	HHS	NASA	NSF	USDA	Other ^a
Industrial and manufacturing engineering	384,142	211,252	24,617	11,003	23,441	41,947	1,617	70,265
Mechanical engineering	1,274,012	613,129	166,393	81,829	97,199	211,624	5,026	98,812
Metallurgical and materials engineering	559,447	231,399	126,426	23,998	14,353	115,032	1,596	46,643
Engineering nec	980,908	329,175	167,033	71,964	51,319	204,524	25,196	131,697
Non-S&E	1,364,942	62,394	7,335	322,525	8,874	315,232	37,435	611,147
Business management and business administration	97,277	11,651	1,195	7,418	257	18,374	4,822	53,560
Communication and communications technologies	39,337	5,114	868	13,281	467	12,849	367	6,391
Education	701,430	13,884	903	90,066	5,261	218,677	4,391	368,248
Humanities	56,658	4,673	448	13,244	10	11,763	356	26,164
Law	28,777	683	135	7,479	0	1,686	490	18,304
Social work	165,278	1,899	26	148,065	604	1,731	1,399	11,554
Visual and performing arts	11,476	251	116	1,804	2	2,207	380	6,716
Non-S&E nec	264,709	24,239	3,644	41,168	2,273	47,945	25,230	120,210

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 2020. Institutions reporting less than \$1 million in total R&D expenditures in 2020 completed a shorter version of the survey form in FY 2021, 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 84.

Source(s):

National Center for Science and Engineering Statistics, Higher Education Research and Development Survey, FY 2021.