APPENDIX TABLE 3-2 ⊞

Bureau of Labor Statistics projections of occupational employment: 2014–24

(Thousands)

Occupation	BLS National Employment Matrix 2014 estimate	BLS projected 2024 employment	Job openings from growth and net replacements, 2014–24	10-year growth in total employment (%)	10-year job openings as % of 2014 employment
Total, all occupations	150,539.9	160,328.8	46,506.9	6.5	30.9
All S&E	6,261.7	6,956.7	1,880.5	11.1	30.0
Computer and mathematical scientists (excluding computer programmers)	3,714.1	4,267.7	1,063.8	14.9	28.6
Computer and information scientists, research	25.6	28.3	6.0	10.5	23.4
Computer and information analysts	650.7	784.1	217.1	20.5	33.4
Software and web developers	1,262.5	1,488.7	404.5	17.9	32.0
Network architects and database and systems administrators	648.8	705.0	150.1	8.7	23.1
Computer support specialists	766.9	855.7	187.4	11.6	24.4
Computer specialists, all other	233.0	240.8	37.7	3.3	16.2
Mathematicians	3.5	4.2	1.3	20.0	37.1
Operations research analysts	91.3	118.9	43.9	30.2	48.1
Statisticians	30.0	40.1	15.4	33.7	51.3
Mathematical scientists, all other	1.8	1.9	0.4	5.6	22.2
Engineers	1,636.3	1,701.2	510.7	4.0	31.2
Aerospace engineers	72.5	70.8	20.7	-2.3	28.6
Agricultural engineers	2.9	3.0	0.7	3.4	24.1

Occupation	BLS National Employment Matrix 2014 estimate	BLS projected 2024 employment	Job openings from growth and net replacements, 2014–24	10-year growth in total employment (%)	10-year job openings as % of 2014 employment
Biomedical engineers	22.1	27.2	10.9	23.1	49.3
Chemical engineers	34.3	34.9	10.0	1.7	29.2
Civil engineers	281.4	305.0	106.7	8.4	37.9
Computer hardware engineers	77.7	80.1	18.4	3.1	23.7
Electrical and electronics engineers	315.9	315.7	71.4	-0.1	22.6
Electrical engineers	178.4	180.2	41.1	1.0	23.0
Electronics engineers, except computer	137.4	135.5	30.3	-1.4	22.1
Environmental engineers	55.1	62.0	22.4	12.5	40.7
Industrial engineers, including health and safety	266.3	270.0	81.8	1.4	30.7
Health and safety engineers, except mining safety engineers and inspectors	25.2	26.8	9.0	6.3	35.7
Industrial engineers	241.1	243.2	72.8	0.9	30.2
Marine engineers and naval architects	8.3	9.0	2.9	8.4	34.9
Materials engineers	25.3	25.6	9.2	1.2	36.4
Mechanical engineers	277.5	292.1	102.5	5.3	36.9
Mining and geological engineers, including mining safety engineers	8.3	8.8	2.7	6.0	32.5
Nuclear engineers	16.8	16.2	4.4	-3.6	26.2
Petroleum engineers	35.1	38.5	13.0	9.7	37.0
Engineers, all other	136.9	142.3	33.0	3.9	24.1

Occupation	BLS National Employment Matrix 2014 estimate	BLS projected 2024 employment	Job openings from growth and net replacements, 2014–24	10-year growth in total employment (%)	10-year job openings as % of 2014 employment
Life scientists	310.9	330.0	116.6	6.1	37.5
Agricultural and food scientists	36.1	38.0	14.5	5.3	40.2
Animal scientists	2.9	3.2	1.2	10.3	41.4
Food scientists and technologists	15.4	16.0	5.9	3.9	38.3
Soil and plant scientists	17.7	18.9	7.3	6.8	41.2
Biological scientists	114.1	118.4	35.0	3.8	30.7
Biochemists and biophysicists	34.1	36.9	11.9	8.2	34.9
Microbiologists	22.4	23.2	6.8	3.6	30.4
Zoologists and wildlife biologists	21.3	22.2	6.6	4.2	31.0
Biological scientists, all other	36.4	36.2	9.7	-0.5	26.6
Conservation scientists and foresters	36.5	39.3	18.7	7.7	51.2
Conservation scientists	21.1	22.5	10.6	6.6	50.2
Foresters	15.5	16.8	8.0	8.4	51.6
Medical scientists	113.6	123.0	44.5	8.3	39.2
Epidemiologists	5.8	6.1	2.2	5.2	37.9
Medical scientists, except epidemiologists	107.9	116.8	42.4	8.2	39.3
All other life scientists	10.6	11.3	4.0	6.6	37.7
Physical scientists	296.8	316.6	92.7	6.7	31.2
Astronomers and physicists	20.0	21.4	5.3	7.0	26.5
Astronomers	1.9	1.9	0.4	0.0	21.1
Physicists	18.1	19.5	4.9	7.7	27.1

Occupation	BLS National Employment Matrix 2014 estimate	BLS projected 2024 employment	Job openings from growth and net replacements, 2014–24	10-year growth in total employment (%)	10-year job openings as % of 2014 employment
Atmospheric and space scientists	11.8	12.9	3.3	9.3	28.0
Chemists and materials scientists	98.4	101.0	24.2	2.6	24.6
Chemists	91.1	93.5	22.4	2.6	24.6
Materials scientists	7.3	7.5	1.8	2.7	24.7
Environmental scientists and geoscientists	138.0	152.5	56.9	10.5	41.2
Environmental scientists and specialists, including health	94.6	104.8	39.3	10.8	41.5
Geoscientists, except hydrologists and geographers	36.4	40.2	15.0	10.4	41.2
Hydrologists	7.0	7.5	2.6	7.1	37.1
All other physical scientists	28.5	28.8	3.0	1.1	10.5
Social and related scientists (excluding historians)	303.6	341.2	96.7	12.4	31.9
Economists	21.5	22.7	7.0	5.6	32.6
Survey researchers	16.7	18.7	3.9	12.0	23.4
Psychologists	173.9	206.4	69.8	18.7	40.1
Clinical, counseling, and school psychologists	155.3	185.9	63.8	19.7	41.1
Industrial-organizational psychologists	2.0	2.3	0.8	15.0	40.0
Psychologists, all other	16.6	18.3	5.2	10.2	31.3
Sociologists	2.6	2.5	0.3	-3.8	11.5

Occupation	BLS National Employment Matrix 2014 estimate	BLS projected 2024 employment	Job openings from growth and net replacements, 2014–24	10-year growth in total employment (%)	10-year job openings as % of 2014 employment
Urban and regional planners	38.0	40.4	9.4	6.3	24.7
Miscellaneous social scientists and related workers	50.9	50.3	6.3	-1.2	12.4
Anthropologists and archeologists	7.7	8.0	1.2	3.9	15.6
Geographers	1.4	1.4	0.2	0.0	14.3
Political scientists	6.2	6.0	0.7	-3.2	11.3
Social scientists and related workers, all other	35.6	34.9	4.2	-2.0	11.8
Selected other occupations					
S&E managers	918.7	1,034.2	308.1	12.6	33.5
Computer and information systems managers	348.5	402.2	94.8	15.4	27.2
Architectural and engineering managers	182.1	185.8	59.5	2.0	32.7
Medical and health services managers	333.0	389.3	140.5	16.9	42.2
Natural sciences managers	55.1	56.9	13.3	3.3	24.1
S&E technicians and technologists, except computer programmers	1,158.1	1,172.3	334.9	1.2	28.9
Agricultural and food science technicians	33.0	34.7	12.4	5.2	37.6
Biological technicians	79.3	83.5	26.3	5.3	33.2
Chemical technicians	66.5	67.7	21.1	1.8	31.7
Geological and petroleum technicians	16.5	18.5	8.0	12.1	48.5

Occupation	BLS National Employment Matrix 2014 estimate	BLS projected 2024 employment	Job openings from growth and net replacements, 2014–24	10-year growth in total employment (%)	10-year job openings as % of 2014 employment
Nuclear technicians	6.8	6.4	2.8	-5.9	41.2
Social science research assistants	32.0	33.8	15.2	5.6	47.5
Miscellaneous life, physical, and social science technicians	161.4	172.2	80.2	6.7	49.7
Drafters	204.4	198.3	25.8	-3.0	12.6
Surveying and mapping technicians	57.3	52.9	6.5	-7.7	11.3
Aerospace engineering and operations technicians	11.4	11.8	3.2	3.5	28.1
Civil engineering technicians	74.0	77.6	21.6	4.9	29.2
Electrical and electronic engineering technicians	139.4	136.6	34.1	-2.0	24.5
Electro-mechanical technicians	14.7	14.8	3.7	0.7	25.2
Environmental engineering technicians	18.6	20.4	6.4	9.7	34.4
Industrial engineering technicians	66.5	63.5	16.3	-4.5	24.5
Mechanical engineering technicians	48.4	49.3	12.8	1.9	26.4
Engineering technicians, all other	70.1	69.9	17.1	-0.3	24.4
Mathematical technicians	1.2	1.1	0.2	-8.3	16.7
Surveyors, cartographers, photogrammetrists	56.6	59.3	21.2	4.8	37.5
Computer programmers	328.6	302.2	81.0	-8.0	24.7
Health care practitioners and technical occupations	8,236.5	9,584.6	3,161.6	16.4	38.4

Occupation	BLS National Employment Matrix 2014 estimate	BLS projected 2024 employment	Job openings from growth and net replacements, 2014–24	10-year growth in total employment (%)	10-year job openings as % of 2014 employment
Health diagnosing and treating practitioners	5,132.4	5,994.7	2,073.4	16.8	40.4
Chiropractors	45.2	53.1	16.0	17.5	35.4
Dentists	151.5	178.2	57.6	17.6	38.0
Dietitians and nutritionists	66.7	77.6	16.0	16.3	24.0
Optometrists	40.6	51.6	25.5	27.1	62.8
Pharmacists	297.1	306.2	78.4	3.1	26.4
Physicians and surgeons	708.3	807.6	290.0	14.0	40.9
Physician assistants	94.4	123.2	50.0	30.5	53.0
Registered nurses	2,751.0	3,190.3	1,088.4	16.0	39.6
Nurse practitioners	126.9	171.7	74.7	35.3	58.9
Therapists	655.9	813.8	311.2	24.1	47.4
Veterinarians	78.3	85.2	19.0	8.8	24.3
Health diagnosing and treating practitioners, all other	116.5	136.2	46.6	16.9	40.0
Health technologists and technicians	2,946.6	3,416.1	1,040.4	15.9	35.3
Clinical laboratory technologists and technicians	328.2	380.3	130.5	15.9	39.8
Dental hygienists	200.5	237.9	70.3	18.7	35.1
Diagnostic-related technologists and technicians	363.9	412.4	117.3	13.3	32.2
Emergency medical technicians and paramedics	241.2	299.6	98.0	24.2	40.6

Occupation	BLS National Employment Matrix 2014 estimate	BLS projected 2024 employment	Job openings from growth and net replacements, 2014–24	10-year growth in total employment (%)	10-year job openings as % of 2014 employment
Health practitioner support technicians	712.8	794.7	154.5	11.5	21.7
Licensed practical and licensed vocational nurses	719.9	837.2	322.2	16.3	44.8
Medical records and health information technicians	188.6	217.6	71.2	15.4	37.8
Opticians, dispensing	75.2	93.0	37.9	23.7	50.4
Health care technologists and technicians, all other	116.4	143.5	38.6	23.3	33.2
Other health care practitioners and technical occupations	157.4	173.8	47.8	10.4	30.4
Occupational health and safety specialists and technicians	85.5	89.6	21.3	4.8	24.9
Health care practitioners and technical workers, all other	72.0	84.1	26.5	16.8	36.8
Lawyers	778.7	822.5	157.7	5.6	20.3
Postsecondary teachers	1,869.4	2,088.8	550.6	11.7	29.5

BLS = Bureau of Labor Statistics.

Note(s)

Estimates of current and projected employment for the 2014–24 period are from BLS's National Employment Matrix. Data in the matrix are from the Occupational Employment Statistics (OES) survey and the Current Population Survey (CPS). Together, these sources cover paid workers, self-employed workers, and unpaid family workers in all industries, agriculture, and private households. Because the numbers are derived from multiple sources, data can often differ from employment data provided by the OES survey, CPS, or other employment surveys alone. BLS does not make projections for S&E occupations as a group; numbers in the table are based on the sum of BLS projections in occupations that the National Science Foundation considers S&E. Detail may not add to total because of rounding.