

TABLE 5. Federally financed higher education R&D expenditures, by R&D field: FY 2004–11
(Dollars in thousands)

Field	2004	2005	2006	2007	2008	2009	2010	2011
All R&D fields ^a	28,303,897	29,956,714	30,908,742	31,240,790	32,100,966	33,442,544	37,475,292	40,764,823
Science	23,720,765	25,056,944	25,823,786	25,974,534	26,546,902	27,541,108	30,787,421	33,381,078
Computer sciences	1,024,363	1,020,758	1,018,483	1,025,809	1,036,436	1,106,960	1,174,024	1,288,912
Environmental sciences	1,596,121	1,729,905	1,767,996	1,807,691	1,827,968	1,890,470	2,013,933	2,188,313
Atmospheric sciences	320,856	361,862	406,606	354,500	337,720	322,239	338,465	384,761
Earth sciences	536,716	615,785	591,714	601,428	603,223	645,126	735,518	798,560
Oceanography	546,973	545,509	560,990	671,710	686,106	711,758	666,930	705,174
Environmental sciences, nec	191,576	206,749	208,686	180,053	200,919	211,347	273,020	299,818
Life sciences	16,666,676	17,692,078	18,279,831	18,326,613	18,659,249	19,322,526	21,700,152	23,680,459
Agricultural sciences	866,940	844,413	883,383	897,109	862,443	863,378	956,447	1,041,298
Biological sciences	5,743,194	6,198,215	6,246,792	6,188,668	6,361,214	6,621,528	7,576,590	8,227,188
Medical sciences	9,389,023	9,896,496	10,438,130	10,563,250	10,748,831	11,057,633	12,070,667	13,199,569
Life sciences, nec	667,519	752,954	711,526	677,586	686,761	779,987	1,096,448	1,212,404
Mathematical sciences	317,764	345,942	374,931	408,608	447,399	368,729	417,758	458,568
Physical sciences	2,568,191	2,671,293	2,700,154	2,688,879	2,742,953	2,963,115	3,383,370	3,538,267
Astronomy	289,271	310,897	317,423	305,545	353,111	387,819	405,252	408,153
Chemistry	920,749	952,197	968,134	975,723	992,275	1,037,490	1,199,882	1,244,103
Physics	1,168,717	1,225,968	1,215,517	1,219,721	1,215,264	1,360,833	1,557,455	1,661,831
Physical sciences, nec	189,454	182,231	199,080	187,890	182,303	176,973	220,781	224,180
Psychology	586,204	609,456	629,253	603,423	634,857	656,196	758,507	816,492
Social sciences	696,142	697,034	712,628	762,714	816,056	854,666	900,936	947,386
Economics	109,044	108,956	120,316	124,401	127,685	121,542	127,748	150,391
Political sciences	112,110	112,124	106,991	134,811	124,970	137,282	152,542	148,672
Sociology	181,771	193,689	216,449	206,882	202,619	201,872	226,457	231,507
Social sciences, nec	293,217	282,265	268,872	296,620	360,782	393,970	394,189	416,816
Sciences, nec	265,304	290,478	340,510	350,797	381,984	378,446	438,741	462,681
Engineering	3,906,505	4,129,598	4,307,793	4,455,851	4,724,848	5,035,006	5,721,750	6,276,519
Aeronautical/astronautical engineering	334,153	335,261	287,779	340,324	399,582	431,583	466,991	502,959
Bioengineering/biomedical engineering	235,698	254,986	295,002	320,998	364,318	385,702	470,212	513,030
Chemical engineering	268,128	295,483	320,214	322,568	341,267	359,939	421,323	495,907
Civil engineering	347,627	337,310	334,927	355,898	385,610	400,543	461,233	545,002
Electrical engineering	971,038	1,047,169	1,077,270	1,065,707	1,111,783	1,200,699	1,375,872	1,513,764
Mechanical engineering	587,450	626,353	686,074	696,357	737,583	801,249	954,918	1,031,810
Metallurgical/materials engineering	352,152	369,362	386,338	377,842	377,073	389,439	429,412	455,275
Engineering, nec	810,259	863,674	920,189	976,157	1,007,632	1,065,852	1,141,789	1,218,772
Non-S&E ^a	676,627	770,172	777,163	810,405	829,216	866,430	966,121	1,107,226
Business and management	50,017	51,912	52,569	54,612	65,318	67,456	86,219	101,419
Communications, journalism, and library science	25,480	26,392	29,915	30,998	28,652	29,609	41,258	52,678
Education	414,871	429,057	436,424	473,204	448,853	474,571	535,449	624,750
Humanities	39,691	57,903	56,216	60,071	56,090	60,248	57,470	58,696
Law	19,596	27,681	28,261	29,590	28,476	23,206	19,326	27,467
Social work	27,468	25,774	40,685	40,657	59,163	61,899	94,416	103,841
Visual and performing arts	4,357	3,999	3,604	4,012	3,722	4,193	4,832	6,502
Non-S&E, nec	89,529	147,454	129,489	117,261	138,942	145,248	127,151	131,873

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

^a From FY 2004 through FY 2009, some institution totals for all fields of R&D expenditures may be lower-bound estimates because National Science Foundation did not attempt to estimate for nonresponse on non-S&E R&D expenditures item.

NOTE: Non-S&E detailed field data may not sum to total non-S&E R&D expenditures because some institutions reporting non-S&E R&D expenditures did not break out total and federal funds by non-S&E fields.

SOURCE: National Science Foundation/National Center for Science and Engineering Statistics, Higher Education Research and Development Survey.