

TABLE 4. 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	44,838,918	47,535,201	49,645,341	51,590,356	54,113,919	57,288,474	61,190,610	65,073,411
Science	36,923,372	39,030,577	40,663,615	41,977,976	43,914,462	46,214,521	48,983,394	51,845,312
Computer sciences	1,403,957	1,404,105	1,443,055	1,430,660	1,471,454	1,600,446	1,636,576	1,734,897
Environmental sciences	2,353,383	2,554,468	2,601,097	2,681,628	2,798,828	2,923,492	2,991,874	3,167,464
Atmospheric sciences	414,583	460,020	507,583	446,184	423,055	416,826	429,113	480,814
Earth sciences	827,988	919,718	897,499	911,040	950,708	1,019,516	1,085,322	1,141,857
Oceanography	778,841	812,061	839,504	992,485	1,051,137	1,077,635	1,021,844	1,049,379
Environmental sciences, nec	331,971	362,669	356,511	331,919	373,928	409,515	455,595	495,414
Life sciences	25,948,910	27,604,138	28,803,658	29,805,374	31,192,914	32,778,623	34,923,973	37,232,175
Agricultural sciences	2,695,390	2,656,770	2,796,961	2,913,260	2,995,518	3,055,512	2,984,090	3,128,593
Biological sciences	8,152,337	8,843,679	9,049,032	9,207,514	9,759,967	10,145,893	10,917,472	11,801,998
Medical sciences	14,036,843	14,877,626	15,805,806	16,553,741	17,254,291	18,229,587	19,264,812	20,356,311
Life sciences, nec	1,064,340	1,226,063	1,151,859	1,130,859	1,183,138	1,347,631	1,757,599	1,945,273
Mathematical sciences	448,466	494,282	532,832	573,070	619,854	546,914	592,145	636,353
Physical sciences	3,546,916	3,702,783	3,813,770	3,863,269	3,931,833	4,282,795	4,618,632	4,779,092
Astronomy	420,391	454,354	469,955	467,604	539,112	578,406	572,511	582,187
Chemistry	1,318,137	1,371,984	1,414,311	1,460,415	1,486,721	1,582,562	1,747,771	1,785,614
Physics	1,522,056	1,596,290	1,611,248	1,615,766	1,606,997	1,869,890	1,996,239	2,108,596
Physical sciences, nec	286,332	280,155	318,256	319,484	299,003	251,937	302,111	302,695
Psychology	782,464	825,009	875,641	872,547	925,069	972,318	1,075,385	1,119,167
Social sciences	1,674,842	1,684,610	1,706,003	1,803,146	1,949,773	2,080,986	1,990,717	2,044,534
Economics	317,210	324,685	339,800	349,331	398,748	379,739	348,917	389,112
Political sciences	307,351	323,053	317,044	348,310	339,294	368,887	372,723	363,913
Sociology	355,145	370,468	399,697	397,749	403,227	408,443	418,283	425,285
Social sciences, nec	695,136	666,404	649,462	707,756	808,504	923,917	850,794	866,224
Sciences, nec	764,434	761,182	887,559	948,282	1,024,737	1,028,947	1,154,092	1,131,630
Engineering	6,314,421	6,743,373	7,095,085	7,517,276	7,957,511	8,648,536	9,327,470	10,045,491
Aeronautical/astronautical engineering	439,123	449,078	389,894	476,755	541,775	620,851	635,215	671,715
Bioengineering/biomedical engineering	374,296	425,967	484,648	548,320	609,250	659,497	744,124	814,659
Chemical engineering	498,884	515,224	570,986	612,336	666,271	712,464	820,941	926,658
Civil engineering	799,696	804,092	877,989	886,216	943,774	1,010,186	1,106,948	1,211,376
Electrical engineering	1,448,492	1,597,908	1,635,239	1,660,452	1,723,717	1,873,616	2,053,482	2,208,999
Mechanical engineering	882,658	947,114	1,062,531	1,143,830	1,176,103	1,265,140	1,460,936	1,555,656
Metallurgical/materials engineering	569,496	618,329	650,740	642,083	653,832	699,572	703,915	738,134
Engineering, nec	1,301,776	1,385,661	1,423,058	1,547,284	1,642,789	1,807,210	1,801,909	1,918,294
Non-S&E ^a	1,601,125	1,761,251	1,886,641	2,095,104	2,241,946	2,425,417	2,879,746	3,182,608
Business and management	216,807	220,187	247,335	276,280	329,931	343,916	365,075	394,541
Communications, journalism, and library science	73,732	75,582	84,784	90,832	89,203	107,484	128,762	148,114
Education	711,323	766,416	819,004	905,247	868,830	915,976	990,770	1,104,340
Humanities	168,541	192,309	217,263	241,683	246,713	255,289	258,101	296,444
Law	52,671	63,118	69,387	74,809	90,907	107,966	96,212	119,128
Social work	74,557	87,344	89,993	93,540	123,984	138,283	176,971	190,775
Visual and performing arts	37,750	42,135	46,100	46,155	59,285	72,867	64,367	72,729
Non-S&E, nec	242,336	314,019	312,774	366,448	432,965	483,636	799,488	856,537

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.