

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

[Dollars in thousands]

Field of science & engineering	1973	1974	1975	1976	1977	1978	1979	1980
Total, all fields	NA	60,706	59,461	79,500	79,159	74,927	92,284	104,354
Life sciences, total	NA	10,882	6,835	6,276	6,711	8,347	8,172	12,441
Biol & agricultural, total	NA	1,346	992	1,191	1,743	1,800	2,127	4,716
Biol (excl environmental)	NA	NA	NA	NA	NA	1,310	1,807	4,232
Environmental biology	NA	NA	NA	NA	NA	310	270	384
Agricultural	NA	NA	NA	NA	NA	180	50	100
Medical sciences, total	NA	9,536	5,843	5,085	4,968	6,497	6,014	7,675
Clinical medical	NA	8,680	4,698	3,884	4,192	NA	NA	NA
Other medical	NA	856	1,145	1,201	776	NA	NA	NA
Life sciences, n.e.c.	NA	0	0	0	0	50	31	50
Psychology, total	NA	574	3,482	2,144	2,167	2,254	2,269	3,162
Biological aspects	NA	66	160	111	86	61	35	0
Social aspects	NA	280	2,209	804	929	718	1,183	2,980
Psychological sciences, n.e.c.	NA	228	1,113	1,229	1,152	1,475	1,051	182
Physical sciences, total	NA	8,595	8,367	9,648	11,339	14,175	18,567	17,228
Astronomy	NA	19	20	25	33	60	0	0
Chemistry	NA	970	733	1,098	1,710	1,696	1,529	2,330
Physics	NA	6,558	6,610	7,423	7,402	10,674	16,928	14,577
Physical sciences, n.e.c.	NA	1,048	1,004	1,102	2,194	1,745	110	321
Environmental sciences, total	NA	8,476	8,086	8,005	7,501	8,668	11,907	6,749
Atmospheric sciences	NA	1,037	1,044	1,283	1,105	1,580	1,924	4,818
Geological sciences	NA	2,151	1,801	2,075	2,613	1,011	492	710
Oceanography	NA	5,034	5,224	4,626	3,693	6,025	9,122	836
Environmental sciences, n.e.c.	NA	254	17	21	90	52	369	385
Math & computer sciences, total	NA	13,611	11,343	7,386	11,982	10,717	14,192	10,421
Mathematics	NA	NA	NA	723	327	303	180	842
Computer sciences	NA	NA	NA	6,600	11,022	7,961	11,611	8,082
Math & computer sciences, n.e.c.	NA	NA	NA	63	633	2,453	2,401	1,497
Engineering, total	NA	18,010	19,928	22,930	38,787	29,601	35,650	53,487
Aeronautical	NA	2,779	2,818	3,320	4,586	4,183	5,336	13,058
Astronautical	NA	450	472	594	786	796	1,157	6,082
Chemical	NA	1,553	2,053	2,083	3,173	2,849	3,317	428
Civil	NA	372	670	1,160	639	461	740	1,266
Electrical	NA	6,452	6,929	6,963	12,222	12,098	14,209	25,422
Mechanical	NA	3,376	3,685	4,531	5,875	5,250	4,204	4,201
Metallurgy & materials	NA	1,019	1,697	2,171	2,613	3,446	2,647	2,417
Engineering, n.e.c.	NA	2,009	1,604	2,108	8,893	518	4,040	613
Social sciences, total	NA	385	783	998	567	897	790	71
Anthropology	NA	0	0	0	0	0	0	0
Economics	NA	156	312	141	33	174	0	0
Political science	NA	0	144	352	494	587	781	71
Sociology	NA	120	57	85	40	136	0	0
Social sciences, n.e.c.	NA	109	270	420	0	0	9	0
History	NA	0	0	NA	NA	NA	NA	NA
Linguistics	NA	0	0	NA	NA	NA	NA	NA
Other social sciences	NA	109	270	NA	NA	NA	NA	NA
Other sciences, n.e.c.	NA	173	637	22,113	105	268	737	795

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

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

[Dollars in thousands]

Page 2 of 4

Field of science & engineering	1981	1982	1983	1984	1985	1986	1987	1988
Total, all fields	118,561	107,320	111,771	133,235	178,375	232,388	204,878	236,353
Life sciences, total	15,735	16,578	16,038	21,786	25,613	23,974	24,816	22,805
Biol & agricultural, total	5,604	777	958	1,167	998	931	1,067	839
Biol (excl environmental)	5,163	415	811	1,007	824	745	813	660
Environmental biology	349	276	147	160	174	186	254	179
Agricultural	92	86	0	0	0	0	0	0
Medical sciences, total	10,090	12,548	11,570	16,991	20,784	19,416	19,811	17,934
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.	41	3,253	3,510	3,628	3,831	3,627	3,938	4,032
Psychology, total	2,900	3,027	4,548	3,724	2,886	5,697	5,790	4,983
Biological aspects	0	0	0	452	0	0	0	0
Social aspects	2,741	2,632	2,901	2,330	1,965	3,065	5,790	4,347
Psychological sciences, n.e.c.	159	395	1,647	942	921	2,632	0	636
Physical sciences, total	16,935	16,606	9,938	20,464	17,011	13,859	12,322	13,131
Astronomy	0	0	398	247	0	185	191	278
Chemistry	2,686	2,124	2,326	2,599	3,742	4,643	4,096	4,130
Physics	13,582	13,474	6,389	16,673	11,798	8,299	6,919	7,663
Physical sciences, n.e.c.	667	1,008	825	945	1,471	732	1,116	1,060
Environmental sciences, total	9,612	6,126	7,588	7,563	7,626	8,965	10,366	12,002
Atmospheric sciences	6,115	4,264	3,308	3,986	4,267	3,978	4,497	6,319
Geological sciences	1,724	739	2,308	1,265	2,150	2,678	976	4,135
Oceanography	1,680	444	1,678	1,809	663	1,709	4,242	1,024
Environmental sciences, n.e.c.	93	679	294	503	546	600	651	524
Math & computer sciences, total	12,916	15,243	18,884	22,430	65,961	79,228	68,976	71,331
Mathematics	982	518	493	383	765	358	366	1,323
Computer sciences	8,152	11,419	11,284	9,564	25,527	34,647	19,878	18,860
Math & computer sciences, n.e.c.	3,782	3,306	7,107	12,483	39,669	44,223	48,732	51,148
Engineering, total	60,068	48,913	53,258	56,507	58,276	98,740	81,331	108,930
Aeronautical	13,754	9,499	9,486	9,770	8,460	15,113	18,602	11,954
Astronautical	6,702	5,409	6,732	4,723	6,471	4,603	5,488	7,514
Chemical	764	465	564	763	533	1,057	1,043	1,022
Civil	2,164	1,783	2,418	2,364	3,328	2,819	1,948	2,874
Electrical	27,029	20,693	22,363	27,383	25,731	35,486	32,565	24,378
Mechanical	3,691	4,421	3,036	4,534	4,446	19,645	7,931	5,949
Metallurgy & materials	3,995	3,508	5,531	4,538	7,862	5,348	5,148	45,724
Engineering, n.e.c.	1,969	3,135	3,128	2,432	1,445	14,669	8,606	9,515
Social sciences, total	2	19	19	59	62	60	62	0
Anthropology	0	0	0	0	0	0	0	0
Economics	0	13	12	0	23	36	37	0
Political science	0	0	0	55	24	0	0	0
Sociology	2	6	7	4	15	24	25	0
Social sciences, n.e.c.	0	0	0	0	0	0	0	0
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.	393	808	1,498	702	940	1,865	1,215	3,171

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

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

[Dollars in thousands]

Page 3 of 4

Field of science & engineering	1989	1990	1991	1992	1993	1994	1995	1996
Total, all fields	328,156	271,501	247,870	313,345	326,441	350,154	338,524	392,304
Life sciences, total	51,010	15,232	10,459	28,986	19,842	26,131	34,117	42,412
Biol & agricultural, total	33,196	585	838	1,079	5,930	1,097	1,608	4,915
Biol (excl environmental)	0	187	499	592	276	478	1,350	4,915
Environmental biology	33,196	398	339	487	5,654	619	258	0
Agricultural	0	0	0	0	0	0	0	0
Medical sciences, total	13,702	9,566	7,967	27,742	11,124	24,750	6,863	33,763
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.	4,112	5,081	1,654	165	2,788	284	25,646	3,734
Psychology, total	5,862	4,928	3,800	8,336	4,267	5,388	6,573	1,301
Biological aspects	0	143	260	195	328	168	170	397
Social aspects	4,214	4,785	3,540	8,141	3,571	5,086	6,403	841
Psychological sciences, n.e.c.	1,648	0	0	0	368	134	0	63
Physical sciences, total	10,469	19,678	16,844	21,106	27,433	22,456	18,688	18,302
Astronomy	305	0	0	0	0	0	0	0
Chemistry	3,456	4,353	2,537	2,617	3,537	4,190	3,021	9,555
Physics	5,167	14,492	13,703	17,714	23,398	17,080	14,688	4,026
Physical sciences, n.e.c.	1,541	833	604	775	498	1,186	979	4,721
Environmental sciences, total	23,217	12,548	10,232	11,399	10,153	16,609	11,075	19,520
Atmospheric sciences	7,188	4,897	2,395	2,821	1,725	2,076	1,961	888
Geological sciences	13,417	5,911	5,934	5,026	3,294	890	1,185	832
Oceanography	2,458	793	953	1,079	972	955	979	5,549
Environmental sciences, n.e.c.	154	947	950	2,473	4,162	12,688	6,950	12,251
Math & computer sciences, total	92,906	106,115	91,506	124,213	115,475	158,425	164,391	187,858
Mathematics	1,178	845	347	1,156	1,342	4,865	4,250	2,322
Computer sciences	37,292	103,720	86,309	119,731	109,577	150,510	155,904	177,884
Math & computer sciences, n.e.c.	54,436	1,550	4,850	3,326	4,556	3,050	4,237	7,652
Engineering, total	120,278	106,460	111,150	116,121	146,943	118,615	101,207	121,933
Aeronautical	12,163	13,449	7,470	5,248	5,987	2,039	5,134	2,610
Astronautical	7,357	9,729	5,955	6,182	7,173	5,056	4,982	799
Chemical	1,418	1,296	1,825	1,234	1,525	1,032	1,079	560
Civil	3,279	4,253	4,676	4,685	4,998	4,368	5,688	2,597
Electrical	22,220	30,544	28,662	28,724	36,726	26,347	19,953	16,346
Mechanical	9,705	7,816	7,268	8,066	9,153	11,537	7,668	6,259
Metallurgy & materials	53,012	31,635	51,976	49,789	61,618	52,039	33,428	50,679
Engineering, n.e.c.	11,124	7,738	3,318	12,193	19,763	16,197	23,275	42,083
Social sciences, total	64	58	90	483	422	223	86	33
Anthropology	0	0	0	418	303	0	0	0
Economics	38	35	54	40	71	41	52	20
Political science	0	0	0	0	0	0	0	0
Sociology	26	23	36	25	48	27	34	13
Social sciences, n.e.c.	0	0	0	0	0	155	0	0
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.	24,350	6,482	3,789	2,701	1,906	2,307	2,387	945

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

Table 3C. Federal obligations to universities and colleges for applied research, by detailed field of science & engineering: Department of Defense, 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	387,425	416,619	428,896	459,441	574,960	592,012	530,679
Life sciences, total	52,849	79,116	79,932	91,556	103,216	101,333	67,914
Biol & agricultural, total	13,880	41,455	34,430	36,126	39,758	NA	NA
Biol (excl environmental)	12,491	40,917	34,380	35,204	39,056	NA	NA
Environmental biology	0	0	50	173	44	NA	NA
Agricultural	1,389	538	0	749	658	NA	NA
Medical sciences, total	37,729	36,689	41,914	35,977	50,260	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.	1,240	972	3,588	19,453	13,198	NA	NA
Psychology, total	3,401	2,185	171	1,744	1,294	2,974	1,500
Biological aspects	589	1,210	0	749	647	NA	NA
Social aspects	2,812	963	0	749	647	NA	NA
Psychological sciences, n.e.c.	0	12	171	246	0	NA	NA
Physical sciences, total	17,731	18,833	18,483	15,113	14,040	19,604	14,886
Astronomy	0	0	0	0	0	NA	NA
Chemistry	9,188	4,813	1,810	4,839	5,673	NA	NA
Physics	4,616	9,750	15,917	9,601	7,286	NA	NA
Physical sciences, n.e.c.	3,927	4,270	756	673	1,081	NA	NA
Environmental sciences, total	26,742	23,809	16,062	17,390	17,448	23,290	10,005
Atmospheric sciences	5,195	5,694	6,523	4,508	4,421	NA	NA
Geological sciences	105	0	0	0	14	NA	NA
Oceanography	9,201	9,982	7,720	7,632	7,871	NA	NA
Environmental sciences, n.e.c.	12,241	8,133	1,819	5,250	5,142	NA	NA
Math & computer sciences, total	153,343	164,965	155,538	173,704	198,614	192,840	213,023
Mathematics	1,793	10,532	5,522	6,183	4,621	NA	NA
Computer sciences	147,563	153,965	149,798	163,467	192,209	NA	NA
Math & computer sciences, n.e.c.	3,987	468	218	4,054	1,784	NA	NA
Engineering, total	130,743	125,273	148,474	159,557	239,290	241,193	210,886
Aeronautical	6,232	10,553	18,090	22,326	25,643	NA	NA
Astronautical	2,676	12	1,301	957	976	NA	NA
Chemical	581	1,459	2,894	2,192	1,089	NA	NA
Civil	3,055	1,468	572	2,903	2,055	NA	NA
Electrical	20,364	28,828	39,574	37,375	38,095	NA	NA
Mechanical	3,365	5,434	5,029	6,351	5,609	NA	NA
Metallurgy & materials	52,694	37,376	30,796	27,331	55,912	NA	NA
Engineering, n.e.c.	41,776	40,143	50,218	60,122	109,911	NA	NA
Social sciences, total	38	0	0	252	46	48	41
Anthropology	0	0	0	0	7	NA	NA
Economics	25	0	0	75	0	NA	NA
Political science	0	0	0	0	0	NA	NA
Sociology	13	0	0	0	2	NA	NA
Social sciences, n.e.c.	0	0	0	177	37	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.	2,578	2,438	10,236	125	1,012	10,730	12,424

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

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