

Table 3A. Federal obligations to universities and colleges for applied research, by detailed field of science & engineering: All agencies, fiscal years 1973-2003

[Dollars in thousands]

Page 1 of 4

Field of science & engineering	1973	1974	1975	1976	1977	1978	1979	1980
Total, all fields	NA	731,872	742,128	833,342	918,135	1,033,579	1,065,310	1,172,344
Life sciences, total	NA	492,516	496,075	528,028	590,117	678,298	655,893	765,144
Biol & agricultural, total	NA	226,886	230,259	235,576	262,158	305,197	308,119	396,271
Biol (excl environmental)	NA	NA	NA	NA	NA	244,153	243,518	324,750
Environmental biology	NA	NA	NA	NA	NA	310	595	2,461
Agricultural	NA	NA	NA	NA	NA	60,734	64,006	69,060
Medical sciences, total	NA	254,765	254,135	275,618	306,846	345,867	312,024	337,578
Clinical medical	NA	242,017	242,435	267,592	293,546	NA	NA	NA
Other medical	NA	12,748	11,771	8,026	13,300	NA	NA	NA
Life sciences, n.e.c.	NA	10,865	11,681	16,834	21,113	27,234	35,750	31,295
Psychology, total	NA	28,749	26,856	30,674	27,457	31,741	46,931	36,948
Biological aspects	NA	12,429	9,091	10,634	9,816	11,462	12,076	13,258
Social aspects	NA	10,389	10,771	12,374	8,935	10,425	12,908	15,075
Psychological sciences, n.e.c.	NA	5,931	6,994	7,666	8,706	9,854	21,947	8,615
Physical sciences, total	NA	36,096	40,271	43,389	55,929	67,120	79,500	85,072
Astronomy	NA	925	1,712	2,312	2,628	1,557	2,436	4,639
Chemistry	NA	14,936	16,240	15,617	19,533	21,314	25,812	23,402
Physics	NA	16,690	20,415	23,293	29,656	41,604	48,491	51,788
Physical sciences, n.e.c.	NA	3,545	1,904	2,167	4,112	2,645	2,761	5,243
Environmental sciences, total	NA	26,125	25,863	40,437	39,159	34,751	45,611	41,738
Atmospheric sciences	NA	9,854	9,151	13,013	10,373	7,724	9,419	11,797
Geological sciences	NA	5,347	4,826	10,956	10,284	8,162	8,578	8,832
Oceanography	NA	8,118	8,341	9,195	9,822	12,325	16,940	9,796
Environmental sciences, n.e.c.	NA	2,806	3,545	7,273	8,680	6,540	10,674	11,313
Math & computer sciences, total	NA	16,289	15,323	11,265	16,246	14,186	18,562	14,809
Mathematics	NA	NA	NA	2,850	3,255	3,099	2,592	2,933
Computer sciences	NA	NA	NA	7,331	12,358	8,634	13,346	9,940
Math & computer sciences, n.e.c.	NA	NA	NA	1,084	633	2,453	2,624	1,936
Engineering, total	NA	52,884	60,589	58,421	81,287	89,369	105,614	115,307
Aeronautical	NA	5,349	5,890	5,926	7,190	6,596	7,493	15,687
Astronautical	NA	895	888	1,030	1,121	831	1,572	6,322
Chemical	NA	2,694	4,651	5,860	7,615	15,230	6,683	3,304
Civil	NA	1,227	1,272	1,720	1,310	1,840	7,340	6,556
Electrical	NA	8,452	8,758	9,439	15,147	15,198	16,486	29,784
Mechanical	NA	4,545	4,955	6,290	7,946	7,429	5,649	7,296
Metallurgy & materials	NA	4,312	3,938	4,588	4,828	5,738	4,685	5,456
Engineering, n.e.c.	NA	25,410	30,237	23,568	36,130	36,507	55,706	40,902
Social sciences, total	NA	48,775	50,893	74,048	84,417	90,329	81,235	73,802
Anthropology	NA	2,630	2,567	2,058	1,396	1,999	2,016	628
Economics	NA	13,747	17,857	17,113	18,718	22,477	24,464	28,338
Political science	NA	500	1,126	462	761	955	1,860	720
Sociology	NA	10,535	7,940	10,487	11,121	12,501	13,901	14,880
Social sciences, n.e.c.	NA	21,363	21,403	43,928	52,421	52,397	38,994	29,236
History	NA	90	433	NA	NA	NA	NA	NA
Linguistics	NA	1,142	722	NA	NA	NA	NA	NA
Other social sciences	NA	20,131	20,248	NA	NA	NA	NA	NA
Other sciences, n.e.c.	NA	30,438	26,258	47,080	23,523	27,785	31,964	39,524

See explanatory information, if any, and SOURCE at end of table.

Table 3A. Federal obligations to universities and colleges for applied research, by detailed field of science & engineering: All agencies, fiscal years 1973-2003

[Dollars in thousands]

Field of science & engineering	1981	1982	1983	1984	1985	1986	1987	1988
Total, all fields	1,227,916	1,102,431	1,174,573	1,286,642	1,469,086	1,528,998	1,756,442	1,935,828
Life sciences, total	802,567	721,333	758,304	820,635	917,618	943,972	1,122,350	1,282,126
Biol & agricultural, total	418,372	341,275	353,373	379,153	413,943	450,301	547,695	696,277
Biol (excl environmental)	339,393	251,688	257,556	288,871	325,580	369,089	465,175	605,985
Environmental biology	1,649	7,164	6,672	35,755	36,373	33,414	33,233	33,082
Agricultural	77,330	82,423	89,145	54,527	51,990	47,798	49,287	57,210
Medical sciences, total	359,632	351,991	375,042	412,466	468,190	460,661	538,120	547,938
Clinical medical	NA	NA	NA	NA	NA	NA	NA	NA
Other medical	NA	NA	NA	NA	NA	NA	NA	NA
Life sciences, n.e.c.	24,563	28,067	29,889	29,016	35,485	33,010	36,535	37,911
Psychology, total	36,564	35,736	43,386	49,654	59,916	68,551	89,373	80,792
Biological aspects	12,416	11,186	13,259	15,297	18,466	19,971	25,429	30,188
Social aspects	13,334	9,891	10,529	11,240	12,917	15,097	21,837	22,195
Psychological sciences, n.e.c.	10,814	14,659	19,598	23,117	28,533	33,483	42,107	28,409
Physical sciences, total	90,423	103,879	94,286	115,841	122,097	115,838	123,720	123,200
Astronomy	5,477	6,407	2,072	1,682	678	1,040	997	1,833
Chemistry	28,781	24,321	23,768	30,238	32,501	33,181	34,604	36,620
Physics	52,107	67,413	64,053	81,287	85,458	78,853	82,715	80,829
Physical sciences, n.e.c.	4,058	5,738	4,393	2,634	3,460	2,764	5,404	3,918
Environmental sciences, total	38,756	18,733	32,633	30,507	30,452	30,214	30,716	29,925
Atmospheric sciences	15,327	10,670	12,432	11,774	13,109	15,281	13,086	15,308
Geological sciences	9,597	2,777	10,089	11,003	8,856	9,526	8,260	9,110
Oceanography	8,800	876	6,090	5,627	5,061	4,157	7,250	3,747
Environmental sciences, n.e.c.	5,032	4,410	4,022	2,103	3,426	2,120	2,120	1,760
Math & computer sciences, total	18,779	20,809	25,531	28,961	79,291	85,181	74,758	78,280
Mathematics	4,219	3,414	3,974	4,395	10,503	3,524	2,613	4,366
Computer sciences	9,581	13,881	13,988	11,891	28,657	36,923	22,741	22,620
Math & computer sciences, n.e.c.	4,979	3,514	7,569	12,675	40,131	44,734	49,404	51,294
Engineering, total	128,094	102,495	113,221	133,917	138,214	179,776	188,478	224,199
Aeronautical	16,681	13,292	13,286	13,479	12,627	18,904	23,849	19,716
Astronautical	7,807	6,050	7,384	5,073	6,668	4,695	5,744	8,110
Chemical	2,089	2,617	4,637	21,591	18,021	17,837	22,096	22,235
Civil	7,469	8,172	7,764	9,513	9,920	7,238	11,988	9,241
Electrical	33,165	27,547	27,854	34,985	33,984	46,617	47,849	40,897
Mechanical	7,692	8,380	6,078	9,878	11,803	25,952	17,644	15,683
Metallurgy & materials	6,922	5,694	9,154	7,759	11,330	12,899	11,296	54,346
Engineering, n.e.c.	46,269	30,743	37,064	31,639	33,861	45,634	48,012	53,971
Social sciences, total	77,724	66,881	68,536	61,341	71,358	63,301	75,053	74,161
Anthropology	323	479	307	370	676	834	996	696
Economics	28,950	31,407	35,504	20,202	22,400	20,814	25,295	25,186
Political science	708	715	1,005	1,306	1,313	1,291	679	1,023
Sociology	13,541	13,381	10,367	14,241	15,465	13,822	16,037	18,206
Social sciences, n.e.c.	34,202	20,899	21,353	25,222	31,504	26,540	32,046	29,050
History	NA	NA	NA	NA	NA	NA	NA	NA
Linguistics	NA	NA	NA	NA	NA	NA	NA	NA
Other social sciences	NA	NA	NA	NA	NA	NA	NA	NA
Other sciences, n.e.c.	35,009	32,565	38,676	45,786	50,140	42,165	51,994	43,145

See explanatory information, if any, and SOURCE at end of table.

Table 3A. Federal obligations to universities and colleges for applied research, by detailed field of science & engineering: All agencies, fiscal years 1973-2003

[Dollars in thousands]

Field of science & engineering	1989	1990	1991	1992	1993	1994	1995	1996
Total, all fields	2,305,387	2,316,970	2,546,043	2,415,337	2,767,824	2,970,499	3,052,385	2,930,387
Life sciences, total	1,493,203	1,464,072	1,638,923	1,530,595	1,724,251	1,872,816	1,954,705	2,005,387
Biol & agricultural, total	828,613	784,473	858,004	778,632	849,566	906,764	909,365	1,016,300
Biol (excl environmental)	688,792	681,956	743,540	652,180	721,711	779,283	777,654	893,762
Environmental biology	72,033	40,995	46,125	47,439	52,241	50,575	54,154	47,952
Agricultural	67,788	61,522	68,339	79,013	75,614	76,906	77,557	74,586
Medical sciences, total	615,916	634,115	743,734	731,494	842,514	939,138	968,237	922,986
Clinical medical	NA	NA	NA	NA	NA	NA	NA	NA
Other medical	NA	NA	NA	NA	NA	NA	NA	NA
Life sciences, n.e.c.	48,674	45,484	37,185	20,469	32,171	26,914	77,103	66,101
Psychology, total	93,105	95,757	107,049	42,654	120,849	141,126	116,979	79,099
Biological aspects	36,272	36,405	42,341	327	452	175	691	3,102
Social aspects	27,073	30,071	32,595	8,505	3,800	5,623	9,445	3,929
Psychological sciences, n.e.c.	29,760	29,281	32,113	33,822	116,597	135,328	106,843	72,068
Physical sciences, total	146,923	172,647	170,390	194,058	230,984	235,076	217,632	126,857
Astronomy	2,066	4,250	7,182	8,268	9,659	13,045	26,039	20,160
Chemistry	39,197	41,413	39,704	46,697	47,764	52,890	49,650	61,651
Physics	102,149	121,749	119,753	135,387	162,767	158,856	134,174	35,502
Physical sciences, n.e.c.	3,511	5,235	3,751	3,706	10,794	10,285	7,769	9,544
Environmental sciences, total	36,368	32,808	35,831	30,065	31,342	34,623	41,130	44,956
Atmospheric sciences	11,582	9,891	8,024	11,674	8,046	8,842	9,387	6,539
Geological sciences	19,418	15,072	12,934	10,364	14,090	5,731	10,562	8,087
Oceanography	4,192	2,667	1,740	1,659	2,114	2,389	1,778	7,609
Environmental sciences, n.e.c.	1,176	5,178	13,133	6,368	7,092	17,661	19,403	22,721
Math & computer sciences, total	100,640	121,518	103,569	148,604	138,109	189,814	199,808	218,669
Mathematics	3,414	4,302	4,589	4,982	5,508	10,019	14,189	10,889
Computer sciences	42,061	115,443	93,688	138,734	120,466	168,493	176,512	199,181
Math & computer sciences, n.e.c.	55,165	1,773	5,292	4,888	12,135	11,302	9,107	8,599
Engineering, total	264,633	254,518	273,062	279,506	307,956	269,555	299,968	282,701
Aeronautical	26,073	30,808	16,429	12,619	12,399	9,592	10,020	7,564
Astronautical	8,552	11,559	8,583	9,614	8,590	9,407	6,067	1,962
Chemical	10,579	26,126	32,564	28,498	27,643	23,365	30,262	22,270
Civil	11,496	10,056	12,731	12,098	11,528	10,495	15,630	11,014
Electrical	41,466	42,935	44,386	43,475	49,257	39,004	35,787	21,806
Mechanical	19,793	15,711	15,476	16,670	18,145	20,694	21,911	9,116
Metallurgy & materials	63,781	43,703	66,821	60,320	72,759	64,291	59,616	59,612
Engineering, n.e.c.	82,893	73,620	76,072	96,212	107,635	92,707	120,675	149,357
Social sciences, total	85,121	105,242	141,523	104,450	106,616	104,136	92,418	76,663
Anthropology	388	325	1,066	1,065	549	759	726	589
Economics	27,206	29,917	29,997	38,551	36,274	35,498	37,515	34,174
Political science	1,473	1,828	1,624	589	616	442	713	546
Sociology	23,695	42,103	75,433	35,593	26,820	20,240	7,962	6,948
Social sciences, n.e.c.	32,359	31,069	33,403	28,652	42,357	47,197	45,502	34,406
History	NA	NA	NA	NA	NA	NA	NA	NA
Linguistics	NA	NA	NA	NA	NA	NA	NA	NA
Other social sciences	NA	NA	NA	NA	NA	NA	NA	NA
Other sciences, n.e.c.	85,394	70,408	75,696	85,405	107,717	123,353	129,745	96,055

See explanatory information, if any, and SOURCE at end of table.

Table 3A. Federal obligations to universities and colleges for applied research, by detailed field of science & engineering: All agencies, fiscal years 1973-2003

[Dollars in thousands]

Page 4 of 4

Field of science & engineering	1997	1998	1999	2000	2001	Preliminary	
						2002	2003
Total, all fields	3,117,100	3,402,738	3,713,143	5,566,653	6,394,679	7,096,307	7,749,268
Life sciences, total	2,217,670	2,434,298	2,674,860	3,672,320	4,844,850	5,446,833	6,041,454
Biol & agricultural, total	1,214,011	1,341,957	1,464,197	2,291,839	4,106,572	NA	NA
Biol (excl environmental)	1,075,060	1,193,468	1,290,802	2,100,785	3,873,546	NA	NA
Environmental biology	51,563	60,449	68,199	84,625	79,917	NA	NA
Agricultural	87,388	88,040	105,196	106,429	153,109	NA	NA
Medical sciences, total	929,439	1,012,819	1,124,037	1,124,229	609,042	NA	NA
Clinical medical	NA	NA	NA	NA	NA	NA	NA
Other medical	NA	NA	NA	NA	NA	NA	NA
Life sciences, n.e.c.	74,220	79,522	86,626	256,252	129,236	NA	NA
Psychology, total	88,492	96,365	101,759	412,329	182,704	209,061	240,469
Biological aspects	3,906	4,803	3,889	1,165	920	NA	NA
Social aspects	4,708	3,019	3,765	941	933	NA	NA
Psychological sciences, n.e.c.	79,878	88,543	94,105	410,223	180,851	NA	NA
Physical sciences, total	121,948	192,512	198,760	344,423	246,804	264,076	271,993
Astronomy	14,675	25,216	24,447	84,199	108,388	NA	NA
Chemistry	62,330	58,160	70,956	199,278	77,493	NA	NA
Physics	33,008	97,078	90,073	49,141	14,313	NA	NA
Physical sciences, n.e.c.	11,935	12,058	13,284	11,805	46,610	NA	NA
Environmental sciences, total	51,584	49,104	43,222	162,509	175,465	191,166	191,693
Atmospheric sciences	15,470	11,497	14,609	15,440	16,223	NA	NA
Geological sciences	1,472	1,274	767	700	7,456	NA	NA
Oceanography	11,704	10,807	7,984	7,950	13,800	NA	NA
Environmental sciences, n.e.c.	22,938	25,526	19,862	138,419	137,986	NA	NA
Math & computer sciences, total	170,612	185,616	178,994	234,756	246,516	243,766	267,364
Mathematics	5,637	14,969	9,769	41,882	22,176	NA	NA
Computer sciences	160,697	169,378	168,367	185,584	218,894	NA	NA
Math & computer sciences, n.e.c.	4,278	1,269	858	7,290	5,446	NA	NA
Engineering, total	289,125	270,356	320,940	449,430	440,732	459,385	435,776
Aeronautical	13,583	19,818	26,956	31,427	34,303	NA	NA
Astronautical	6,855	3,899	12,587	31,352	19,223	NA	NA
Chemical	24,087	28,279	30,186	35,903	24,736	NA	NA
Civil	15,062	21,254	12,715	14,528	14,147	NA	NA
Electrical	25,463	35,586	53,906	56,657	57,443	NA	NA
Mechanical	6,236	7,819	7,937	8,848	8,012	NA	NA
Metallurgy & materials	57,576	43,063	36,311	46,648	73,388	NA	NA
Engineering, n.e.c.	140,263	110,638	140,342	224,067	209,480	NA	NA
Social sciences, total	80,228	77,545	90,081	149,177	134,455	134,387	134,475
Anthropology	580	576	256	670	675	NA	NA
Economics	34,791	31,171	34,074	42,511	48,524	NA	NA
Political science	560	531	563	531	697	NA	NA
Sociology	8,182	8,065	9,002	12,093	9,630	NA	NA
Social sciences, n.e.c.	36,115	37,202	46,186	93,372	74,929	NA	NA
History	NA	NA	NA	NA	NA	NA	NA
Linguistics	NA	NA	NA	NA	NA	NA	NA
Other social sciences	NA	NA	NA	NA	NA	NA	NA
Other sciences, n.e.c.	97,441	96,942	104,527	141,709	123,153	147,633	166,044

KEY: NA = Not applicable (indicates that the data collected for this table were not recorded at that level in that particular fiscal year, or that the agency or subagency did not exist as such or in that organization in that year)
n.e.c. = Not elsewhere classified

NOTES: This table shows obligations from the Departments of Agriculture, Defense, Energy, and Health & Human Services; the National Aeronautics & Space Administration; and the National Science Foundation; they represent approximately 94 percent of total Federal applied research obligations to universities and colleges in fiscal years 2001, 2002, and 2003.

Beginning in fiscal year 2000, the National Aeronautics & Space Administration reclassified Space Station as a physical asset and Space Station Research as equipment, and transferred funding for the program from R&D to R&D plant.

Beginning in the fiscal year 2000, the National Institutes of Health classified all of its development activities as research.

SOURCE: National Science Foundation/Division of Science Resources Statistics, Survey of Federal Funds for Research and Development: Fiscal Years 2001, 2002, and 2003