Chapter 2. Higher Education in Science and Engineering

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Appendix table 2-1.
Number of first university degrees and percentage of 24-year-olds who earn first university degrees in S&E, by region/country: Most recent year

Region/country	All first university degrees	Degree fields: Natural sciences[a]	Degree fields: Social sciences[b]	Degree fields: Engineering	24-year-olds: Total number	24-year-olds: % with first univ. degree	24-year-olds: % with NS&E degree	24-year-olds: % with soc. sci. degree
Total, three world regions	5,208,205	764,820	642,777	739,051	64,944,472	8.0	2.3	1.0
Asia								
Total	2,043,677	301,877	280,775	343,774	48,543,046	4.2	1.3	0.6
China	325,484	54,394	32,075	148,844	24,413,600	1.3	0.8	0.1
Hong Kong	11,362	2,370	1,233	1,822	92,634	12.3	4.5	1.3
India	750,000	147,036	NA	29,000	15,545,800	4.8	1.1	NA
Indonesia	78,655	11,024	13,959	9,813	3,660,449	2.1	0.6	0.4
Japan	493,277	30,579	200,875	97,392	1,996,800	24.7	6.4	10.1
Malaysia	10,511	1,685	2,198	877	333,180	3.2	0.8	0.7
Singapore	5,599	2,103	1,820	1,676	50,000	11.2	7.6	3.6
South Korea	184,214	31,946	16,955	35,449	890,800	20.7	7.6	1.9
Taiwan	68,274	10,131	4,848	12,107	348,400	19.6	6.4	1.4
Thailand	116,301	10,609	6,812	6,794	1,211,383	9.6	1.4	0.6
Europe								
Total	1,713,423	309,837	138,896	283,530	10,479,620	16.4	5.7	1.3
European Union	982,939	149,180	77,532	132,101	5,674,706	17.3	5.0	1.4
Austria (long)	11,513	1,875	912	1,180	112,935	10.2	2.7	0.8
Belgium (long)	20,484	1,779	5,409	4,505	138,677	14.8	4.5	3.9
Denmark (short)	16,833	625	1,202	2,243	75,298	29.5	6.5	1.9
Denmark (long)	5,395	864	262	1,139				
Finland (short)	4,655	714	NA	2,325	63,174	22.4	9.0	1.3
Finland (long)	9,467	1,433	807	1,219				
France (long)	108,900	21,993	NA	20,562	855,915	12.7	5.0	NA
Germany (short)	71,367	12,224	10,101	25,502	1,354,866	14.5	5.8	1.4
Germany (long)	125,706	25,714	8,596	15,052				
Greece (long)	18,556	2,570	221	1,785	151,822	12.2	2.9	0.1
Ireland (short)	8,174	863	541	414	64,385	21.9	6.3	1.8
Ireland (long)	5,943	1,672	635	1,135				
Italy (short)	6,847	522	1,054	261	897,248	11.5	2.5	1.2
Italy (long)	96,278	12,563	9,371	8,755				
The Netherlands (long)	45,478	3,117	7,588	6,917	228,501	19.9	4.4	3.3
Portugal (short)	3,007	47	7	340	164,199	13.7	2.6	1.6
Portugal (long)	19,495	1,712	2,639	2,128				
Spain (short)	55,819	2,537	NA	6,720	659,319	20.9	3.7	0.9
Spain (long)	82,004	11,267	5,714	4,097				
Sweden (short)	8,126	785	1,141	135	124,567	12.7	3.3	1.1
Sweden (long)	7,644	867	171	2,369				
United Kingdom (short)[c]	251,248	43,437	21,161	23,318	783,800	32.1	8.5	2.7
European Free Trade Assoc.	32,378	2,468	2,485	5,224	176,587	18.3	4.4	1.4
Norway (short)	11,759	162	111	2,177	67,352	22.8	4.4	1.0
Norway (long)	3,620	605	575	NA				
Switzerland (short)	7,098	245	701	2,232	109,235	15.6	4.3	1.6
Switzerland (long)	9,901	1,456	1,098	815				
Central & Eastern Europe	698,106	158,189	58,879	146,205	4,628,327	15.1	6.6	1.3
Albania	3,963	896	165	535	63,583	6.2	2.3	0.3
Bulgaria	21,951	2,003	478	5,823	120,441	18.2	6.5	0.4
Czech Republic	19,566	2,310	354	5,532	154,028	12.7	5.1	0.2
Hungary (short)	7,725	663	NA	2,161	141,334	16.7	4.7	1.9
Hungary (long)	15,890	1,777	2,731	1,994				
Poland	60,224	7,786	4,940	9,680	527,999	11.4	3.3	0.9
Romania	34,240	3,985	287	16,114	374,828	9.1	5.4	0.1
Russia	445,006	127,655	33,236	90,746	2,019,464	22.0	10.8	1.6
Slovak Republic	9,149	1,014	112	3,059	82,430	11.1	4.9	0.1
Turkey	80,392	10,100	16,576	10,561	1,144,220	7.0	1.8	1.4
North America								
Total	1,451,105	153,106	223,106	111,747	5,921,806	24.5	4.5	3.8
Canada	147,001	14,260	26,067	8,482	381,002	38.6	6.0	6.8
Mexico	129,668	9,381	11,727	39,894	1,964,404	6.6	2.5	0.6
United States	1,174,436	129,465	185,312	63,371	3,576,400	32.8	5.4	5.2

Appendix table 2-1.
Number of first university degrees and percentage of 24-year-olds who earn first university degrees in S&E, by region/country: Most recent year

NA = not available; NS&E = natural sciences and engineering

NOTES: Data are compiled from numerous national and international sources, and degree fields may not be strictly comparable. First university degrees in different countries are of different duration and may not be academically equivalent. In European countries, *short* degree programs are three years long; *long* degree programs take four to six years. U.K. data are for 1996. Data for China, Japan, Singapore, South Korea, Taiwan, Austria, Switzerland, and the United States are for 1995. Data for Finland, France, Germany, Italy, Portugal, Sweden, Norway, Bulgaria, Czech Republic, Russia, Slovak Republic, Canada, and Mexico are for 1994. Data for Hong Kong, Belgium, Denmark, Greece, Ireland, the Netherlands, Spain, Albania, Hungary, Poland, Romania, and Turkey are for 1993. Data for Indonesia and Thailand are for 1992. Indian and Malaysian data are for 1990.

[a]Natural sciences here include physical, earth, atmospheric, oceanographic, biological, and agricultural sciences, as well as mathematics and computer sciences.

[b]Social sciences include psychology, sociology, and other social sciences. Japanese social science data also include business administration. Mexican social science data are estimated.

[c]U.K. data include former colleges and polytechnics.

SOURCES: **ASIA: China**—National Research Center for Science and Technology for Development, unpublished tabulations, and UNESCO, *Statistical Yearbook* (Paris: 1996); **Hong Kong**—UNESCO (1996); **India**—Department of Science and Technology, *Research and Development Statistics 1994-95* (New Delhi: 1996); **Indonesia**—UNESCO (1996); **Japan**—Ministry of Education, Science, and Culture (Monbusho), *Monbusho Survey of Education* (Tokyo: annual series); **Malaysia**—UNESCO (1996); **Singapore**—National University of Singapore, *Annual Report* (Singapore: 1996); **South Korea**—Ministry of Education, *Statistical Yearbook of Education* (Seoul: 1996); **Taiwan**—Ministry of Education, *Educational Statistics of the Republic of China* (Taipei: 1996); **Thailand**—UNESCO (1996); **EUROPEAN UNION: Austria**—Austrian Central Statistical Office, unpublished tabulations; **Belgium**—Organisation for Economic Co-operation and Development and Centre for Educational Research and Innovation (OECD/CERI), unpublished tabulations, and UNESCO (1996) (social sciences); **Denmark**—Department of Higher Education, Ministry of Education, unpublished tabulations (1997); **Finland**—Central Statistical Office, unpublished tabulations (1997), and OECD/CERI; **France**—Ministère de l'Éducation Nationale, *Repères et Références Statistiques sur les Enseignements et la Formation* (Vanves, France: 1996); **Germany**—Statistisches Bundesamt Wiesbaden, *Prüfungen an Hochschulen* (Wiesbaden: 1996); **Greece**—National Statistical Service of Greece, unpublished tabulations (1997), and OECD/CERI; **Ireland**—OECD/CERI; **Italy**—Consiglio nazionale delle ricerche, unpublished tabulations (1997); **the Netherlands**—Department for Statistics of Education and Science, Netherlands Central Bureau of Statistics, unpublished tabulations (1997); **Portugal**—OECD/CERI; **Spain**—Estadisticas e Investigaciones Sociales, Instituto National de Estadistica, unpublished tabulations (1997), and OECD/CERI; **Sweden**—Statistics Sweden, unpublished tabulations (1997), and OECD/CERI; **United Kingdom**—Higher Education Statistics Agency, *Students in Higher Education Institutions: 1995/96* (Cheltenham: 1997); **EUROPEAN FREE TRADE ASSOCIATION: Norway**—Institute for Studies in Research and Higher Education, the Norwegian Research Council, unpublished tabulations (1997); **Switzerland**—Swiss Federal Statistical Office, unpublished tabulations (1997); **CENTRAL AND EASTERN EUROPE: Albania**—UNESCO (1996); **Bulgaria**—UNESCO (1996); **Czech Republic**—UNESCO (1996); Hungary—OECD/CERI; **Poland**—UNESCO (1996); **Romania**—UNESCO (1996); **Russia**—UNESCO (1996); **Slovak Republic**—UNESCO (1996); **Turkey**—UNESCO (1996); **NORTH AMERICA: Canada**—UNESCO (1996) and OECD/CERI; **Mexico**—Asociación Nacional de Universidades e Instituciones de Educación Superior, *Anuario Estadístico 1995: Posgrado* (Mexico: 1996); and **United States**—National Science Foundation, Science Resources Studies Division, *Science and Engineering Degrees 1966-94,* NSF 96-321 (Arlington, VA: 1996).

See figures 2-1, 2-2, and 2-4, and text table 2-1.

Appendix table 2-2.
First university degrees in science and engineering awarded in selected Asian countries: 1975-95

	Six-country total	China	India[a]	Japan	Singapore	South Korea	Taiwan
All first university degrees							
1975	973,841	NA	NA	313,072	2,380	NA	29,053
1976	1,044,332	NA	629,336	326,167	2,388	34,725	29,053
1977	1,084,713	NA	651,999	339,819	2,357	37,374	29,685
1978	1,051,837	NA	675,478	356,981	2,422	41,447	30,740
1979	1,055,792	NA	620,247	374,887	2,763	45,964	32,383
1980	989,470	NA	599,795	378,666	2,645	50,973	34,223
1981	1,037,879	NA	522,963	386,057	2,187	56,528	32,214
1982	1,076,178	NA	560,893	382,466	2,395	62,688	33,341
1983	1,112,206	NA	595,288	369,069	2,905	77,272	34,507
1984	1,149,352	NA	628,453	372,247	3,725	90,888	35,714
1985	1,394,768	183,241	646,778	373,302	4,286	118,584	36,885
1986	1,464,453	207,405	678,470	376,260	4,818	137,848	38,567
1987	1,526,336	225,312	699,555	382,655	5,119	149,582	38,929
1988	1,579,580	249,337	724,739	382,828	5,227	161,983	40,205
1989	1,615,295	275,056	740,000	376,688	5,850	166,845	40,856
1990	1,638,655	273,684	750,000	400,103	6,000	165,916	42,952
1991	1,670,080	262,088	750,000	428,079	6,000	175,586	48,327
1992	1,725,220	298,438	750,000	437,878	5,897	178,632	54,375
1993	1,820,632	347,068	750,000	445,774	5,796	208,834	63,160
1994	1,774,418	310,291	750,000	461,898	5,697	183,372	63,160
1995	1,826,848	325,484	750,000	493,277	5,599	184,214	68,274
Natural sciences[b]							
1975	107,673	NA	95,382	7,014	466	3,111	1,700
1976	110,601	NA	98,038	7,483	490	2,713	1,877
1977	113,264	NA	100,768	7,479	335	2,889	1,793
1978	117,006	NA	103,574	7,985	347	3,165	1,935
1979	113,848	NA	99,724	8,248	528	3,468	1,880
1980	116,399	NA	101,455	8,636	573	3,800	1,935
1981	118,357	NA	103,217	8,651	460	4,164	1,866
1982	120,802	NA	105,008	8,710	577	4,562	1,945
1983	123,251	NA	106,831	8,575	663	5,202	1,980
1984	126,699	NA	108,686	9,054	726	6,241	1,992
1985	148,888	8,686	119,979	9,166	854	8,112	2,091
1986	151,327	9,336	122,550	9,435	945	6,913	2,148
1987	159,186	9,115	129,907	9,817	1,012	7,082	2,253
1988	158,975	8,045	130,000	9,895	982	7,673	2,380
1989	164,262	8,153	134,366	9,900	1,166	8,249	2,428
1990	168,941	7,802	139,000	9,866	1,278	8,514	2,481
1991	169,656	6,598	139,000	10,452	1,278	9,703	2,625
1992	170,852	5,580	139,000	10,386	1,281	11,828	2,777
1993	176,626	11,087	139,000	10,757	1,283	11,634	2,865
1994	202,887	36,726	139,000	11,476	1,286	11,443	2,956
1995	205,298	38,029	139,000	12,089	1,289	11,828	3,063

Appendix table 2-2.
First university degrees in science and engineering awarded in selected Asian countries: 1975-95

	Six-country total	China	India[a]	Japan	Singapore	South Korea	Taiwan
Mathematics and computer sciences							
1975	3,690	NA	NA	2,490	NA	NA	1,200
1976	4,263	NA	NA	2,529	NA	398	1,336
1977	4,506	NA	NA	2,755	NA	464	1,287
1978	4,496	NA	NA	2,703	NA	563	1,230
1979	4,857	NA	NA	2,829	NA	683	1,345
1980	5,168	NA	NA	2,918	NA	828	1,422
1981	5,595	NA	NA	3,152	NA	1,005	1,438
1982	5,974	NA	NA	3,045	NA	1,393	1,536
1983	6,447	NA	NA	3,148	NA	1,589	1,710
1984	6,808	NA	NA	3,180	NA	1,918	1,710
1985	16,100	7,764	NA	3,532	NA	2,888	1,916
1986	16,956	8,604	NA	3,379	NA	2,839	2,134
1987	17,777	8,974	NA	3,572	NA	3,149	2,082
1988	22,846	11,115	NA	3,493	NA	5,824	2,414
1989	25,369	13,079	NA	3,395	NA	6,274	2,621
1990	26,456	13,408	NA	3,554	NA	6,676	2,818
1991	28,239	13,847	NA	3,765	NA	7,547	3,080
1992	29,686	14,301	NA	3,790	NA	8,229	3,366
1993	29,097	12,520	NA	4,221	NA	8,502	3,854
1994	17,770	NA	NA	4,574	NA	8,784	4,412
1995	22,067	NA	NA	4,884	NA	12,351	4,832
Agriculture							
1975	16,792	NA	3,966	9,480	NA	2,546	800
1976	18,166	NA	4,623	9,965	NA	2,680	898
1977	19,531	NA	5,388	10,455	NA	2,822	866
1978	21,149	NA	6,280	10,937	NA	2,971	961
1979	23,128	NA	6,280	12,794	NA	3,128	926
1980	22,051	NA	6,599	11,182	NA	3,293	977
1981	23,363	NA	6,934	11,555	NA	3,837	1,037
1982	23,805	NA	7,286	11,016	NA	4,493	1,010
1983	23,902	NA	7,656	10,658	NA	4,603	984
1984	24,520	NA	8,045	11,189	NA	4,327	959
1985	36,140	11,907	8,257	10,928	NA	4,068	980
1986	38,251	13,394	7,414	10,991	NA	5,483	969
1987	40,458	13,850	7,810	11,266	NA	6,395	1,137
1988	42,272	14,615	7,827	10,584	NA	8,050	1,196
1989	42,244	14,531	8,301	10,252	NA	8,027	1,133
1990	43,965	15,014	8,000	11,733	NA	8,005	1,234
1991	42,718	14,542	8,000	12,282	NA	6,586	1,272
1992	42,413	14,085	8,000	12,284	NA	6,628	1,311
1993	47,459	16,994	8,000	13,021	NA	7,843	1,561
1994	48,006	15,445	8,000	13,361	NA	9,281	1,859
1995	49,398	16,365	8,000	14,970	NA	7,767	2,236

Appendix table 2-2.
First university degrees in science and engineering awarded in selected Asian countries: 1975-95

	Six-country total	China	India[a]	Japan	Singapore	South Korea	Taiwan
Social sciences[c]							
1975	137,245	NA	NA	134,645	NA		2,600
1976	143,443	NA	NA	139,258	NA	1,423	2,762
1977	147,682	NA	NA	143,416	NA	1,379	2,887
1978	155,854	NA	NA	151,519	NA	1,452	2,883
1979	162,506	NA	NA	158,023	NA	1,528	2,955
1980	162,909	NA	NA	158,394	NA	1,609	2,906
1981	165,103	NA	NA	160,520	NA	1,694	2,889
1982	164,286	NA	NA	159,450	NA	1,783	3,053
1983	159,327	NA	NA	151,996	NA	4,297	3,034
1984	158,147	NA	NA	151,626	90	3,297	3,134
1985	174,750	13,855	NA	151,072	86	6,472	3,265
1986	178,441	16,515	NA	151,056	91	7,670	3,109
1987	182,845	19,619	NA	150,956	106	8,867	3,297
1988	186,578	22,707	NA	150,819	106	9,619	3,327
1989	186,159	27,713	NA	147,087	102	8,098	3,159
1990	199,707	28,728	NA	157,477	117	10,211	3,174
1991	225,221	32,163	NA	170,721	117	18,483	3,737
1992	236,131	36,009	NA	177,240	232	18,251	4,399
1993	233,751	31,656	NA	179,338	461	17,808	4,487
1994	239,078	29,622	NA	186,586	916	17,376	4,577
1995	256,573	32,075	NA	200,875	1,820	16,955	4,848
Engineering							
1975	92,976	NA	14,073	66,512	236	7,155	5,000
1976	95,838	NA	15,057	68,126	241	7,272	5,142
1977	99,947	NA	16,110	70,431	290	7,858	5,258
1978	104,421	NA	17,237	72,466	240	8,919	5,559
1979	109,356	NA	17,236	75,409	272	10,124	6,315
1980	111,080	NA	18,100	74,737	288	11,492	6,463
1981	116,043	NA	19,007	76,370	323	13,044	7,299
1982	117,198	NA	19,959	74,774	349	14,806	7,309
1983	120,324	NA	20,960	70,824	585	20,636	7,320
1984	123,755	NA	22,010	71,640	585	22,190	7,330
1985	198,734	73,075	21,088	72,560	769	23,539	7,703
1986	214,434	79,556	24,096	74,516	924	27,612	7,730
1987	227,315	87,166	27,057	77,077	907	27,600	7,508
1988	241,800	101,411	27,000	77,503	1,001	26,891	7,994
1989	255,297	112,108	28,927	77,009	1,105	28,141	8,007
1990	257,325	108,729	29,000	81,355	1,220	28,071	8,950
1991	272,295	114,620	29,000	87,397	1,347	30,692	9,239
1992	280,975	120,830	29,000	88,385	1,423	31,800	9,537
1993	283,075	120,831	29,000	88,406	1,503	33,043	10,293
1994	308,867	141,654	29,000	91,184	1,587	34,334	11,108
1995	324,468	148,844	29,000	97,392	1,676	35,449	12,107

NA = not available

[a]Indian data are estimated for 1990-95.

[b]Natural sciences here include physical, earth, atmospheric, oceanographic, and biological sciences.

[c]Social sciences include psychology, sociology, and other social sciences. Japanese social science data also include business administration.

SOURCES: **China**—National Research Center for Science and Technology for Development, unpublished tabulations; **India**—Department of Science and Technology, *Research and Development Statistics 1994-95* (New Delhi:1996); **Japan**—Ministry of Education, Science, and Culture (Monbusho), *Monbusho Survey of Education* (Tokyo: annual series); **Singapore**—National University of Singapore, *Annual Report* (Singapore: 1996); **South Korea**—Ministry of Education, *Statistical Yearbook of Education* (Seoul: 1996), Organisation for Economic Co-operation and Development and Centre for Educational Research and Innovation, unpublished tabulations, and UNESCO (1996); and **Taiwan**—Ministry of Education, *Educational Statistics of the Republic of China* (Taipei: 1996).

Appendix table 2-3.
Population of 20- to 24-year-olds in selected countries/regions: 1975-2010
(Thousands)

	China	India	Western Europe	United States	Japan
1975	89,178	52,885	25,819	19,527	9,189
1976	88,370	54,634	26,075	19,922	8,916
1977	87,569	56,441	26,336	20,244	8,652
1978	86,776	58,308	26,602	20,505	8,395
1979	85,990	60,237	26,872	20,716	8,146
1980	85,211	62,229	27,146	21,584	7,904
1981	89,116	63,681	27,628	21,508	7,959
1982	93,201	65,167	28,121	21,433	8,015
1983	97,472	66,688	28,626	21,358	8,071
1984	101,940	68,244	29,143	21,283	8,127
1985	106,612	69,837	29,672	21,208	8,184
1986	110,434	71,349	29,575	20,700	8,329
1987	114,392	72,893	29,482	20,205	8,477
1988	118,493	74,470	29,391	19,721	8,628
1989	122,740	76,082	29,302	19,249	8,781
1990	127,140	77,729	29,356	18,788	8,937
1991	126,109	79,529	28,732	18,780	9,137
1992	125,086	81,372	28,096	18,771	9,342
1993	124,072	83,256	27,504	18,762	9,551
1994	123,066	85,185	26,937	17,853	9,765
1995	122,068	87,158	26,393	17,626	9,984
1996	116,094	87,594	25,824	17,501	9,664
1997	110,412	88,033	25,255	17,377	9,354
1998	105,008	88,473	24,686	17,254	9,054
1999	99,869	88,916	24,117	17,131	8,763
2000	94,981	89,361	23,548	17,010	8,482
2001	94,112	92,010	23,324	18,068	8,255
2002	93,251	94,738	23,100	18,292	8,035
2003	92,398	97,546	22,876	18,515	7,820
2004	91,553	100,438	22,652	18,739	7,611
2005	90,715	103,415	22,428	18,962	7,408
2006	95,379	104,983	25,482	19,038	7,282
2007	100,284	106,575	28,535	19,113	7,158
2008	105,440	108,190	31,589	19,189	7,036
2009	110,862	109,831	34,642	19,264	6,917
2010	116,562	111,496	37,696	19,340	6,799

SOURCES: U.S. Bureau of the Census, *Current Population Reports,* series P-25, Nos. 519 and 917; and World Bank, Population and Human Resources Department, *Population Projections, 1992-1993 Edition* (Washington, DC).

See figure 2-3.

Science & Engineering Indicators – 1998

Appendix table 2-4.
Percentage of 24-year-olds who earn first university degrees in S&E, by sex and region/country: Most recent year

Region/country	All first university degrees	Degree fields: Natural sciences[a]	Degree fields: Social sciences[b]	Degree fields: Engineering	24-year-olds: Total number	24-year-olds: % with first univ. degree	24-year-olds: % with NS&E degree	24-year-olds: % with soc. sci. degree
Males								
Asia								
Japan	334,227	22,536	163,517	91,078	1,023,200	32.7	11.1	16.0
South Korea	107,898	18,676	11,667	32,947	462,200	23.3	11.2	2.5
Taiwan	37,647	7,156	2,038	11,317	179,200	21.0	10.3	1.1
European Union								
Austria	6,530	1,189	370	1,069	57,775	11.3	3.9	0.6
Denmark	10,364	1,427	665	876	38,306	27.1	6.0	1.7
Finland	7,203	1,511	292	3,067	32,306	22.3	14.2	0.9
France	57,156	NA	NA	15,319	437,799	13.1	NA	NA
Germany	114,953	19,247	25,314	34,628	693,431	16.6	7.8	3.7
Greece	7,718	1,492	71	1,352	77,784	9.9	3.7	9.1
Ireland	6,712	1,347	433	1,339	33,135	20.3	8.1	1.3
Italy	47,863	6,662	3,944	8,075	457,580	10.5	3.2	0.9
The Netherlands	35,933	4,458	6,610	8,081	115,962	31.0	10.8	5.7
Portugal	8,538	748	902	1,804	83,440	10.2	3.1	1.1
Spain	60,521	8,026	1,688	9,016	338,120	17.9	5.0	0.5
Sweden	7,017	1,032	315	1,946	64,147	10.9	4.6	0.5
United Kingdom[c]	122,767	24,920	9,417	19,844	401,200	30.6	11.2	2.3
European Free Trade Association								
Norway	5,919	450	297	1,786	33,552	17.6	6.7	0.9
Switzerland	5,931	1,116	427	736	54,916	10.8	3.4	0.8
Central & Eastern Europe								
Czech Republic	10,054	1,501	1,196	4,244	80,019	12.6	7.2	1.5
Hungary	10,650	1,674	1,038	3,365	72,903	14.6	6.9	1.4
Poland	29,067	3,772	1,968	8,299	271,111	10.7	4.5	0.7
Turkey	45,557	5,227	8,140	8,010	583,346	7.8	2.3	1.4
North America								
Canada	52,728	7,625	9,835	6,616	193,759	27.2	7.3	5.1
United States	531,146	73,540	52,421	67,125	1,815,831	29.3	6.9	4.2
Females								
Asia								
Japan	159,050	8,043	37,358	3,358	973,600	16.3	1.2	3.8
South Korea	66,088	11,229	4,100	6,314	428,600	15.4	4.1	1.0
Taiwan	30,627	2,975	2,810	790	169,200	18.1	2.2	1.7
European Union								
Austria	5,200	566	529	77	55,160	9.4	1.2	1.0
Denmark	13,042	2,714	871	237	36,992	35.3	8.0	2.4
Finland	6,919	636	515	477	30,868	22.4	3.6	1.7
France	63,086	NA	NA	3,994	418,116	15.1	NA	NA
Germany	82,120	10,261	20,949	3,989	661,435	12.4	2.2	3.2
Greece	10,838	1,078	150	433	74,038	14.6	2.0	0.2
Ireland	7,392	1,188	743	210	31,250	23.7	4.5	2.4
Italy	55,262	6,423	6,481	941	439,668	12.6	1.7	1.5
The Netherlands	33,235	1,427	7,653	1,422	112,539	29.5	2.5	6.8
Portugal	13,964	1,011	1,744	664	80,759	17.3	2.1	2.2
Spain	77,302	5,778	4,026	1,801	321,199	24.1	2.4	1.3
Sweden	8,753	620	997	558	60,420	14.5	1.9	1.7
United Kingdom[c]	128,481	18,517	11,744	3,474	382,600	33.6	5.7	3.1
European Free Trade Association								
Norway	13,104	175	168	466	33,800	38.8	1.9	0.5
Switzerland	3,272	376	495	26	54,319	6.0	0.7	0.9
Central & Eastern Europe								
Czech Republic	9,512	852	1,845	1,316	74,009	12.9	2.9	2.5
Hungary	12,965	766	1,693	790	68,431	18.9	2.3	2.5
Poland	31,157	4,014	2,972	1,381	256,888	12.1	2.1	1.2
Turkey	27,025	4,007	4,374	2,063	560,849	4.8	1.1	0.8
North America								
Canada	70,474	5,533	14,742	1,122	187,243	37.6	3.6	7.9
United States	643,290	55,925	109,056	10,950	1,750,926	36.7	3.8	6.2

Appendix table 2-4.
Percentage of 24-year-olds who earn first university degrees in S&E, by sex and region/country: Most recent year

NA = not available; NS&E = natural sciences and engineering

NOTES: Data from European countries combine short (three-year) and long (four- to six-year) degree programs. Data are compiled from numerous national and international sources, and degree fields may not be strictly comparable. First university degrees in different countries are of different duration and may not be academically equivalent. U.K. data are for 1996. Data for Japan, South Korea, Taiwan, Austria, Switzerland, and the United States are for 1995. Data for Finland, France, Germany, Italy, Portugal, Sweden, Norway, Czech Republic, and Canada are for 1994. Data for Denmark, Greece, Ireland, the Netherlands, Spain, Hungary, Poland, and Turkey are for 1993.

[a]Natural sciences here include physical, earth, atmospheric, oceanographic, biological, and agricultural, as well as mathematics and computer sciences.

[b]Social sciences include psychology, sociology, and other social sciences. Japanese social science data also include business administration.

[c]U.K. data include former colleges and polytechnics.

SOURCES: **ASIA: Japan**—Ministry of Education, Science, and Culture (Monbusho), *Monbusho Survey of Education* (Tokyo: annual series); **South Korea**—Ministry of Education, *Statistical Yearbook of Education* (Seoul: 1996); **Taiwan**—Ministry of Education, *Educational Statistics of the Republic of China* (Taipei: 1996); **EUROPEAN UNION: Austria**—Austrian Central Statistical Office, unpublished tabulations; **Denmark**—Department of Higher Education, Ministry of Education, unpublished tabulations (1997); **Finland**—Central Statistical Office, unpublished tabulations (1997), and Organisation for Economic Co-operation and Development and Centre for Educational Research and Innovation (OECD/CERI), unpublished tabluations; **France**—Ministère de l'Éducation Nationale, *Repères et Références Statistiques sur les Enseignements et la Formation* (Vanves, France: 1996); **Germany**—Statistisches Bundesamt Wiesbaden, *Prüfungen an Hochschulen* (Wiesbaden: 1996); **Greece**—National Statistical Service of Greece, unpublished tabulations (1997), and OECD/CERI; **Ireland**—OECD/CERI; Italy—Consiglio nazionale delle ricerche, unpublished tabulations (1997); **the Netherlands**—Department for Statistics of Education and Science, Netherlands Central Bureau of Statistics, unpublished tabulations (1997); **Portugal**—OECD/CERI; **Spain**—Estadisticas e Investigaciones Sociales, Instituto National de Estadistica, unpublished tabulations (1997), and OECD/CERI; **Sweden**—Statistics Sweden, unpublished tabulations (1997), and OECD/CERI; **United Kingdom**—Higher Education Statistics Agency, *Students in Higher Education Institutions: 1995/96* (Cheltenham: 1997); **EUROPEAN FREE TRADE ASSOCIATION: Norway**—Institute for Studies in Research and Higher Education, the Norwegian Research Council, unpublished tabulations (1997); **Switzerland**—Swiss Federal Statistical Office, unpublished tabulations (1997); **CENTRAL AND EASTERN EUROPE: Czech Republic**—UNESCO (1996); **Hungary**—OECD/CERI; **Poland**—UNESCO (1996); **Turkey**—UNESCO (1996); **NORTH AMERICA: Canada**—UNESCO (1996) and OECD/CERI; and **United States**—National Science Foundation, Science Resources Studies Division, *Science and Engineering Degrees 1966-94,* NSF 96-321 (Arlington, VA: 1996).

Appendix table 2-5.
Share of first university S&E degrees, by sex and country: Most recent year
(Percentages)

Region/country	Natural sciences[a]	Math & comp. sciences	Agricultural sciences	Social sciences[b]	Engineering
		Males			
Asia					
Japan	79	77	68	81	94
South Korea	56	60	63	73	93
Taiwan	73	71	66	42	93
European Union					
Austria	63	78	60	41	94
Denmark	69	16	67	43	79
Finland	49	87	63	36	87
France	NA	63	NA	NA	80
Germany	64	69	60	55	90
Greece	57	58	62	32	76
Ireland	46	63	68	37	86
Italy	46	51	66	38	90
The Netherlands	66	11	77	46	85
Portugal	36	45	47	34	73
Spain	53	67	52	30	83
Sweden	47	77	50	24	78
United Kingdom[c]	50	73	49	46	85
European Free Trade Assoc.					
Norway	54	84	78	43	82
Switzerland	72	88	63	40	93
Central & Eastern Europe					
Czech Republic	47	77	64	39	76
Hungary	66		69	38	81
Poland	33	32	62	40	86
Turkey	50	53	65	65	80
North America					
Canada	52	70	47	40	86
United States	53	65	65	45	85
		Females			
Asia					
Japan	21	23	32	19	6
South Korea	44	40	37	27	7
Taiwan	27	29	34	58	7
European Union					
Austria	37	22	40	59	6
Denmark	31	84	33	57	21
Finland	51	13	37	64	13
France	NA	37	NA	NA	20
Germany	36	31	40	45	10
Greece	43	42	38	68	24
Ireland	54	37	32	63	14
Italy	54	49	34	62	10
The Netherlands	34	89	23	54	15
Portugal	64	55	53	66	27
Spain	47	33	48	70	17
Sweden	53	23	50	76	22
United Kingdom[c]	50	27	51	55	15
European Free Trade Assoc.					
Norway	46	16	22	57	18
Switzerland	28	12	37	60	7
Central & Eastern Europe					
Czech Republic	53	23	36	61	24
Hungary	34		31	62	19
Poland	67	68	38	60	14
Turkey	50	47	35	35	20
North America					
Canada	48	30	53	60	14
United States	47	35	35	55	15

Appendix table 2-5.
Share of first university S&E degrees, by sex and country: Most recent year
(Percentages)

NA = not available

NOTES: Data from European countries combine short (three-year) and long (four- to six-year) degree programs. Data are compiled from numerous national and international sources, and degree fields may not be strictly comparable. First university degrees in different countries are of different duration and may not be academically equivalent. U.K. data are for 1996. Data for Japan, South Korea, Taiwan, Austria, Switzerland, and the United States are for 1995. Data for Finland, France, Germany, Italy, Portugal, Sweden, Norway, Czech Republic, and Canada are for 1994. Data for Denmark, Greece, Ireland, the Netherlands, Spain, Hungary, Poland, and Turkey are for 1993.

[a]Natural sciences here include physical, earth, atmospheric, oceanographic, and biological sciences.

[b]Social sciences include psychology, sociology, and other social sciences. Japanese social science data also include business administration.

[c]U.K. data include former colleges and polytechnics.

SOURCES: **ASIA: Japan**—Ministry of Education, Science, and Culture (Monbusho), *Monbusho Survey of Education* (Tokyo: annual series); **South Korea**—Ministry of Education, *Statistical Yearbook of Education* (Seoul: 1996); **Taiwan**—Ministry of Education, *Educational Statistics of the Republic of China* (Taipei: 1996); **EUROPEAN UNION: Austria**—Austrian Central Statistical Office, unpublished tabulations; **Denmark**—Department of Higher Education, Ministry of Education, unpublished tabulations (1997); **Finland**—Central Statistical Office, unpublished tabulations (1997), and Organisation for Economic Co-operation and Development and Centre for Educational Research and Innovation (OECD/CERI), unpublished tabluations; **France**—Ministère de l'Éducation Nationale, *Repères et Références Statistiques sur les Enseignements et la Formation* (Vanves, France: 1996); **Germany**—Statistisches Bundesamt Wiesbaden, *Prüfungen an Hochschulen* (Wiesbaden: 1996); **Greece**—National Statistical Service of Greece, unpublished tabulations (1997), and OECD/CERI; **Ireland**—OECD/CERI; **Italy**—Consiglio nazionale delle ricerche, unpublished tabulations (1997); **the Netherlands**—Department for Statistics of Education and Science, Netherlands Central Bureau of Statistics, unpublished tabulations (1997); **Portugal**—OECD/CERI; **Spain**—Estadisticas e Investigaciones Sociales, Instituto National de Estadistica, unpublished tabulations (1997) and OECD/CERI; **Sweden**—Statistics Sweden, unpublished tabulations (1997), and OECD/CERI; **United Kingdom**—Higher Education Statistics Agency, *Students in Higher Education Institutions: 1995/96* (Cheltenham: 1997); **EUROPEAN FREE TRADE ASSOCIATION: Norway**—Institute for Studies in Research and Higher Education, the Norwegian Research Council, unpublished tabulations (1997); **Switzerland**—Swiss Federal Statistical Office, unpublished tabulations (1997); **CENTRAL AND EASTERN EUROPE: Czech Republic**—UNESCO (1996); **Hungary**—OECD/CERI; **Poland**—UNESCO (1996); **Turkey**—UNESCO (1996); **NORTH AMERICA: Canada**—UNESCO (1996) and OECD/CERI; and **United States**—National Science Foundation, Science Resources Studies Division, *Science and Engineering Degrees 1966-94,* NSF 96-321 (Arlington, VA: 1996).

Appendix table 2-6.
Proportion of first university degrees awarded in S&E, by region/country: Most recent year
(Percentages)

Region/country	Total first univ. degrees	Total S&E	Degree fields: Natural sciences[a]	Social sciences[b]	Engineering	Non-S&E
Asia						
China	100	72	17	10	46	28
Hong Kong	100	48	21	11	16	52
India	100	23	20	NA	4	77
Indonesia	100	44	14	18	12	56
Japan	100	67	6	41	20	33
Malaysia	100	45	16	21	8	55
Singapore	100	100	38	33	30	0
South Korea	100	46	17	9	19	54
Taiwan	100	40	15	7	18	60
Thailand	100	21	9	6	6	79
Europe						
European Union						
Austria	100	34	16	8	10	66
Belgium	100	57	9	26	22	43
Denmark	100	29	7	7	15	71
Finland	100	46	15	6	25	54
France	100	32	16	NA	16	68
Germany	100	46	16	9	21	54
Greece	100	25	14	1	10	75
Ireland	100	37	18	8	11	63
Italy	100	32	13	10	9	68
The Netherlands	100	39	7	17	15	61
Portugal	100	31	8	12	11	69
Spain	100	26	14	7	5	74
Sweden	100	35	10	8	16	65
United Kingdom[c]	100	35	17	8	9	65
European Free Trade Association						
Norway	100	24	5	4	14	76
Switzerland	100	39	10	11	18	61
Central & Eastern Europe						
Albania	100	40	23	4	13	60
Bulgaria	100	38	9	2	27	62
Czech Republic	100	42	12	2	28	58
Hungary	100	39	10	12	18	61
Poland	100	37	13	8	16	63
Romania	100	60	12	1	47	40
Russia	100	57	29	7	20	43
Slovak Republic	100	46	11	1	33	54
Turkey	100	46	13	21	13	54
North America						
Canada	100	33	10	18	6	67
Mexico	100	47	7	9	31	53
United States	100	32	10	16	5	68

Appendix table 2-6.
Proportion of first university degrees awarded in S&E, by region/country: Most recent year
(Percentages)

NA = not available

NOTES: Data from European countries combine short (three-year) and long (four- to six-year) degree programs. Data are compiled from numerous national and international sources, and degree fields may not be strictly comparable. U.K. data are for 1996. Data for China, Japan, Singapore, South Korea, Taiwan, Austria, Switzerland, and the United States are for 1995. Data for Finland, France, Germany, Italy, Portugal, Sweden, Norway, Bulgaria, Czech Republic, Russia, Slovakia, Canada, and Mexico are for 1994. Data for Hong Kong, Belgium, Denmark, Greece, Ireland, the Netherlands, Spain, Albania, Hungary, Poland, Romania, and Turkey are for 1993. Data for Indonesia and Thailand are for 1992. Indian and Malaysian data are for 1990.

[a]Natural sciences here include physical, earth, atmospheric, oceanographic, biological, and agricultural, as well as mathematics and computer sciences.

[b]Social sciences include psychology, sociology, and other social sciences. Japanese social science data also include business administration. Mexican social science data are estimated.

[c]U.K. data include former colleges and polytechnics.

SOURCES: **ASIA: China**—National Research Center for Science and Technology for Development, unpublished tabulations, and UNESCO, *Statistical Yearbook* (Paris: 1996); **Hong Kong**—UNESCO (1996); **India**—Department of Science and Technology, *Research and Development Statistics 1994-95* (New Delhi: 1996); **Indonesia**—UNESCO (1996); **Japan**—Ministry of Education, Science, and Culture (Monbusho), *Monbusho Survey of Education* (Tokyo: annual series); **Malaysia**—UNESCO (1996); **Singapore**—National University of Singapore, *Annual Report* (Singapore: 1996); **South Korea**—Ministry of Education, *Statistical Yearbook of Education, 1996* (Seoul: 1996); **Taiwan**—Ministry of Education, *Educational Statistics of the Republic of China* (Taipei: 1996); **Thailand**—UNESCO (1996); **EUROPEAN UNION: Austria**—Austrian Central Statistical Office, unpublished tabulations; **Belgium**—Organisation for Economic Co-operation and Development and Centre for Educational Research and Innovation (OECD/CERI), unpublished tabulations, and UNESCO (1996) (social sciences); **Denmark**—Department of Higher Education, Ministry of Education, unpublished tabulations (1997); **Finland**—Central Statistical Office, unpublished tabulations (1997), and OECD/CERI; **France**—Ministère de l'Éducation Nationale, *Repères et Références Statistiques sur les Enseignements et la Formation* (Vanves, France: 1996); **Germany**—Statistisches Bundesamt Wiesbaden, *Prüfungen an Hochschulen* (Wiesbaden: 1996); **Greece**—National Statistical Service of Greece, unpublished tabulations (1997), and OECD/CERI; **Ireland**—OECD/CERI; **Italy**—Consiglio nazionale delle ricerche, unpublished tabulations (1997); **the Netherlands**—Department for Statistics of Education and Science, Netherlands Central Bureau of Statistics, unpublished tabulations (1997); **Portugal**—OECD/CERI; **Spain**—Estadisticas e Investigaciones Sociales, Instituto National de Estadistica, unpublished tabulations (1997) and OECD/CERI; **Sweden**—Statistics Sweden, unpublished tabulations (1997), and OECD/CERI; **United Kingdom**—Higher Education Statistics Agency, *Students in Higher Education Institutions: 1995/96* (Cheltenham: 1997); **EUROPEAN FREE TRADE ASSOCIATION: Norway**—Institute for Studies in Research and Higher Education, the Norwegian Research Council, unpublished tabulations (1997); **Switzerland**—Swiss Federal Statistical Office, unpublished tabulations (1997); **CENTRAL AND EASTERN EUROPE: Albania**—UNESCO (1996); **Bulgaria**—UNESCO (1996); **Czech Republic**—UNESCO (1996); Hungary—OECD/CERI; **Poland**—UNESCO (1996); **Romania**—UNESCO (1996); **Russia**—UNESCO (1996); **Slovak Republic**—UNESCO (1996); **Turkey**—UNESCO (1996); **NORTH AMERICA: Canada**—UNESCO (1996) and OECD/CERI; **Mexico**—Asociación Nacional de Universidades e Instituciones de Educación Superior, *Anuario Estadístico 1995: Posgrado* (Mexico: 1996); and **United States**—National Science Foundation, Science Resources Studies Division, *Science and Engineering Degrees 1966-94,* NSF 96-321 (Arlington, VA: 1996).

Appendix table 2-7.
Proportion of first university degrees awarded in S&E, by sex and region/country: Most recent year
(Percentages)

Region/country	Total first univ. degrees	Total S&E	Degree fields: Natural sciences[a]	Social sciences[b]	Engineering	Non-S&E
Males						
Asia						
Japan	100	83	7	49	27	17
South Korea	100	59	17	11	31	41
Taiwan	100	54	19	5	30	46
European Union						
Austria	100	40	18	6	16	60
Denmark	100	29	14	6	8	71
Finland	100	68	21	4	43	32
Germany	100	69	17	22	30	31
Greece	100	38	19	1	18	62
Ireland	100	46	20	6	20	54
Italy	100	39	14	8	17	61
The Netherlands	100	53	12	18	22	47
Portugal	100	40	9	11	21	60
Spain	100	31	13	3	15	69
Sweden	100	47	15	4	28	53
United Kingdom[c]	100	44	20	8	16	56
European Free Trade Association						
Norway	100	43	8	5	30	57
Switzerland	100	38	19	7	12	62
Central & Eastern Europe						
Czech Republic	100	69	15	12	42	31
Hungary	100	57	16	10	32	43
Poland	100	48	13	7	29	52
Turkey	100	47	11	18	18	53
North America						
Canada	100	46	14	19	13	54
United States	100	43	13	17	12	57
Females						
Asia						
Japan	100	31	5	23	2	69
South Korea	100	33	17	6	10	67
Taiwan	100	21	10	9	3	79
European Union						
Austria	100	23	11	10	1	77
Denmark	100	29	21	7	2	71
Finland	100	24	9	7	7	76
Germany	100	43	12	26	5	57
Greece	100	15	10	1	4	85
Ireland	100	29	16	10	3	71
Italy	100	25	12	12	2	75
The Netherlands	100	32	4	23	4	68
Portugal	100	24	7	12	5	76
Spain	100	15	7	5	2	85
Sweden	100	25	7	11	6	75
United Kingdom[c]	100	26	14	9	3	74
European Free Trade Association						
Norway	100	6	1	1	4	94
Switzerland	100	27	11	15	1	73
Central & Eastern Europe						
Czech Republic	100	42	9	19	14	58
Hungary	100	25	6	13	6	75
Poland	100	27	13	10	4	73
Turkey	100	39	15	16	8	61
North America						
Canada	100	43	13	17	12	57
United States	100	27	8	18	2	73

Appendix table 2-7.
Proportion of first university degrees awarded in S&E, by sex and region/country: Most recent year
(Percentages)

NA = not available

NOTES: Data from European countries combine short (three-year) and long (four- to six-year) degree programs. Data are compiled from numerous national and international sources, and degree fields may not be strictly comparable. U.K. data are for 1996. Data for Japan, South Korea, Taiwan, Austria, Switzerland, and the United States are for 1995. Data for Finland, Germany, Italy, Portugal, Sweden, Norway, Czech Republic, and Canada are for 1994. Data for Denmark, Greece, Ireland, the Netherlands, Spain, Hungary, Poland, and Turkey are for 1993.

[a]Natural sciences here include physical,earth, atmospheric, oceanographic, biological, and agricultural, as well as mathematics and computer sciences.

[b]Social sciences include psychology, sociology, and other social sciences. Japanese social science data also include business administration.

[c]U.K. data include former colleges and polytechnics.

SOURCES: ASIA: **Japan**—Ministry of Education, Science, and Culture (Monbusho), *Monbusho Survey of Education* (Tokyo: annual series); **South Korea**—Ministry of Education, *Statistical Yearbook of Education* (Seoul: 1996); **Taiwan**—Ministry of Education, *Educational Statistics of the Republic of China* (Taipei: 1996); **EUROPEAN UNION: Austria**—Austrian Central Statistical Office, unpublished tabulations; **Denmark**—Department of Higher Education, Ministry of Education, unpublished tabulations (1997); **Finland**—Central Statistical Office, unpublished tabulations (1997), and Organisation for Economic Co-operation and Development and Centre for Educational Research and Innovation (OECD/CERI); **Germany**—Statistisches Bundesamt Wiesbaden, *Prüfungen an Hochschulen* (Wiesbaden: 1996); **Greece**—National Statistical Service of Greece, unpublished tabulations (1997), and OECD/CERI; **Ireland**—OECD/CERI; **Italy**—Consiglio nazionale delle ricerche, unpublished tabulations (1997); **the Netherlands**—Department for Statistics of Education and Science, Netherlands Central Bureau of Statistics, unpublished tabulations (1997); **Portugal**—OECD/CERI; **Spain**—Estadisticas e Investigaciones Sociales, Instituto National de Estadistica, unpublished tabulations (1997) and OECD/CERI; **Sweden**—Statistics Sweden, unpublished tabulations (1997), and OECD/CERI; **United Kingdom**—Higher Education Statistics Agency, *Students in Higher Education Institutions: 1995/96* (Cheltenham: 1997); **EUROPEAN FREE TRADE ASSOCIATION: Norway**—Institute for Studies in Research and Higher Education, the Norwegian Research Council, unpublished tabulations (1997); **Switzerland**—Swiss Federal Statistical Office, unpublished tabulations (1997); **CENTRAL AND EASTERN EUROPE: Czech Republic**—UNESCO (1996); **Hungary**—OECD/CERI; **Poland**—UNESCO, *Statistical Yearbook* (Paris: 1996); **Turkey**—UNESCO (1996); **NORTH AMERICA: Canada**—UNESCO (1996) and OECD/CERI; and **United States**—National Science Foundation, Science Resources Studies Division, *Science and Engineering Degrees 1966-94,* NSF 96-321 (Arlington, VA: 1996).

Appendix table 2-8.
Enrollment in higher education, by Carnegie institution type: 1967-94

	Total	Research I	Research II	Doctorate-granting I	Doctorate-granting II	Comprehensive I	Comprehensive II	Liberal arts I	Liberal arts II	Two-year	Specialized	Other	Not classified
1967	6,963,687	1,510,037	494,527	437,195	354,542	1,661,186	109,412	203,663	411,819	1,426,223	179,824	26,108	149,151
1968	7,571,636	1,564,981	517,844	455,455	389,249	1,813,749	119,881	209,398	431,621	1,709,796	187,216	27,560	144,886
1969	8,066,233	1,644,645	538,934	483,378	410,395	1,935,316	127,467	215,618	443,108	1,912,663	196,120	29,914	128,675
1970	8,649,368	1,748,776	570,365	509,450	436,660	2,071,472	137,127	221,996	452,087	2,180,252	209,689	32,862	78,632
1971	9,025,031	1,717,735	577,538	519,572	457,251	2,160,655	143,124	228,947	464,590	2,435,108	219,362	35,281	65,868
1972	9,297,787	1,768,282	581,139	521,856	466,371	2,183,621	142,270	233,939	464,218	2,609,721	229,938	31,451	64,981
1973	9,694,297	1,771,632	592,051	526,349	479,905	2,249,865	141,812	236,910	477,097	2,872,230	250,810	36,007	59,629
1974	10,321,539	1,826,768	612,510	545,772	497,963	2,324,124	153,182	238,868	494,426	3,272,215	271,148	34,553	50,010
1975	11,290,719	1,921,415	642,703	560,827	532,135	2,464,953	163,672	240,097	541,017	3,837,843	304,401	35,149	46,507
1976	11,121,426	1,893,269	613,142	568,570	526,247	2,415,834	168,445	240,730	551,890	3,755,311	307,760	33,066	47,162
1977	11,418,631	1,877,142	619,941	579,896	543,360	2,474,300	174,612	243,738	573,678	3,926,266	322,060	35,077	48,561
1978	11,393,015	1,864,590	626,213	581,343	542,558	2,452,812	178,964	251,607	579,494	3,910,980	334,133	34,665	35,656
1979	11,707,126	1,903,347	639,287	594,589	547,418	2,462,361	183,554	251,231	603,830	4,103,418	349,810	34,984	33,297
1980	12,234,644	1,947,444	655,874	604,769	570,666	2,531,409	188,971	260,645	633,712	4,404,276	371,265	35,861	29,752
1981	12,517,753	1,961,015	659,114	610,640	578,653	2,564,542	197,462	257,592	644,924	4,598,599	382,729	37,109	25,374
1982	12,588,520	1,933,340	650,946	606,683	582,638	2,570,690	200,403	252,029	651,192	4,671,136	398,091	37,800	33,572
1983	12,633,930	1,957,038	648,369	612,818	589,126	2,592,710	205,689	254,700	668,374	4,640,343	408,837	39,412	16,514
1984	12,400,392	1,952,748	644,056	604,742	591,400	2,576,072	203,725	253,604	656,099	4,456,709	410,765	38,571	11,901
1985	12,411,945	1,959,685	641,723	603,961	589,103	2,589,406	208,603	254,972	656,146	4,452,391	406,794	38,467	10,694
1986	12,670,121	1,988,839	653,298	609,772	590,694	2,629,336	210,267	257,998	657,695	4,598,068	409,389	39,097	25,668
1987	12,925,116	2,013,832	664,997	619,854	601,073	2,675,959	219,167	262,649	665,726	4,736,425	404,257	41,729	19,448
1988	13,205,540	2,029,065	685,731	631,073	608,663	2,738,439	227,937	269,151	693,086	4,840,892	422,184	39,953	19,366
1989	13,621,203	2,046,868	704,842	644,062	623,988	2,831,502	238,431	266,907	716,902	5,069,469	419,901	40,260	18,071
1990	13,871,725	2,078,969	714,180	656,807	634,551	2,882,708	243,690	268,223	730,455	5,145,123	440,214	40,728	36,077
1991	14,527,724	2,094,841	720,127	660,908	643,519	2,961,425	255,272	268,960	757,093	5,590,543	454,819	44,370	75,847
1992	14,657,118	2,089,045	714,126	655,985	649,549	2,962,204	259,253	266,735	781,168	5,658,832	477,202	46,560	96,459
1993	14,477,792	2,078,622	701,058	648,068	644,533	2,941,741	261,163	264,222	791,081	5,498,797	489,342	47,936	111,229
1994	14,449,476	2,079,559	694,454	639,831	650,816	2,924,462	266,854	264,737	797,088	5,442,459	496,522	48,725	143,969
1995	14,432,145	2,080,163	691,292	638,157	659,197	2,921,613	265,523	267,327	809,443	5,406,744	496,508	48,878	147,300

SOURCES: National Center for Education Statistics, Enrollment Survey (Washington, DC: 1995); and National Science Foundation, Science Resources Studies Division, unpublished tabulations.

See figures 2-5 and 2-6.

Science & Engineering Indicators – 1998

Appendix table 2-9.
Number of science and engineering degrees, by degree level and institution type: 1995

Institution type	Total degrees	Total S&E	Natural sciences[a]	Math & computer sciences	Social sciences[b]	Engineering	Engineering technology[c]
Bachelor's degrees							
Total	1,174,436	378,148	90,845	38,620	185,312	63,371	16,607
Research I	277,600	125,652	31,638	8,006	55,994	30,014	1,631
Research II	94,638	34,672	8,116	2,236	16,155	8,165	1,194
Doctorate-granting I	81,634	23,697	4,865	2,433	12,513	3,886	1,128
Doctorate-granting II	78,568	27,154	5,319	2,836	12,224	6,775	1,044
Comprehensive I	386,961	100,486	23,782	13,633	53,236	9,835	6,347
Comprehensive II	36,300	8,196	1,886	1,364	4,635	311	708
Liberal arts I	52,036	25,523	7,758	1,738	15,567	460	0
Liberal arts II	114,318	25,156	6,501	4,171	13,474	1,010	1,778
Two-year	1,707	146	50	20	56	20	447
Specialized	43,892	4,779	593	2,008	308	1,870	2,211
Other	4,858	2,477	328	157	967	1,025	17
Not classified	1,924	210	9	18	183	0	102
Master's degrees							
Total	399,428	94,309	14,793	14,495	36,391	28,630	1,577
Research I	122,809	39,502	7,206	5,054	11,916	15,326	382
Research II	33,115	10,916	1,799	1,359	3,556	4,202	34
Doctorate-granting I	39,557	9,025	1,192	1,896	3,691	2,246	169
Doctorate-granting II	30,319	8,726	1,416	1,640	2,902	2,768	102
Comprehensive I	133,128	20,486	2,441	3,844	11,047	3,154	711
Comprehensive II	6,707	519	42	71	366	40	37
Liberal arts I	4,779	1,016	148	22	800	46	0
Liberal arts II	3,624	463	47	8	392	16	28
Specialized	20,708	2,038	465	522	405	646	63
Other	3,917	1,552	37	65	1,264	186	51
Not classified	765	66	0	14	52	0	0
Doctoral degrees							
Total	44,513	25,921	10,219	2,069	7,521	6,112	19
Research I	28,548	17,837	7,504	1,536	4,111	4,686	7
Research II	5,034	2,874	1,161	235	775	703	0
Doctorate-granting I	4,633	2,199	505	194	1,169	331	0
Doctorate-granting II	2,101	1,261	442	95	417	307	0
Comprehensive I	723	224	47	0	132	45	12
Comprehensive II	12	12	3	0	9	0	0
Liberal arts I	167	49	18	5	26	0	0
Liberal arts II	42	15	0	0	15	0	0
Specialized	2,241	641	538	2	68	33	0
Other	985	809	1	2	799	7	0
Not classified	27	0	0	0	0	0	0

[a]Natural sciences here include physical, earth, atmospheric, oceanographic, biological, and agricultural sciences.

[b]Social sciences include psychology, sociology, and other social sciences.

[c]Engineering technology data are not included in "Total S&E."

SOURCES: National Center for Education Statistics, Completion Survey (Washington, DC: 1995); and National Science Foundation, Science Resources Studies Division, unpublished tabulations.

See figures 2-5 and 2-7.

Appendix table 2-10.
Number of institutions awarding science and engineering degrees, by degree level and institution type: 1995

Institution type	Total institutions	Total S&E	Natural sciences[a]	Math & computer sciences	Social sciences[b]	Engineering	Engineering technology[c]
Bachelor's degrees							
Total	1,810	1,457	1,286	1,296	1,355	398	346
Research I	88	87	87	86	86	78	21
Research II	38	38	38	38	38	34	15
Doctorate-granting I	49	48	45	46	48	24	16
Doctorate-granting II	59	58	58	57	56	40	21
Comprehensive I	438	433	416	421	430	127	155
Comprehensive II	93	93	87	83	91	15	18
Liberal arts I	163	157	153	149	157	21	0
Liberal arts II	462	440	374	362	410	34	59
Two-year	44	11	1	4	5	1	11
Specialized	352	77	18	44	23	18	28
Other	18	13	8	4	10	6	1
Not classified	6	2	1	2	1	0	1
Master's degrees							
Total	1,312	746	474	434	611	265	78
Research I	87	87	87	84	87	79	11
Research II	38	38	38	38	38	33	4
Doctorate-granting I	49	49	46	44	46	20	8
Doctorate-granting II	59	59	55	49	52	36	6
Comprehensive I	437	345	191	187	291	71	40
Comprehensive II	92	28	6	5	17	2	2
Liberal arts I	58	24	11	7	18	2	0
Liberal arts II	158	24	5	1	19	2	2
Specialized	301	69	33	16	20	18	4
Other	31	22	2	2	22	2	1
Not classified	2	1	0	1	1	0	0
Doctoral degrees							
Total	479	329	257	171	258	170	4
Research I	88	88	88	81	87	78	2
Research II	38	38	38	36	36	32	0
Doctorate-granting I	50	50	37	28	48	18	0
Doctorate-granting II	59	56	44	23	39	27	0
Comprehensive I	74	30	13	0	15	8	2
Comprehensive II	2	2	1	0	1	0	0
Liberal arts I	11	5	2	1	4	0	0
Liberal arts II	4	1	0	0	1	0	0
Specialized	127	39	33	1	8	6	0
Other	25	20	1	1	19	1	0
Not classified	1	0	0	0	0	0	0

[a]Natural sciences here include physical, earth, atmospheric, oceanographic, biological, and agricultural sciences.

[b]Social sciences include psychology, sociology, and other social sciences.

[c]Engineering technology data are not included in "Total S&E."

SOURCES: National Center for Education Statistics, Completion Survey (Washington, DC: 1995); and National Science Foundation, Science Resources Studies Division, unpublished tabulations.

See figure 2-5.

Appendix table 2-11.
Total undergraduate enrollment, by race/ethnicity, citizenship, and sex: 1978-95

Race/ethnicity and citizenship	1978	1980	1982	1984	1986	1988	1990	1992	1993	1994	1995
All students											
Total	9,808,815	9,821,513	10,205,475	10,081,336	10,952,167	11,453,788	12,011,657	12,693,778	12,482,813	12,417,701	12,399,826
White	7,872,635	7,827,035	8,060,213	7,635,957	8,406,100	8,737,576	9,232,090	9,388,226	9,101,085	8,905,614	8,806,202
Asian	206,065	225,422	280,062	296,123	384,004	431,053	491,134	620,463	642,893	683,131	700,828
Black	968,059	968,481	956,510	860,322	982,214	1,002,515	1,125,591	1,282,732	1,292,621	1,319,262	1,336,052
Hispanic	501,053	523,021	582,726	547,837	691,621	741,814	840,370	1,032,817	1,064,348	1,120,929	1,167,472
Native American	71,891	70,553	74,123	66,120	81,356	84,108	95,135	110,879	112,727	117,856	120,728
Foreign citizen	170,517	201,034	212,999	200,146	199,921	202,815	227,337	258,661	269,139	270,909	268,544
Males											
Total	4,814,322	4,723,979	4,910,480	4,787,658	5,078,768	5,192,254	5,396,557	5,644,113	5,547,126	5,484,342	5,467,370
White	3,884,778	3,785,209	3,881,826	3,635,294	3,908,642	3,979,958	4,165,862	4,195,726	4,067,289	3,958,270	3,918,342
Asian	108,261	117,574	148,969	156,947	201,591	221,673	250,287	308,564	318,289	335,737	342,084
Black	416,816	407,497	400,746	352,703	396,749	395,359	440,209	496,123	500,194	503,381	507,380
Hispanic	244,149	244,444	270,386	250,043	313,108	329,866	371,232	453,488	467,155	490,827	505,162
Native American	33,481	31,621	33,589	29,498	35,592	35,501	39,692	46,572	47,233	48,920	50,223
Foreign citizen	116,583	134,864	143,000	132,496	127,364	122,320	129,275	143,640	146,966	147,207	144,179
Females											
Total	4,994,493	5,097,534	5,294,995	5,293,678	5,873,399	6,261,534	6,615,100	7,049,665	6,935,687	6,933,359	6,932,456
White	3,987,857	4,041,826	4,178,387	4,000,663	4,497,458	4,757,618	5,066,228	5,192,500	5,033,796	4,947,344	4,887,860
Asian	97,804	107,848	131,093	139,176	182,413	209,380	240,847	311,899	324,604	347,394	358,744
Black	551,243	560,984	555,764	507,619	585,465	607,156	685,382	786,609	792,427	815,881	828,672
Hispanic	256,904	278,577	312,340	297,794	378,513	411,948	469,138	579,329	597,193	630,102	662,310
Native American	38,410	38,932	40,534	36,622	45,764	48,607	55,443	64,307	65,494	68,936	70,505
Foreign citizen	53,934	66,170	69,999	67,650	72,557	80,495	98,062	115,021	122,173	123,702	124,365

SOURCES: National Center for Education Statistics (NCES), *Digest of Education Statistics* (Washington, DC: U.S. Government Printing Office, 1994); NCES, *Trends in Racial/Ethnic Enrollment in Higher Education: Fall 1982 Through Fall 1995* (Washington, DC: U.S. Government Printing Office, 1997); and NCES, unpublished tabulations.

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Appendix table 2-12.
Undergraduate enrollment in engineering and engineering technology programs: 1979-96

Enrollment	1979	1981	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Engineering programs																
Total students	366,299	420,402	441,205	429,499	420,864	407,657	392,198	385,412	378,277	380,287	379,977	382,525	375,944	367,298	363,315	356,177
Total full time	340,488	387,577	406,144	394,635	384,191	369,520	356,998	346,169	338,529	338,842	339,397	344,126	337,817	328,463	325,489	317,772
Freshman	103,724	115,280	109,638	105,249	103,225	99,238	95,453	98,009	95,420	94,346	93,002	93,427	88,875	85,047	86,299	85,375
Sophomore	78,594	87,519	89,515	83,946	79,627	76,195	73,317	71,030	71,267	72,204	71,257	71,644	69,974	68,177	67,981	66,475
Junior	74,928	86,633	91,233	89,509	84,875	80,386	77,085	73,761	70,483	72,666	73,516	74,871	73,449	71,753	68,894	67,190
Senior	77,823	92,414	109,036	109,695	110,305	107,773	104,003	97,614	94,465	92,989	94,683	98,235	98,214	96,523	95,226	92,213
Fifth year	5,419	5,731	6,722	6,236	6,159	5,928	7,140	5,755	6,894	6,637	6,939	5,949	7,305	6,963	7,089	6,519
Total part time	25,811	32,825	35,061	34,864	36,673	38,137	35,200	39,243	39,748	41,445	40,580	38,399	38,127	38,835	37,826	38,405
Total schools	286	286	292	289	297	311	316	320	323	328	336	337	336	337	337	335
ABET-accredited schools[a]	239	250	258	258	264	270	277	281	284	289	303	309	310	315	316	317
Engineering technology programs																
Total students	NA	191,152	163,226	157,897	123,571	137,390	128,501	131,704	127,687	123,217	127,135	124,736	106,976	107,275	105,809	105,345
Total full time	NA	134,444	112,745	111,446	83,038	90,536	80,600	79,624	76,179	72,390	75,340	73,245	65,581	66,457	63,929	62,330
First year	NA	65,893	53,032	46,806	34,389	39,177	32,685	33,477	32,225	30,178	31,302	30,543	24,824	24,574	25,665	26,583
Second year	NA	40,774	33,799	31,716	23,293	25,612	22,906	21,852	21,627	20,586	20,815	21,081	19,962	20,997	18,863	17,267
Other years assoc.	NA	872	925	1,165	466	657	1,404	1,760	1,810	1,603	2,221	2,336	2,564	3,121	2,007	2,780
BA of engineering tech Third and later years	NA	26,905	24,989	31,759	24,890	25,090	23,605	22,535	20,517	20,023	21,002	19,285	18,231	17,765	17,394	15,700
Total part time	NA	56,708	50,481	46,451	40,533	46,854	47,901	52,080	51,508	50,827	51,795	51,491	41,395	40,818	41,880	43,015
Total schools	NA	NA	NA	NA	200	257	291	310	286	303	302	298	263	294	289	285

NA = not available

[a]Schools with at least one curriculum accredited by the Accreditation Board of Engineering and Technology (ABET).

SOURCE: American Association of Engineering Societies, Engineering Workforce Commission, *Engineering and Technology Enrollments, Fall 1979-1996* (Washington, DC: 1996), unpublished tabulations.

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Appendix table 2-13.
Engineering enrollment, by attendance pattern: 1979-96

	Undergraduate			Graduate		
	Total	Full time	Part time	Total	Full time	Part time
Number						
1979	366,299	340,488	25,811	67,152	41,384	25,768
1980	397,344	365,117	32,227	72,585	44,335	28,250
1981	420,402	387,577	32,825	77,600	47,782	29,818
1982	435,330	403,390	31,940	81,999	50,410	31,589
1983	441,205	406,144	35,061	91,040	57,366	33,674
1984	429,499	394,635	34,864	93,165	57,277	35,888
1985	420,864	384,191	36,673	95,505	60,641	34,864
1986	407,657	369,520	38,137	107,196	67,333	39,863
1987	392,198	356,998	35,200	110,778	69,343	41,435
1988	385,412	346,169	39,243	112,007	69,226	42,781
1989	378,277	338,529	39,748	114,048	68,967	45,081
1990	380,287	338,842	41,445	117,834	72,456	45,378
1991	379,977	339,397	40,580	123,497	74,568	48,929
1992	382,525	344,126	38,399	128,854	78,651	50,203
1993	375,944	337,817	38,127	128,081	78,885	49,196
1994	367,298	328,463	38,835	122,242	74,596	47,646
1995	363,315	325,489	37,826	118,506	72,215	46,291
1996	356,177	317,772	38,405	113,063	70,129	42,934
Percent						
1979	100.0	93.0	7.0	100.0	61.6	38.4
1980	100.0	91.9	8.1	100.0	61.1	38.9
1981	100.0	92.2	7.8	100.0	61.6	38.4
1982	100.0	92.7	7.3	100.0	61.5	38.5
1983	100.0	92.1	7.9	100.0	63.0	37.0
1984	100.0	91.9	8.1	100.0	61.5	38.5
1985	100.0	91.3	8.7	100.0	63.5	36.5
1986	100.0	90.6	9.4	100.0	62.8	37.2
1987	100.0	91.0	9.0	100.0	62.6	37.4
1988	100.0	89.8	10.2	100.0	61.8	38.2
1989	100.0	89.5	10.5	100.0	60.5	39.5
1990	100.0	89.1	10.9	100.0	61.5	38.5
1991	100.0	89.3	10.7	100.0	60.4	39.6
1992	100.0	90.0	10.0	100.0	61.0	39.0
1993	100.0	89.9	10.1	100.0	61.6	38.4
1994	100.0	89.4	10.6	100.0	61.0	39.0
1995	100.0	89.6	10.4	100.0	60.9	39.1
1996	100.0	89.2	10.8	100.0	62.0	38.0

SOURCE: American Association of Engineering Societies, Engineering Workforce Commission, *Engineering and Technology Enrollments, Fall 1979-1996* (Washington, DC: 1996), unpublished tabulations.

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Appendix table 2-14.
Undergraduate enrollment in engineering, by sex, race/ethnicity, and citizenship: 1979-96

		Sex		Race/ethnicity and citizenship						
						Underrepresented minorities				
	Total	Male	Female	White	Asian	Total	Black	Hispanic	Native American	Foreign citizen
Number										
1979	366,299	321,868	44,431	302,566	12,243	28,729	15,842	12,068	819	22,761
1981	420,402	361,133	59,269	343,649	15,815	34,353	18,911	14,359	1,083	26,585
1983	441,205	372,374	68,831	354,329	23,007	37,432	19,698	16,462	1,272	26,437
1984	429,499	362,800	66,699	340,374	25,449	37,557	19,204	17,075	1,278	26,119
1985	420,864	354,612	66,252	323,899	28,767	39,657	19,819	18,598	1,240	28,541
1986	407,657	344,999	62,658	315,861	30,201	37,240	18,459	17,586	1,195	24,355
1987	392,198	331,917	60,281	296,749	32,795	38,640	19,142	18,253	1,245	24,014
1988	385,412	325,024	60,388	288,415	34,051	40,389	20,405	18,700	1,284	22,557
1989	378,277	318,067	60,210	281,948	33,360	41,338	21,013	19,007	1,318	21,631
1990	380,287	319,506	60,781	288,732	30,898	41,169	20,833	18,873	1,463	19,488
1991	379,977	316,719	63,258	271,906	37,803	48,692	24,563	22,441	1,688	21,576
1992	382,525	316,460	66,065	270,942	38,480	51,517	25,722	23,863	1,932	21,586
1993	375,944	309,412	66,532	263,073	37,835	52,437	25,920	24,586	1,931	22,599
1994	367,298	300,643	66,655	256,287	37,009	52,188	24,994	25,216	2,028	21,764
1995	363,315	296,029	67,286	249,896	38,329	53,670	25,569	25,998	2,103	21,420
1996	356,177	288,559	67,618	243,270	37,873	53,801	24,922	26,483	2,396	21,233
Percent										
1979	100.0	87.9	12.1	82.6	3.3	7.8	4.3	3.3	0.2	6.2
1981	100.0	85.9	14.1	81.7	3.8	8.2	4.5	3.4	0.3	6.3
1983	100.0	84.4	15.6	80.3	5.2	8.5	4.5	3.7	0.3	6.0
1984	100.0	84.5	15.5	79.2	5.9	8.7	4.5	4.0	0.3	6.1
1985	100.0	84.3	15.7	77.0	6.8	9.4	4.7	4.4	0.3	6.8
1986	100.0	84.6	15.4	77.5	7.4	9.1	4.5	4.3	0.3	6.0
1987	100.0	84.6	15.4	75.7	8.4	9.9	4.9	4.7	0.3	6.1
1988	100.0	84.3	15.7	74.8	8.8	10.5	5.3	4.9	0.3	5.9
1989	100.0	84.1	15.9	74.5	8.8	10.9	5.6	5.0	0.3	5.7
1990	100.0	84.1	16.0	75.9	8.1	10.8	5.5	5.0	0.4	5.1
1991	100.0	83.4	16.6	71.6	9.9	12.8	6.5	5.9	0.4	5.7
1992	100.0	82.7	17.3	70.8	10.1	13.5	6.7	6.2	0.5	5.6
1993	100.0	82.3	17.7	70.0	10.1	13.9	6.9	6.5	0.5	6.0
1994	100.0	81.9	18.1	69.8	10.1	14.2	6.8	6.9	0.6	5.9
1995	100.0	81.5	18.5	68.8	10.5	14.8	7.0	7.2	0.6	5.9
1996	100.0	79.4	18.6	67.0	10.4	14.8	6.9	7.3	0.7	5.8

SOURCE: American Association of Engineering Societies, Engineering Workforce Commission, *Engineering and Technology Enrollments, Fall 1979-1996* (Washington, DC: 1996), unpublished tabulations.

See figure 2-10.

Appendix table 2-15.
Proportion of freshmen intending to major in science and engineering, by field, sex, and race/ethnicity: 1976-96
(Percentages)

Field and sex	1976	1978	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
All freshmen	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
White students																			
Total intending S&E majors	31.4	30.2	30.3	29.9	31.3	31.4	30.9	29.8	27.8	27.0	26.5	29.0	28.4	30.2	30.2	31.1	31.0	30.3	32.2
Natural sciences[a]	13.2	9.6	8.5	8.0	7.4	7.7	8.1	7.7	6.9	6.5	6.6	6.9	7.5	8.5	9.2	10.0	11.9	12.0	11.6
Math & comp. sciences	2.3	2.6	3.1	4.7	5.9	5.7	3.8	3.1	2.5	2.2	2.1	2.3	2.2	2.1	2.1	2.4	2.3	2.5	2.7
Social sciences[b]	7.3	7.7	7.3	6.3	6.4	6.5	8.0	8.3	8.2	9.7	9.6	10.5	9.9	9.0	9.5	9.4	8.9	8.5	9.0
Engineering	8.6	10.3	11.4	10.9	11.6	11.5	11.0	10.7	10.2	8.6	8.2	9.3	8.8	10.6	9.4	9.3	7.9	7.3	8.9
Males intending S&E majors	41.7	39.3	40.6	40.5	41.5	42.5	41.0	38.7	35.9	34.0	33.7	36.6	35.3	37.5	37.4	38.2	37.5	36.8	38.8
Natural sciences[a]	16.6	11.8	10.4	10.2	9.9	10.0	9.6	9.4	8.2	7.9	8.5	8.2	9.0	8.7	10.4	11.0	12.7	12.7	11.5
Math & comp. sciences	2.7	3.0	3.7	5.6	6.6	6.6	4.9	4.0	3.3	3.2	3.0	3.4	3.0	3.0	2.9	3.5	3.5	4.2	4.3
Social sciences[b]	7.5	6.7	6.5	5.5	5.1	5.9	6.6	6.7	6.2	7.2	7.4	8.2	7.8	7.0	7.6	7.6	7.5	6.6	6.8
Engineering	14.9	17.8	20.0	19.2	19.9	20.0	19.9	18.6	18.2	15.7	14.8	16.8	15.5	18.8	16.5	16.1	13.8	13.3	16.2
Females intending S&E majors	20.9	21.1	20.1	21.0	21.6	21.7	21.3	21.6	20.1	21.0	20.6	22.9	22.5	24.1	24.1	24.9	25.6	25.3	26.5
Natural sciences[a]	9.4	7.7	6.2	6.1	5.3	5.7	6.2	6.2	5.7	5.2	5.1	6.0	6.0	8.4	8.2	9.1	11.0	11.6	11.5
Math & comp. sciences	1.9	2.2	2.6	3.9	5.3	4.9	2.7	2.1	1.8	1.3	1.4	1.3	1.6	1.3	1.3	1.1	1.2	1.1	1.2
Social sciences[b]	7.7	8.7	8.2	7.4	7.5	7.4	9.6	10.2	10.0	12.3	11.7	12.8	11.9	11.3	11.5	11.1	10.4	10.4	10.9
Engineering	1.9	2.5	3.1	3.6	3.5	3.7	2.8	3.1	2.6	2.2	2.4	2.8	3.0	3.1	3.1	3.6	3.0	2.2	2.9
Asian students																			
Total intending S&E majors	49.8	45.9	48.4	47.6	49.8	50.1	48.7	51.1	46.2	47.2	44.7	43.1	42.9	44.2	43.7	42.9	44.9	40.6	42.9
Natural sciences[a]	20.3	16.1	11.9	12.7	13.3	15.0	15.2	15.9	14.5	15.1	14.6	11.9	12.8	14.7	16.1	16.2	16.4	15.3	16.2
Math & comp. sciences	3.8	4.1	5.0	6.1	7.3	7.5	5.4	3.2	4.2	3.9	3.3	2.7	3.5	3.6	2.5	2.9	4.2	4.6	4.9
Social sciences[b]	7.9	6.5	5.9	5.7	6.2	6.1	6.5	7.7	6.9	8.5	9.8	9.3	9.7	8.5	8.5	9.1	8.0	7.3	7.7
Engineering	17.8	19.2	25.6	23.1	23.0	21.5	21.6	24.3	20.6	19.7	17.0	19.2	16.9	17.4	16.6	14.7	16.3	13.4	14.1
Males intending S&E majors	60.3	55.2	59.3	58.3	59.6	59.8	59.9	60.0	56.2	55.5	52.8	51.8	52.3	54.1	51.3	50.8	52.6	48.5	50.1
Natural sciences[a]	20.9	15.8	13.5	13.2	14.7	16.9	16.3	15.7	14.9	14.5	15.5	13.1	14.4	15.5	16.3	16.3	16.3	15.1	15.0
Math & comp. sciences	3.8	4.0	3.8	5.4	5.7	6.6	5.5	3.1	4.4	4.6	3.9	3.1	4.7	4.8	3.6	4.1	5.8	6.5	7.3
Social sciences[b]	5.9	5.0	4.0	3.4	4.3	3.9	5.1	6.5	4.2	5.4	6.9	5.6	6.6	5.8	5.7	6.5	5.0	4.7	4.8
Engineering	29.7	30.4	38.0	36.3	34.9	32.4	33.0	34.7	32.7	31.0	26.5	30.0	26.6	28.0	25.7	23.9	25.5	22.2	23.0
Females intending S&E majors	38.3	36.7	34.7	36.3	40.0	39.5	37.4	40.4	36.2	37.8	36.2	34.7	33.8	34.6	36.2	34.9	36.4	33.7	35.3
Natural sciences[a]	19.6	16.5	10.1	11.9	11.7	12.9	14.0	16.2	14.3	15.5	13.7	11.4	11.1	14.3	15.7	15.8	16.7	15.8	17.0
Math & comp. sciences	3.7	4.3	6.5	7.0	9.1	8.4	5.4	3.3	4.1	3.2	2.8	2.4	2.4	2.4	1.6	1.9	2.4	2.7	2.5
Social sciences[b]	10.0	8.0	7.6	7.9	8.7	8.1	7.6	8.6	9.7	11.5	13.1	13.5	12.8	11.2	11.4	11.4	10.7	9.7	10.4
Engineering	5.0	7.9	10.5	9.5	10.5	10.1	10.4	12.3	8.1	7.6	6.6	7.4	7.5	6.7	7.5	5.8	6.6	5.5	5.4
Black students																			
Total intending S&E majors	31.7	30.7	30.4	30.7	33.3	31.5	28.9	30.4	27.9	30.7	31.1	31.2	31.4	35.3	37.1	37.7	35.6	35.5	36.2
Natural sciences[a]	8.9	5.7	4.7	5.0	5.3	5.3	5.8	5.8	4.8	5.1	4.7	5.7	5.3	6.4	7.8	8.9	8.8	10.4	10.0
Math & comp. sciences	1.5	2.6	4.7	6.8	8.3	9.0	6.9	7.0	4.5	4.4	4.0	4.4	4.5	5.0	4.7	4.8	4.5	5.3	5.5
Social sciences[b]	14.7	14.1	10.7	9.0	8.3	8.4	8.7	8.1	10.2	10.7	14.3	11.9	12.7	11.6	11.9	11.1	12.7	11.2	11.6
Engineering	6.6	8.3	10.3	9.9	11.4	8.8	7.5	9.5	8.4	10.5	8.1	9.2	8.9	12.3	12.7	12.9	9.6	8.6	9.1

Appendix table 2-15.
Proportion of freshmen intending to major in science and engineering, by field, sex, and race/ethnicity: 1976-96
(Percentages)

Field and sex	1976	1978	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Males intending S&E majors	34.2	33.1	34.8	35.9	38.5	35.7	33.5	34.8	31.8	35.0	34.1	34.2	32.8	39.7	41.8	42.8	38.1	37.7	37.2
Natural sciences[a]	10.4	6.0	5.0	5.7	5.8	6.2	6.3	5.8	5.0	5.3	5.7	5.2	5.7	6.0	7.7	8.5	8.1	9.4	7.7
Math & comp. sciences	1.6	3.2	4.8	7.0	8.0	8.9	7.4	7.8	4.9	5.3	4.2	5.3	5.0	5.0	5.0	5.7	5.0	6.6	6.9
Social sciences[b]	9.6	8.4	6.5	6.0	5.4	5.3	7.0	5.3	7.1	6.9	9.7	7.7	7.4	7.4	8.0	7.4	8.0	6.2	6.2
Engineering	12.6	15.5	18.5	17.2	19.3	15.3	12.8	15.9	14.8	17.5	14.5	16.0	14.7	21.3	21.1	21.2	17.0	15.5	16.4
Females intending S&E majors	24.0	23.3	23.4	24.3	27.2	25.5	23.4	25.0	23.0	25.8	26.7	27.5	28.0	30.7	32.1	32.8	30.4	31.5	32.1
Natural sciences[a]	7.5	5.8	4.4	4.8	4.9	4.3	5.6	5.9	4.4	4.7	4.1	5.8	5.6	6.8	8.0	9.5	8.9	10.7	10.5
Math & comp. sciences	1.4	2.3	4.6	6.6	8.5	9.1	6.6	6.5	4.3	3.8	3.8	4.0	4.1	5.0	4.5	4.2	4.2	4.5	4.7
Social sciences[b]	12.8	12.0	9.7	8.3	7.9	7.9	7.5	7.7	10.0	11.3	14.8	12.3	13.3	12.3	12.7	11.5	12.4	11.8	12.4
Engineering	2.3	3.2	4.7	4.6	5.9	4.2	3.7	4.9	4.3	6.0	4.0	5.4	5.0	6.6	6.9	7.6	4.9	4.5	4.5
Hispanic students																			
Total intending S&E majors	32.0	27.2	35.1	34.3	32.9	34.1	32.2	36.5	34.7	34.1	30.5	32.6	33.4	30.0	33.4	34.2	37.8	37.2	35.0
Natural sciences[a]	11.6	6.8	8.9	9.3	6.8	8.4	8.1	8.8	8.6	8.2	6.8	7.3	7.4	7.4	8.8	9.4	10.2	11.0	9.9
Math & comp. sciences	1.7	2.0	3.1	3.5	5.2	4.7	6.1	3.4	2.5	2.1	2.1	2.2	2.3	2.6	2.4	2.0	2.6	2.6	2.9
Social sciences[b]	10.6	9.4	10.4	7.4	9.0	8.3	7.8	11.5	11.4	12.5	12.6	12.8	12.8	9.7	12.0	12.5	13.6	12.5	12.1
Engineering	8.1	9.0	12.7	14.1	11.9	12.7	10.2	12.8	12.2	11.3	9.0	10.3	10.9	10.3	10.2	10.3	11.4	11.1	10.1
Males intending S&E majors	39.5	34.0	41.3	41.7	39.8	40.3	41.7	44.3	41.7	40.7	35.4	38.7	39.0	34.8	37.6	38.7	42.1	41.4	41.2
Natural sciences[a]	14.0	7.8	9.4	9.0	7.9	8.8	9.0	9.9	8.7	8.7	7.5	7.8	8.9	7.4	9.2	9.8	10.4	9.1	9.9
Math & comp. sciences	2.6	3.3	2.7	4.0	5.1	5.5	7.7	4.6	3.0	2.5	2.7	2.8	2.7	3.6	3.2	2.8	4.0	3.9	4.3
Social sciences[b]	8.6	6.9	8.1	5.1	7.3	6.4	7.7	8.4	8.0	10.1	9.3	9.9	7.9	6.8	8.1	9.4	9.1	8.2	8.8
Engineering	14.3	16.0	21.1	23.6	19.5	19.6	17.3	21.4	22.0	19.4	15.9	18.2	19.5	17.0	17.1	16.7	18.6	20.2	18.2
Females intending S&E majors	24.0	21.0	30.0	26.9	26.6	28.7	24.5	30.0	29.0	29.0	26.7	28.2	28.9	25.7	29.6	29.6	34.7	32.0	30.1
Natural sciences[a]	8.9	6.1	8.7	9.4	5.6	8.0	7.4	7.8	8.6	7.9	6.1	7.0	6.2	7.9	8.5	8.7	10.2	11.1	9.6
Math & comp. sciences	0.9	0.9	3.5	2.9	5.4	4.0	4.8	2.2	2.1	1.8	1.7	1.7	2.1	1.7	1.6	1.2	1.6	1.4	1.9
Social sciences[b]	12.8	11.9	12.4	9.2	10.5	10.3	7.9	14.1	14.2	14.7	15.3	15.3	16.2	12.4	15.3	15.3	17.2	16.0	14.6
Engineering	1.4	2.1	5.4	5.4	5.1	6.4	4.4	5.9	4.1	4.6	3.6	4.2	4.4	3.7	4.2	4.4	5.7	3.5	4.0
Native American students																			
Total intending S&E majors	30.5	32.0	34.0	26.8	27.7	26.1	27.1	26.4	29.6	30.7	30.8	32.7	30.9	30.3	30.9	30.8	30.0	29.8	32.2
Natural sciences[a]	13.7	9.3	7.6	6.6	6.7	6.7	9.2	6.9	7.8	8.4	7.4	6.5	10.7	8.4	9.1	9.5	9.4	11.3	11.8
Math & comp. sciences	2.5	2.2	3.9	3.0	4.6	4.7	3.6	3.3	2.3	2.6	2.3	1.8	1.6	2.4	2.0	2.4	2.4	2.5	3.3
Social sciences[b]	7.8	10.2	9.2	7.0	5.9	5.9	6.6	9.5	9.5	9.7	12.6	13.9	10.6	9.6	10.6	10.6	10.3	9.6	10.2
Engineering	6.5	10.3	13.3	10.2	10.5	8.8	7.7	6.7	10.0	10.0	8.5	10.5	8.0	9.9	9.2	8.3	6.8	6.4	6.9
Males intending S&E majors	39.4	38.1	41.5	39.2	34.2	35.2	33.2	32.6	39.7	39.9	37.3	39.1	35.9	36.6	37.6	36.5	34.1	36.3	38.5
Natural sciences[a]	17.2	11.8	9.9	8.8	6.9	9.7	9.9	10.3	9.8	11.0	9.5	8.5	12.3	8.4	9.6	11.7	10.0	11.8	11.6
Math & comp. sciences	3.4	1.9	4.8	4.7	6.1	5.1	3.5	4.6	3.0	3.4	3.4	2.0	2.2	3.3	3.0	2.8	3.5	4.3	5.7
Social sciences[b]	7.0	7.5	7.5	6.2	2.7	5.6	5.8	6.3	9.5	7.3	8.5	11.4	7.4	6.7	9.2	8.3	8.1	7.3	7.8
Engineering	11.8	16.9	19.3	19.5	18.5	14.8	14.0	11.4	17.4	18.2	15.9	17.2	14.0	18.2	15.8	13.7	12.5	12.9	13.4
Females intending S&E majors	21.8	25.9	26.7	15.6	22.4	18.8	22.1	20.6	21.4	23.8	25.6	28.1	26.8	25.5	25.6	26.5	26.5	25.2	27.5
Natural sciences[a]	10.6	6.9	5.3	4.5	6.7	4.6	9.0	3.9	5.9	6.7	5.7	5.2	9.1	8.5	8.5	7.8	10.1	11.0	11.7
Math & comp. sciences	1.6	2.6	3.2	1.5	3.1	4.4	3.7	2.1	1.8	1.9	1.4	1.5	1.3	1.7	1.2	2.1	1.5	1.2	1.6
Social sciences[b]	8.5	12.8	11.3	7.7	8.9	6.1	7.4	12.1	9.5	11.4	16.1	15.6	13.0	11.9	11.8	12.2	12.1	11.2	11.7
Engineering	1.1	3.6	6.9	1.9	3.7	3.7	2.0	2.5	4.2	3.8	2.4	5.8	3.4	3.4	4.1	4.4	2.8	1.8	2.5

[a]Natural sciences here include physical, earth, atmospheric, oceanographic, biological, and agricultural sciences.

[b]Social sciences include psychology, sociology, and other social sciences.

SOURCE: University of California at Los Angeles, Higher Education Research Institute, *Survey of the American Freshman: National Norms* (Los Angeles: 1995), unpublished tabulations.

Appendix table 2-16.
Race/ethnicity of freshmen intending to major in science and engineering, by selected fields: 1976-96
(Percentages)

Field/subfield	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
White freshmen intending S&E majors																					
All S&E fields	87.6	87.1	87.9	86.2	85.9	87.4	85.2	85.7	85.9	84.1	84.1	83.1	80.2	81.9	78.9	76.9	78.9	79.1	76.7	76.5	76.7
Physical sciences	89.5	90.5	91.4	89.9	90.0	89.9	87.9	89.5	89.0	85.1	87.4	87.3	87.7	86.0	86.5	82.5	83.8	82.6	80.3	82.7	81.2
Biological sciences	88.8	89.4	89.0	88.1	88.3	87.8	85.8	85.2	84.2	83.8	82.7	81.8	79.9	80.8	77.8	76.2	78.4	78.6	77.8	76.6	76.4
Social sciences	84.0	83.1	83.5	83.3	83.4	87.0	84.7	84.8	85.4	87.2	84.4	85.0	80.5	83.6	78.2	77.8	80.0	80.1	77.7	77.6	77.7
Engineering	88.8	88.0	89.2	86.7	86.1	87.5	85.8	87.3	87.8	83.4	84.1	81.6	80.2	81.1	79.3	76.1	77.2	77.3	73.8	74.3	76.0
Asian freshmen intending S&E majors																					
All S&E fields	1.8	1.8	1.8	2.2	2.2	2.0	2.5	2.8	2.7	4.4	4.6	4.8	5.2	4.8	5.3	6.0	5.8	5.7	7.9	7.0	6.8
Physical sciences	2.3	2.7	2.3	2.8	2.3	2.8	3.6	3.5	4.0	6.1	5.4	5.0	5.5	4.4	5.4	5.8	5.9	5.5	8.0	6.8	6.6
Biological sciences	2.1	2.1	2.3	2.2	2.5	2.5	3.2	4.2	3.9	6.6	7.1	7.7	8.6	7.0	7.7	9.2	8.4	8.1	9.8	8.6	8.5
Social sciences	0.9	1.0	1.0	0.9	1.1	1.1	1.6	1.4	1.6	2.5	2.5	2.8	3.4	3.1	3.7	4.2	3.8	4.5	5.0	4.8	4.6
Engineering	2.4	2.4	2.2	3.1	2.9	2.7	3.0	3.4	3.5	5.7	5.8	6.0	6.4	6.4	6.4	6.7	6.9	6.3	10.5	8.9	8.0
Black freshmen intending S&E majors																					
All S&E fields	8.5	8.6	8.2	9.1	9.7	8.6	10.4	9.7	9.5	9.4	8.6	9.6	11.6	10.3	12.1	13.2	11.2	11.4	11.1	11.5	11.7
Physical sciences	6.3	5.0	4.7	5.8	6.0	5.6	6.9	6.0	5.6	7.7	5.3	5.7	5.3	7.2	5.3	8.6	7.2	9.0	8.7	8.1	9.1
Biological sciences	6.9	6.2	6.3	6.7	7.0	7.1	8.9	7.9	9.5	6.8	6.8	7.6	8.1	9.0	10.2	10.0	8.9	9.2	8.4	10.6	10.3
Social sciences	12.5	12.8	12.7	12.7	12.4	10.1	10.7	11.9	11.4	8.9	10.3	9.7	13.0	10.2	14.1	13.7	11.5	10.9	12.1	11.5	12.8
Engineering	6.8	7.3	6.7	7.7	8.7	7.6	9.4	7.6	7.0	8.5	7.4	9.8	10.1	9.4	10.6	13.4	12.2	12.7	11.0	10.9	10.7
Hispanic freshmen intending S&E majors																					
All S&E fields	1.3	1.9	1.4	2.0	1.6	1.3	1.8	1.3	1.2	1.6	2.1	1.9	2.3	2.3	2.5	2.7	4.1	5.9	7.1	7.6	8.0
Physical sciences	1.3	0.6	1.1	1.5	1.2	1.3	1.0	0.7	1.2	1.0	1.2	1.4	1.7	1.7	1.8	2.1	2.6	2.9	4.0	2.8	3.4
Biological sciences	1.9	1.9	1.9	2.2	1.9	2.6	2.0	1.8	1.9	1.8	2.2	2.2	2.7	2.2	2.5	2.8	4.2	5.9	4.1	4.5	4.6
Social sciences	1.8	2.6	2.0	2.6	2.1	1.4	2.0	1.5	1.2	1.5	2.1	1.9	2.5	2.4	2.7	2.9	4.9	7.5	5.6	6.1	5.8
Engineering	1.1	1.5	1.3	1.6	1.3	1.3	1.7	1.3	1.1	1.5	2.1	1.9	2.2	2.2	2.5	2.5	3.9	5.3	5.3	5.9	5.1
Native American freshmen intending S&E majors																					
All S&E fields	0.9	0.7	0.7	0.8	0.8	0.9	0.9	1.0	0.9	0.9	0.9	1.0	0.9	1.0	1.3	1.7	1.8	1.8	2.1	2.1	2.3
Physical sciences	1.2	0.5	0.6	1.0	0.6	0.8	0.9	1.3	0.6	0.8	1.1	1.1	0.8	0.9	2.1	1.5	1.5	1.3	2.1	2.2	2.9
Biological sciences	1.0	0.8	0.7	0.7	0.8	0.8	1.0	1.1	1.5	1.2	1.0	1.1	1.0	0.9	1.6	1.8	1.8	1.9	2.0	2.3	2.3
Social sciences	1.0	0.8	0.8	0.8	0.9	1.1	0.9	1.4	0.6	0.9	1.0	1.0	0.9	1.2	1.3	1.9	1.8	2.3	2.2	2.5	2.2
Engineering	0.7	0.5	0.6	0.7	0.7	0.9	0.9	0.9	0.7	0.6	0.9	1.0	0.8	1.0	1.1	1.5	1.6	1.5	1.7	1.8	1.8

NOTE: Details may not add to totals because students may check more than one race/ethnicity, e.g., white and Hispanic.

SOURCE: University of California at Los Angeles, Higher Education Research Institute, *Survey of the American Freshman: National Norms* (Los Angeles: 1997), unpublished tabulations.

See figure 2-9.

Appendix table 2-17.
Freshmen reporting need for remedial work in science or mathematics, by intended major, sex, and race/ethnicity: 1995
(Percentages)

Sex, race/ethnicity	All S&E majors needing remedial work in:		Physical science majors needing remedial work in:		Biological science majors needing remedial work in:		Social science majors needing remedial work in:		Engineering majors needing remedial work in:		Non-S&E majors needing remedial work in:	
	Science	Math	Science	Math	Science	Math	Science	Math	Science	Math	Science	Math
All students	9.5	21.2	6.2	13.0	9.7	22.0	10.5	27.5	9.0	14.3	10.9	25.0
Male	7.6	16.4	5.3	11.3	13.2	25.2	7.0	20.2	8.3	13.9	8.4	20.8
Female	11.4	26.6	7.6	15.5	10.8	24.4	12.8	32.2	12.2	15.5	12.7	28.0
White	6.8	17.8	4.4	11.1	6.8	19.1	8.5	24.2	5.7	10.3	9.0	22.0
Asian	15.9	20.6	11.1	10.2	15.4	20.3	20.0	26.9	14.8	18.1	22.8	25.7
Black	20.2	41.8	23.0	39.9	23.8	41.8	16.1	47.5	19.0	31.1	18.8	47.1
Hispanic	21.6	38.3	10.4	20.7	19.9	36.3	20.0	41.2	25.9	34.1	18.1	37.0
Native American	12.0	29.8	5.7	9.8	13.6	33.7	10.9	36.3	14.3	17.8	12.5	39.1

SOURCE: University of California at Los Angeles, Higher Education Research Institute, *Survey of the American Freshman: National Norms* (Los Angeles: 1997), unpublished tabulations.

See figure 2-8.

Science & Engineering Indicators – 1998

Appendix table 2-18.
Earned associate degrees, by field and sex: 1975-95

Field	1975	1977	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
All students																			
All degrees	362,969	409,942	407,471	405,710	420,910	440,000	461,888	457,851	459,087	451,258	440,816	441,093	440,375	459,048	486,297	508,704	519,098	546,574	544,094
S&E	NA	NA	NA	NA	NA	NA	23,796	28,095	26,486	25,267	23,130	21,520	19,733	19,810	19,352	22,722	23,420	25,581	24,228
Natural sciences[a]	NA	NA	NA	NA	NA	NA	5,013	4,990	4,321	3,924	3,694	3,818	3,712	3,996	4,112	4,585	4,787	5,484	5,456
Math & comp. sci.	NA	NA	NA	NA	NA	NA	10,707	13,696	13,680	11,567	9,953	9,575	8,846	8,600	8,640	10,376	10,275	10,634	10,410
Social sciences[b]	NA	NA	NA	NA	NA	NA	4,803	4,852	4,562	4,487	4,894	4,231	4,440	4,809	4,087	5,046	5,832	6,619	6,077
Engineering	NA	NA	NA	NA	NA	NA	3,273	4,557	3,923	5,289	4,589	3,896	2,735	2,405	2,513	2,715	2,526	2,844	2,285
Engineering tech.	30,906	38,588	41,716	43,696	52,478	58,574	51,317	50,671	53,667	49,880	49,815	49,646	48,342	46,938	45,106	40,592	40,946	42,414	39,190
Males																			
All degrees	191,855	212,120	193,696	185,329	190,152	198,698	208,830	204,517	204,325	197,955	192,227	191,912	187,125	192,433	200,043	208,856	213,263	222,247	219,704
S&E	NA	NA	NA	NA	NA	NA	13,145	15,689	14,695	14,403	13,152	12,266	10,607	10,568	10,360	12,063	12,103	13,023	12,461
Natural sciences[a]	NA	NA	NA	NA	NA	NA	2,959	2,927	2,460	2,173	2,113	2,151	1,965	2,195	2,278	2,605	2,686	2,948	2,978
Math & comp. sci.	NA	NA	NA	NA	NA	NA	5,395	7,007	7,128	6,015	5,297	5,028	4,563	4,431	4,438	5,187	5,123	5,384	5,434
Social sciences[b]	NA	NA	NA	NA	NA	NA	1,876	1,713	1,606	1,588	1,650	1,617	1,671	1,825	1,411	1,911	2,098	2,217	2,071
Engineering	NA	NA	NA	NA	NA	NA	2,915	4,042	3,501	4,627	4,092	3,470	2,408	2,117	2,233	2,360	2,196	2,474	1,978
Engineering tech.	29,108	34,957	36,749	37,847	45,329	50,823	45,521	45,068	47,946	44,340	44,158	44,053	42,766	41,435	39,777	35,666	36,129	36,899	34,196
Females																			
All degrees	171,114	197,822	213,775	220,381	230,758	241,302	253,058	253,334	254,762	253,303	248,589	249,181	253,250	266,615	286,254	299,848	305,835	324,327	324,390
S&E	NA	NA	NA	NA	NA	NA	10,651	12,406	11,791	10,864	9,978	9,254	9,126	9,242	8,992	10,659	11,317	12,558	11,767
Natural sciences[a]	NA	NA	NA	NA	NA	NA	2,054	2,063	1,861	1,751	1,581	1,667	1,747	1,801	1,834	1,980	2,101	2,536	2,478
Math & comp. sci.	NA	NA	NA	NA	NA	NA	5,312	6,689	6,552	5,552	4,656	4,547	4,283	4,169	4,202	5,189	5,152	5,250	4,976
Social sciences[b]	NA	NA	NA	NA	NA	NA	2,927	3,139	2,956	2,899	3,244	2,614	2,769	2,984	2,676	3,135	3,734	4,402	4,006
Engineering	NA	NA	NA	NA	NA	NA	358	515	422	662	497	426	327	288	280	355	330	370	307
Engineering tech.	1,798	3,631	4,967	5,849	7,149	7,751	5,796	5,603	5,721	5,540	5,657	5,593	5,576	5,503	5,329	4,926	4,817	5,515	4,994

NA = not available

NOTE: Data on associate degrees are not available for broad science and engineering fields before 1983.

[a]Natural sciences here include physical, earth, atmospheric, oceanographic, biological, and agricultural sciences.

[b]Social sciences include psychology, sociology, and other social sciences.

SOURCES: National Center for Education Statistics, Earned Degrees and Completion Surveys (Washington, DC: 1995), unpublished tabulations; and National Science Foundation, Science Resources Studies Division, unpublished tabulations.

See figure 2-5.

Science & Engineering Indicators – 1998

Appendix table 2-19.
Earned associate degrees, by field and race/ethnicity: 1977-95

Field	1977	1979	1981	1985	1987	1989	1990	1991	1992	1993	1994	1995
All students												
All degrees	409,942	407,471	420,910	459,087	440,816	440,375	459,048	486,297	508,704	519,098	546,574	544,094
Science and engineering	NA	NA	NA	25,957	22,167	19,479	19,406	19,154	22,361	23,118	25,172	23,644
Natural sciences[a]	NA	NA	NA	4,691	3,950	3,952	4,286	4,430	4,859	5,090	5,793	5,790
Math and computer sciences	NA	NA	NA	13,679	9,953	8,846	8,600	8,640	10,346	10,255	10,532	10,230
Social sciences[b]	NA	NA	NA	3,664	3,676	3,949	4,118	3,574	4,441	5,248	6,019	5,348
Engineering	NA	NA	NA	3,923	4,588	2,732	2,402	2,510	2,715	2,525	2,828	2,276
Engineering technology	38,244	40,891	51,661	51,579	47,434	46,180	44,739	42,595	38,015	38,473	39,889	36,956
Whites												
All degrees	342,382	331,173	339,183	355,422	345,546	330,557	343,629	376,869	388,049	392,637	419,962	408,126
Science and engineering	NA	NA	NA	18,133	16,169	13,898	13,684	13,842	15,487	15,631	17,809	16,310
Natural sciences[a]	NA	NA	NA	3,548	3,078	3,231	3,458	3,574	3,878	3,989	4,493	4,326
Math and computer sciences	NA	NA	NA	10,255	7,360	6,044	5,704	6,054	6,631	6,515	7,133	6,809
Social sciences[b]	NA	NA	NA	2,070	2,496	2,637	2,752	2,347	2,892	3,241	4,050	3,524
Engineering	NA	NA	NA	2,260	3,235	1,986	1,770	1,867	2,086	1,886	2,133	1,651
Engineering technology	33,109	33,662	40,804	40,934	37,383	33,584	31,699	33,792	28,242	28,442	31,457	27,737
Asians												
All degrees	7,174	7,617	8,757	10,165	11,329	11,761	12,687	15,069	15,369	16,280	18,555	20,976
Science and engineering	NA	NA	NA	828	1,051	834	851	842	1,118	1,108	1,283	1,353
Natural sciences[a]	NA	NA	NA	86	112	120	179	220	253	228	304	331
Math and computer sciences	NA	NA	NA	511	464	401	411	388	548	528	566	603
Social sciences[b]	NA	NA	NA	47	106	119	110	88	132	216	229	267
Engineering	NA	NA	NA	184	369	194	151	146	185	136	184	152
Engineering technology	781	1,132	1,641	1,570	1,989	1,663	1,499	1,496	1,311	1,358	1,258	1,387
Blacks												
All degrees	33,176	34,985	35,330	35,861	33,858	32,185	32,882	37,854	38,721	41,260	45,597	45,923
Science and engineering	NA	NA	NA	1,653	1,766	1,460	1,540	1,631	1,809	1,963	2,069	2,033
Natural sciences[a]	NA	NA	NA	160	198	125	153	149	161	178	206	276
Math and computer sciences	NA	NA	NA	938	961	828	876	921	1,093	1,004	1,120	1,060
Social sciences[b]	NA	NA	NA	407	358	387	423	435	420	580	564	549
Engineering	NA	NA	NA	148	249	120	88	126	135	201	179	148
Engineering technology	1,990	2,022	2,903	3,395	3,100	2,829	2,648	3,030	2,445	2,698	3,197	2,932
Hispanics												
All degrees	19,808	20,710	22,088	22,783	22,804	23,475	24,569	29,019	30,253	33,015	35,557	38,499
Science and engineering	NA	NA	NA	1,380	1,635	1,453	1,289	1,463	1,773	2,152	2,329	2,316
Natural sciences[a]	NA	NA	NA	248	281	236	215	232	238	300	404	425
Math and computer sciences	NA	NA	NA	676	620	609	591	677	918	1,086	1,074	1,131
Social sciences[b]	NA	NA	NA	330	365	432	385	401	485	613	703	599
Engineering	NA	NA	NA	126	369	176	98	153	132	153	148	161
Engineering technology	1,644	1,799	2,219	2,084	2,359	2,232	2,298	2,411	2,317	2,398	2,478	2,687

Appendix table 2-19.
Earned associate degrees, by field and race/ethnicity: 1977-95

Field	1977	1979	1981	1985	1987	1989	1990	1991	1992	1993	1994	1995
Native Americans												
All degrees	2,499	2,336	2,584	2,953	3,049	3,102	3,290	3,772	3,874	4,213	4,879	5,352
Science and engineering	NA	NA	NA	163	195	182	202	257	247	315	419	410
Natural sciences[a]	NA	NA	NA	45	49	44	38	66	58	73	125	123
Math and computer sciences	NA	NA	NA	56	49	67	84	91	69	116	116	124
Social sciences[b]	NA	NA	NA	51	70	59	68	79	106	118	160	142
Engineering	NA	NA	NA	11	27	12	12	21	14	8	18	21
Engineering technology	204	191	285	267	219	257	168	232	175	210	263	260
Foreign citizens												
All degrees	3,331	4,554	6,645	6,426	4,485	5,969	5,937	6,977	8,027	9,024	10,169	9,911
Science and engineering	NA	NA	NA	616	408	461	362	368	520	637	707	707
Natural sciences[a]	NA	NA	NA	74	81	97	75	73	109	138	157	177
Math and computer sciences	NA	NA	NA	313	177	205	169	171	251	284	282	298
Social sciences[b]	NA	NA	NA	73	30	76	48	56	80	137	179	156
Engineering	NA	NA	NA	156	120	83	70	68	80	78	89	76
Engineering technology	393	585	1,055	680	575	533	467	526	504	380	414	412

NA = not available

NOTES: Data on associate degrees are not available for broad science and engineering fields before 1983. Data by racial/ethnic group were collected on a biennial schedule until 1990. Data by racial/ethnic group are collected by broad field of study only; therefore, these data cannot be adjusted to the exact field taxonomies used by the National Science Foundation.

[a]Natural sciences here include physical, earth, atmospheric, oceanographic, biological, and agricultural sciences.

[b]Social sciences include psychology, sociology, and other social sciences.

SOURCES: National Center for Education Statistics, Earned Degrees and Completion Surveys (Washington, DC: 1995), unpublished tabulations; and National Science Foundation, Science Resources Studies Division, unpublished tabulations.

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Appendix table 2-20.
Earned bachelor's degrees, by field and sex: 1975-95

Field	1975	1977	1979	1981	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
All bachelor's degree recipients																	
All degrees	931,663	928,228	931,340	946,877	980,679	986,345	990,877	1,000,204	1,003,532	1,006,033	1,030,171	1,062,151	1,107,997	1,150,072	1,179,278	1,183,141	1,174,436
Science and engineering	313,555	303,798	303,162	306,792	317,875	324,483	332,422	335,460	331,526	322,482	322,821	329,094	337,675	355,265	366,035	373,261	378,148
Natural sciences	87,199	93,179	90,120	84,062	79,315	76,475	75,429	72,499	68,724	64,734	62,860	62,652	65,189	71,269	77,312	83,791	90,845
Physical	16,001	16,937	17,257	17,446	16,197	15,831	16,270	15,784	15,464	14,255	14,148	13,425	13,678	13,875	14,188	14,655	14,897
Earth/atm/ocean	4,877	5,653	6,082	6,694	7,298	7,925	7,576	6,076	4,689	3,554	3,181	2,776	2,728	3,201	3,503	3,868	4,478
Biological & agricultural	66,321	70,589	66,781	59,922	55,820	52,719	51,583	50,639	48,571	46,925	45,531	46,451	48,783	54,193	59,621	65,268	71,470
Math/computer sciences	23,385	20,729	20,670	26,406	37,239	45,777	54,388	58,583	56,442	50,877	46,277	42,369	40,194	39,889	39,433	39,185	38,620
Mathematics	18,346	14,303	11,901	11,173	12,557	13,342	15,267	16,388	16,515	15,981	15,314	14,674	14,784	14,931	14,853	14,632	13,851
Computer sciences	5,039	6,426	8,769	15,233	24,682	32,435	39,121	42,195	39,927	34,896	30,963	27,695	25,410	24,958	24,580	24,553	24,769
Social and behavioral sciences	163,147	148,533	138,903	132,607	128,651	126,078	125,033	127,558	131,935	136,717	146,737	159,368	170,105	182,166	186,585	187,273	185,312
Psychology	51,436	47,794	43,012	41,364	40,825	40,375	40,237	40,937	43,195	45,378	48,954	54,018	58,893	64,033	67,251	69,768	72,601
Social sciences	111,711	100,739	95,891	91,243	87,826	85,703	84,796	86,621	88,740	91,339	97,783	105,350	111,212	118,133	119,334	117,505	112,711
Engineering	39,824	41,357	53,469	63,717	72,670	76,153	77,572	76,820	74,425	70,154	66,947	64,705	62,187	61,941	62,705	63,012	63,371
Chemical engineering	3,420	3,986	6,442	7,639	8,550	9,192	8,941	7,411	6,114	4,654	4,187	3,834	3,728	4,123	4,899	5,636	6,391
Civil engineering	8,289	8,898	10,583	11,331	10,747	10,351	9,730	9,223	8,746	8,131	8,015	7,992	8,083	8,920	9,788	10,603	11,329
Electrical engineering	10,246	10,018	12,440	15,040	19,205	21,541	23,668	26,112	26,791	25,942	24,318	2 3,015	21,520	20,256	19,598	18,241	17,579
Industrial engineering	2,583	2,264	2,804	3,878	3,824	4,020	4,009	4,255	4,313	4,259	4,121	4,041	3,820	4,029	3,584	3,453	3,519
Mechanical engineering	7,089	7,927	10,360	13,573	16,031	17,040	17,200	16,586	15,723	15,331	15,217	14,693	14,263	14,352	14,708	15,297	15,141
Other engineering	8,197	8,264	10,840	12,256	14,313	14,009	14,024	13,233	12,738	11,837	11,089	11,130	10,773	10,261	10,128	9,782	9,412
Engineering technology	8,589	9,864	10,906	13,567	18,663	20,225	20,533	20,928	20,577	20,447	20,098	19,150	18,294	17,118	17,022	16,703	16,607
Males																	
All degrees	508,424	499,121	481,394	474,336	483,395	486,750	486,660	490,143	485,003	481,236	487,566	495,867	508,952	525,395	537,536	537,061	531,146
Science and engineering	210,741	198,805	193,247	190,977	194,538	199,262	203,464	204,771	199,981	191,549	189,338	189,082	189,328	195,779	200,315	202,284	202,217
Natural sciences	63,977	65,378	60,047	53,430	48,379	46,482	45,447	43,405	40,589	36,930	36,009	35,157	36,206	38,939	42,316	45,600	48,474
Physical	12,990	13,560	13,358	13,137	11,586	11,175	11,434	11,088	10,792	9,673	9,777	9,106	9,253	9,289	9,424	9,588	9,605
Earth/atm/ocean	4,050	4,479	4,695	5,028	5,450	5,991	5,715	4,722	3,629	2,707	2,380	2,001	1,946	2,177	2,453	2,665	2,954
Biological & agricultural	46,937	47,339	41,994	35,265	31,343	29,316	28,298	27,595	26,168	24,550	23,852	24,050	25,007	27,473	30,439	33,347	35,915
Math/computer sciences	14,729	13,241	13,249	16,672	22,749	27,797	32,921	35,841	34,871	32,112	29,682	27,184	25,700	25,693	25,483	25,397	25,066
Mathematics	10,646	8,354	6,943	6,392	7,059	7,428	8,231	8,772	8,833	8,569	8,264	7,863	7,804	7,945	7,854	7,864	7,360
Computer sciences	4,083	4,887	6,306	10,280	15,690	20,369	24,690	27,069	26,038	23,543	21,418	19,321	17,896	17,748	17,629	17,533	17,706
Social and behavioral sciences	93,056	80,873	71,363	64,221	60,392	59,559	58,770	59,843	61,500	63,132	66,888	72,009	74,900	78,842	79,792	78,678	76,256
Psychology	24,333	20,692	16,649	14,447	13,228	12,949	12,815	12,691	13,399	13,584	14,291	15,399	16,155	17,130	18,029	18,749	19,638
Social sciences	68,723	60,181	54,714	49,774	47,164	46,610	45,955	47,152	48,101	49,548	52,597	56,610	58,745	61,712	61,763	59,929	56,618
Engineering	38,979	39,313	48,588	56,654	63,018	65,424	66,326	65,682	63,021	59,375	56,759	54,732	52,522	52,305	52,724	52,609	52,421
Chemical engineering	3,273	3,534	5,387	6,274	6,761	7,115	6,848	5,805	4,574	3,522	3,017	2,745	2,564	2,854	3,335	3,953	4,367
Civil engineering	8,116	8,413	9,534	10,100	9,263	8,928	8,388	7,994	7,550	6,960	6,841	6,730	6,803	7,395	8,009	8,619	9,031
Electrical engineering	10,116	9,750	11,781	13,940	17,283	19,252	20,936	22,885	23,227	22,418	21,130	20,148	18,757	17,801	17,339	15,990	15,409
Industrial engineering	2,524	2,115	2,376	3,111	2,824	2,949	2,842	2,974	2,929	3,014	2,860	2,835	2,723	2,890	2,547	2,439	2,493
Mechanical engineering	7,005	7,685	9,740	12,422	14,546	15,228	15,399	14,876	13,996	13,567	13,537	12,978	12,673	12,791	13,076	13,554	13,441
Other engineering	7,945	7,816	9,770	10,807	12,341	11,952	11,913	11,148	10,745	9,894	9,374	9,296	9,002	8,574	8,418	8,054	7,680
Engineering technology	8,054	9,173	9,942	12,032	16,529	18,052	18,278	18,734	18,429	18,337	17,999	17,113	16,329	15,314	15,114	14,877	14,704

Appendix table 2-20.
Earned bachelor's degrees, by field and sex: 1975-95

Field	1975	1977	1979	1981	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Females																	
All degrees	423,239	429,107	449,946	472,541	497,284	499,595	504,217	510,061	518,529	524,797	542,605	566,284	599,045	624,677	641,742	646,080	643,290
Science and engineering	102,814	104,993	109,915	115,815	123,337	125,221	128,958	130,689	131,545	130,933	133,483	140,012	148,347	159,486	165,720	170,977	175,931
Natural sciences	23,222	27,801	30,073	30,632	30,936	29,993	29,982	29,094	28,135	27,804	26,851	27,495	28,983	32,330	34,996	38,191	42,371
Physical	3,011	3,377	3,899	4,309	4,611	4,656	4,836	4,696	4,672	4,582	4,371	4,319	4,425	4,586	4,764	5,067	5,292
Earth/atm/ocean	827	1,174	1,387	1,666	1,848	1,934	1,861	1,354	1,060	847	801	775	782	1,024	1,050	1,203	1,524
Biological & agricultural	19,384	23,250	24,787	24,657	24,477	23,403	23,285	23,044	22,403	22,375	21,679	22,401	23,776	26,720	29,182	31,921	35,555
Math/computer sciences	8,656	7,488	7,421	9,734	14,490	17,980	21,467	22,742	21,571	18,765	16,595	15,185	14,494	14,196	13,950	13,788	13,554
Mathematics	7,700	5,949	4,958	4,781	5,498	5,914	7,036	7,616	7,682	7,412	7,050	6,811	6,980	6,986	6,999	6,768	6,491
Computer sciences	956	1,539	2,463	4,953	8,992	12,066	14,431	15,126	13,889	11,353	9,545	8,374	7,514	7,210	6,951	7,020	7,063
Social and behavioral sciences	70,091	67,660	67,540	68,386	68,259	66,519	66,263	67,715	70,435	73,585	79,849	87,359	95,205	103,324	106,793	108,595	109,056
Psychology	27,103	27,102	26,363	26,917	27,597	27,426	27,422	28,246	29,796	31,794	34,663	38,619	42,738	46,903	49,222	51,019	52,963
Social sciences	42,988	40,558	41,177	41,469	40,662	39,093	38,841	39,469	40,639	41,791	45,186	48,740	52,467	56,421	57,571	57,576	56,093
Engineering	845	2,044	4,881	7,063	9,652	10,729	11,246	11,138	11,404	10,779	10,188	9,973	9,665	9,636	9,981	10,403	10,950
Chemical engineering	147	452	1,055	1,365	1,789	2,077	2,093	1,606	1,540	1,132	1,170	1,089	1,164	1,269	1,564	1,683	2,024
Civil engineering	173	485	1,049	1,231	1,484	1,423	1,342	1,229	1,196	1,171	1,174	1,262	1,280	1,525	1,779	1,984	2,298
Electrical engineering	130	268	659	1,100	1,922	2,289	2,732	3,227	3,564	3,524	3,188	2,867	2,763	2,455	2,259	2,251	2,170
Industrial engineering	59	149	428	767	1,000	1,071	1,167	1,281	1,384	1,245	1,261	1,206	1,097	1,139	1,037	1,014	1,026
Mechanical engineering	84	242	620	1,151	1,485	1,812	1,801	1,710	1,727	1,764	1,680	1,715	1,590	1,561	1,632	1,743	1,700
Other engineering	252	448	1,070	1,449	1,972	2,057	2,111	2,085	1,993	1,943	1,715	1,834	1,771	1,687	1,710	1,728	1,732
Engineering technology	535	691	964	1,533	2,134	2,173	2,255	2,194	2,148	2,110	2,099	2,037	1,965	1,804	1,908	1,826	1,903

SOURCES: National Center for Education Statistics, Earned Degrees and Completion Surveys (Washington, DC: 1995), unpublished tabulations; and National Science Foundation, Science Resources Studies Division, unpublished tabulations.

See figures 2-11 and 2-12 and text table 2-5.

Appendix table 2-21.
Earned bachelor's degrees, by field, race/ethnicity, and citizenship: 1977-95

Field and race/ethnicity	1977	1979	1981	1985	1987	1989	1991	1993	1994	1995
Total										
All degrees	928,228	931,340	946,877	990,877	1,003,532	1,030,171	1,107,997	1,179,278	1,183,141	1,174,436
Science and engineering	337,834	334,632	337,739	342,970	343,070	337,431	356,785	388,435	395,380	399,809
Natural sciences[a]	98,342	96,186	90,254	75,670	68,929	63,073	65,401	77,395	83,903	91,026
Math and computer sciences	20,729	20,670	26,406	54,388	56,442	46,277	40,194	39,347	38,889	38,421
Social sciences[b]	169,086	154,976	145,684	135,341	143,276	161,134	189,004	209,023	209,626	207,032
Engineering	49,677	62,800	75,395	77,571	74,423	66,947	62,186	62,670	62,962	63,330
Engineering technology	NA	NA	NA	20,533	20,577	20,098	18,294	16,987	16,654	16,542
U.S. citizens and permanent residents										
All degrees	910,835	911,637	923,906	950,118	948,563	980,064	1,052,610	1,122,276	1,123,862	1,110,512
Science and engineering	329,351	324,750	324,724	325,172	319,963	317,950	335,424	366,357	372,858	375,745
Natural sciences[a]	96,268	94,101	88,001	72,860	65,632	60,423	62,117	73,571	80,096	86,688
Math and computer sciences	20,138	19,926	25,172	50,904	51,449	42,245	36,549	35,864	35,283	34,709
Social sciences[b]	166,852	152,720	143,165	131,499	135,722	154,321	180,423	199,948	200,256	197,120
Engineering	46,093	58,003	68,386	69,909	67,160	60,961	56,335	56,974	57,223	57,228
Engineering technology	NA	NA	NA	19,120	19,359	18,942	17,080	16,109	16,161	15,992
White, all degrees	807,857	802,665	807,509	826,356	819,477	840,326	892,363	931,603	918,124	892,785
Science and engineering	292,802	287,126	284,166	281,394	272,090	266,862	278,190	297,171	297,616	294,773
Natural sciences[a]	88,308	85,403	78,778	63,592	55,898	50,580	51,113	59,577	64,291	68,700
Math and computer sciences	18,110	17,633	22,013	43,484	42,446	33,998	28,998	27,824	26,905	25,875
Social sciences[b]	144,312	131,439	122,519	113,326	117,255	132,203	152,917	164,917	161,733	156,472
Engineering	42,072	52,651	60,856	60,992	56,491	50,081	45,162	44,853	44,687	43,726
Engineering technology	NA	NA	NA	16,673	16,541	16,156	14,279	13,245	12,909	12,616
Asian, all degrees	13,907	15,542	18,908	25,562	31,921	37,573	41,725	50,587	54,675	59,295
Science and engineering	6,203	7,171	9,145	13,323	16,934	19,138	20,552	24,504	26,420	29,128
Natural sciences[a]	1,935	2,227	2,406	2,880	3,641	3,973	4,670	6,364	7,228	8,677
Math and computer sciences	479	587	1,061	2,929	3,489	3,287	2,925	3,160	3,173	3,330
Social sciences[b]	2,578	2,499	2,612	3,032	4,214	5,803	6,737	8,573	9,503	10,336
Engineering	1,211	1,858	3,066	4,482	5,590	6,075	6,220	6,407	6,516	6,785
Engineering technology	0	0	0	542	807	839	768	768	720	727
Black, all degrees	58,700	60,301	60,729	57,563	55,103	56,837	65,009	76,667	82,316	85,287
Science and engineering	19,552	18,827	18,895	17,040	17,230	17,385	19,987	24,421	26,289	27,528
Natural sciences[a]	3,416	3,541	3,561	3,096	2,870	2,756	3,026	3,794	4,169	4,528
Math and computer sciences	1,073	1,159	1,371	2,913	3,654	3,249	2,808	3,178	3,390	3,493
Social sciences[b]	13,678	12,352	11,514	8,992	8,391	9,313	11,924	14,872	16,071	16,662
Engineering	1,385	1,775	2,449	2,039	2,315	2,067	2,229	2,577	2,659	2,845
Engineering technology	0	0	0	1,277	1,269	1,208	1,227	1,132	1,249	1,319
Hispanic, all degrees	27,043	29,719	33,167	36,391	38,196	41,361	49,027	57,845	62,683	66,691
Science and engineering	9,628	10,432	11,312	12,031	12,419	13,327	15,351	18,442	20,529	22,190
Natural sciences[a]	2,271	2,634	2,958	2,979	2,964	2,849	3,010	3,468	3,970	4,276
Math and computer sciences	435	495	688	1,380	1,696	1,568	1,695	1,566	1,678	1,843
Social sciences[b]	5,632	5,748	5,846	5,485	5,205	6,349	8,080	10,447	11,738	12,420
Engineering	1,290	1,555	1,820	2,187	2,554	2,561	2,566	2,961	3,143	3,651
Engineering technology	0	0	0	525	664	634	731	853	813	883
Native American, all degrees	3,328	3,410	3,593	4,246	3,866	3,967	4,486	5,574	6,064	6,454
Science and engineering	1,166	1,194	1,206	1,384	1,290	1,238	1,344	1,819	2,004	2,126
Natural sciences[a]	338	296	298	313	259	265	298	368	438	507
Math and computer sciences	41	52	39	198	164	143	123	136	137	168
Social sciences[b]	652	682	674	664	657	653	765	1,139	1,211	1,230
Engineering	135	164	195	209	210	177	158	176	218	221
Engineering technology	0	0	0	103	78	105	75	111	98	115

Appendix table 2-21.
Earned bachelor's degrees, by field, race/ethnicity, and citizenship: 1977-95

Field and race/ethnicity	1977	1979	1981	1985	1987	1989	1991	1993	1994	1995
Foreign citizens										
All degrees	15,744	17,853	22,631	29,258	28,592	26,457	29,657	32,371	34,227	37,012
Science and engineering	8,297	9,798	12,966	14,071	13,677	12,323	12,724	13,802	13,929	14,754
Natural sciences[a]	2,042	2,061	2,251	2,132	1,786	1,744	1,941	2,330	2,114	2,262
Math and computer sciences	583	741	1,233	2,879	3,233	2,678	2,615	2,756	2,835	2,888
Social sciences[b]	2,098	2,232	2,519	2,870	2,769	2,829	3,586	4,211	4,440	4,794
Engineering	3,574	4,764	6,963	6,190	5,889	5,072	4,582	4,505	4,540	4,810
Engineering technology	NA	NA	NA	1,277	986	659	712	441	493	550

NA = not available

NOTES: Data by racial/ethnic group were collected on a biennial schedule until 1990 and annually thereafter. Data by racial/ethnic group are collected by broad fields of study only; therefore, these data cannot be adjusted to the exact field taxonomies used by the National Science Foundation.

[a]Natural sciences here include physical, earth, atmospheric, oceanographic, biological, and agricultural sciences.

[b]Social sciences include psychology, sociology, and other social sciences.

SOURCE: National Science Foundation, Science Resources Studies Division, *Science and Engineering Degrees, by Race/Ethnicity of Recipients: 1977-94, NSF 96–329* (Arlington, VA: 1996).

See text table 2-5.

Appendix table 2-22.
Semesters of postsecondary math courses taken, by type of college and major: 1991-94
(Percentages)

Postsecondary education/major	Number of math courses taken					N
	0	1 to 2	3 to 4	5 +	Median	
Total	16	47	28	9	2	1,530
Some community college education	34	50	14	2	1	352
Some college/university education	16	59	24	2	2	316
Associate degree	26	46	21	7	2	121
Bachelor's degree	7	41	37	15	3	741
Students with some community college education						
Science, math, engineering, or other technical	15	35	44	6	2	48
Health	21	56	19	4	1	52
Social science	41	47	12	0	1	17
Education	17	53	27	3	2	30
Other major	18	62	15	5	2	137
Not reported/no major	50	42	7	1	0	191
Students with some college/university education						
Science, math, engineering, or other technical	3	40	44	13	3	40
Health	11	59	27	3	2	37
Social science	6	75	16	3	2	32
Education	23	54	23	0	2	22
Other major	12	60	27	1	2	102
Not reported/no major	29	61	9	0	1	85
Students with bachelor's degree or higher						
Science	1	39	45	15	3	78
Math, engineering, or other technical	2	8	37	53	5	87
Health	7	44	36	13	2	62
Social science	7	52	33	8	2	121
Education	5	34	51	10	3	88
Other major	9	48	33	10	2	298

NOTES: Only respondents enrolled in or graduated from a community college, college, or university degree program are included in this analysis. Respondents who are not in any educational program, are still in high school or a GED program, or are in a vocational or trade school program are not included. The four categories of postsecondary education are (1) some community college education (but no degree), (2) some college or university education (but no degree), (3) associate degree, and (4) bachelor's degree or higher. Postsecondary education data from the Longitudinal Study of American Youth were collected during years four (1991), five (1992), and seven (1994) of the study. Those data collection points represent the first, second, and fourth postsecondary years. Thus, a student who graduated from high school in the usual time sequence could have completed a baccalaureate at the time of the last data collection point.

SOURCE: J.D. Miller, Longitudinal Study of American Youth, special tabulations, 1997.

Science & Engineering Indicators – 1998

Appendix table 2-23.
Semesters of postsecondary science courses taken, by type of college and major: 1991-94
(Percentages)

Postsecondary education/major	Number of science courses taken					N
	0	1 to 2	3 to 4	5 +	Median	
Total	25	31	23	21	2	1,529
Some community college education	55	27	13	5	0	352
Some college/university education	30	40	19	11	1	315
Associate degree	39	30	18	13	2	120
Bachelor's degree	6	31	30	33	3	742
Students with some community college education						
Science, math, engineering, or other technical	30	26	33	11	2	47
Health	16	33	20	31	3	51
Social science	35	29	24	12	2	17
Education	30	43	24	3	2	33
Other major	58	27	13	2	0	137
Not reported/no major	66	25	6	3	0	189
Students with some college/university education						
Science, math, engineering, or other technical	15	28	32	25	3	40
Health	8	29	24	39	4	38
Social science	24	38	38	0	2	29
Education	29	47	14	10	2	21
Other major	27	53	15	5	1	101
Not reported/no major	51	33	11	5	0	87
Students with bachelor's degree or higher						
Science	0	3	5	92	10	79
Math, engineering, or other technical	5	17	30	48	4	86
Health	0	6	15	79	7	62
Social science	7	33	37	23	3	120
Education	2	29	43	26	3	89
Other major	8	47	33	12	2	298

NOTES: Only respondents enrolled in or graduated from a community college, college, or university degree program are included in this analysis. Respondents who are not in any educational program, are still in high school or a GED program, or are in a vocational or trade school program are not included. The four categories of postsecondary education are (1) some community college education (but no degree), (2) some college or university education (but no degree), (3) associate degree, and (4) bachelor's degree or higher. Postsecondary education data from the Longitudinal Study of American Youth were collected during years four (1991), five (1992), and seven (1994) of the study. Those data collection points represent the first, second, and fourth postsecondary years. Thus, a student who graduated from high school in the usual time sequence could have completed a baccalaureate at the time of the last data collection point.

SOURCE: J.D. Miller, Longitudinal Study of American Youth, special tabulations, 1997.

Science & Engineering Indicators – 1998

Appendix table 2-24.
Graduate enrollment in science and engineering, by field and sex: 1975-95

Field	1975	1977	1979	1981	1983	1985	1987	1988	1989	1990	1991	1992	1993	1994	1995
Total															
Science & engineering	303,190	311,816	319,171	332,086	347,065	358,126	373,355	375,287	382,769	397,159	412,708	430,797	436,233	431,758	423,922
Natural sciences[a]	95,489	101,221	100,871	100,617	102,979	104,074	104,963	105,529	107,301	109,364	112,474	116,699	119,489	120,833	120,451
Math & computer sciences	25,307	25,160	26,721	32,318	40,691	47,332	50,559	51,304	51,729	54,031	54,562	56,675	56,298	53,857	52,018
Social sciences[b]	119,851	114,716	112,652	121,462	116,538	110,515	111,412	113,880	115,625	119,696	126,139	132,096	139,388	143,565	144,008
Engineering	68,271	68,685	71,728	79,555	91,119	95,991	103,953	102,829	104,043	107,625	113,576	118,035	116,881	113,060	107,529
Males															
Science & engineering	NA	233,862	229,860	232,209	240,525	247,464	256,158	254,011	256,861	263,407	271,853	280,465	279,476	272,420	263,058
Natural sciences[a]	0	76,073	72,945	70,721	70,711	70,745	70,685	69,869	70,263	70,800	71,753	73,754	74,086	73,878	72,591
Math & computer sciences	0	19,482	20,376	23,628	28,877	34,417	36,948	37,334	37,756	39,633	39,994	41,659	41,188	39,170	37,582
Social sciences[b]	0	73,322	70,687	66,051	59,625	57,391	57,535	57,103	58,399	60,021	62,245	64,250	65,013	64,366	63,508
Engineering	NA	64,985	65,852	71,809	81,312	84,911	90,990	89,705	90,443	92,953	97,861	100,802	99,189	95,006	89,377
Females															
Science & engineering	NA	77,954	89,311	99,877	106,540	110,662	117,197	121,276	125,908	133,752	140,855	150,332	156,757	159,338	160,864
Natural sciences[a]	0	25,148	27,926	29,896	32,268	33,329	34,278	35,660	37,038	38,564	40,721	42,945	45,403	46,955	47,860
Math & computer sciences	0	5,678	6,345	8,690	11,814	12,915	13,611	13,970	13,973	14,398	14,568	15,016	15,110	14,687	14,436
Social sciences[b]	0	43,428	49,164	53,545	52,651	53,338	56,345	58,522	61,297	66,118	69,851	75,138	78,552	79,642	80,416
Engineering	NA	3,700	5,876	7,746	9,807	11,080	12,963	13,124	13,600	14,672	15,715	17,233	17,692	18,054	18,152

NA = not available

NOTE: For detailed statistical tables on graduate enrollments, see SRS home page <<http://www.nsf.gov/sbe/srs/stats.htm>>, Fall 1995 Supplementary Data Releases: Trends in Graduate Enrollment, 1975-1995.

[a]Natural sciences here include physical, earth, atmospheric, oceanographic, biological, and agricultural sciences.

[b]Social sciences include psychology, sociology, and other social sciences.

SOURCE: National Science Foundation, Science Resources Studies Division, *Graduate Students and Postdoctorates in Science and Engineering, Fall 1995,* NSF 97-312 (Arlington, VA: 1997).

See figures 2-13 and 2-14.

Science & Engineering Indicators – 1998

Appendix table 2-25.
Graduate enrollment in science and engineering, by field, race/ethnicity, and citizenship: 1983-95

Field and race/ethnicity	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Total													
Science & engineering	347,014	349,875	358,201	368,212	373,425	375,287	382,769	397,159	412,708	430,797	436,233	431,758	423,922
Natural sciences[a]	102,968	103,547	103,990	105,541	104,974	105,529	107,301	109,364	112,474	116,699	119,489	120,833	120,451
Math & computer sciences	40,713	42,985	47,341	49,316	50,575	51,304	51,729	54,031	54,562	56,675	56,298	53,857	52,018
Social sciences[b]	112,236	110,647	110,808	111,499	113,939	115,625	119,696	126,139	132,096	139,388	143,565	144,008	143,924
Engineering	91,097	92,696	95,982	101,856	103,937	102,829	104,043	107,625	113,576	118,035	116,881	113,060	107,529
U.S. citizens													
Total S&E	276,784	277,682	281,388	284,231	284,631	281,672	284,686	294,339	304,073	321,281	330,447	329,391	325,135
Natural sciences[a]	84,700	84,712	83,663	82,854	80,562	79,431	79,242	79,521	81,148	84,893	88,164	89,852	90,653
Math & computer sciences	30,306	31,532	34,499	35,448	35,669	35,895	35,352	36,561	36,306	38,043	38,210	36,696	35,484
Social sciences[b]	98,173	96,644	95,978	96,018	97,831	98,743	102,746	108,831	114,386	121,750	126,459	126,778	126,956
Engineering	63,605	64,794	67,160	69,911	70,569	67,603	67,346	69,426	72,233	76,595	77,614	76,065	72,042
White, S&E	224,705	224,705	224,705	224,705	224,705	229,037	229,694	238,492	243,608	253,516	257,009	255,976	246,776
Natural sciences[a]	74,337	74,046	71,971	71,713	69,100	68,737	68,110	68,736	69,472	71,328	72,552	74,134	73,332
Math & computer sciences	23,823	24,040	25,511	26,053	26,806	27,479	26,560	27,897	26,921	27,745	27,373	26,245	24,425
Social sciences[b]	77,963	75,787	76,129	76,930	79,157	80,492	83,531	88,652	92,431	97,047	99,633	99,566	96,906
Engineering	48,582	48,582	48,582	48,582	48,582	52,329	51,493	53,207	54,784	57,396	57,451	56,031	52,113
Asian, S&E	9,353	10,172	12,000	12,775	14,572	15,188	15,693	17,156	18,139	21,762	24,149	26,457	26,015
Natural sciences[a]	2,378	2,526	2,712	2,761	3,043	3,478	3,604	3,928	4,267	5,035	6,162	6,568	6,740
Math & computer sciences	1,666	1,816	2,491	2,770	3,235	3,438	3,430	3,710	3,724	4,363	4,592	5,302	5,227
Social sciences[b]	1,903	2,018	1,992	2,130	2,436	2,362	2,648	2,831	3,032	3,872	4,396	4,786	4,930
Engineering	3,406	3,812	4,805	5,114	5,858	5,910	6,011	6,687	7,116	8,492	8,999	9,801	9,118
Black, S&E	10,903	10,711	10,462	10,470	10,429	11,191	11,775	12,774	13,691	15,449	17,147	17,665	18,366
Natural sciences[a]	1,980	2,000	1,982	1,845	1,817	1,972	2,093	2,184	2,302	2,711	3,042	3,007	3,286
Math & computer sciences	971	960	1,031	1,151	1,210	1,261	1,311	1,496	1,617	1,687	1,903	1,888	1,879
Social sciences[b]	6,574	6,306	6,062	6,022	5,986	6,458	6,755	7,308	7,747	8,677	9,643	9,987	10,329
Engineering	1,378	1,445	1,387	1,452	1,416	1,500	1,616	1,786	2,025	2,374	2,559	2,783	2,872
Hispanic, S&E	8,811	8,681	8,613	8,660	8,823	9,098	9,436	10,159	11,045	12,248	13,386	13,284	14,089
Natural sciences[a]	1,919	1,892	2,092	2,118	2,071	2,228	2,386	2,375	2,552	2,726	3,075	2,933	3,200
Math & computer sciences	615	585	750	723	817	844	847	916	980	1,082	1,114	1,006	1,060
Social sciences[b]	4,836	4,713	4,290	4,217	4,205	4,307	4,496	4,982	5,389	5,977	6,503	6,488	6,998
Engineering	1,441	1,491	1,481	1,602	1,730	1,719	1,707	1,886	2,124	2,463	2,694	2,857	2,831
Native American S&E	911	830	736	743	783	918	860	1,054	1,120	1,244	1,312	1,383	1,524
Natural sciences[a]	224	206	167	196	183	216	180	255	251	282	318	336	403
Math & computer sciences	53	71	79	52	76	71	74	64	62	99	100	79	125
Social sciences[b]	454	361	368	365	401	488	484	583	622	686	683	726	765
Engineering	180	192	122	130	123	143	122	152	185	177	211	242	231
Unknown, S&E	22,101	24,179	25,825	23,961	21,160	16,240	17,228	14,704	16,470	17,062	17,444	14,626	18,365
Natural sciences[a]	3,862	4,042	4,819	4,221	4,348	2,800	2,869	2,043	2,304	2,811	3,015	2,874	3,692
Math & computer sciences	3,178	4,060	4,637	4,699	3,525	2,802	3,130	2,478	3,002	3,067	3,128	2,176	2,768
Social sciences[b]	6,443	7,459	7,145	6,354	5,646	4,636	4,832	4,475	5,165	5,491	5,601	5,225	7,028
Engineering	8,618	8,618	9,224	8,687	7,641	6,002	6,397	5,708	5,999	5,693	5,700	4,351	4,877

Appendix table 2-25.
Graduate enrollment in science and engineering, by field, race/ethnicity, and citizenship: 1983-95

Field and race/ethnicity	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
						Foreign citizens							
Total S&E	70,230	72,193	76,813	83,981	88,794	93,615	98,083	102,820	108,635	109,516	105,786	102,367	98,787
Natural sciences[a]	18,268	18,835	20,327	22,687	24,412	26,098	28,059	29,843	31,326	31,806	31,325	30,981	29,798
Math & computer sciences	10,407	11,453	12,842	13,868	14,906	15,409	16,377	17,470	18,256	18,632	18,088	17,161	16,534
Social sciences[b]	14,063	14,003	14,830	15,481	16,108	16,882	16,950	17,308	17,710	17,638	17,106	17,230	16,968
Engineering	27,492	27,902	28,822	31,945	33,368	35,226	36,697	38,199	41,343	41,440	39,267	36,995	35,487

NOTE: For detailed statistical tables on graduate enrollments, see SRS home page <<http://www.nsf.gov/sbe/srs/stats.htm>>, Fall 1995 Supplementary Data Releases: Trends in Graduate Enrollment, 1975-1995.

[a]Natural sciences here include physical, earth, atmospheric, oceanographic, biological, and agricultural sciences.

[b]Social sciences include psychology, sociology, and other social sciences.

SOURCE: National Science Foundation, Science Resources Studies Division, *Graduate Students and Postdoctorates in Science and Engineering Fall 1995,* NSF 97-312 (Arlington, VA: 1997).

See figure 2-14.

Appendix table 2-26.
Doctoral degrees awarded in science and engineering in selected Asian countries: 1975-95

Country	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Natural sciences[a]																					
Total	2,162	2,399	2,706	2,863	3,120	3,268	3,390	3,523	3,665	3,899	4,017	3,992	4,015	4,326	4,295	4,237	4,381	4,547	5,141	5,752	6,304
China	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33	27	52	165	141	209	252	304	479	755	1,191
India	1,484	1,651	1,837	2,044	2,261	2,385	2,516	2,654	2,800	2,954	2,892	2,922	2,814	3,038	3,044	2,976	2,950	2,950	3,386	3,505	3,505
Japan	676	717	843	782	814	822	791	762	774	807	860	820	837	881	876	835	892	1,009	934	1,081	1,135
S. Korea	NA	29	22	30	41	55	75	102	83	124	212	201	277	207	192	170	225	202	244	296	358
Taiwan	2	2	4	7	4	6	8	5	8	14	20	22	35	35	42	47	62	82	97	115	115
Mathematics and computer sciences																					
Total	0	0	0	0	1	1	1	3	4	2	27	23	45	162	201	188	226	249	169	194	224
China	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	23	10	31	75	78	89	95	101	0	0	NA
India	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Japan	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
S. Korea	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	73	105	75	99	106	124	145	169
Taiwan	0	0	0	0	1	1	1	3	4	2	4	13	14	14	18	24	32	42	45	49	55
Agriculture																					
Total	674	870	934	912	962	1,098	1,153	1,185	1,240	1,404	1,372	1,355	1,444	1,696	1,689	1,629	1,814	1,797	1,742	1,911	2,048
China	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1	0	8	55	56	20	37	68	94	131	182
India	289	328	372	422	480	517	558	601	648	698	575	576	583	712	688	703	715	715	611	572	572
Japan	381	490	518	442	430	527	529	521	515	614	697	646	715	746	734	719	870	824	816	952	1,008
S. Korea	NA	48	40	43	45	48	52	55	60	77	89	105	110	155	175	154	156	151	172	196	223
Taiwan	4	4	4	5	7	5	15	8	17	15	10	28	28	28	36	33	36	39	48	60	63
Social sciences[b]																					
Total	91	123	124	113	106	108	111	131	153	152	193	215	273	305	338	369	467	544	597	695	775
China	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0	1	0	26	23	36	47	61	90	134	198
India	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Japan	84	85	88	88	76	76	76	93	97	90	127	136	149	167	177	183	200	243	249	278	301
S. Korea	NA	31	23	23	24	24	25	25	41	39	50	52	102	90	97	107	189	217	222	227	232
Taiwan	7	7	13	2	6	8	10	13	15	23	16	26	22	22	41	43	31	23	36	56	44
Engineering																					
Total	1,130	1,242	1,195	1,323	1,408	1,417	1,494	1,566	1,590	1,634	2,239	2,447	2,645	3,212	3,621	3,860	4,165	4,630	4,586	5,260	6,327
China	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	68	89	127	476	726	715	767	823	1,040	1,313	1,659
India	136	135	135	134	176	179	182	185	189	192	511	509	603	575	586	574	629	629	323	348	348
Japan	986	1,079	1,043	1,166	1,195	1,186	1,236	1,278	1,290	1,291	1,404	1,493	1,547	1,717	1,774	1,967	2,094	2,362	2,278	2,501	3,009
S. Korea	NA	20	14	20	29	42	60	87	97	120	197	273	270	346	415	439	466	552	659	786	938
Taiwan	8	8	3	3	8	10	15	15	14	31	59	83	98	98	120	165	209	264	287	312	373

[a]Natural sciences here include physical, earth, atmospheric, oceanographic, and biological sciences.

[b]Social sciences include psychology, sociology, and other social sciences. Japanese social science data also include business administration.

SOURCES: **China**—National Research Center for Science and Technology for Development, unpublished tabulations, and UNESCO, *Statistical Yearbook* (Paris: 1996); **India**—Department of Science and Technology, *Research and Development Statistics 1994-95* (New Delhi: 1996); **Japan**—Ministry of Education, Science, and Culture (Monbusho), *Monbusho Survey of Education* (Tokyo: annual series); **South Korea**—Ministry of Education, *Statistical Yearbook of Education* (Seoul: 1996); and **Taiwan**—Ministry of Education, *Educational Statistics of the Republic of China* (Taipei: 1996).

Appendix table 2-27.
Earned master's degrees, by field and sex: 1975-95

Field	1975	1977	1979	1981	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Total master's degree recipients																	
All degrees	293,651	318,241	302,075	296,798	290,931	285,462	287,213	289,829	290,532	300,091	311,050	324,947	338,498	354,207	370,973	389,008	399,428
Science and engineering	63,198	67,397	64,226	64,366	67,716	68,564	70,562	71,831	72,603	73,655	76,425	77,788	78,368	81,107	86,425	91,411	94,309
Natural sciences	14,831	15,360	15,443	14,349	14,380	14,231	13,972	13,910	13,400	13,184	13,218	12,928	12,682	13,232	13,474	14,367	14,793
Physical	4,298	3,641	3,650	3,366	3,285	3,544	3,605	3,649	3,574	3,708	3,876	3,805	3,777	3,922	3,965	4,263	4,241
Earth/atm/ocean	1,503	1,659	1,777	1,876	1,959	1,982	2,160	2,234	2,051	1,920	1,819	1,596	1,499	1,425	1,397	1,418	1,483
Biological & agricultural	9,030	10,060	10,016	9,107	9,136	8,705	8,207	8,027	7,775	7,556	7,523	7,527	7,406	7,885	8,112	8,686	9,069
Math/computer sciences	6,637	6,496	6,101	6,787	8,160	8,939	9,989	11,241	11,808	12,600	12,829	13,327	12,956	13,320	14,100	14,350	14,495
Mathematics	4,338	3,698	3,046	2,569	2,839	2,749	2,888	3,171	3,327	3,434	3,430	3,684	3,632	3,665	3,751	3,804	3,932
Computer sciences	2,299	2,798	3,055	4,218	5,321	6,190	7,101	8,070	8,481	9,166	9,399	9,643	9,324	9,655	10,349	10,546	10,563
Social & behavioral sciences	26,563	29,529	27,403	26,779	26,290	25,249	25,629	25,584	25,325	25,145	26,635	27,538	28,717	29,537	31,187	33,977	36,391
Psychology	7,104	8,320	8,031	8,039	8,439	8,073	8,481	8,363	8,165	7,925	8,652	9,308	9,802	9,852	10,412	11,572	13,132
Social sciences	19,459	21,209	19,372	18,740	17,851	17,176	17,148	17,221	17,160	17,220	17,983	18,230	18,915	19,685	20,775	22,405	23,259
Engineering	15,167	16,012	15,279	16,451	18,886	20,145	20,972	21,096	22,070	22,726	23,743	23,995	24,013	25,018	27,664	28,717	28,630
Chemical engineering	1,078	1,179	1,276	1,406	1,545	1,798	1,814	1,641	1,386	1,322	1,321	1,205	1,025	1,145	1,220	1,287	1,369
Civil engineering	3,268	3,606	3,165	3,428	3,504	3,551	3,542	3,281	3,267	3,134	3,296	3,213	3,404	3,755	4,438	4,918	5,168
Electrical engineering	3,471	3,788	3,596	3,902	4,819	5,519	5,649	6,147	6,895	7,455	7,849	8,009	7,942	8,274	8,828	8,870	8,743
Industrial engineering	1,687	1,609	1,502	1,631	1,432	1,557	1,463	1,653	1,728	1,816	1,823	1,834	2,039	2,370	2,745	2,882	2,873
Mechanical engineering	2,032	2,094	2,012	2,419	2,683	2,964	3,272	3,256	3,380	3,513	3,703	3,630	3,680	3,826	4,169	4,277	4,368
Other engineering	3,631	3,736	3,728	3,665	4,903	4,756	5,232	5,118	5,414	5,486	5,751	6,104	5,923	5,648	6,264	6,483	6,109
Engineering technology	371	505	496	532	622	694	816	925	883	980	1,135	1,194	1,188	1,278	1,555	1,547	1,577
Males																	
All degrees	162,115	168,210	153,772	147,431	145,114	143,998	143,716	143,932	141,655	145,403	149,399	154,025	156,895	162,299	169,753	176,762	179,198
Science and engineering	49,410	50,899	46,614	45,505	46,718	47,033	48,232	48,611	48,759	49,820	50,845	51,230	50,441	52,157	55,454	57,970	58,518
Natural sciences	11,709	11,633	11,223	10,222	9,814	9,513	9,290	9,133	8,652	8,562	8,383	8,052	7,794	8,118	8,181	8,539	8,730
Physical	3,645	2,981	2,971	2,691	2,600	2,698	2,775	2,736	2,684	2,817	2,836	2,754	2,703	2,834	2,794	3,030	2,958
Earth/atm/ocean	1,309	1,433	1,467	1,470	1,515	1,517	1,639	1,717	1,531	1,433	1,337	1,218	1,116	1,057	1,006	994	1,032
Biological & agricultural	6,755	7,219	6,785	6,061	5,699	5,298	4,876	4,680	4,437	4,312	4,210	4,080	3,975	4,227	4,381	4,515	4,740
Math/computer sciences	4,871	4,730	4,469	4,939	5,672	6,174	6,941	7,713	8,011	8,759	8,833	9,176	8,709	9,199	9,773	10,128	10,130
Mathematics	2,910	2,398	1,989	1,692	1,859	1,795	1,877	2,055	2,026	2,057	2,060	2,208	2,146	2,219	2,219	2,311	2,353
Computer sciences	1,961	2,332	2,480	3,247	3,813	4,379	5,064	5,658	5,985	6,702	6,773	6,968	6,563	6,980	7,554	7,817	7,777
Social & behavioral sciences	18,035	19,222	16,580	15,222	14,101	13,301	13,273	13,069	12,796	12,581	12,968	13,276	13,282	13,491	13,930	15,009	15,660
Psychology	4,059	4,316	3,688	3,371	3,254	2,980	3,064	2,937	2,838	2,599	2,814	3,025	2,994	2,929	2,928	3,287	3,735
Social sciences	13,976	14,906	12,892	11,851	10,847	10,321	10,209	10,132	9,958	9,982	10,154	10,251	10,288	10,562	11,002	11,722	11,925
Engineering	14,795	15,314	14,342	15,122	17,131	18,045	18,728	18,696	19,300	19,918	20,661	20,726	20,656	21,349	23,570	24,294	23,998
Chemical engineering	1,051	1,110	1,156	1,230	1,369	1,590	1,529	1,401	1,143	1,107	1,092	1,013	852	914	996	1008	1063
Civil engineering	3,161	3,421	2,951	3,112	3,122	3,136	3,128	2,908	2,792	2,721	2,851	2,693	2,864	3,120	3,607	3,965	4,123
Electrical engineering	3,413	3,654	3,453	3,681	4,484	5,081	5,154	5,508	6,178	6,642	6,933	7,018	7,008	7,229	7,777	7,721	7,539
Industrial engineering	1,631	1,534	1,374	1,465	1,226	1,279	1,236	1,374	1,409	1,492	1,465	1,493	1,603	1,898	2,190	2,346	2,361
Mechanical engineering	2,012	2,039	1,939	2,292	2,517	2,765	3,044	3,002	3,133	3,218	3,377	3,276	3,320	3,455	3,769	3,860	3,918
Other engineering	3,527	3,556	3,469	3,342	4,413	4,194	4,637	4,503	4,645	4,738	4,943	5,233	5,009	4,733	5,231	5,394	4,994
Engineering technology	281	389	371	380	519	580	674	710	678	738	892	888	888	971	1,172	1,164	1,136

Appendix table 2-27.
Earned master's degrees, by field and sex: 1975–95

Field	1975	1977	1979	1981	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Females																	
All degrees	131,536	150,031	148,303	149,367	145,817	141,464	143,497	145,897	148,877	154,688	161,651	170,922	181,603	191,908	201,220	212,246	220,230
Science and engineering	13,788	16,498	17,612	18,861	20,998	21,531	22,330	23,220	23,844	23,835	25,580	26,558	27,927	28,950	30,971	33,441	35,791
Natural sciences	3,122	3,727	4,220	4,127	4,566	4,718	4,682	4,777	4,748	4,622	4,835	4,876	4,888	5,114	5,293	5,828	6,063
Physical	653	660	679	675	685	846	830	913	890	891	1,040	1,051	1,074	1,088	1,171	1,233	1,283
Earth/atm/ocean	194	226	310	406	444	465	521	517	520	487	482	378	383	368	391	424	451
Biological & agricultural	2,275	2,841	3,231	3,046	3,437	3,407	3,331	3,347	3,338	3,244	3,313	3,447	3,431	3,658	3,731	4,171	4,329
Math/computer sciences	1,766	1,766	1,632	1,848	2,488	2,765	3,048	3,528	3,797	3,841	3,996	4,151	4,247	4,121	4,327	4,222	4,365
Mathematics	1,428	1,300	1,057	877	980	954	1,011	1,116	1,301	1,377	1,370	1,476	1,486	1,446	1,532	1,493	1,579
Computer sciences	338	466	575	971	1,508	1,811	2,037	2,412	2,496	2,464	2,626	2,675	2,761	2,675	2,795	2,729	2,786
Social & behavioral sciences	8,528	10,307	10,823	11,557	12,189	11,948	12,356	12,515	12,529	12,564	13,667	14,262	15,435	16,046	17,257	18,968	20,731
Psychology	3,045	4,004	4,343	4,668	5,185	5,093	5,417	5,426	5,327	5,326	5,838	6,283	6,808	6,923	7,484	8,285	9,397
Social sciences	5,483	6,303	6,480	6,889	7,004	6,855	6,939	7,089	7,202	7,238	7,829	7,979	8,627	9,123	9,773	10,683	11,334
Engineering	372	698	937	1,329	1,755	2,100	2,244	2,400	2,770	2,808	3,082	3,269	3,357	3,669	4,094	4,423	4,632
Chemical engineering	27	69	120	176	176	208	285	240	243	215	229	192	173	231	224	279	306
Civil engineering	107	185	214	316	382	415	414	373	475	413	445	520	540	635	831	953	1045
Electrical engineering	58	134	143	221	335	438	495	639	717	813	916	991	934	1,045	1,051	1,149	1,204
Industrial engineering	56	75	128	166	206	278	227	279	319	324	358	341	436	472	555	536	512
Mechanical engineering	20	55	73	127	166	199	228	254	247	295	326	354	360	371	400	417	450
Other engineering	104	180	259	323	490	562	595	615	769	748	808	871	914	915	1,033	1,089	1,115
Engineering technology	90	116	125	152	103	114	142	215	205	242	243	306	300	307	383	383	441

SOURCES: National Center for Education Statistics, Earned Degrees and Completion Surveys (Washington, DC: 1995), unpublished tabulations; and National Science Foundation, Science Resources Studies Division, unpublished tabulations.

Appendix table 2-28.
Earned master's degrees, by field, race/ethnicity, and citizenship: 1977-95

Field and race/ethnicity	1977	1979	1981	1985	1987	1989	1991	1993	1994	1995
Total										
All degrees	318,241	302,075	296,798	287,213	290,532	311,050	338,498	370,973	389,008	399,428
Science and engineering	63,779	59,684	59,598	64,726	66,774	70,333	72,828	81,415	86,080	88,431
Natural sciences[a]	16,234	16,350	15,332	14,045	13,461	13,260	12,713	13,462	14,340	14,770
Math and computer sciences	6,496	6,101	6,787	9,989	11,808	12,829	12,956	14,251	14,529	14,522
Social sciences[b]	24,798	21,723	20,763	19,757	19,448	20,509	23,152	26,044	28,504	30,522
Engineering	16,251	15,510	16,716	20,935	22,057	23,735	24,007	27,658	28,707	28,617
Engineering technology	NA	NA	NA	816	883	1,135	1,188	1,555	1,547	1,577
U.S. citizens and permanent residents										
All degrees	300,334	281,811	273,184	254,401	246,939	263,166	285,260	310,449	324,203	331,744
Science and engineering	55,963	50,846	49,340	50,751	50,330	51,491	52,849	57,720	61,769	63,323
Natural sciences[a]	14,437	14,410	13,411	11,676	10,721	10,352	9,408	9,809	10,384	10,871
Math and computer sciences	5,760	5,099	5,342	7,385	8,179	8,370	8,527	8,789	8,868	8,823
Social sciences[b]	23,071	19,920	18,785	17,230	15,990	17,089	19,365	21,747	24,237	25,817
Engineering	12,695	11,417	11,802	14,460	15,440	15,680	15,549	17,375	18,280	17,812
Engineering technology	NA	NA	NA	596	712	909	959	1,175	1,256	1,268
White, all degrees	266,109	249,401	241,255	223,649	216,807	230,322	247,524	265,668	273,913	277,437
Science and engineering	50,420	45,748	43,967	43,982	43,360	43,945	44,513	47,975	50,711	51,417
Natural sciences[a]	13,405	13,282	12,411	10,559	9,623	9,262	8,300	8,504	8,859	9,242
Math and computer sciences	5,256	4,625	4,708	6,176	6,729	6,818	6,705	6,818	6,665	6,547
Social sciences[b]	20,315	17,759	16,701	15,061	14,171	15,033	16,873	18,733	20,718	21,807
Engineering	11,444	10,082	10,147	12,186	12,837	12,832	12,635	13,920	14,469	13,821
Engineering technology	NA	NA	NA	526	581	802	830	1,041	994	982
Asian, all degrees	5,145	5,519	6,304	7,805	8,129	10,174	11,070	13,169	14,559	15,906
Science and engineering	1,749	1,929	2,170	3,285	3,455	4,100	4,310	4,846	5,422	5,683
Natural sciences[a]	388	469	365	450	464	545	532	615	698	802
Math and computer sciences	198	253	376	779	962	1,072	1,203	1,303	1,461	1,478
Social sciences[b]	426	357	350	505	379	491	567	668	820	831
Engineering	737	850	1,079	1,551	1,650	1,992	2,008	2,260	2,443	2,572
Engineering technology	NA	NA	NA	25	46	40	60	40	46	55
Black, all degrees	21,041	19,422	17,152	13,960	13,173	13,455	15,857	18,897	20,936	22,954
Science and engineering	2,321	2,003	1,801	1,742	1,784	1,652	2,090	2,554	2,849	3,339
Natural sciences[a]	351	382	351	290	301	238	261	310	347	383
Math and computer sciences	200	136	137	233	280	257	383	406	474	498
Social sciences[b]	1,530	1,239	1,053	889	800	802	1,048	1,274	1,439	1,793
Engineering	240	246	260	330	403	355	398	564	589	665
Engineering technology	NA	NA	NA	37	42	55	47	61	72	85

Appendix table 2-28.
Earned master's degrees, by field, race/ethnicity, and citizenship: 1977-95

Field and race/ethnicity	1977	1979	1981	1985	1987	1989	1991	1993	1994	1995
Hispanic, all degrees	7,071	6,470	7,439	7,730	7,781	8,133	9,684	11,371	13,177	13,905
Science and engineering	1,325	1,001	1,237	1,514	1,584	1,585	1,736	2,092	2,514	2,585
Natural sciences[a]	245	227	251	332	310	266	281	334	436	392
Math and computer sciences	91	61	102	149	183	178	213	240	244	273
Social sciences[b]	738	498	599	687	579	673	774	937	1115	1209
Engineering	251	215	285	346	512	468	468	581	719	711
Engineering technology	NA	NA	NA	6	17	10	19	25	37	40
Native American, all degrees	968	999	1,034	1,257	1,049	1,082	1,125	1,344	1,618	1,542
Science and engineering	148	165	165	228	147	209	200	253	273	299
Natural sciences[a]	48	50	33	45	23	41	34	46	44	52
Math and computer sciences	15	24	19	48	25	45	23	22	24	27
Social sciences[b]	62	67	82	88	61	90	103	135	145	177
Engineering	23	24	31	47	38	33	40	50	60	43
Engineering technology	NA	NA	NA	2	26	2	3	8	3	6
Foreign citizens										
All degrees	17,345	19,427	22,058	26,952	28,264	32,123	37,611	44,109	46,506	48,756
Science and engineering	7,805	8,544	9,749	12,506	13,045	15,143	17,049	20,150	20,879	21,321
Natural sciences[a]	1,797	1,895	1,864	2,178	2,132	2,504	2,856	3,145	3,411	3,299
Math and computer sciences	736	937	1,368	2,394	2,903	3,418	3,878	4,917	5,007	5,036
Social sciences[b]	1,727	1,752	1,954	2,240	2,229	2,474	2,795	2,969	3,104	3,290
Engineering	3,545	3,960	4,563	5,694	5,781	6,747	7,520	9,119	9,357	9,696
Engineering technology	NA	NA	NA	124	127	131	172	279	291	309

N/A = not available

NOTES: Data by racial/ethnic group were collected on a biennial schedule until 1990 and annually thereafter. Data by racial/ethnic group are collected by broad fields of study only; therefore, these data cannot be adjusted to the exact field taxonomies used by the National Science Foundation.

[a]Natural sciences here include physical, earth, atmospheric, oceanographic, biological, and agricultural sciences.

[b]Social sciences include psychology, sociology, and other social sciences.

SOURCE: National Science Foundation, Science Resources Studies Division, *Science and Engineering Degrees, by Race/Ethnicity of Recipients: 1977-94,* NSF 96-329 (Arlington, VA: 1996).

See text table 2-8.

Appendix table 2-29.
Graduate enrollment in engineering, by citizenship: 1985-96

Citizenship	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Total enrollment	95,505	107,196	110,778	112,007	114,048	117,834	123,497	128,854	128,081	122,242	118,506	113,063
U.S. citizens & permanent residents	69,930	77,895	78,609	76,579	77,133	78,687	81,948	84,831	85,435	82,325	80,153	74,403
Foreign students	25,575	29,301	32,169	35,428	36,915	39,147	41,549	44,023	42,646	39,917	38,353	38,660

NOTES: Data include full-time and part-time students. The schools surveyed by the Engineering Workforce Commission for engineering enrollments are slightly different from those surveyed by the National Science Foundation for graduate enrollments in all fields of science and engineering; therefore, numbers of students reported are slightly different.

SOURCE: American Association of Engineering Societies, Engineering Workforce Commission, *Engineering and Technology Enrollments, Fall 1979-1996* (Washington, DC: 1997), unpublished tabulations.

See figure 2-15.

Appendix table 2-30.
Earned doctoral degrees, by field and sex: 1975-95

Field	1975	1977	1979	1981	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Total doctoral degree recipients																	
All degrees	32,952	31,716	31,239	31,356	31,281	31,337	31,297	31,902	32,370	33,501	34,326	36,067	37,522	38,856	39,771	41,017	41,610
Science and engineering	18,799	18,008	17,872	18,257	18,635	18,748	18,935	19,437	19,894	20,933	21,731	22,867	24,019	24,673	25,441	26,202	26,515
Natural sciences	8,103	7,676	7,817	7,995	8,194	8,336	8,436	8,483	8,655	9,172	9,185	9,763	10,159	10,435	10,529	11,079	11,024
Physical	3,076	2,721	2,674	2,627	2,814	2,851	2,934	3,120	3,238	3,350	3,261	3,524	3,625	3,780	3,699	3,977	3,840
Earth/atm/ocean	625	689	642	583	624	608	599	559	602	695	723	738	815	794	771	824	778
Biological & agricultural	4,402	4,266	4,501	4,785	4,756	4,877	4,903	4,804	4,815	5,127	5,201	5,501	5,719	5,861	6,059	6,278	6,406
Math/computer sciences	1,147	964	979	960	987	993	998	1,128	1,190	1,264	1,471	1,597	1,839	1,927	2,026	2,021	2,188
Mathematics	1,147	933	769	728	701	698	688	729	740	749	859	892	1,039	1,058	1,146	1,118	1,190
Computer sciences	0	31	210	232	286	295	310	399	450	515	612	705	800	869	880	903	998
Social & behavioral sciences	6,538	6,720	6,582	6,774	6,673	6,506	6,335	6,450	6,337	6,310	6,532	6,613	6,806	6,873	7,188	7,280	7,296
Psychology	2,751	2,990	3,091	3,358	3,347	3,257	3,118	3,126	3,173	3,074	3,208	3,281	3,250	3,263	3,419	3,380	3,419
Social sciences	3,787	3,730	3,491	3,416	3,326	3,249	3,217	3,324	3,164	3,236	3,324	3,332	3,556	3,610	3,769	3,900	3,877
Engineering	3,011	2,648	2,494	2,528	2,781	2,913	3,166	3,376	3,712	4,187	4,543	4,894	5,215	5,438	5,698	5,822	6,007
Chemical engineering	396	329	315	317	392	409	504	531	584	685	712	658	691	725	737	725	708
Civil engineering	361	336	302	358	397	408	391	429	477	531	538	553	575	594	624	684	656
Electrical engineering	714	667	611	549	625	660	716	806	779	1,010	1,137	1,276	1,405	1,483	1,543	1,673	1,731
Mechanical engineering	487	372	366	360	379	427	513	536	657	715	760	884	875	987	1,030	1,015	1,024
Materials engineering	272	248	236	234	268	271	303	305	392	374	380	440	489	485	535	539	588
Other engineering	781	696	664	710	720	738	739	769	823	872	1,016	1,083	1,180	1,164	1,229	1,186	1,300
Males																	
All degrees	25,751	23,858	22,302	21,464	20,748	20,638	20,553	20,595	20,938	21,682	21,813	22,962	23,652	24,436	24,658	25,211	25,277
Science and engineering	15,870	14,775	14,128	14,056	13,920	13,956	14,044	14,270	14,582	15,271	15,622	16,498	17,088	17,593	17,789	18,283	18,242
Natural sciences	6,960	6,530	6,436	6,409	6,360	6,483	6,452	6,426	6,484	6,779	6,649	7,101	7,320	7,413	7,311	7,713	7,534
Physical	2,812	2,477	2,382	2,318	2,441	2,452	2,467	2,610	2,710	2,783	2,642	2,863	2,946	3,010	2,919	3,149	2,962
Earth/atm/ocean	595	630	584	527	529	502	491	464	490	560	575	597	636	606	611	641	608
Biological & agricultural	3,553	3,423	3,470	3,564	3,390	3,529	3,494	3,352	3,284	3,436	3,432	3,641	3,738	3,797	3,781	3,923	3,964
Math/computer sciences	1,038	837	833	822	838	841	859	959	1,000	1,087	1,208	1,329	1,523	1,602	1,624	1,648	1,737
Mathematics	1,038	811	650	616	588	583	582	608	615	628	704	734	840	853	882	882	925
Computer sciences	0	26	183	206	250	258	277	351	385	459	504	595	683	749	742	766	812
Social & behavioral sciences	4,913	4,834	4,427	4,396	4,065	3,870	3,765	3,734	3,628	3,504	3,597	3,589	3,497	3,646	3,678	3,735	3,658
Psychology	1,878	1,902	1,831	1,885	1,750	1,626	1,577	1,527	1,475	1,393	1,408	1,368	1,254	1,335	1,331	1,278	1,247
Social sciences	3,035	2,932	2,596	2,511	2,315	2,244	2,188	2,207	2,153	2,111	2,189	2,221	2,243	2,311	2,347	2,457	2,411
Engineering	2,959	2,574	2,432	2,429	2,657	2,762	2,968	3,151	3,470	3,901	4,168	4,479	4,748	4,932	5,176	5,187	5,313
Chemical engineering	391	319	306	306	369	382	463	470	524	620	632	580	608	612	643	612	599
Civil engineering	356	328	298	348	384	383	371	408	459	501	484	504	534	544	570	604	580
Electrical engineering	698	646	600	527	612	645	681	768	747	962	1,070	1,192	1,326	1,368	1,418	1,526	1,558
Mechanical engineering	483	366	361	354	371	412	487	518	640	686	731	846	818	942	973	946	961
Materials engineering	267	238	228	217	238	245	271	281	347	341	335	391	412	424	457	456	494
Other engineering	764	677	639	677	683	695	695	706	753	791	916	966	1,050	1,042	1,115	1,043	1,121

Appendix table 2-30.
Earned doctoral degrees, by field and sex: 1975-95

Field	1975	1977	1979	1981	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Females																	
All degrees	7,201	7,858	8,937	9,892	10,533	10,699	10,744	11,307	11,432	11,819	12,513	13,105	13,870	14,420	15,113	15,806	16,333
Science and engineering	2,929	3,233	3,744	4,201	4,715	4,792	4,891	5,167	5,312	5,662	6,109	6,369	6,931	7,080	7,652	7,919	8,273
Natural sciences	1,143	1,146	1,381	1,586	1,834	1,853	1,984	2,057	2,171	2,393	2,536	2,662	2,839	3,022	3,218	3,366	3,490
Physical	264	244	292	309	373	399	467	510	528	567	619	661	679	770	780	828	878
Earth/atm/ocean	30	59	58	56	95	106	108	95	112	135	148	141	179	188	160	183	170
Biological & agricultural	849	843	1,031	1,221	1,366	1,348	1,409	1,452	1,531	1,691	1,769	1,860	1,981	2,064	2,278	2,355	2,442
Math/computer sciences	109	127	146	138	149	152	139	169	190	177	263	268	316	325	402	373	451
Mathematics	109	122	119	112	113	115	106	121	125	121	155	158	199	205	264	236	265
Computer sciences	0	5	27	26	36	37	33	48	65	56	108	110	117	120	138	137	186
Social & behavioral sciences	1,625	1,886	2,155	2,378	2,608	2,636	2,570	2,716	2,709	2,806	2,935	3,024	3,309	3,227	3,510	3,545	3,638
Psychology	873	1,088	1,260	1,473	1,597	1,631	1,541	1,599	1,698	1,681	1,800	1,913	1,996	1,928	2,088	2,102	2,172
Social sciences	752	798	895	905	1,011	1,005	1,029	1,117	1,011	1,125	1,135	1,111	1,313	1,299	1,422	1,443	1,466
Engineering	52	74	62	99	124	151	198	225	242	286	375	415	467	506	522	635	694
Chemical engineering	5	10	9	11	23	27	41	61	60	65	80	78	83	113	94	113	109
Civil engineering	5	8	4	10	13	25	20	21	18	30	54	49	41	50	54	80	76
Electrical engineering	16	21	11	22	13	15	35	38	32	48	67	84	79	115	125	147	173
Mechanical engineering	4	6	5	6	8	15	26	18	17	29	29	38	57	45	57	69	63
Materials engineering	5	10	8	17	30	26	32	24	45	33	45	49	77	61	78	83	94
Other engineering	17	19	25	33	37	43	44	63	70	81	100	117	130	122	114	143	179

SOURCE: National Science Foundation, Science Resources Studies Division, *Selected Data on Science and Engineering Doctorate Awards: 1995,* NSF 96-303 (Arlington, VA: 1996).

See figure 2-16.

Appendix table 2-31.
Earned doctoral degrees by field, race/ethnicity, and citizenship: 1977-95

Field and race/ethnicity	1977	1979	1981	1983	1985	1987	1989	1991	1992	1993	1994	1995
					Total[a]							
All degrees	31,716	31,239	31,356	31,281	31,297	32,370	34,326	37,522	38,856	39,771	41,017	41,610
Science and engineering	18,008	17,872	18,257	18,635	18,935	19,894	21,731	24,019	24,673	25,441	26,202	26,515
Natural sciences[b]	7,676	7,817	7,995	8,194	8,436	8,655	9,185	10,159	10,435	10,529	11,079	11,024
Math and computer sciences	964	979	960	987	998	1,190	1,471	1,839	1,927	2,026	2,021	2,188
Social sciences[c]	6,720	6,582	6,774	6,673	6,335	6,337	6,532	6,806	6,873	7,188	7,280	7,296
Engineering	2,648	2,494	2,528	2,781	3,166	3,712	4,543	5,215	5,438	5,698	5,822	6,007
					U.S. citizens and permanent residents							
All degrees	27,487	26,784	26,341	25,634	24,694	24,562	25,026	27,418	27,956	28,675	30,877	31,910
Science and engineering	14,881	14,711	14,654	14,518	14,065	14,055	14,591	15,909	15,940	16,570	18,184	18,961
Natural sciences[b]	6,427	6,604	6,640	6,706	6,634	6,450	6,628	7,058	7,037	7,091	8,103	8,352
Math and computer sciences	769	778	713	664	631	671	824	969	996	1,099	1,200	1,388
Social sciences[c]	5,886	5,712	5,830	5,666	5,206	5,021	4,910	5,408	5,387	5,683	5,828	5,885
Engineering	1,799	1,617	1,471	1,482	1,594	1,913	2,229	2,474	2,520	2,697	3,053	3,336
White, all degrees	23,654	22,396	22,470	22,251	21,306	21,122	21,570	23,179	23,599	24,027	24,585	24,608
Science and engineering	12,875	12,314	12,573	12,671	12,169	12,052	12,501	13,323	13,326	13,735	13,890	13,879
Natural sciences[b]	5,598	5,620	5,771	5,981	5,903	5,663	5,800	6,111	6,019	5,950	3,016	5,974
Math and computer sciences	671	658	610	569	527	548	688	774	803	886	880	988
Social sciences[c]	5,177	4,879	5,099	4,993	4,551	4,383	4,287	4,601	4,624	4,874	4,866	4,831
Engineering	1,429	1,157	1,093	1,128	1,188	1,458	1,726	1,837	1,880	2,025	2,020	2,086
Asian, all degrees	910	1,102	1,073	1,042	1,070	1,168	1,268	1,531	1,761	2,012	3,545	4,300
Science and engineering	745	884	827	780	809	925	986	1,180	1,344	1,610	2,989	3,666
Natural sciences[b]	342	377	344	359	346	369	403	474	559	686	1,481	1,857
Math and computer sciences	42	55	56	54	50	67	76	123	138	156	259	346
Social sciences[c]	112	146	142	120	132	162	146	178	196	241	382	432
Engineering	249	306	285	247	281	327	361	405	451	527	867	1,031
Black, all degrees	1,191	1,112	1,110	1,005	1,043	910	962	1,160	1,113	1,277	1,274	1,455
Science and engineering	342	347	346	338	374	319	366	459	407	468	496	557
Natural sciences[b]	85	84	89	84	100	95	105	111	106	135	149	168
Math and computer sciences	9	12	11	6	10	13	9	19	9	14	21	16
Social sciences[c]	233	231	227	219	230	186	219	274	243	269	272	302
Engineering	15	20	19	29	34	25	33	55	49	50	54	71
Hispanic, all degrees	489	547	529	608	634	708	694	867	909	973	1,029	1,055
Science and engineering	203	234	240	284	296	357	382	492	513	542	548	568
Natural sciences[b]	76	84	93	86	107	138	157	191	208	226	254	232
Math and computer sciences	12	12	5	7	18	15	15	21	20	23	20	21
Social sciences[c]	91	114	126	162	149	170	163	220	214	227	208	238
Engineering	24	24	16	29	22	34	47	60	71	66	66	77

Appendix table 2-31.
Earned doctoral degrees by field, race/ethnicity, and citizenship: 1977-95

Field and race/ethnicity	1977	1979	1981	1983	1985	1987	1989	1991	1992	1993	1994	1995
Native American, all degrees	66	81	85	82	96	115	94	132	149	120	142	148
Science and engineering	31	29	28	30	41	53	53	56	69	43	64	69
Natural sciences[b]	14	6	8	13	21	20	25	27	26	17	24	26
Math and computer sciences	1	1	1	1	0	3	2	1	4	2	3	2
Social sciences[c]	15	19	15	15	19	23	19	22	28	22	31	31
Engineering	1	3	4	1	1	7	7	6	11	2	6	10
Temporary residents												
Total, all degrees	3,448	3,587	3,940	4,498	5,227	5,612	6,648	9,312	9,953	9,934	9,406	8,806
Science and engineering	2,675	2,689	2,983	3,412	4,047	4,468	5,391	7,642	8,092	8,113	7,521	6,992
Natural sciences[c]	1,079	1,046	1,140	1,273	1,517	1,704	1,975	2,936	3,213	3,191	2,815	2,502
Math and computer sciences	170	181	226	281	327	445	524	846	876	865	791	747
Social sciences[c]	651	645	675	688	784	787	952	1,226	1,260	1,273	1,262	1,220
Engineering	775	817	942	1,170	1,419	1,532	1,940	2,634	2,743	2,784	2,653	2,523
Citizenship unknown												
Total, all degrees	781	868	1,075	1,149	1,376	2,196	2,652	792	947	1,162	734	894
Science and engineering	452	472	620	705	823	1,371	1,749	468	641	758	497	562
Natural sciences[b]	170	167	215	215	285	501	582	165	185	247	161	170
Math and computer sciences	25	20	21	42	40	74	123	24	55	62	30	53
Social sciences[c]	183	225	269	319	345	529	670	172	226	232	190	191
Engineering	74	60	115	129	153	267	374	107	175	217	116	148

[a]Data include all doctorates awarded to U.S. citizens and permanent residents, temporary residents, and persons whose citizenship is unknown.

[b]Natural sciences here include physical, earth, atmospheric, oceanographic, biological, and agricultural sciences.

[c]Social sciences include psychology, sociology, and other social sciences.

SOURCE: National Science Foundation, Science Resources Studies Division, *Selected Data on Science and Engineering Doctorate Awards: 1995,* NSF 96-303 (Arlington, VA: 1996).

Appendix table 2-32.
Earned doctoral degrees in science and engineering, by region/country: Most recent year

Region/country	All doctoral degrees	All S&E doctoral degrees	Degree field: Natural sciences[a]	Math & computer sciences	Agriculture	Social sciences[b]	Engineering
Total, three world regions	155,733	89,818	37,229	6,830	5,829	15,663	24,267
Asia							
Total	32,087	15,678	6,304	224	2,048	775	6,327
China	4,364	3,230	1,191	NA	182	198	1,659
India	9,369	4,425	3,505	NA	572	NA	348
Japan	13,044	5,453	1,135	NA	1,008	301	3,009
South Korea	4,462	1,920	358	169	223	232	938
Taiwan	848	650	115	55	63	44	373
Europe							
Total	78,791	45,647	20,120	4,386	2,576	7,030	11,535
European Union	60,364	33,488	16,769	2,856	1,764	4,736	7,363
Austria	1,634	851	268	98	123	105	257
Denmark	333	257	137	0	34	33	53
Finland	1,882	757	245	86	54	147	225
France	9,801	8,575	3,738	1,129	84	2,197	1,427
Germany	22,404	10,128	6,077	616	573	699	2,163
Greece	932	367	128	44	36	66	93
Ireland	344	252	156	21	13	11	51
Italy	3,603	1,432	640	NA	175	226	391
The Netherlands	2,405	1,308	516	NA	155	264	373
Spain	5,193	1,794	1,109	88	104	194	299
Sweden	2,072	1,255	399	172	62	148	474
United Kingdom	9,761	6,512	3,356	602	351	646	1,557
European Free Trade Associaton	4,304	2,009	814	135	172	347	541
Norway	500	169	7	5	42	8	107
Switzerland	3,804	1,840	807	130	130	339	434
Central Europe	14,123	10,150	2,537	1,395	640	1,947	3,631
Czech Republic	118	108	35	7	1	21	44
Russia	14,005	10,042	2,502	1,388	639	1,926	3,587
North America							
Total	44,855	28,493	10,805	2,220	1,205	7,858	6,405
Canada	3,356	2,027	689	183	117	490	548
Mexico	488	259	120	15	10	79	35
United States	41,011	26,207	9,996	2,022	1,078	7,289	5,822

N/A = not available

NOTES: Data are compiled from numerous national and international sources, and degree fields may not be strictly comparable. U.K. data are for 1996. Data for China, Japan, South Korea, Taiwan, Austria, Switzerland, and the United States are for 1995. Data for Finland, France, Germany, Italy, Sweden, Norway, Czech Republic, Russia, Canada, and Mexico are for 1994. Data for Denmark, Greece, Ireland, the Netherlands, and Spain are for 1993. Indian data are for 1991. Japanese data include "thesis" doctorates called Ronbun Hakase, earned by employees in industry.

[a]Natural sciences here include physical, earth, atmospheric, oceanographic, and biological sciences.

[b]Social sciences include psychology, sociology, and other social sciences.

SOURCES: **ASIA: China**—National Research Center for Science and Technology for Development, unpublished tabulations, and UNESCO, *Statistical Yearbook* (Paris: 1996); **India**—Department of Science and Technology, *Research and Development Statistics 1994–95* (New Delhi: 1996); **Japan**—Ministry of Education, Science, and Culture (Monbusho), *Monbusho Survey of Education* (Tokyo: annual series); **South Korea**—Ministry of Education, *Statistical Yearbook of Education* (Seoul: 1996); **Taiwan**—Ministry of Education, *Educational Statistics of the Republic of China* (Taipei: 1996); **EUROPEAN UNION: Austria**—Austrian Central Statistical Office, unpublished tabulations; **Denmark**—Department of Higher Education, Ministry of Education, unpublished tabulations (1997); **Finland**—Central Statistical Office, unpublished tabulations (1997), and OECD/CERI; **France**—Ministère de l'Éducation Nationale, *Repères et Références Statistiques sur les Enseignements et la Formation* (Vanves, France: 1996); **Germany**—Statistisches Bundesamt, *Prüfungen an Hochschulen* (Wiesbaden); **Greece**—National Statistical Service of Greece, unpublished tabulations (1997), and OECD/CERI; **Ireland**—OECD/CERI; **Italy**—Consiglio nazionale delle ricerche, unpublished tabulations (1997); **the Netherlands**—Department for Statistics of Education and Science, Netherlands Central Bureau of Statistics, unpublished tabulations (1997); **Spain**—Estadisticas e Investigaciones Sociales, Instituto National de Estadistica, unpublished tabulations (1997) and OECD/CERI; **Sweden**—Statistics Sweden, unpublished tabulations (1997), and OECD/CERI; **United Kingdom**—Higher Education Statistical Agency, *Students in Higher Education Institutions, 1995/96* (Cheltenham: 1997); **EUROPEAN FREE TRADE ASSOCIATION: Norway**—Institute for Studies in Research and Higher Education, the Norwegian Research Council, unpublished tabulations (1997); **Switzerland**—Swiss Federal Statistical Office, unpublished tabulations (1997); **CENTRAL AND EASTERN EUROPE: Czech Republic**—UNESCO (1996); **Russia**—UNESCO (1996); **NORTH AMERICA: Canada**—UNESCO (1996) and OECD/CERI; **Mexico**—Asociación Nacional de Universidades e Instituciones de Educación Superior, *Anuario Estadístico 1995: Posgrado* (Mexico: 1996); and **United States**—National Science Foundation, Science Resources Studies Division, *Science and Engineering Degrees 1966-94,* NSF 96-321 (Arlington, VA: 1996).

Appendix table 2-33.
Proportion of NS&E doctoral degrees earned by foreign students in selected countries: 1995 or most current year
(Percentages)

Country	Foreign doctoral recipients	
	Natural sciences	Engineering
United States	40.5	57.9
United Kingdom	28.5	49.1
France	29.1	34.2
Germany	7.9	15.8
Japan	22.1	32.2

NOTE: Data for Germany and Japan are for 1994.

NS&E = natural sciences and engineering

SOURCES: **France**—Ministère de l'Éducation Nationale, *Repères et Références Statistiques sur les Enseignements et la Formation* (Vanves, France: 1996); **Germany**—Statistiches Bundesamt, *Prüfungen an Hochschulen* (Wiesbaden); **Japan**—Ministry of Education, Science, and Culture (Monbusho), *Monbusho Survey of Education* (Tokyo: Annual Series); **United Kingdom**—Higher Education Statistical Agency, unpublished tabulations; **United States**—National Science Foundation, Science Resources Studies Division, *Selected Data on Science and Engineering Doctorate Awards, 1995,* NSF 96-303 (Arlington, VA: 1996).

See figure 2-17. *Science & Engineering Indicators – 1998*

Appendix table 2-34.
Foreign students enrolled in U.S. universities from 12 major places of origin, by educational level and major field of study: 1995-96

				Percentage in S&E fields				Percentage in non-S&E fields	
Country	Total all fields	Educational level	Number of students surveyed[a]	Natural sciences	Math & computer sciences	Social sciences	Engineering	Business management	Other
Japan	45,531	Undergraduate	32,034	4.5	3.7	15.9	3.1	19.6	53.2
		Graduate	7,819	7.3	3.4	24.7	7.4	17.2	40.0
China	39,613	Undergraduate	4,851	6.8	14.8	4.1	10.4	27.6	36.3
		Graduate	32,512	32.6	13.1	5.9	24.9	8.9	14.6
South Korea	36,231	Undergraduate	16,333	5.8	7.1	6.3	8.0	21.7	51.1
		Graduate	15,045	15.1	7.0	11.2	18.7	12.1	35.9
Taiwan	32,702	Undergraduate	11,522	3.7	8.2	4.2	9.6	33.3	41.0
		Graduate	18,904	12.0	10.1	6.7	24.2	19.4	27.6
India	31,743	Undergraduate	6,049	7.9	14.9	5.8	21.5	25.0	24.9
		Graduate	25,593	13.2	17.1	4.2	41.3	11.7	12.5
Canada	23,005	Undergraduate	12,987	7.8	2.2	14.5	6.1	13.3	56.1
		Graduate	8,851	9.9	1.5	15.5	4.6	6.7	61.8
Malaysia	14,015	Undergraduate	11,630	3.2	6.8	3.8	33.8	33.7	18.7
		Graduate	1,956	8.6	11.0	11.6	20.1	24.2	24.5
Indonesia	12,820	Undergraduate	9,325	2.7	5.5	2.9	21.6	48.8	18.5
		Graduate	2,947	10.2	6.5	10.6	22.0	35.7	15.0
Thailand	12,165	Undergraduate	3,599	3.6	8.0	4.6	15.0	32.7	36.1
		Graduate	7,347	7.6	5.2	5.6	19.5	47.7	14.4
Hong Kong	12,018	Undergraduate	9,055	3.6	8.6	6.0	14.5	40.8	26.5
		Graduate	2,348	12.1	12.5	10.9	16.5	22.3	25.7
Germany	9,017	Undergraduate	3,662	7.6	4.2	10.8	5.1	24.1	48.2
		Graduate	4,304	18.1	7.7	13.0	12.3	17.9	31.0
Mexico	8,687	Undergraduate	5,079	5.0	4.4	6.9	14.4	26.1	43.2
		Graduate	3,070	21.4	7.1	14.7	19.3	14.8	22.7

NOTE: Data Include foreign students in all levels of U.S. higher education.

[a]The numbers of foreign students surveyed by level and field of study do not equal the total numbers of foreign students in all fields from each country. Many universities were unable to respond to the detailed questions posed by the survey regarding the level and major field of study for their registered foreign students.

SOURCES: Institute of International Education (IIE), *Open Doors, 1995-96: Report on International Education Exchange* (New York: 1996); and IIE, *Profiles 1995-96, Detailed Analyses of the Foreign Student Population* (New York), unpublished tabulations.

Science & Engineering Indicators – 1998

Appendix table 2-35.
Earned doctoral degrees, by field and citizenship: 1986-95

Field	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Total[a]										
All degrees	31,902	32,370	33,501	34,326	36,067	37,522	38,856	39,771	41,017	41,610
Science and engineering	19,437	19,894	20,933	21,731	22,867	24,019	24,673	25,441	26,202	26,515
Natural sciences[b]	8,483	8,655	9,172	9,185	9,763	10,159	10,435	10,529	11,079	11,024
Math and computer sciences	1,128	1,190	1,264	1,471	1,597	1,839	1,927	2,026	2,021	2,188
Social sciences[c]	6,450	6,337	6,310	6,532	6,613	6,806	6,873	7,188	7,280	7,296
Engineering	3,376	3,712	4,187	4,543	4,894	5,215	5,438	5,698	5,822	6,007
U.S. citizens										
All degrees	23,086	22,984	23,291	23,400	24,905	25,561	25,977	26,420	27,129	27,603
Science and engineering	13,022	12,966	13,369	13,467	14,166	14,624	14,558	14,929	15,162	15,460
Natural sciences[b]	6,139	6,070	6,282	6,225	6,505	6,585	6,501	6,461	6,642	6,595
Math and computer sciences	568	588	626	731	723	851	876	921	930	1,038
Social sciences[c]	4,932	4,750	4,681	4,647	4,981	5,102	5,072	5,319	5,375	5,445
Engineering	1,383	1,558	1,780	1,864	1,957	2,086	2,109	2,228	2,215	2,382
Non-U.S. citizens										
All degrees	6,709	7,190	7,817	8,274	9,791	11,169	11,932	12,189	13,154	13,113
Science and engineering	5,154	5,557	6,066	6,515	7,768	8,927	9,474	9,754	10,543	10,493
Natural sciences[b]	1,896	2,084	2,333	2,378	2,974	3,409	3,749	3,821	4,276	4,259
Math and computer sciences	478	528	567	617	797	964	996	1,043	1,061	1,097
Social sciences[c]	1,065	1,058	1,079	1,215	1,331	1,532	1,575	1,637	1,715	1,660
Engineering	1,715	1,887	2,087	2,305	2,666	3,022	3,154	3,253	3,491	3,477
Non-U.S. citizens with permanent visas										
All degrees	1,433	1,578	1,622	1,626	1,698	1,857	1,979	2,255	3,748	4,307
Science and engineering	994	1,089	1,130	1,124	1,197	1,285	1,382	1,641	3,022	3,501
Natural sciences[b]	321	380	429	403	437	473	536	630	1,461	1,757
Math and computer sciences	83	83	86	93	102	118	120	178	270	350
Social sciences[c]	247	271	249	263	269	306	315	364	453	440
Engineering	343	355	366	365	389	388	411	469	838	954
Non-U.S. citizens with temporary visas										
All degrees	5,276	5,612	6,195	6,648	8,093	9,312	9,953	9,934	9,406	8,806
Science and engineering	4,160	4,468	4,936	5,391	6,571	7,642	8,092	8,113	7,521	6,992
Natural sciences[b]	1,575	1,704	1,904	1,975	2,537	2,936	2,741	3,191	2,815	2,502
Math and computer sciences	395	445	481	524	695	846	876	865	791	747
Social sciences[c]	818	787	830	952	1,062	1,226	1,260	1,273	1,262	1,220
Engineering	1,372	1,532	1,721	1,940	2,277	2,634	2,743	2,784	2,653	2,523

Appendix table 2-35.
Earned doctoral degrees, by field and citizenship: 1986-95

Field	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Citizenship unknown										
All degrees	2,107	2,196	2,393	2,652	1,371	792	947	1,162	734	894
Science and engineering	1,261	1,371	1,498	1,749	933	468	641	758	497	562
Natural sciences[b]	448	446	557	582	284	165	185	247	161	170
Math and computer sciences	82	74	71	123	77	24	55	62	30	53
Social sciences[c]	453	529	550	670	301	172	226	232	190	191
Engineering	278	267	320	374	271	107	175	217	116	148

[a]Data include all doctorates awarded to U.S. citizens and permanent residents, temporary residents, and persons whose citizenship is unknown.

[b]Natural sciences here include physical, earth, atmospheric, oceanographic, biological, and agricultural sciences.

[c]Social sciences include psychology, sociology, and other social sciences.

SOURCE: National Science Foundation, Science Resources Studies Division, *Selected Data on Science and Engineering Doctorate Awards: 1995,* NSF 96-303 (Arlington, VA: 1996).

See figure 2-17.

Appendix table 2-36.
Total S&E doctoral degrees earned by Asian students from Asian and U.S. universities: 1975-95

	Asian universities	U.S. universities
1975	4,057	NA
1976	4,634	NA
1977	4,959	NA
1978	5,211	NA
1979	5,597	NA
1980	5,892	991
1981	6,149	1,031
1982	6,408	1,168
1983	6,652	1,339
1984	7,091	1,531
1985	7,848	1,761
1986	8,032	1,889
1987	8,422	2,218
1988	9,701	2,511
1989	10,144	2,872
1990	10,283	4,008
1991	11,053	4,911
1992	11,767	5,406
1993	12,235	5,628
1994	13,812	6,229
1995	15,678	6,352

NA = not available

NOTE: Asian countries comprise China, India, Japan, South Korea, and Taiwan. Asian students in U.S. universities include those on either temporary or permanent visas.

SOURCES: **China**—National Center for Science and Technology for Development, unpublished tabulations, 1997; **India**—Department of Science and Technology, *Research and Development Statistics 1994-95* (New Delhi: 1996); **Japan**—Ministry of Education, Science, and Culture (Monbusho), *Monbusho Survey of Education* (Tokyo: annual series); **South Korea**—Ministry of Education, *Statistical Yearbook of Education, 1996* (Seoul: 1996); **Taiwan**—Ministry of Education, *Educational Statistics of the Republic of China* (Taipei: 1996); **United States**—National Science Foundation, Science Resources Studies Division (NSF/SRS), *Selected Data on Science and Engineering Doctorate Awards: 1995,* NSF 96-303 (Arlington, VA: 1996); and NSF/SRS, *Science and Engineering Doctorates: 1960-84* (Washington, DC: n.d.).

See figure 2-18. *Science & Engineering Indicators – 1998*

Appendix table 2-37.
Foreign doctoral recipients from U.S. universities who plan to stay in the United States, by field and region/country of origin: 1990-96

Region /country of origin	1990 Total Ph.D. recipients	1990 Plan to stay in U.S. No.	1990 Plan to stay in U.S. %	1990 Firm plans to stay in U.S. No.	1990 Firm plans to stay in U.S. %	1991 Total Ph.D. recipients	1991 Plan to stay in U.S. No.	1991 Plan to stay in U.S. %	1991 Firm plans to stay in U.S. No.	1991 Firm plans to stay in U.S. %	1992 Total Ph.D. recipients	1992 Plan to stay in U.S. No.	1992 Plan to stay in U.S. %	1992 Firm plans to stay in U.S. No.	1992 Firm plans to stay in U.S. %	1993 Total Ph.D. recipients	1993 Plan to stay in U.S. No.	1993 Plan to stay in U.S. %	1993 Firm plans to stay in U.S. No.	1993 Firm plans to stay in U.S. %
All fields																				
Asia	5,224	2,390	45.8	1,727	33.1	6,252	3,596	57.5	2,268	36.3	6,938	4,375	63.1	2,525	36.4	7,136	4,397	61.6	2,367	33.2
China	1,225	725	59.2	502	41.0	1,919	1,523	79.4	920	47.9	2,238	1,980	88.5	1,080	48.3	2,416	2,134	88.3	1,077	44.6
Taiwan	1,149	477	41.5	314	27.3	1,321	635	48.1	367	27.8	1,431	702	49.1	364	25.4	1,456	584	40.1	304	20.9
Japan	186	73	39.2	55	29.6	164	66	40.2	45	27.4	172	74	43.0	46	26.7	182	66	36.3	43	23.6
South Korea	1,259	367	29.2	272	21.6	1,396	454	32.5	285	20.4	1,474	464	31.5	272	18.5	1,409	462	32.8	236	16.7
India	881	586	66.5	470	53.3	924	689	74.6	518	56.1	1,072	880	82.1	609	56.8	1,139	920	80.8	577	50.7
Other	524	162	30.9	114	21.8	528	229	43.4	133	25.2	551	275	49.9	154	27.9	534	231	43.3	130	24.3
Europe	1,097	540	49.2	411	37.5	1,329	740	55.7	534	40.2	1,332	809	60.7	544	40.8	1,461	842	57.6	552	37.8
Greece	137	67	48.9	50	36.5	185	96	51.9	66	35.7	168	94	56.0	58	34.5	199	116	58.3	78	39.2
United Kingdom	172	119	69.2	90	52.3	207	142	68.6	101	48.8	216	161	74.5	117	54.2	230	169	73.5	120	52.2
Germany	169	85	50.3	65	38.5	181	109	60.2	80	44.2	189	116	61.4	72	38.1	250	148	59.2	91	36.4
Italy	88	35	39.8	24	27.3	115	56	48.7	44	38.3	99	51	51.5	29	29.3	101	43	42.6	31	30.7
France	94	41	43.6	30	31.9	107	55	51.4	40	37.4	116	63	54.3	42	36.2	136	62	45.6	40	29.4
Spain	73	27	37.0	24	32.9	103	52	50.5	39	37.9	91	57	62.6	41	45.1	100	54	54.0	34	34.0
Other	364	166	45.6	128	35.2	431	230	53.4	164	38.1	453	267	58.9	185	40.8	445	250	56.2	158	35.5
N./S. America	1,099	434	39.5	329	29.9	1,293	599	46.3	434	33.6	1,302	615	47.2	393	30.2	1,279	589	46.1	382	29.9
Canada	419	191	45.6	153	36.5	511	241	47.2	187	36.6	509	260	51.1	191	37.5	486	239	49.2	176	36.2
Mexico	130	47	36.2	32	24.6	156	71	45.5	51	32.7	149	49	32.9	27	18.1	162	66	40.7	35	21.6
Argentina	78	32	41.0	24	30.8	73	46	63.0	33	45.2	101	47	46.5	28	27.7	68	37	54.4	25	36.8
Brazil	129	22	17.1	18	14.0	149	49	32.9	33	22.1	163	46	28.2	22	13.5	181	44	24.3	26	14.4
Chile	56	23	41.1	15	26.8	70	25	35.7	20	28.6	65	35	53.8	25	38.5	64	30	46.9	17	26.6
Colombia	46	24	52.2	18	39.1	64	33	51.6	19	29.7	54	29	53.7	14	25.9	47	21	44.7	17	36.2
Peru	28	14	50.0	12	42.9	40	27	67.5	16	40.0	42	27	64.3	19	45.2	48	27	56.3	17	35.4
Other	213	81	38.0	57	26.8	230	107	46.5	75	32.6	219	122	55.7	67	30.6	223	125	56.1	69	30.9

Appendix table 2-37.
Foreign doctoral recipients from U.S. universities who plan to stay in the United States, by field and region/country of origin: 1990-96

Region/country of origin	1994 Total Ph.D. recipients	1994 Plan to stay in U.S. No.	1994 Plan to stay in U.S. %	1994 Firm plans to stay in U.S. No.	1994 Firm plans to stay in U.S. %	1995 Total Ph.D. recipients	1995 Plan to stay in U.S. No.	1995 Plan to stay in U.S. %	1995 Firm plans to stay in U.S. No.	1995 Firm plans to stay in U.S. %	1996 Total Ph.D. recipients	1996 Plan to stay in U.S. No.	1996 Plan to stay in U.S. %	1996 Firm plans to stay in U.S. No.	1996 Firm plans to stay in U.S. %
All fields															
Asia	7,903	5,100	64.5	2,654	33.6	8,014	5,407	67.5	2,827	35.3	8,179	5,593	68.4	3,491	42.7
China	2,772	2,548	91.9	1,223	44.1	2,979	2,744	92.1	1,341	45.0	3,201	2,896	90.5	1,788	55.9
Taiwan	1,576	654	41.5	322	20.4	1,485	669	45.1	293	19.7	1,404	653	46.5	344	24.5
Japan	235	95	40.4	57	24.3	233	102	43.8	69	29.6	245	104	42.4	67	27.3
South Korea	1,475	522	35.4	267	18.1	1,306	466	35.7	244	18.7	1,260	441	35.0	270	21.4
India	1,289	1,049	81.4	662	51.4	1,425	1,179	82.7	746	52.4	1,500	1,264	84.3	882	58.8
Other	556	232	41.7	123	22.1	586	247	42.2	134	22.9	569	235	41.3	140	24.6
Europe	1,506	902	59.9	597	39.6	1,644	1,033	62.8	656	39.9	1,611	1,038	64.4	711	44.1
Greece	188	85	45.2	60	31.9	197	111	56.3	60	30.5	152	85	55.9	57	37.5
United Kingdom	219	156	71.2	97	44.3	222	167	75.2	116	52.3	206	154	74.8	107	51.9
Germany	257	167	65.0	113	44.0	306	194	63.4	120	39.2	246	150	61.0	102	41.5
Italy	108	57	52.8	30	27.8	116	60	51.7	33	28.4	102	48	47.1	31	30.4
France	132	77	58.3	45	34.1	117	65	55.6	36	30.8	102	58	56.9	38	37.3
Spain	113	59	52.2	43	38.1	102	64	62.7	50	49.0	120	84	70.0	58	48.3
Other	489	301	61.6	209	42.7	584	372	63.7	241	41.3	683	459	67.2	318	46.6
N./S. America	1,368	641	46.9	405	29.6	1,326	620	46.8	384	29.0	1,426	672	47.1	450	31.6
Canada	490	239	48.8	174	35.5	524	278	53.1	171	32.6	505	269	53.3	190	37.6
Mexico	178	67	37.6	37	20.8	162	57	35.2	34	21.0	180	72	40.0	41	22.8
Argentina	68	45	66.2	33	48.5	77	38	49.4	26	33.8	91	60	65.9	39	42.9
Brazil	202	60	29.7	33	16.3	175	48	27.4	32	18.3	262	66	25.2	46	17.6
Chile	54	19	35.2	14	25.9	50	20	40.0	11	22.0	42	14	33.3	10	23.8
Colombia	59	35	59.3	14	23.7	56	24	42.9	15	26.8	54	27	50.0	18	33.3
Peru	42	30	71.4	16	38.1	39	23	59.0	14	35.9	45	31	68.9	21	46.7
Other	275	146	53.1	84	30.5	243	132	54.3	81	33.3	247	133	53.8	85	34.4

Appendix table 2-37.
Foreign doctoral recipients from U.S. universities who plan to stay in the United States, by field and region/country of origin: 1990-96

Region /country of origin	1990 Total Ph.D. recipients	1990 Plan to stay in U.S. No.	1990 Plan to stay in U.S. %	1990 Firm plans to stay in U.S. No.	1990 Firm plans to stay in U.S. %	1991 Total Ph.D. recipients	1991 Plan to stay in U.S. No.	1991 Plan to stay in U.S. %	1991 Firm plans to stay in U.S. No.	1991 Firm plans to stay in U.S. %	1992 Total Ph.D. recipients	1992 Plan to stay in U.S. No.	1992 Plan to stay in U.S. %	1992 Firm plans to stay in U.S. No.	1992 Firm plans to stay in U.S. %	1993 Total Ph.D. recipients	1993 Plan to stay in U.S. No.	1993 Plan to stay in U.S. %	1993 Firm plans to stay in U.S. No.	1993 Firm plans to stay in U.S. %
Science & engineering																				
Asia	4,380	2,113	48.2	1,521	34.7	5,280	3,189	60.4	1,995	37.8	5,786	3,784	65.4	2,165	37.4	5,996	3,879	64.7	2,078	34.7
China	1,150	687	59.7	478	41.6	1,792	1,428	79.7	861	48.0	2,044	1,808	88.5	990	48.4	2,227	1,975	88.7	1,008	45.3
Taiwan	1,012	451	44.6	299	29.5	1,123	581	51.7	340	30.3	1,240	640	51.6	329	26.5	1,213	530	43.7	282	23.2
Japan	147	60	40.8	48	32.7	125	50	40.0	35	28.0	132	51	38.6	28	21.2	132	43	32.6	27	20.5
South Korea	971	307	31.6	226	23.3	1,107	390	35.2	243	22.0	1,123	373	33.2	220	19.6	1,118	394	35.2	201	18.0
India	709	467	65.9	371	52.3	752	554	73.7	408	54.3	860	703	81.7	485	56.4	932	759	81.4	462	49.6
Other	391	141	36.1	99	25.3	381	186	48.8	108	28.3	387	209	54.0	113	29.2	374	178	47.6	98	26.2
Europe	802	383	47.8	288	35.9	971	524	54.0	385	39.6	947	547	57.8	376	39.7	1,083	593	54.8	404	37.3
Greece	125	65	52.0	48	38.4	168	90	53.6	62	36.9	149	82	55.0	49	32.9	174	101	58.0	68	39.1
United Kingdom	104	73	70.2	53	51.0	134	91	67.9	66	49.3	139	101	72.7	75	54.0	157	113	72.0	86	54.8
Germany	123	59	48.0	46	37.4	118	67	56.8	51	43.2	124	67	54.0	44	35.5	164	86	52.4	55	33.5
Italy	63	23	36.5	15	23.8	86	37	43.0	30	34.9	73	37	50.7	25	34.2	76	30	39.5	23	30.3
France	65	25	38.5	16	24.6	67	28	41.8	21	31.3	77	31	40.3	20	26.0	93	29	31.2	17	18.3
Spain	40	11	27.5	11	27.5	59	26	44.1	19	32.2	45	27	60.0	20	44.4	63	27	42.9	21	33.3
Other	282	127	45.0	99	35.1	339	185	54.6	136	40.1	340	202	59.4	143	42.1	356	207	58.1	134	37.6
N./S. America	786	312	39.7	236	30.0	909	438	48.2	328	36.1	909	435	47.9	277	30.5	900	415	46.1	282	31.3
Canada	252	121	48.0	99	39.3	296	162	54.7	127	42.9	304	171	56.3	132	43.4	285	164	57.5	131	46.0
Mexico	104	34	32.7	21	20.2	128	58	45.3	45	35.2	115	39	33.9	22	19.1	139	54	38.8	30	21.6
Argentina	65	28	43.1	22	33.8	62	39	62.9	29	46.8	86	39	45.3	22	25.6	53	26	49.1	17	32.1
Brazil	98	17	17.3	13	13.3	118	35	29.7	25	21.2	133	37	27.8	18	13.5	151	34	22.5	19	12.6
Chile	50	18	36.0	12	24.0	54	21	38.9	17	31.5	48	25	52.1	18	37.5	52	24	46.2	15	28.8
Colombia	40	21	52.5	16	40.0	49	24	49.0	13	26.5	37	20	54.1	9	24.3	35	11	31.4	10	28.6
Peru	22	10	45.5	8	36.4	35	23	65.7	15	42.9	31	22	71.0	15	48.4	34	21	61.8	12	35.3
Other	155	63	40.6	45	29.0	167	76	45.5	57	34.1	155	82	52.9	41	26.5	151	81	53.6	48	31.8

Appendix table 2-37.
Foreign doctoral recipients from U.S. universities who plan to stay in the United States, by field and region/country of origin: 1990-96

Region/country of origin	1994 Total Ph.D. recipients	1994 Plan to stay in U.S. No.	1994 Plan to stay in U.S. %	1994 Firm plans to stay in U.S. No.	1994 Firm plans to stay in U.S. %	1995 Total Ph.D. recipients	1995 Plan to stay in U.S. No.	1995 Plan to stay in U.S. %	1995 Firm plans to stay in U.S. No.	1995 Firm plans to stay in U.S. %	1996 Total Ph.D. recipients	1996 Plan to stay in U.S. No.	1996 Plan to stay in U.S. %	1996 Firm plans to stay in U.S. No.	1996 Firm plans to stay in U.S. %
Science & engineering															
Asia	6,594	4,500	68.2	2,352	35.7	6,763	4,812	71.2	2,514	37.2	6,941	5,002	72.1	3,153	45.4
China	2,529	2,343	92.6	1,141	45.1	2,752	2,545	92.5	1,245	45.2	2,952	2,689	91.1	1,684	57.0
Taiwan	1,297	593	45.7	296	22.8	1,240	615	49.6	275	22.2	1,153	596	51.7	320	27.8
Japan	182	79	43.4	51	28.0	155	63	40.6	48	31.0	165	71	43.0	44	26.7
South Korea	1,143	436	38.1	230	20.1	1,000	388	38.8	210	21.0	977	368	37.7	237	24.3
India	1,065	871	81.8	536	50.3	1,206	1,003	83.2	632	52.4	1,276	1,084	85.0	753	59.0
Other	378	178	47.1	98	25.9	410	198	48.3	104	25.4	418	194	46.4	115	27.5
Europe	1,098	638	58.1	446	40.6	1,199	740	61.7	487	40.6	1,173	735	62.7	513	43.7
Greece	166	75	45.2	54	32.5	174	98	56.3	57	32.8	133	76	57.1	51	38.3
United Kingdom	131	90	68.7	59	45.0	134	102	76.1	77	57.5	119	86	72.3	61	51.3
Germany	196	124	63.3	93	47.4	208	124	59.6	83	39.9	171	103	60.2	75	43.9
Italy	83	42	50.6	21	25.3	81	37	45.7	22	27.2	77	34	44.2	22	28.6
France	96	51	53.1	30	31.3	83	38	45.8	23	27.7	69	31	44.9	22	31.9
Spain	58	23	39.7	20	34.5	51	29	56.9	24	47.1	66	41	62.1	28	42.4
Other	368	233	63.3	169	45.9	468	312	66.7	201	42.9	538	364	67.7	254	47.2
N./S. America	955	462	48.4	302	31.6	862	417	48.4	276	32.0	989	484	48.9	322	32.6
Canada	275	160	58.2	123	44.7	273	173	63.4	119	43.6	277	182	65.7	130	46.9
Mexico	142	49	34.5	29	20.4	128	45	35.2	26	20.3	158	59	37.3	32	20.3
Argentina	56	37	66.1	28	50.0	49	22	44.9	17	34.7	67	43	64.2	27	40.3
Brazil	157	45	28.7	26	16.6	137	39	28.5	28	20.4	207	53	25.6	37	17.9
Chile	42	14	33.3	11	26.2	38	14	36.8	7	18.4	36	12	33.3	8	22.2
Colombia	48	28	58.3	9	18.8	45	15	33.3	10	22.2	42	20	47.6	13	31.0
Peru	32	20	62.5	12	37.5	26	16	61.5	10	38.5	30	21	70.0	14	46.7
Other	203	109	53.7	64	31.5	166	93	56.0	59	35.5	172	94	54.7	61	35.5

Appendix table 2-37.
Foreign doctoral recipients from U.S. universities who plan to stay in the United States, by field and region/country of origin: 1990-96

Region /country of origin	1990 Total Ph.D. recipients	1990 Plan to stay in U.S. No.	1990 Plan to stay in U.S. %	1990 Firm plans to stay in U.S. No.	1990 Firm plans to stay in U.S. %	1991 Total Ph.D. recipients	1991 Plan to stay in U.S. No.	1991 Plan to stay in U.S. %	1991 Firm plans to stay in U.S. No.	1991 Firm plans to stay in U.S. %	1992 Total Ph.D. recipients	1992 Plan to stay in U.S. No.	1992 Plan to stay in U.S. %	1992 Firm plans to stay in U.S. No.	1992 Firm plans to stay in U.S. %	1993 Total Ph.D. recipients	1993 Plan to stay in U.S. No.	1993 Plan to stay in U.S. %	1993 Firm plans to stay in U.S. No.	1993 Firm plans to stay in U.S. %
Natural sciences																				
Asia	2,200	1,172	53.3	890	40.5	2,610	1,776	68.0	1,186	45.4	2,958	2,198	74.3	1,362	46.0	3,025	2,225	73.6	1,303	43.1
China	763	474	62.1	357	46.8	1,229	997	81.1	652	53.1	1,423	1,271	89.3	763	53.6	1,508	1,348	89.4	751	49.8
Taiwan	458	221	48.3	153	33.4	421	247	58.7	152	36.1	504	291	57.7	175	34.7	514	270	52.5	164	31.9
Japan	58	31	53.4	25	43.1	46	25	54.3	17	37.0	50	26	52.0	17	34.0	48	17	35.4	15	31.3
South Korea	407	168	41.3	134	32.9	422	187	44.3	132	31.3	418	192	45.9	127	30.4	402	195	48.5	125	31.1
India	319	220	69.0	180	56.4	304	225	74.0	174	57.2	365	307	84.1	220	60.3	382	315	82.5	200	52.4
Other	195	58	29.7	41	21.0	188	95	50.5	59	31.4	198	111	56.1	60	30.3	171	80	46.8	48	28.1
Europe	422	203	48.1	159	37.7	542	301	55.5	227	41.9	507	291	57.4	206	40.6	599	332	55.4	232	38.7
Greece	50	27	54.0	22	44.0	69	42	60.9	32	46.4	66	36	54.5	24	36.4	77	46	59.7	30	39.0
United Kingdom	54	40	74.1	31	57.4	75	54	72.0	45	60.0	70	48	68.6	37	52.9	95	69	72.6	55	57.9
Germany	76	35	46.1	25	32.9	82	45	54.9	37	45.1	78	42	53.8	30	38.5	100	49	49.0	32	32.0
Italy	34	11	32.4	9	26.5	45	23	51.1	17	37.8	43	19	44.2	13	30.2	44	16	36.4	13	29.5
France	27	9	33.3	5	18.5	37	16	43.2	9	24.3	40	16	40.0	11	27.5	49	15	30.6	11	22.4
Spain	18	4	22.2	4	22.2	37	15	40.5	9	24.3	16	12	75.0	8	50.0	30	20	66.7	15	50.0
Other	163	77	47.2	63	38.7	197	106	53.8	78	39.6	194	118	60.8	83	42.8	204	117	57.4	76	37.3
N./S. America	419	157	37.5	118	28.2	514	245	47.7	189	36.8	503	232	46.1	153	30.4	470	225	47.9	165	35.1
Canada	130	61	46.9	49	37.7	154	93	60.4	76	49.4	163	91	55.8	72	44.2	140	87	62.1	73	52.1
Mexico	65	19	29.2	12	18.5	80	35	43.8	26	32.5	69	25	36.2	16	23.2	84	31	36.9	19	22.6
Argentina	42	17	40.5	13	31.0	34	21	61.8	18	52.9	45	18	40.0	12	26.7	31	16	51.6	13	41.9
Brazil	44	10	22.7	8	18.2	66	14	21.2	11	16.7	79	19	24.1	9	11.4	75	16	21.3	10	13.3
Chile	22	9	40.9	6	27.3	33	16	48.5	12	36.4	24	18	75.0	13	54.2	34	17	50.0	12	35.3
Colombia	27	12	44.4	10	37.0	26	10	38.5	6	23.1	22	10	45.5	3	13.6	21	6	28.6	5	23.8
Peru	11	4	36.4	4	36.4	18	9	50.0	6	33.3	12	8	66.7	6	50.0	12	8	66.7	7	58.3
Other	78	25	32.1	16	20.5	103	47	45.6	34	33.0	89	43	48.3	22	24.7	73	44	60.3	26	35.6

Appendix table 2-37.
Foreign doctoral recipients from U.S. universities who plan to stay in the United States, by field and region/country of origin: 1990-96

Region/country of origin	1994 Total Ph.D. recipients	1994 Plan to stay in U.S. No.	1994 Plan to stay in U.S. %	1994 Firm plans to stay in U.S. No.	1994 Firm plans to stay in U.S. %	1995 Total Ph.D. recipients	1995 Plan to stay in U.S. No.	1995 Plan to stay in U.S. %	1995 Firm plans to stay in U.S. No.	1995 Firm plans to stay in U.S. %	1996 Total Ph.D. recipients	1996 Plan to stay in U.S. No.	1996 Plan to stay in U.S. %	1996 Firm plans to stay in U.S. No.	1996 Firm plans to stay in U.S. %
Natural sciences															
Asia	3,359	2,571	76.5	1,473	43.9	3,447	2,715	78.8	1,525	44.2	3,604	2,843	78.9	1,852	51.4
China	1,665	1,554	93.3	834	50.1	1,802	1,671	92.7	883	49.0	1,960	1,810	92.3	1,162	59.3
Taiwan	509	266	52.3	154	30.3	502	290	57.8	140	27.9	462	259	56.1	155	33.5
Japan	59	34	57.6	23	39.0	51	25	49.0	19	37.3	54	28	51.9	21	38.9
South Korea	473	242	51.2	152	32.1	414	220	53.1	147	35.5	430	208	48.4	146	34.0
India	474	389	82.1	251	53.0	499	417	83.6	281	56.3	520	454	87.3	316	60.8
Other	179	86	48.0	59	33.0	179	92	51.4	55	30.7	178	84	47.2	52	29.2
Europe	631	371	58.8	275	43.6	675	405	60.0	282	41.8	697	460	66.0	327	46.9
Greece	84	36	42.9	26	31.0	87	43	49.4	30	34.5	64	34	53.1	20	31.3
United Kingdom	74	51	68.9	37	50.0	68	51	75.0	39	57.4	59	44	74.6	32	54.2
Germany	115	69	60.0	53	46.1	129	72	55.8	51	39.5	114	70	61.4	52	45.6
Italy	41	18	43.9	9	22.0	49	20	40.8	13	26.5	39	21	53.8	15	38.5
France	53	28	52.8	19	35.8	47	21	44.7	16	34.0	32	12	37.5	8	25.0
Spain	35	15	42.9	13	37.1	33	19	57.6	16	48.5	37	25	67.6	19	51.4
Other	229	154	67.2	118	51.5	262	179	68.3	117	44.7	352	254	72.2	181	51.4
N./S. America	515	265	51.5	184	35.7	483	246	50.9	166	34.4	521	258	49.5	176	33.8
Canada	153	99	64.7	75	49.0	130	91	70.0	65	50.0	145	96	66.2	73	50.3
Mexico	84	30	35.7	21	25.0	86	31	36.0	17	19.8	94	34	36.2	17	18.1
Argentina	35	21	60.0	16	45.7	29	11	37.9	7	24.1	45	31	68.9	21	46.7
Brazil	82	26	31.7	15	18.3	77	27	35.1	22	28.6	108	23	21.3	16	14.8
Chile	23	9	39.1	7	30.4	23	12	52.2	6	26.1	19	9	47.4	7	36.8
Colombia	28	15	53.6	6	21.4	21	10	47.6	6	28.6	20	11	55.0	8	40.0
Peru	10	7	70.0	5	50.0	12	8	66.7	6	50.0	11	6	54.5	4	36.4
Other	100	58	58.0	39	39.0	105	56	53.3	37	35.2	79	48	60.8	30	38.0

Appendix table 2-37.
Foreign doctoral recipients from U.S. universities who plan to stay in the United States, by field and region/country of origin: 1990-96

Region /country of origin	1990 Total Ph.D. recipients	1990 Plan to stay in U.S. No.	1990 Plan to stay in U.S. %	1990 Firm plans to stay in U.S. No.	1990 Firm plans to stay in U.S. %	1991 Total Ph.D. recipients	1991 Plan to stay in U.S. No.	1991 Plan to stay in U.S. %	1991 Firm plans to stay in U.S. No.	1991 Firm plans to stay in U.S. %	1992 Total Ph.D. recipients	1992 Plan to stay in U.S. No.	1992 Plan to stay in U.S. %	1992 Firm plans to stay in U.S. No.	1992 Firm plans to stay in U.S. %	1993 Total Ph.D. recipients	1993 Plan to stay in U.S. No.	1993 Plan to stay in U.S. %	1993 Firm plans to stay in U.S. No.	1993 Firm plans to stay in U.S. %
Social sciences																				
Asia	573	179	31.2	128	22.3	668	263	39.4	160	24.0	705	283	40.1	152	21.6	762	328	43.0	166	21.8
China	59	34	57.6	23	39.0	86	63	73.3	31	36.0	113	94	83.2	44	38.9	176	140	79.5	61	34.7
Taiwan	78	22	28.2	12	15.4	105	40	38.1	25	23.8	99	29	29.3	11	11.1	107	25	23.4	13	12.1
Japan	72	24	33.3	19	26.4	50	18	36.0	12	24.0	57	19	33.3	8	14.0	61	20	32.8	11	18.0
South Korea	204	36	17.6	26	12.7	251	55	21.9	33	13.1	268	50	18.7	28	10.4	232	38	16.4	13	5.6
India	76	36	47.4	29	38.2	91	57	62.6	43	47.3	90	61	67.8	43	47.8	102	76	74.5	53	52.0
Other	84	27	32.1	19	22.6	85	30	35.3	16	18.8	78	30	38.5	18	23.1	84	29	34.5	15	17.9
Europe	175	88	50.3	65	37.1	229	126	55.0	97	42.4	238	149	62.6	102	42.9	247	124	50.2	85	34.4
Greece	18	10	55.6	6	33.3	29	12	41.4	8	27.6	24	15	62.5	8	33.3	29	18	62.1	11	37.9
United Kingdom	35	23	65.7	15	42.9	44	27	61.4	15	34.1	52	39	75.0	27	51.9	44	28	63.6	19	43.2
Germany	32	19	59.4	17	53.1	28	18	64.3	14	50.0	28	15	53.6	7	25.0	41	23	56.1	16	39.0
Italy	15	6	40.0	3	20.0	29	12	41.4	11	37.9	20	14	70.0	10	50.0	22	7	31.8	5	22.7
France	11	4	36.4	3	27.3	11	6	54.5	6	54.5	12	5	41.7	5	41.7	12	3	25.0	2	16.7
Spain	14	6	42.9	6	42.9	18	10	55.6	9	50.0	23	12	52.2	10	43.5	25	5	20.0	4	16.0
Other	50	20	40.0	15	30.0	70	41	58.6	34	48.6	79	49	62.0	35	44.3	74	40	54.1	28	37.8
N./S. America	199	80	40.2	62	31.2	225	97	43.1	72	32.0	246	119	48.4	69	28.0	251	107	42.6	72	28.7
Canada	81	38	46.9	34	42.0	88	37	42.0	27	30.7	95	53	55.8	40	42.1	103	51	49.5	40	38.8
Mexico	14	5	35.7	2	14.3	26	13	50.0	10	38.5	30	9	30.0	2	6.7	28	9	32.1	5	17.9
Argentina	11	5	45.5	5	45.5	16	9	56.3	5	31.3	27	12	44.4	5	18.5	12	4	33.3	1	8.3
Brazil	23	2	8.7	1	4.3	18	6	33.3	5	27.8	23	9	39.1	5	21.7	30	10	33.3	6	20.0
Chile	17	5	29.4	3	17.6	13	3	23.1	3	23.1	14	5	35.7	3	21.4	13	3	23.1	2	15.4
Colombia	5	4	80.0	2	40.0	12	6	50.0	4	33.3	6	4	66.7	2	33.3	6	2	33.3	2	33.3
Peru	5	3	60.0	1	20.0	10	7	70.0	5	50.0	14	9	64.3	6	42.9	12	6	50.0	2	16.7
Other	43	18	41.9	14	32.6	42	16	38.1	13	31.0	37	18	48.6	6	16.2	47	22	46.8	14	29.8

Appendix table 2-37.
Foreign doctoral recipients from U.S. universities who plan to stay in the United States, by field and region/country of origin: 1990-96

Region/country of origin	1994 Total Ph.D. recipients	1994 Plan to stay in U.S. No.	1994 Plan to stay in U.S. %	1994 Firm plans to stay in U.S. No.	1994 Firm plans to stay in U.S. %	1995 Total Ph.D. recipients	1995 Plan to stay in U.S. No.	1995 Plan to stay in U.S. %	1995 Firm plans to stay in U.S. No.	1995 Firm plans to stay in U.S. %	1996 Total Ph.D. recipients	1996 Plan to stay in U.S. No.	1996 Plan to stay in U.S. %	1996 Firm plans to stay in U.S. No.	1996 Firm plans to stay in U.S. %
Social sciences															
Asia	845	408	48.3	204	24.1	841	389	46.3	197	23.4	829	379	45.7	216	26.1
China	208	186	89.4	81	38.9	177	150	84.7	69	39.0	191	154	80.6	88	46.1
Taiwan	118	21	17.8	9	7.6	122	30	24.6	9	7.4	116	27	23.3	6	5.2
Japan	77	33	42.9	22	28.6	74	32	43.2	25	33.8	79	35	44.3	19	24.1
South Korea	241	51	21.2	26	10.8	242	48	19.8	17	7.0	221	41	18.6	22	10.0
India	111	80	72.1	50	45.0	135	97	71.9	59	43.7	131	91	69.5	61	46.6
Other	90	37	41.1	16	17.8	91	32	35.2	18	19.8	91	31	34.1	20	22.0
Europe	224	124	55.4	82	36.6	244	148	60.7	101	41.4	266	139	52.3	91	34.2
Greece	24	8	33.3	5	20.8	26	13	50.0	7	26.9	22	13	59.1	9	40.9
United Kingdom	42	27	64.3	15	35.7	46	33	71.7	26	56.5	50	35	70.0	24	48.0
Germany	52	36	69.2	29	55.8	42	29	69.0	22	52.4	41	23	56.1	15	36.6
Italy	31	19	61.3	10	32.3	23	12	52.2	7	30.4	30	10	33.3	6	20.0
France	11	7	63.6	4	36.4	12	5	41.7	2	16.7	11	5	45.5	2	18.2
Spain	14	6	42.9	6	42.9	12	8	66.7	7	58.3	21	10	47.6	5	23.8
Other	50	21	42.0	13	26.0	83	48	57.8	30	36.1	91	43	47.3	30	33.0
N./S. America	239	103	43.1	67	28.0	209	101	48.3	68	32.5	253	124	49.0	82	32.4
Canada	86	40	46.5	30	34.9	102	55	53.9	38	37.3	87	55	63.2	36	41.4
Mexico	28	8	28.6	4	14.3	16	5	31.3	3	18.8	27	10	37.0	7	25.9
Argentina	14	10	71.4	7	50.0	13	7	53.8	6	46.2	14	5	35.7	2	14.3
Brazil	26	8	30.8	6	23.1	14	6	42.9	3	21.4	32	11	34.4	9	28.1
Chile	11	2	18.2	1	9.1	7	0	0.0	0	0.0	9	2	22.2	1	11.1
Colombia	8	6	75.0	3	37.5	14	2	14.3	1	7.1	15	6	40.0	2	13.3
Peru	12	4	33.3	3	25.0	9	3	33.3	2	22.2	14	11	78.6	8	57.1
Other	54	25	46.3	13	24.1	34	23	67.6	15	44.1	55	24	43.6	17	30.9

Appendix table 2-37.
Foreign doctoral recipients from U.S. universities who plan to stay in the United States, by field and region/country of origin: 1990-96

Region /country of origin	1990 Total Ph.D. recipients	1990 Plan to stay in U.S. No.	1990 Plan to stay in U.S. %	1990 Firm plans to stay in U.S. No.	1990 Firm plans to stay in U.S. %	1991 Total Ph.D. recipients	1991 Plan to stay in U.S. No.	1991 Plan to stay in U.S. %	1991 Firm plans to stay in U.S. No.	1991 Firm plans to stay in U.S. %	1992 Total Ph.D. recipients	1992 Plan to stay in U.S. No.	1992 Plan to stay in U.S. %	1992 Firm plans to stay in U.S. No.	1992 Firm plans to stay in U.S. %	1993 Total Ph.D. recipients	1993 Plan to stay in U.S. No.	1993 Plan to stay in U.S. %	1993 Firm plans to stay in U.S. No.	1993 Firm plans to stay in U.S. %
Engineering																				
Asia	1,607	762	47.4	503	31.3	2,002	1,150	57.4	649	32.4	2,123	1,303	61.4	651	30.7	2,209	1,326	60.0	609	27.6
China	328	179	54.6	98	29.9	477	368	77.1	178	37.3	508	443	87.2	183	36.0	543	487	89.7	196	36.1
Taiwan	476	208	43.7	134	28.2	597	294	49.2	163	27.3	637	320	50.2	143	22.4	592	235	39.7	105	17.7
Japan	17	5	29.4	4	23.5	29	7	24.1	6	20.7	25	6	24.0	3	12.0	23	6	26.1	1	4.3
South Korea	360	103	28.6	66	18.3	434	148	34.1	78	18.0	437	131	30.0	65	14.9	484	161	33.3	63	13.0
India	314	211	67.2	162	51.6	357	272	76.2	191	53.5	405	335	82.7	222	54.8	448	368	82.1	209	46.7
Other	112	56	50.0	39	34.8	108	61	56.5	33	30.6	111	68	61.3	35	31.5	119	69	58.0	35	29.4
Europe	205	92	44.9	64	31.2	200	97	48.5	61	30.5	202	107	53.0	68	33.7	237	137	57.8	87	36.7
Greece	57	28	49.1	20	35.1	70	36	51.4	22	31.4	59	31	52.5	17	28.8	68	37	54.4	27	39.7
United Kingdom	15	10	66.7	7	46.7	15	10	66.7	6	40.0	17	14	82.4	11	64.7	18	16	88.9	12	66.7
Germany	15	5	33.3	4	26.7	8	4	50.0	0	0.0	18	10	55.6	7	38.9	23	14	60.9	7	30.4
Italy	14	6	42.9	3	21.4	12	2	16.7	2	16.7	10	4	40.0	2	20.0	10	7	70.0	5	50.0
France	27	12	44.4	8	29.6	19	6	31.6	6	31.6	25	10	40.0	4	16.0	32	11	34.4	4	12.5
Spain	8	1	12.5	1	12.5	4	1	25.0	1	25.0	6	3	50.0	2	33.3	8	2	25.0	2	25.0
Other	69	30	43.5	21	30.4	72	38	52.8	24	33.3	67	35	52.2	25	37.3	78	50	64.1	30	38.5
N./S. America	168	75	44.6	56	33.3	170	96	56.5	67	39.4	160	84	52.5	55	34.4	179	83	46.4	45	25.1
Canada	41	22	53.7	16	39.0	54	32	59.3	24	44.4	46	27	58.7	20	43.5	42	26	61.9	18	42.9
Mexico	25	10	40.0	7	28.0	22	10	45.5	9	40.9	16	5	31.3	4	25.0	27	14	51.9	6	22.2
Argentina	12	6	50.0	4	33.3	12	9	75.0	6	50.0	14	9	64.3	5	35.7	10	6	60.0	3	30.0
Brazil	31	5	16.1	4	12.9	34	15	44.1	9	26.5	31	9	29.0	4	12.9	46	8	17.4	3	6.5
Chile	11	4	36.4	3	27.3	8	2	25.0	2	25.0	10	2	20.0	2	20.0	5	4	80.0	1	20.0
Colombia	8	5	62.5	4	50.0	11	8	72.7	3	27.3	9	6	66.7	4	44.4	8	3	37.5	3	37.5
Peru	6	3	50.0	3	50.0	7	7	100.0	4	57.1	5	5	100.0	3	60.0	10	7	70.0	3	30.0
Other	34	20	58.8	15	44.1	22	13	59.1	10	45.5	29	21	72.4	13	44.8	31	15	48.4	8	25.8

Appendix table 2-37.
Foreign doctoral recipients from U.S. universities who plan to stay in the United States, by field and region/country of origin: 1990-96

Region/country of origin	1994 Total Ph.D. recipients	1994 Plan to stay in U.S. No.	1994 Plan to stay in U.S. %	1994 Firm plans to stay in U.S. No.	1994 Firm plans to stay in U.S. %	1995 Total Ph.D. recipients	1995 Plan to stay in U.S. No.	1995 Plan to stay in U.S. %	1995 Firm plans to stay in U.S. No.	1995 Firm plans to stay in U.S. %	1996 Total Ph.D. recipients	1996 Plan to stay in U.S. No.	1996 Plan to stay in U.S. %	1996 Firm plans to stay in U.S. No.	1996 Firm plans to stay in U.S. %
Engineering															
Asia	2,390	1,521	63.6	675	28.2	2,475	1,708	69.0	792	32.0	2,508	1,780	71.0	1,085	43.3
China	656	603	91.9	226	34.5	773	724	93.7	293	37.9	801	725	90.5	434	54.2
Taiwan	670	306	45.7	133	19.9	616	295	47.9	126	20.5	575	310	53.9	159	27.7
Japan	46	12	26.1	6	13.0	30	6	20.0	4	13.3	32	8	25.0	4	12.5
South Korea	429	143	33.3	52	12.1	344	120	34.9	46	13.4	326	119	36.5	69	21.2
India	480	402	83.8	235	49.0	572	489	85.5	292	51.0	625	539	86.2	376	60.2
Other	109	55	50.5	23	21.1	140	74	52.9	31	22.1	149	79	53.0	43	28.9
Europe	243	143	58.8	89	36.6	280	187	66.8	104	37.1	210	136	64.8	95	45.2
Greece	58	31	53.4	23	39.7	61	42	68.9	20	32.8	47	29	61.7	22	46.8
United Kingdom	15	12	80.0	7	46.7	20	18	90.0	12	60.0	10	7	70.0	5	50.0
Germany	29	19	65.5	11	37.9	37	23	62.2	10	27.0	16	10	62.5	8	50.0
Italy	11	5	45.5	2	18.2	9	5	55.6	2	22.2	8	3	37.5	1	12.5
France	32	16	50.0	7	21.9	24	12	50.0	5	20.8	26	14	53.8	12	46.2
Spain	9	2	22.2	1	11.1	6	2	33.3	1	16.7	8	6	75.0	4	50.0
Other	89	58	65.2	38	42.7	123	85	69.1	54	43.9	95	67	70.5	43	45.3
N./S. America	201	94	46.8	51	25.4	170	70	41.2	42	24.7	215	102	47.4	64	29.8
Canada	36	21	58.3	18	50.0	41	27	65.9	16	39.0	45	31	68.9	21	46.7
Mexico	30	11	36.7	4	13.3	26	9	34.6	6	23.1	37	15	40.5	8	21.6
Argentina	7	6	85.7	5	71.4	7	4	57.1	4	57.1	8	7	87.5	4	50.0
Brazil	49	11	22.4	5	10.2	46	6	13.0	3	6.5	67	19	28.4	12	17.9
Chile	8	3	37.5	3	37.5	8	2	25.0	1	12.5	8	1	12.5	0	0.0
Colombia	12	7	58.3	0	0.0	10	3	30.0	3	30.0	7	3	42.9	3	42.9
Peru	10	9	90.0	4	40.0	5	5	100.0	2	40.0	5	4	80.0	2	40.0
Other	49	26	53.1	12	24.5	27	14	51.9	7	25.9	38	22	57.9	14	36.8

NOTES: Data Include foreign doctoral recipients with either permanent or temporary visas. Doctoral recipients who "plan to stay" think that they will locate in the United States; those with "firm plans" have a postdoctoral research appointment or academic, industrial, or other firm employment in the United States.

SOURCE: National Science Foundation, Science Resources Studies Division, Survey of Earned Doctorates, unpublished tabulations, 1997.

See figure 2-19.

Appendix table 2-38.
1990-91 Foreign doctoral recipients from U.S. universities working in the United States, by degree field and place of origin: 1992-95

Degree field and place of origin	Foreign doctoral recipients	Percent working in the United States			
		1992	1993	1994	1995
Total S&E fields	13,878	45	48	49	47
China	2,779	75	81	87	88
India	1,235	76	76	7	79
Japan	227	18	23	25	13
South Korea	1,912	17	14	13	11
Taiwan	1,824	46	48	45	42
England	142	48	55	55	59
Germany	177	30	2:	34	35
Greece	240	39	43	40	41
Canada	417	35	41	44	46
Mexico	194	26	28	28	30
Physical sciences	4,156	52	54	55	53
China	1,235	78	84	88	90
India	357	70	73	76	73
Japan	57	23	32	32	8
South Korea	496	23	18	18	16
Taiwan	460	51	47	45	43
England	49	53	58	55	60
Germany	94	32	31	39	41
Greece	72	47	56	52	49
Canada	116	37	46	46	49
Mexico	48	22	32	30	30
Life sciences	2,729	38	42	46	45
China	652	64	72	86	85
India	158	71	61	73	73
Japan	31	23	32	32	8
South Korea	268	20	19	16	11
Taiwan	288	37	47	38	33
England	29	38	50	57	65
Germany	32	20	20	24	24
Greece	27	38	38	34	43
Canada	110	30	38	43	46
Mexico	73	20	18	21	25
Social sciences	2,188	27	28	28	28
China	133	64	70	69	69
India	135	53	55	56	54
Japan	99	15	16	19	14
South Korea	424	8	7	7	7
Taiwan	160	28	25	21	21
England	44	38	47	47	49
Germany	32	34	38	34	34
Greece	30	33	25	25	21
Canada	119	34	37	42	41
Mexico and Brazil	31	20	23	23	23
Engineering	4,805	52	54	55	53
China	759	80	87	91	91
India	585	86	87	89	89
Japan	40	17	20	23	20
South Korea	724	18	14	11	10
Taiwan	916	50	53	51	48
England	20	73	73	73	73
Germany	19	33	26	26	26
Greece	111	36	40	38	41
Canada	72	43	42	43	49
Mexico	42	44	44	42	42

NOTES: Data are for foreign doctoral recipients with temporary visas only. Physical sciences include mathematics and computer sciences.Social sciences include psychology, sociology, and other social sciences.

SOURCE: M.G. Finn, *Stay Rates of Foreign Doctorate Recipients From U.S. Universities, 1995* (Oak Ridge, TN: Oak Ridge Institute for Science and Education, 1997).

See text table 3-17.

Appendix table 2-39.
Postdoctoral appointments in science and engineering, by citizenship status: 1988-95

Field	1988	1989	1990	1991	1992	1993	1994	1995
All postdoctoral appointments								
Total, all surveyed fields[a]	26,083	27,878	29,515	30,800	32,682	34,263	36,301	35,379
Total, science and engineering fields	19,687	20,864	21,770	22,808	23,825	24,599	25,727	25,995
Total sciences	18,002	18,952	19,831	20,565	21,474	22,165	23,137	23,367
Total engineering	1,685	1,912	1,939	2,243	2,351	2,434	2,590	2,628
To U.S. citizens								
Total, all surveyed fields[a]	14,392	14,826	15,090	15,097	15,764	16,684	17,939	18,002
Total, science and engineering fields	10,423	10,654	10,651	10,775	11,154	11,591	12,433	12,778
Total sciences	9,838	10,003	10,043	10,130	10,393	10,750	11,429	11,791
Total engineering	585	651	608	645	761	841	1,004	987
To non-U.S. citizens								
Total, all surveyed fields[a]	11,691	13,052	14,425	15,703	16,918	17,579	18,362	17,377
Total, science and engineering fields	9,264	10,210	11,119	12,033	12,671	13,008	13,294	13,217
Total sciences	8,164	8,949	9,788	10,435	11,081	11,415	11,708	11,576
Total engineering	1,100	1,261	1,331	1,598	1,590	1,593	1,586	1,641

[a]Survey includes all science, engineering, and health fields.

SOURCE: National Science Foundation, Science Resources Studies Division, *Graduate Students and Postdoctorates in Science and Engineering, Fall 1995,* NSF 97-312 (Arlington, VA: 1997).

Science & Engineering Indicators – 1998

Appendix table 2-40.
Foreign-born S&E faculty in U.S. higher education, by teaching field and region of origin: 1993

Region of origin	Total S&E	Physical sciences	Life sciences	Math & computer sciences	Social sciences	Engineering
		Number				
Total S&E faculty	242,812	37,693	59,654	45,545	72,910	27,010
U.S. origin	193,606	29,550	51,382	33,122	62,522	17,029
Foreign origin	49,206	8,143	8,273	12,423	10,388	9,980
Asia	22,608	3,630	4,081	5,702	3,868	5,327
Europe	11,693	2,815	2,202	2,900	2,085	1,692
North America	2,206	330	473	261	958	185
Central America	671	25	188	59	139	261
Caribbean	747	128	134	87	366	32
South America	2,621	128	298	408	813	964
Africa	2,621	128	298	408	813	964
Oceania	499	40	103	115	140	101
Abroad, not specified	6,462	1,000	308	2,356	1,589	1,210
		Percent				
Total S&E faculty	100.0	100.0	100.0	100.0	100.0	100.0
U.S. origin	79.7	78.4	86.1	72.7	85.8	63.1
Foreign origin	20.3	21.6	13.9	27.3	14.2	36.9
Asia	9.3	9.6	6.8	12.5	5.3	19.7
Europe	4.8	7.5	3.7	6.4	2.9	6.3
North America	0.9	0.9	0.8	0.6	1.3	0.7
Central America	0.3	0.1	0.3	0.1	0.2	0.0
Caribbean	0.3	0.3	0.2	0.2	0.5	0.1
South America	0.6	0.1	0.7	1.1	0.5	0.8
Africa	1.1	0.3	0.5	0.9	1.1	3.6
Oceania	0.2	0.1	0.2	0.3	0.2	0.4
Abroad, not specified	2.7	2.7	0.5	5.2	2.2	4.5

NOTES: Data include scientists and engineers whose first job is in S&E postsecondary teaching at four-year college and universities in the United States. Data exclude scientists and engineers who teach in S&E fields in two-year or community colleges, or who teach as a secondary job.

SOURCE: National Science Foundation, Science Resources Studies Division, SESTAT database, unpublished tabulations.

See figure 2-20 and text table 2-11.

Science & Engineering Indicators – 1998

Appendix table 2-41.
Foreign-born female S&E faculty in U.S. higher education, by teaching field and region of origin: 1993

Region of origin	Total S&E	Physical sciences	Life sciences	Math & computer sciences	Social sciences	Engineering
Total foreign-born female S&E faculty	9,897	1,712	2,400	2,346	2,777	662
Asia	4,509	873	1,118	1,157	1,061	300
Europe	1,899	368	547	398	405	181
North America	368	29	185	7	138	9
Central America	49	0	8	8	29	4
Caribbean	225	24	85	0	116	0
South America	333	27	160	19	28	99
Africa	260	10	81	77	66	26
Oceania	123	0	9	0	105	9
Abroad, not specified	2,131	381	207	680	829	34

NOTES: Data include scientists and engineers whose first job is in S&E postsecondary teaching at four-year college and universities in the United States. Data exclude scientists and engineers who teach in S&E fields in two-year or community colleges, or who teach as a secondary job.

SOURCE: National Science Foundation, Science Resources Studies Division, SESTAT database, unpublished tabulations.

Science & Engineering Indicators – 1998

Appendix table 2-42.
Major places of origin for foreign-born S&E faculty in U.S. higher education, by field: 1993

Place of origin	Total S&E	Physical sciences	Life sciences	Math & computer sciences	Social sciences	Engineering
Total S&E faculty	242,812	37,693	59,654	45,545	72,910	27,010
		Total				
Total S&E faculty from major places of origin	23,762	4,706	3,754	5,394	4,589	5,319
India	5,696	597	796	1,648	1,032	1,6237
China	4,263	970	773	1,261	386	873
United Kingdom	3,149	1,076	476	380	487	730
Taiwan	2,491	507	350	688	234	712
Canada	2,206	330	473	260	958	185
South Korea	2,163	511	311	426	571	344
Germany	1,604	410	400	236	553	5
Iran	1,369	113	101	268	269	618
Greece	821	192	74	227	99	229
		Female				
Total S&E faculty from major places of origin	4,316	984	1,152	947	939	294
India	1,168	125	241	423	274	105
China	1,031	371	309	212	52	87
United Kingdom	251	57	87	23	73	11
Taiwan	638	214	128	228	65	3
Canada	368	29	185	7	138	9
South Korea	201	30	16	14	141	0
Germany	289	64	105	30	90	0
Iran	143	17	7	10	98	11
Greece	227	77	74	0	8	68

NOTES: Data include scientists and engineers whose first job is in S&E postsecondary teaching at four-year college and universities in the United States. Data exclude scientists and engineers who teach in S&E fields in two-year or community colleges, or who teach as a secondary job.

SOURCE: National Science Foundation, Science Resources Studies Division, SESTAT database, unpublished tabulations.

See text table 2-11. *Science & Engineering Indicators – 1998*

Appendix table 2-43.
S&E doctoral degrees earned by Asian students at U.S. universities, by place of origin: 1986-95

Place of origin	Cumulative 1986-95	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
Total	44,931	2,139	2,473	2,762	3,099	4,315	5,239	5,725	5,943	6,549	6,687
China	14,088	198	293	480	620	1,150	1,793	2,045	2,227	2,531	2,751
Hong Kong	952	73	87	81	93	94	121	109	109	95	90
India	7,554	469	503	520	536	711	752	861	933	1,065	1,204
Japan	1,276	111	83	104	106	147	125	132	132	182	154
South Korea	8,821	402	549	621	753	979	1,114	1,126	1,123	1,150	1,004
Taiwan	10,276	709	790	786	857	1,012	1,127	1,242	1,213	1,301	1,239
Thailand	956	109	95	98	76	111	93	87	77	97	113
Other Asia	1,008	68	73	72	58	111	114	123	129	128	132

NOTE: Data include foreign students with either temporary or permanent visas.

SOURCE: National Science Foundation, Science Resources Studies Division, *Selected Data on Science and Engineering Doctorate Awards: 1995,* NSF 96-303 (Arlington, VA: 1996).

See text table 2-12. *Science & Engineering Indicators – 1998*