

TABLE 12

Higher education R&D expenditures, by source of funds and R&D field: FY 2019

(Dollars in thousands)

Field	All R&D expenditures	Source of funds					
		Federal government	State and local government	Institution funds	Business	Nonprofit organizations	All other sources
All R&D fields	83,496,348	44,455,265	4,495,452	21,109,703	5,053,576	5,683,937	2,698,415
Science	65,418,917	35,551,659	3,253,187	15,938,308	3,786,168	4,792,093	2,097,502
Computer and information sciences	2,639,334	1,794,548	58,467	532,787	144,088	64,226	45,218
Geosciences, atmospheric sciences, and ocean sciences	3,185,089	2,067,292	177,804	624,939	74,941	157,400	82,713
Atmospheric science and meteorology	590,387	460,463	20,297	83,289	5,803	10,777	9,758
Geological and earth sciences	1,120,621	676,742	52,089	268,737	36,411	53,458	33,184
Ocean sciences and marine sciences	1,100,653	698,401	78,062	201,127	20,094	72,180	30,789
Geosciences, atmospheric sciences, and ocean sciences nec	373,428	231,686	27,356	71,786	12,633	20,985	8,982
Life sciences	48,230,138	25,443,994	2,626,260	11,495,531	3,283,542	3,709,321	1,671,490
Agricultural sciences	3,428,585	989,573	891,579	1,117,439	138,267	156,851	134,876
Biological and biomedical sciences	15,386,607	9,260,282	554,748	3,436,415	658,154	1,074,046	402,962
Health sciences	27,274,318	14,185,253	975,613	6,266,014	2,420,387	2,355,159	1,071,892
Natural resources and conservation	837,959	367,864	134,209	246,496	25,638	40,448	23,304
Life sciences nec	1,302,669	641,022	70,111	429,167	41,096	82,817	38,456
Mathematics and statistics	769,722	466,937	25,148	216,617	13,950	39,653	7,417
Physical sciences	5,551,281	3,691,334	108,492	1,232,460	158,714	244,366	115,915
Astronomy and astrophysics	735,031	514,432	5,211	135,773	4,781	46,931	27,903
Chemistry	1,965,627	1,182,806	46,201	517,676	86,461	88,761	43,722
Materials science	259,327	165,880	4,552	57,666	17,491	10,712	3,026
Physics	2,324,419	1,657,419	35,208	464,031	37,582	93,315	36,864
Physical sciences nec	266,877	170,797	17,320	57,314	12,399	4,647	4,400
Psychology	1,322,793	786,985	52,840	361,017	14,723	87,267	19,961
Social sciences	2,805,477	936,238	147,451	1,091,986	53,735	446,723	129,344
Anthropology	124,225	42,816	2,589	62,205	3,349	9,227	4,039
Economics	459,140	91,072	32,765	191,163	12,452	99,743	31,945
Political science and government	448,174	86,244	12,403	204,070	8,543	100,240	36,674
Sociology, demography, and population studies	610,107	289,433	30,797	186,893	5,246	83,923	13,815
Social sciences nec	1,163,831	426,673	68,897	447,655	24,145	153,590	42,871
Sciences nec	915,083	364,331	56,725	382,971	42,475	43,137	25,444
Engineering	13,214,359	7,667,373	920,322	2,682,903	1,113,463	395,038	435,260
Aerospace, aeronautical, and astronautical engineering	1,169,928	820,512	41,708	128,303	132,974	4,178	42,253
Bioengineering and biomedical engineering	1,450,156	879,674	59,251	330,866	66,257	81,124	32,984

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Chemical engineering	977,867	498,380	45,176	232,442	118,026	53,610	30,233
Civil engineering	1,432,381	620,862	244,799	384,651	93,222	51,926	36,921
Electrical, electronic, and communications engineering	2,938,953	2,049,254	70,010	482,011	187,479	66,447	83,752
Industrial and manufacturing engineering	557,350	366,535	29,913	103,343	42,675	9,554	5,330
Mechanical engineering	1,705,397	1,055,725	61,553	335,618	175,487	38,411	38,603
Metallurgical and materials engineering	791,260	483,774	28,236	159,449	63,682	21,259	34,860
Engineering nec	2,191,067	892,657	339,676	526,220	233,661	68,529	130,324
Non-S&E	4,863,072	1,236,233	321,943	2,488,492	153,945	496,806	165,653
Business management and business administration	873,015	73,296	31,491	610,053	61,178	52,351	44,646
Communication and communications technologies	209,159	35,467	11,397	127,046	4,962	25,018	5,269
Education	1,520,025	662,423	121,924	486,983	27,747	192,540	28,408
Humanities	540,935	49,747	13,707	377,992	11,470	63,755	24,264
Law	255,618	31,585	11,437	156,024	9,786	37,641	9,145
Social work	285,714	133,080	27,403	88,180	4,298	29,564	3,189
Visual and performing arts	159,452	9,091	5,773	123,314	1,934	12,471	6,869
Non-S&E nec	1,019,154	241,544	98,811	518,900	32,570	83,466	43,863

nec = not elsewhere classified; S&E = science and engineering.

Note(s):

This table includes only institutions reporting \$1 million or more in total R&D expenditures in 2018. Institutions reporting less than \$1 million in total R&D expenditures in 2018 completed a shorter version of the survey form in FY 2019, and that form did not collect R&D expenditures by source and detailed field. For R&D expenditures by major field at institutions completing the shorter version of the survey, see table 82.

Source(s):

National Center for Science and Engineering Statistics, Higher Education Research and Development Survey, FY 2019.