

Table D-11. U.S. scientists and engineers, by highest degree attained, occupation, sex, and race: 1997

| Highest degree and occupation | S&Es, total | Sex | | Race/ethnicity | | | | |
|--|-------------|-----------|-----------|----------------|---------|----------|---------|--------|
| | | Male | Female | White | Black | Hispanic | Asian | Other |
| All degree levels¹ | | | | | | | | |
| All occupations, total² | 12,512,000 | 8,097,900 | 4,414,100 | 10,557,900 | 640,200 | 422,200 | 849,400 | 42,400 |
| S&E occupations, total | 3,899,000 | 3,000,600 | 898,400 | 3,260,200 | 126,600 | 114,900 | 384,700 | 12,600 |
| Scientists, total | 2,261,500 | 1,506,700 | 754,800 | 1,881,900 | 88,300 | 62,800 | 220,400 | 8,100 |
| Computer/math sci, total | 1,129,700 | 809,200 | 320,500 | 917,100 | 48,000 | 28,200 | 133,600 | 2,800 |
| Computer/information scientists | 1,003,400 | 727,700 | 275,600 | 813,100 | 42,100 | 25,000 | 121,600 | 1,600 |
| Mathematical scientists | 42,400 | 27,200 | 15,200 | 35,100 | 2,200 | 600 | 3,600 | 800 |
| Postsecondary teachers-computer math sci | 84,000 | 54,300 | 29,700 | 68,800 | 3,700 | 2,600 | 8,400 | 500 |
| Life/related scientists, total | 387,300 | 242,700 | 144,500 | 324,000 | 11,400 | 10,700 | 39,700 | 1,500 |
| Agricultural/food scientists | 50,500 | 37,200 | 13,200 | 44,800 | 1,500 | 1,100 | 3,000 | 100 |
| Biological scientists | 221,000 | 126,500 | 94,500 | 174,900 | 7,300 | 7,100 | 30,500 | 1,200 |
| Environmental life scientists | 23,400 | 19,800 | 3,700 | 22,800 | 100 | 400 | 100 | 200 |
| Postsecondary teachers-life/related sciences | 92,400 | 59,300 | 33,100 | 81,500 | 2,500 | 2,200 | 6,000 | 100 |
| Physical/related scientists, total | 343,500 | 264,400 | 79,100 | 292,100 | 10,000 | 8,800 | 31,400 | 1,200 |
| Chemistry, except biochemistry | 147,100 | 105,600 | 41,500 | 118,100 | 6,600 | 3,800 | 18,200 | 300 |
| Earth scientists/geologists/oceanographers | 82,100 | 68,500 | 13,700 | 74,900 | 1,100 | 2,100 | 3,700 | 300 |
| Physicists/astronomers | 38,400 | 34,600 | 3,800 | 32,900 | 500 | 800 | 4,200 | 100 |
| Other physical/related scientists | 18,700 | 12,700 | 6,000 | 17,200 | 300 | 400 | 600 | 200 |
| Postsecondary teachers-physical/related sci | 57,200 | 43,100 | 14,200 | 48,900 | 1,500 | 1,700 | 4,800 | 300 |
| Social/related scientists, total | 401,000 | 190,300 | 210,600 | 348,800 | 18,900 | 15,100 | 15,700 | 2,500 |
| Economists | 50,800 | 33,200 | 17,600 | 43,200 | 1,500 | 1,700 | 4,400 | S |
| Political/related scientists | 11,000 | 6,300 | 4,700 | 10,000 | 200 | 500 | 400 | S |
| Psychologists | 205,800 | 74,400 | 131,500 | 182,400 | 10,000 | 8,000 | 3,800 | 1,600 |
| Sociologists/anthropologists | 19,500 | 7,900 | 11,600 | 16,900 | 1,300 | 700 | 500 | 100 |
| Other social/related scientists | 13,500 | 5,000 | 8,500 | 11,600 | 900 | 300 | 500 | 200 |
| Postsecondary teachers-social/related sci | 100,300 | 63,500 | 36,800 | 84,700 | 5,000 | 3,900 | 6,200 | 600 |
| Engineers, total | 1,637,500 | 1,493,900 | 143,600 | 1,378,300 | 38,300 | 52,100 | 164,400 | 4,500 |
| Aerospace/related engineers | 99,400 | 92,000 | 7,400 | 86,200 | 2,500 | 2,300 | 7,700 | 600 |
| Chemical engineers | 93,900 | 81,700 | 12,200 | 77,800 | 1,900 | 3,500 | 10,500 | 100 |
| Civil/architectural engineers | 245,600 | 223,700 | 22,000 | 203,400 | 4,000 | 9,300 | 28,300 | 700 |
| Electrical/related engineers | 430,500 | 402,800 | 27,800 | 348,300 | 11,200 | 14,600 | 55,400 | 1,000 |
| Industrial engineers | 93,800 | 82,900 | 10,900 | 79,200 | 4,100 | 3,800 | 6,300 | 400 |
| Mechanical engineers | 319,500 | 301,100 | 18,400 | 276,500 | 6,600 | 7,900 | 27,400 | 1,000 |
| Other engineers | 313,600 | 272,300 | 41,300 | 274,600 | 6,500 | 9,500 | 22,300 | 700 |
| Postsecondary teachers-engineers .. | 41,300 | 37,600 | 3,700 | 32,200 | 1,400 | 1,300 | 6,400 | S |
| Non-S&E occupations, total | 8,613,100 | 5,097,300 | 3,515,700 | 7,297,700 | 513,600 | 307,300 | 464,700 | 29,800 |
| Managers/administrators | 2,321,300 | 1,663,700 | 657,600 | 2,006,300 | 126,500 | 68,800 | 112,800 | 6,800 |
| Health/related | 920,300 | 489,000 | 431,300 | 763,500 | 45,900 | 35,600 | 71,500 | 3,700 |
| Teachers, except S&E postsecondary .. | 985,500 | 388,600 | 596,900 | 835,200 | 80,200 | 38,400 | 28,300 | 3,400 |
| Sales/marketing | 1,085,700 | 732,300 | 353,400 | 951,700 | 41,400 | 30,500 | 59,200 | 3,000 |
| Other non-S&E occupations | 3,300,300 | 1,823,800 | 1,476,500 | 2,741,000 | 219,600 | 133,900 | 192,800 | 12,900 |

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

Table D-11. U.S. scientists and engineers, by highest degree attained, occupation, sex, and race: 1997

| Highest degree and occupation | S&Es, total | Sex | | Race/ethnicity | | | | |
|--|-------------|-----------|-----------|----------------|---------|----------|---------|--------|
| | | Male | Female | White | Black | Hispanic | Asian | Other |
| Bachelor's | | | | | | | | |
| All occupations, total² | 7,456,800 | 4,731,300 | 2,725,500 | 6,314,700 | 399,700 | 272,600 | 441,200 | 28,700 |
| S&E occupations, total | 2,252,100 | 1,776,100 | 476,000 | 1,932,200 | 82,100 | 69,300 | 160,400 | 8,100 |
| Scientists, total | 1,135,500 | 757,900 | 377,700 | 960,000 | 53,400 | 33,600 | 83,700 | 4,800 |
| Computer/math sci, total | 731,900 | 516,300 | 215,600 | 615,700 | 35,400 | 19,600 | 59,200 | 2,000 |
| Computer/information scientists | 698,700 | 496,400 | 202,300 | 588,400 | 33,000 | 18,900 | 57,100 | 1,300 |
| Mathematical scientists | 16,400 | 10,400 | 6,000 | 13,400 | 1,200 | 100 | 1,000 | 700 |
| Postsecondary teachers- computer math sci | 16,800 | 9,500 | 7,300 | 13,900 | 1,200 | 500 | 1,100 | S |
| Life/related scientists, total | 158,100 | 90,400 | 67,800 | 134,300 | 5,700 | 5,300 | 11,800 | 1,000 |
| Agricultural/food scientists | 25,800 | 18,300 | 7,600 | 23,200 | 1,100 | 600 | 800 | S |
| Biological scientists | 94,300 | 46,800 | 47,500 | 76,400 | 4,000 | 3,800 | 9,300 | 900 |
| Environmental life scientists | 16,900 | 14,200 | 2,700 | 16,500 | S | 200 | S | 200 |
| Postsecondary teachers- life/related sciences | 21,100 | 11,100 | 9,900 | 18,200 | 600 | 600 | 1,700 | S |
| Physical/related scientists, total | 163,300 | 117,600 | 45,600 | 142,000 | 6,700 | 4,500 | 9,600 | 500 |
| Chemistry, except biochemistry | 88,100 | 59,000 | 29,100 | 73,800 | 5,000 | 2,400 | 6,800 | 100 |
| Earth scientists/ geologists/oceanographers | 42,100 | 35,000 | 7,100 | 39,400 | 600 | 800 | 1,200 | 100 |
| Physicists/astronomers | 10,200 | 9,400 | 800 | 9,300 | 200 | 400 | 300 | S |
| Other physical/related scientists | 9,000 | 6,000 | 3,000 | 8,300 | 200 | 300 | 100 | 200 |
| Postsecondary teachers- physical/related sci | 13,900 | 8,200 | 5,700 | 11,200 | 700 | 600 | 1,300 | 100 |
| Social/related scientists, total | 82,200 | 33,600 | 48,600 | 68,000 | 5,600 | 4,300 | 3,100 | 1,300 |
| Economists | 18,500 | 10,000 | 8,600 | 16,600 | 800 | 400 | 800 | S |
| Political/related scientists | 6,100 | 3,300 | 2,800 | 5,600 | 100 | 200 | 100 | S |
| Psychologists | 32,500 | 10,700 | 21,800 | 25,000 | 3,000 | 2,500 | 1,100 | 900 |
| Sociologists/anthropologists | 9,600 | 2,900 | 6,600 | 8,100 | 800 | 600 | S | 100 |
| Other social/related scientists | 5,500 | 2,200 | 3,300 | 4,700 | 200 | 200 | 300 | 200 |
| Postsecondary teachers- social/related sci | 10,100 | 4,500 | 5,500 | 8,000 | 600 | 500 | 800 | 100 |
| Engineers, total | 1,116,600 | 1,018,200 | 98,300 | 972,200 | 28,700 | 35,700 | 76,700 | 3,200 |
| Aerospace/related engineers | 61,200 | 55,800 | 5,400 | 53,800 | 1,900 | 1,500 | 3,600 | 400 |
| Chemical engineers | 61,000 | 52,200 | 8,800 | 52,700 | 1,600 | 2,300 | 4,300 | 100 |
| Civil/architectural engineers | 181,400 | 164,400 | 17,100 | 156,100 | 3,200 | 6,400 | 15,200 | 600 |
| Electrical/related engineers | 290,500 | 271,900 | 18,700 | 244,000 | 8,900 | 9,900 | 26,900 | 800 |
| Industrial engineers | 70,100 | 62,400 | 7,700 | 60,700 | 3,400 | 2,600 | 3,300 | 100 |
| Mechanical engineers | 238,500 | 225,100 | 13,500 | 214,000 | 4,600 | 6,000 | 13,200 | 700 |
| Other engineers | 206,300 | 180,100 | 26,200 | 185,000 | 4,700 | 7,000 | 9,100 | 500 |
| Postsecondary teachers-engineers .. | 7,400 | 6,400 | 1,100 | 5,900 | 400 | 100 | 1,100 | S |
| Non-S&E occupations, total | 5,204,700 | 2,955,200 | 2,249,500 | 4,382,400 | 317,600 | 203,300 | 280,800 | 20,600 |
| Managers/administrators | 1,319,600 | 931,300 | 388,300 | 1,152,100 | 65,300 | 41,600 | 56,200 | 4,400 |
| Health/related | 350,900 | 112,500 | 238,500 | 277,700 | 23,500 | 16,000 | 31,500 | 2,200 |
| Teachers, except S&E postsecondary .. | 482,800 | 158,200 | 324,500 | 406,500 | 38,500 | 22,300 | 13,600 | 1,900 |
| Sales/marketing | 848,600 | 564,800 | 283,800 | 748,200 | 32,500 | 24,900 | 40,500 | 2,500 |
| Other non-S&E occupations | 2,202,800 | 1,188,300 | 1,014,500 | 1,797,900 | 157,800 | 98,500 | 139,000 | 9,700 |

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

Table D-11. U.S. scientists and engineers, by highest degree attained, occupation, sex, and race: 1997

| Highest degree and occupation | S&Es, total | Sex | | Race/ethnicity | | | | |
|--|-------------|-----------|-----------|----------------|---------|----------|---------|-------|
| | | Male | Female | White | Black | Hispanic | Asian | Other |
| Master's | | | | | | | | |
| All occupations, total ² | 3,311,300 | 2,066,000 | 1,245,300 | 2,756,700 | 176,100 | 99,600 | 270,000 | 8,800 |
| S&E occupations, total | 1,100,000 | 806,700 | 293,300 | 883,800 | 33,400 | 31,900 | 148,100 | 2,800 |
| Scientists, total | 671,100 | 416,900 | 254,200 | 542,700 | 24,900 | 17,500 | 84,300 | 1,700 |
| Computer/math sci, total | 328,500 | 236,500 | 91,900 | 249,000 | 11,200 | 6,600 | 61,100 | 600 |
| Computer/information scientists | 272,500 | 204,200 | 68,300 | 201,900 | 8,600 | 5,100 | 56,700 | 200 |
| Mathematical scientists | 18,100 | 10,900 | 7,200 | 15,300 | 900 | 300 | 1,500 | 100 |
| Postsecondary teachers- computer math sci | 37,800 | 21,500 | 16,400 | 31,800 | 1,700 | 1,200 | 2,900 | 300 |
| Life/related scientists, total | 83,800 | 46,500 | 37,300 | 69,900 | 3,300 | 1,700 | 8,600 | 200 |
| Agricultural/food scientists | 12,300 | 8,500 | 3,800 | 11,000 | 300 | 200 | 800 | S |
| Biological scientists | 45,400 | 23,700 | 21,700 | 35,400 | 2,000 | 900 | 6,900 | 100 |
| Environmental life scientists | 4,900 | 4,100 | 800 | 4,800 | S | 100 | S | S |
| Postsecondary teachers- life/related sciences | 21,200 | 10,100 | 11,000 | 18,700 | 900 | 500 | 900 | 100 |
| Physical/related scientists, total | 83,300 | 62,500 | 20,800 | 70,000 | 1,900 | 2,200 | 8,700 | 500 |
| Chemistry, except biochemistry | 24,600 | 17,400 | 7,200 | 18,000 | 1,000 | 700 | 4,600 | 200 |
| Earth scientists/ geologists/oceanographers | 28,000 | 22,600 | 5,400 | 25,100 | 400 | 1,000 | 1,400 | 100 |
| Physicists/astronomers | 11,300 | 9,600 | 1,700 | 9,500 | 200 | 200 | 1,400 | 100 |
| Other physical/related scientists | 7,800 | 4,900 | 2,900 | 7,300 | 100 | 100 | 300 | S |
| Postsecondary teachers- physical/related sci | 11,600 | 8,000 | 3,600 | 10,100 | 200 | 200 | 900 | 100 |
| Social/related scientists, total | 175,600 | 71,500 | 104,100 | 153,800 | 8,500 | 7,000 | 5,900 | 500 |
| Economists | 23,200 | 16,100 | 7,100 | 19,400 | 500 | 1,100 | 2,100 | S |
| Political/related scientists | 3,700 | 2,000 | 1,700 | 3,300 | S | 300 | 100 | S |
| Psychologists | 108,600 | 31,900 | 76,700 | 97,600 | 5,400 | 3,900 | 1,400 | 300 |
| Sociologists/anthropologists | 5,600 | 2,800 | 2,800 | 4,900 | 400 | S | 300 | S |
| Other social/related scientists | 4,100 | 1,600 | 2,500 | 3,400 | 400 | 100 | 100 | S |
| Postsecondary teachers- social/related sci | 30,400 | 17,000 | 13,400 | 25,000 | 1,800 | 1,600 | 1,900 | 100 |
| Engineers, total | 428,900 | 389,800 | 39,100 | 341,100 | 8,500 | 14,400 | 63,800 | 1,100 |
| Aerospace/related engineers | 32,900 | 31,200 | 1,800 | 28,400 | 600 | 800 | 3,000 | 200 |
| Chemical engineers | 24,600 | 21,800 | 2,800 | 19,400 | 300 | 1,000 | 3,900 | S |
| Civil/architectural engineers | 59,100 | 54,400 | 4,700 | 43,800 | 800 | 2,800 | 11,700 | 100 |
| Electrical/related engineers | 120,200 | 112,100 | 8,100 | 90,700 | 2,100 | 4,300 | 22,900 | 200 |
| Industrial engineers | 21,800 | 18,800 | 3,000 | 17,200 | 700 | 1,100 | 2,500 | 200 |
| Mechanical engineers | 70,800 | 66,100 | 4,700 | 56,500 | 1,900 | 1,500 | 10,600 | 300 |
| Other engineers | 87,100 | 74,100 | 12,900 | 75,200 | 1,700 | 2,200 | 7,900 | 100 |
| Postsecondary teachers-engineers .. | 12,400 | 11,200 | 1,200 | 9,900 | 400 | 700 | 1,400 | S |
| Non-S&E occupations, total | 2,211,300 | 1,259,300 | 952,000 | 1,872,900 | 142,600 | 67,700 | 121,900 | 6,000 |
| Managers/administrators | 826,600 | 591,900 | 234,700 | 705,400 | 50,600 | 23,000 | 45,900 | 1,800 |
| Health/related | 109,900 | 26,200 | 83,700 | 92,900 | 4,600 | 4,200 | 8,000 | 200 |
| Teachers, except S&E postsecondary .. | 412,700 | 174,700 | 238,100 | 354,000 | 35,900 | 13,500 | 8,300 | 1,100 |
| Sales/marketing | 215,700 | 151,700 | 64,000 | 185,600 | 7,900 | 5,300 | 16,400 | 500 |
| Other non-S&E occupations | 646,300 | 314,900 | 331,500 | 535,200 | 43,600 | 21,700 | 43,300 | 2,500 |

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

Table D-11. U.S. scientists and engineers, by highest degree attained, occupation, sex, and race: 1997

| Highest degree and occupation | S&Es, total | Sex | | Race/ethnicity | | | | |
|--|-------------|---------|---------|----------------|--------|----------|--------|-------|
| | | Male | Female | White | Black | Hispanic | Asian | Other |
| Doctorate | | | | | | | | |
| All occupations, total ² | 789,700 | 599,400 | 190,300 | 642,800 | 24,500 | 21,600 | 98,100 | 2,700 |
| S&E occupations, total | 511,900 | 393,700 | 118,100 | 413,700 | 10,200 | 12,100 | 74,200 | 1,700 |
| Scientists, total | 422,700 | 310,400 | 112,300 | 351,300 | 9,100 | 10,300 | 50,400 | 1,600 |
| Computer/math sci, total | 64,800 | 53,000 | 11,900 | 48,800 | 1,100 | 1,900 | 12,800 | 200 |
| Computer/information scientists | 27,900 | 23,900 | 4,000 | 19,600 | 200 | 800 | 7,300 | 100 |
| Mathematical scientists | 7,800 | 5,900 | 1,900 | 6,300 | 100 | 200 | 1,100 | S |
| Postsecondary teachers- computer math sci | 29,100 | 23,200 | 5,900 | 22,900 | 800 | 900 | 4,400 | 200 |
| Life/related scientists, total | 128,400 | 92,800 | 35,600 | 105,300 | 1,900 | 2,800 | 18,000 | 300 |
| Agricultural/food scientists | 12,200 | 10,300 | 1,800 | 10,400 | 100 | 200 | 1,400 | S |
| Biological scientists | 73,400 | 50,500 | 22,900 | 56,700 | 1,000 | 1,800 | 13,700 | 200 |
| Environmental life scientists | 1,500 | 1,300 | 200 | 1,300 | S | S | 100 | S |
| Postsecondary teachers- life/related sciences | 41,300 | 30,600 | 10,800 | 36,800 | 800 | 800 | 2,900 | S |
| Physical/related scientists, total ... | 96,100 | 83,900 | 12,200 | 79,300 | 1,400 | 2,100 | 13,100 | 300 |
| Chemistry, except biochemistry | 34,400 | 29,200 | 5,200 | 26,200 | 600 | 700 | 6,800 | S |
| Earth scientists/ geologists/oceanographers | 11,900 | 10,700 | 1,200 | 10,400 | 100 | 300 | 1,100 | 100 |
| Physicists/astronomers | 16,900 | 15,600 | 1,200 | 14,000 | 100 | 200 | 2,500 | S |
| Other physical/related scientists | 1,700 | 1,600 | 200 | 1,500 | S | S | 200 | S |
| Postsecondary teachers- physical/related sci | 31,200 | 26,800 | 4,400 | 27,200 | 600 | 800 | 2,500 | 200 |
| Social/related scientists, total | 133,300 | 80,800 | 52,500 | 117,800 | 4,700 | 3,500 | 6,500 | 800 |
| Economists | 8,700 | 7,000 | 1,700 | 6,900 | 100 | 200 | 1,500 | S |
| Political/related scientists | 1,200 | 1,000 | 200 | 1,100 | S | S | 100 | S |
| Psychologists | 58,000 | 28,800 | 29,200 | 53,500 | 1,700 | 1,300 | 1,100 | 400 |
| Sociologists/anthropologists | 4,300 | 2,200 | 2,100 | 3,900 | 200 | 100 | 200 | S |
| Other social/related scientists | 3,000 | 1,300 | 1,700 | 2,600 | 200 | S | 200 | S |
| Postsecondary teachers- social/related sci | 58,100 | 40,500 | 17,600 | 49,900 | 2,600 | 1,800 | 3,500 | 400 |
| Engineers, total | 89,200 | 83,300 | 5,900 | 62,500 | 1,100 | 1,800 | 23,800 | 100 |
| Aerospace/related engineers | 5,100 | 4,800 | 300 | 3,800 | S | S | 1,100 | S |
| Chemical engineers | 8,300 | 7,700 | 600 | 5,800 | S | 100 | 2,400 | S |
| Civil/architectural engineers | 4,500 | 4,300 | 200 | 2,800 | 100 | 100 | 1,500 | S |
| Electrical/related engineers | 18,800 | 17,800 | 900 | 12,700 | 200 | 300 | 5,600 | S |
| Industrial engineers | 1,400 | 1,200 | 200 | 900 | S | 100 | 500 | S |
| Mechanical engineers | 9,900 | 9,600 | 300 | 5,900 | 100 | 300 | 3,500 | S |
| Other engineers | 19,900 | 17,900 | 2,000 | 14,100 | 100 | 300 | 5,300 | 100 |
| Postsecondary teachers-engineers .. | 21,300 | 19,900 | 1,400 | 16,400 | 600 | 500 | 3,900 | S |

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

Table D-11. U.S. scientists and engineers, by highest degree attained, occupation, sex, and race: 1997

| Highest degree and occupation | S&Es, total | Sex | | Race/ethnicity | | | | |
|---|-------------|---------|--------|----------------|--------|----------|--------|-------|
| | | Male | Female | White | Black | Hispanic | Asian | Other |
| Doctorate — continued | | | | | | | | |
| Non-S&E occupations, total | 277,800 | 205,700 | 72,100 | 229,100 | 14,300 | 9,500 | 23,900 | 1,000 |
| Managers/administrators | 115,300 | 94,600 | 20,700 | 97,000 | 5,900 | 2,500 | 9,300 | 600 |
| Health/related | 26,400 | 18,200 | 8,200 | 18,400 | 900 | 2,200 | 4,900 | 100 |
| Teachers, except S&E postsecondary | 68,100 | 42,300 | 25,800 | 55,700 | 4,500 | 2,200 | 5,400 | 400 |
| Sales/marketing | 9,600 | 7,900 | 1,700 | 8,300 | 100 | 300 | 900 | S |
| Other non-S&E occupations | 58,500 | 42,700 | 15,800 | 49,800 | 3,000 | 2,300 | 3,400 | S |

¹ Includes professional degrees

² Total excludes 18,700 individuals who reported never having worked. For unemployed individuals, occupation is for their previous reported job.

NOTES: The term "Scientists and Engineers" (S&Es) includes all persons who have ever received a bachelor's degree or higher in a science or engineering (S&E) field, plus persons holding a non-S&E bachelor's or higher degree who were employed in a S&E occupation during either the 1993, 1995 or 1997 SESTAT surveys. Figures are rounded to nearest hundred. Details may not add to total because of rounding.

KEY: S = Suppressed for reasons of confidentiality and/or data reliability

SOURCE: National Science Foundation/Science Resources Studies Division, 1997 SESTAT (Scientists and Engineers Statistical Data System)