

Defining Science, Technology, Engineering, and Mathematics (STEM) Occupations Based on O*NET Subject Knowledge Values (Importance and Level) - December 2011

Subject Knowledge	O*NET Value Criteria	
	Importance	Level
Biology	70	65
Chemistry	70	65
Computers and Electronics Engineering and Technology	70	65
Mathematics	70	65
Medicine or Dentistry	70	65
Physics	70	65

Occupation Count	2000 SOC Code	2000 SOC Title	O*NET Subject Knowledge Needed	O*NET Subject Knowledge Values (0-100)		Composite Knowledge Score	O*NET Code	2010 SOC Code	2010 SOC Title	2011 Average Wage	Education Code
				Importance**	Level***						
1	11-3021	Computer and Information Systems Managers	Computers and Electronics	88	81	169	11-3021.00	11-3021	Computer and Information Systems Managers	\$ 59.46	5
2	11-3031	Financial Managers	Mathematics	74	70	144	11-3031.02	11-3031	Financial Managers, Branch or Department	\$ 56.41	5
3	11-3051	Industrial Production Managers	Engineering and Technology	70	69	139	11-3051.02	11-3051	Geothermal Production Managers	\$ 51.22	4
4	11-9041	Engineering Managers	Engineering and Technology	95	91	186	11-9041.00	11-9041	Architectural and Engineering Managers	\$ 57.24	5
5	11-9121	Natural Science Managers*	Chemistry	66	65	131	11-9121.00	11-9121	Natural Science Managers	\$ 57.12	5
6	13-1051	Cost Estimators	Mathematics	86	79	165	13-1051.00	13-1051	Cost Estimators	\$ 27.88	4
7	13-1081	Logisticians	Engineering and Technology	75	76	151	13-1081.01	13-1081	Logistics Engineers	\$ 31.85	5
8	13-2011	Accountants and Auditors	Mathematics	77	70	147	13-2011.01	13-2011	Accountants	\$ 31.06	5
9	13-2051	Financial Analysts	Mathematics	76	75	151	13-2051.00	13-2051	Financial Analysts	\$ 32.99	5
10	15-1011	Computer and Information Scientists, Research	Computers and Electronics	90	94	184	15-1111.00	15-1111	Computer and Information Research Scientists	\$ 42.70	6
11	15-1021	Computer Programmers	Computers and Electronics	96	96	192	15-1131.00	15-1131	Computer Programmers	\$ 32.23	3
12	15-1031	Computer Software Engineers, Applications	Computers and Electronics	94	95	189	15-1132.00	15-1132	Software Developers, Applications	\$ 40.80	4
13	15-1032	Computer Software Engineers, Systems Software	Computers and Electronics	95	91	186	15-1133.00	15-1133	Software Developers, Systems Software	\$ 42.63	5
14	15-1041	Computer Support Specialists	Computers and Electronics	95	85	180	15-1151.00	15-1151	Computer User Support Specialists	\$ 19.91	3
15	15-1051	Computer Systems Analysts	Computers and Electronics	90	83	173	15-1121.00	15-1121	Computer Systems Analysts	\$ 34.90	4
16	15-1061	Database Administrators	Computers and Electronics	83	86	169	15-1141.00	15-1141	Database Administrators	\$ 34.38	4
17	15-1071	Network and Computer Systems Administrators	Computers and Electronics	87	81	168	15-1142.00	15-1142	Network and Computer Systems Administrators	\$ 34.32	4
18	15-1081	Network Systems and Data Communications Analysts	Computers and Electronics	96	91	187	15-1122.00	15-1122	Information Security Analysts	\$ 34.54	3
19	15-1099	Computer Specialists, All Other	Computers and Electronics	93	90	183	15-1199.02	15-1199	Computer Systems Engineers/Architects	\$ 31.23	3
20	15-2011	Actuaries	Mathematics	99	97	196	15-2011.00	15-2011	Actuaries	\$ 45.51	5
21	15-2021	Mathematicians	Mathematics	100	97	197	15-2021.00	15-2021	Mathematicians	\$ 39.25	6
22	15-2031	Operations Research Analysts	Mathematics	95	93	188	15-2031.00	15-2031	Operations Research Analysts	\$ 27.56	6
23	15-2041	Statisticians	Mathematics	95	90	185	15-2041.01	15-2041	Biostatisticians	\$ 26.11	5
24	15-2091	Mathematical Technicians	Mathematics	100	81	181	15-2091.00	15-2091	Mathematical Technicians	\$ 16.27	4
25	17-1011	Architects, Except Landscape and Naval	Engineering and Technology	87	85	172	17-1011.00	17-1011	Architects, Except Landscape and Naval	\$ 38.55	6
26	17-1021	Cartographers and Photogrammetrists	Computers and Electronics	74	66	140	17-1021.00	17-1021	Cartographers and Photogrammetrists	\$ 35.01	5

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27	17-1022	Surveyors	Mathematics	92	82	174	17-1022.00	17-1022	Surveyors	\$ 28.72	5
28	17-2011	Aerospace Engineers	Engineering and Technology	92	85	177	17-2011.00	17-2011	Aerospace Engineers	\$ 43.91	5
29	17-2021	Agricultural Engineers	Engineering and Technology	95	92	187	17-2021.00	17-2021	Agricultural Engineers	\$ 23.82	5
30	17-2031	Biomedical Engineers	Biology	90	86	176	17-2031.00	17-2031	Biomedical Engineers	\$ 37.81	5
31	17-2041	Chemical Engineers	Engineering and Technology	97	94	191	17-2041.00	17-2041	Chemical Engineers	\$ 36.11	5
32	17-2051	Civil Engineers	Engineering and Technology	98	97	195	17-2051.00	17-2051	Civil Engineers	\$ 39.54	5
33	17-2061	Computer Hardware Engineers	Computers and Electronics	93	91	184	17-2061.00	17-2061	Computer Hardware Engineers	\$ 41.70	5
34	17-2071	Electrical Engineers	Engineering and Technology	94	88	182	17-2071.00	17-2071	Electrical Engineers	\$ 39.08	5
35	17-2072	Electronics Engineers, Except Computer	Engineering and Technology	94	81	175	17-2072.00	17-2072	Electronics Engineers, Except Computer	\$ 40.26	5
36	17-2081	Environmental Engineers	Engineering and Technology	90	89	179	17-2081.00	17-2081	Environmental Engineers	\$ 32.87	5
37	17-2111	Health and Safety Engineers, Except Mining Safety Engineers and Inspectors	Engineering and Technology	89	85	174	17-2111.02	17-2111	Fire-Prevention and Protection Engineers	\$ 31.61	5
38	17-2112	Industrial Engineers	Engineering and Technology	86	73	159	17-2112.00	17-2112	Industrial Engineers	\$ 33.27	5
39	17-2121	Marine Engineers and Naval Architects	Engineering and Technology	93	88	181	17-2121.02	17-2121	Marine Architects	\$ 35.92	5
40	17-2131	Materials Engineers	Engineering and Technology	81	83	164	17-2131.00	17-2131	Materials Engineers	\$ 38.80	5
41	17-2141	Mechanical Engineers	Engineering and Technology	93	84	177	17-2141.00	17-2141	Mechanical Engineers	\$ 37.07	5
42	17-2151	Mining and Geological Engineers, Including Mining Safety Engineers	Engineering and Technology	90	83	173	17-2151.00	17-2151	Mining and Geological Engineers, Including Mining Safety Engi	\$ 34.14	5
43	17-2161	Nuclear Engineers	Engineering and Technology	97	95	192	17-2161.00	17-2161	Nuclear Engineers	\$ 48.31	5
44	17-2171	Petroleum Engineers	Engineering and Technology	95	86	181	17-2171.00	17-2171	Petroleum Engineers	\$ 41.51	5
45	17-2199	Engineers, All Other	Engineering and Technology	93	92	185	17-2199.07	17-2199	Photonics Engineers	\$ 43.82	5
46	17-3011	Architectural and Civil Drafters	Mathematics	78	68	146	17-3011.02	17-3011	Civil Drafters	\$ 22.66	3
47	17-3013	Mechanical Drafters	Engineering and Technology	80	76	156	17-3013.00	17-3013	Mechanical Drafters	\$ 24.35	3
48	17-3021	Aerospace Engineering and Operations Technicians	Engineering and Technology	98	91	189	17-3021.00	17-3021	Aerospace Engineering and Operations Technicians	\$ 22.95	4
49	17-3022	Civil Engineering Technicians	Engineering and Technology	72	73	145	17-3022.00	17-3022	Civil Engineering Technicians	\$ 24.34	4
50	17-3023	Electrical and Electronic Engineering Technicians	Computers and Electronics	82	70	152	17-3023.03	17-3023	Electrical Engineering Technicians	\$ 25.49	4
51	17-3024	Electro-Mechanical Technicians	Computers and Electronics	88	76	164	17-3024.01	17-3024	Robotics Technicians	\$ 17.81	3
52	17-3025	Environmental Engineering Technicians	Engineering and Technology	78	68	146	17-3025.00	17-3025	Environmental Engineering Technicians	\$ 19.64	4
53	17-3026	Industrial Engineering Technicians	Computers and Electronics	85	65	150	17-3026.00	17-3026	Industrial Engineering Technicians	\$ 21.90	3
54	17-3027	Mechanical Engineering Technicians	Engineering and Technology	79	69	148	17-3027.00	17-3027	Mechanical Engineering Technicians	\$ 22.96	4
55	17-3029	Engineering Technicians, Except Drafters, All Other	Computers and Electronics	94	84	178	17-3029.04	17-3029	Electronics Engineering Technologists	\$ 26.89	4
56	17-3031	Surveying and Mapping Technicians	Mathematics	90	72	162	17-3031.01	17-3031	Surveying Technicians	\$ 18.40	3
57	19-1011	Animal Scientists	Biology	92	84	176	19-1011.00	19-1011	Animal Scientists	\$ 20.93	5
58	19-1012	Food Scientists and Technologists	Chemistry	87	81	168	19-1012.00	19-1012	Food Scientists and Technologists	\$ 29.03	5
59	19-1013	Soil and Plant Scientists	Biology	82	79	161	19-1013.00	19-1013	Soil and Plant Scientists	\$ 23.86	5
60	19-1021	Biochemists and Biophysicists	Biology	83	88	171	19-1021.00	19-1021	Biochemists and Biophysicists	\$ 35.27	6
61	19-1022	Microbiologists	Biology	97	94	191	19-1022.00	19-1022	Microbiologists	\$ 28.26	6
62	19-1023	Zoologists and Wildlife Biologists	Biology	99	81	180	19-1023.00	19-1023	Zoologists and Wildlife Biologists	\$ 25.02	5
63	19-1029	Biological Scientists, All Other	Biology	99	98	197	19-1029.02	19-1029	Molecular and Cellular Biologists	\$ 29.13	5
64	19-1031	Conservation Scientists	Biology	81	69	150	19-1031.03	19-1031	Park Naturalists	\$ 38.11	5
65	19-1041	Epidemiologists	Mathematics	85	77	162	19-1041.00	19-1041	Epidemiologists	\$ 32.57	6
66	19-1042	Medical Scientists, Except Epidemiologists	Biology	85	84	169	19-1042.00	19-1042	Medical Scientists, Except Epidemiologists	\$ 45.51	6
67	19-2011	Astronomers	Physics	100	97	197	19-2011.00	19-2011	Astronomers	NA	6
68	19-2012	Physicists	Physics	97	92	189	19-2012.00	19-2012	Physicists	\$ 67.26	6
69	19-2021	Atmospheric and Space Scientists	Mathematics	78	71	149	19-2021.00	19-2021	Atmospheric and Space Scientists	\$ 46.23	5
70	19-2031	Chemists	Chemistry	96	84	180	19-2031.00	19-2031	Chemists	\$ 30.52	5
71	19-2032	Materials Scientists	Chemistry	96	91	187	19-2032.00	19-2032	Materials Scientists	\$ 40.07	5

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72	19-2041	Environmental Scientists and Specialists, Including Health	Mathematics	73	71	144	19-2041.00	19-2041	Environmental Scientists and Specialists, Including Health	\$ 27.03	5
73	19-2042	Geoscientists, Except Hydrologists and Geographers	Engineering and Technology	84	74	158	19-2042.00	19-2042	Geoscientists, Except Hydrologists and Geographers	\$ 34.78	5
74	19-2043	Hydrologists	Mathematics	82	75	157	19-2043.00	19-2043	Hydrologists	\$ 37.01	5
75	19-2099	Physical Scientists, All Other	Computers and Electronics	80	78	158	19-2099.01	19-2099	Remote Sensing Scientists and Technologists	\$ 35.03	5
76	19-3011	Economists	Mathematics	90	89	179	19-3011.00	19-3011	Economists	\$ 39.03	5
77	19-4021	Biological Technicians	Biology	86	78	164	19-4021.00	19-4021	Biological Technicians	\$ 17.77	4
78	19-4031	Chemical Technicians	Chemistry	82	79	161	19-4031.00	19-4031	Chemical Technicians	\$ 18.91	4
79	19-4041	Geological and Petroleum Technicians	Computers and Electronics	78	71	149	19-4041.01	19-4041	Geophysical Data Technicians	\$ 19.94	4
80	19-4051	Nuclear Technicians*	Physics	72	59	131	19-4051.01	19-4051	Nuclear Equipment Operation Technicians	NA	4
81	25-1021	Computer Science Teachers, Postsecondary	Computers and Electronics	87	88	175	25-1021.00	25-1021	Computer Science Teachers, Postsecondary	\$ 51.02	5
82	25-1022	Mathematical Science Teachers, Postsecondary	Mathematics	98	93	191	25-1022.00	25-1022	Mathematical Science Teachers, Postsecondary	\$ 43.86	6
83	25-1031	Architecture Teachers, Postsecondary	Engineering and Technology	78	83	161	25-1031.00	25-1031	Architecture Teachers, Postsecondary	\$ 51.98	6
84	25-1032	Engineering Teachers, Postsecondary	Mathematics	89	88	177	25-1032.00	25-1032	Engineering Teachers, Postsecondary	\$ 65.31	6
85	25-1041	Agricultural Sciences Teachers, Postsecondary	Biology	82	77	159	25-1041.00	25-1041	Agricultural Sciences Teachers, Postsecondary	\$ 53.03	5
86	25-1042	Biological Science Teachers, Postsecondary	Biology	100	91	191	25-1042.00	25-1042	Biological Science Teachers, Postsecondary	\$ 47.49	6
87	25-1043	Forestry and Conservation Science Teachers, Postsecondary	Biology	85	83	168	25-1043.00	25-1043	Forestry and Conservation Science Teachers, Postsecondary	\$ 46.77	5
88	25-1051	Atmospheric, Earth, Marine, and Space Sciences Teachers, Postsecondary	Mathematics	75	79	154	25-1051.00	25-1051	Atmospheric, Earth, Marine, and Space Sciences Teachers, Po	\$ 56.03	6
89	25-1052	Chemistry Teachers, Postsecondary	Chemistry	97	95	192	25-1052.00	25-1052	Chemistry Teachers, Postsecondary	\$ 49.25	6
90	25-1053	Environmental Science Teachers, Postsecondary	Computers and Electronics	70	71	141	25-1053.00	25-1053	Environmental Science Teachers, Postsecondary	\$ 54.74	5
91	25-1054	Physics Teachers, Postsecondary	Physics	100	100	200	25-1054.00	25-1054	Physics Teachers, Postsecondary	\$ 52.74	6
92	25-1063	Economics Teachers, Postsecondary	Mathematics	81	78	159	25-1063.00	25-1063	Economics Teachers, Postsecondary	\$ 59.96	6
93	25-1071	Health Specialties Teachers, Postsecondary	Medicine or Dentistry	86	75	161	25-1071.00	25-1071	Health Specialties Teachers, Postsecondary	\$ 66.82	6
94	25-1072	Nursing Instructors and Teachers, Postsecondary	Biology	78	70	148	25-1072.00	25-1072	Nursing Instructors and Teachers, Postsecondary	\$ 45.68	6
95	27-1021	Commercial and Industrial Designers	Engineering and Technology	87	73	160	27-1021.00	27-1021	Commercial and Industrial Designers	\$ 27.80	4
96	27-4012	Broadcast Technicians	Computers and Electronics	82	70	152	27-4012.00	27-4012	Broadcast Technicians	\$ 16.13	4
97	27-4014	Sound Engineering Technicians	Computers and Electronics	86	71	157	27-4014.00	27-4014	Sound Engineering Technicians	\$ 20.68	4
98	29-1011	Chiropractors	Medicine or Dentistry	96	78	174	29-1011.00	29-1011	Chiropractors	\$ 42.47	6
99	29-1021	Dentists, General	Medicine or Dentistry	100	84	184	29-1021.00	29-1021	Dentists, General	\$ 71.63	6
100	29-1022	Oral and Maxillofacial Surgeons	Medicine or Dentistry	100	91	191	29-1022.00	29-1022	Oral and Maxillofacial Surgeons	\$ 90.06	6
101	29-1023	Orthodontists	Medicine or Dentistry	99	89	188	29-1023.00	29-1023	Orthodontists	\$102.19	6
102	29-1024	Prosthodontists	Medicine or Dentistry	96	86	182	29-1024.00	29-1024	Prosthodontists	NA	6
103	29-1031	Dietitians and Nutritionists	Biology	81	69	150	29-1031.00	29-1031	Dietitians and Nutritionists	\$ 27.14	5
104	29-1041	Optometrists	Medicine or Dentistry	86	71	157	29-1041.00	29-1041	Optometrists	\$ 58.90	6
105	29-1051	Pharmacists	Chemistry	85	75	160	29-1051.00	29-1051	Pharmacists	\$ 53.31	6
106	29-1061	Anesthesiologists	Medicine or Dentistry	100	98	198	29-1061.00	29-1061	Anesthesiologists	\$112.56	6
107	29-1062	Family and General Practitioners	Medicine or Dentistry	100	90	190	29-1062.00	29-1062	Family and General Practitioners	\$ 79.76	6
108	29-1063	Internists, General	Medicine or Dentistry	100	88	188	29-1063.00	29-1063	Internists, General	\$111.30	6
109	29-1064	Obstetricians and Gynecologists	Medicine or Dentistry	100	94	194	29-1064.00	29-1064	Obstetricians and Gynecologists	\$107.63	6
110	29-1065	Pediatricians, General	Medicine or Dentistry	100	82	182	29-1065.00	29-1065	Pediatricians, General	\$ 83.01	6
111	29-1066	Psychiatrists	Medicine or Dentistry	95	80	175	29-1066.00	29-1066	Psychiatrists	\$ 86.47	6
112	29-1067	Surgeons	Medicine or Dentistry	95	97	192	29-1067.00	29-1067	Surgeons	\$113.30	6
113	29-1069	Physicians and Surgeons, All Other	Medicine or Dentistry	100	96	196	29-1069.07	29-1069	Pathologists	\$ 95.54	6
114	29-1071	Physician Assistants	Medicine or Dentistry	98	85	183	29-1071.00	29-1071	Physician Assistants	\$ 43.03	5
115	29-1081	Podiatrists	Medicine or Dentistry	94	82	176	29-1081.00	29-1081	Podiatrists	\$ 67.20	6
116	29-1111	Registered Nurses	Medicine or Dentistry	97	85	182	29-1161.00	29-1161	Nurse Midwives	\$ 30.83	4

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117	29-1126	Respiratory Therapists	Medicine or Dentistry	89	70	159	29-1126.00	29-1126	Respiratory Therapists	\$ 24.97	4
118	29-1131	Veterinarians	Biology	95	73	168	29-1131.00	29-1131	Veterinarians	\$ 53.29	6
119	29-1199	Health Diagnosing and Treating Practitioners, All Other	Medicine or Dentistry	100	85	185	29-1199.04	29-1199	Naturopathic Physicians	\$ 31.82	6
120	29-2011	Medical and Clinical Laboratory Technologists	Biology	85	77	162	29-2011.01	29-2011	Cytogenetic Technologists	\$ 26.92	4
121	29-2012	Medical and Clinical Laboratory Technicians	Chemistry	81	75	156	29-2012.00	29-2012	Medical and Clinical Laboratory Technicians	\$ 17.39	4
122	29-2021	Dental Hygienists	Medicine or Dentistry	91	67	158	29-2021.00	29-2021	Dental Hygienists	\$ 28.55	4
123	29-2031	Cardiovascular Technologists and Technicians	Medicine or Dentistry	84	71	155	29-2031.00	29-2031	Cardiovascular Technologists and Technicians	\$ 20.51	3
124	29-2054	Respiratory Therapy Technicians	Medicine or Dentistry	80	66	146	29-2054.00	29-2054	Respiratory Therapy Technicians	\$ 22.90	3
125	29-2055	Surgical Technologists	Medicine or Dentistry	75	67	142	29-2055.00	29-2055	Surgical Technologists	\$ 18.12	3
126	29-2091	Orthotists and Prosthetists	Engineering and Technology	73	75	148	29-2091.00	29-2091	Orthotists and Prosthetists	\$ 32.28	5
127	29-9011	Occupational Health and Safety Specialists	Chemistry	71	68	139	29-9011.00	29-9011	Occupational Health and Safety Specialists	\$ 30.81	3
128	29-9099	Healthcare Practitioners and Technical Workers, All Other	Biology	94	77	171	29-9092.00	29-9092	Genetic Counselors	\$ 22.93	3
129	41-9031	Sales Engineers	Engineering and Technology	84	75	159	41-9031.00	41-9031	Sales Engineers	\$ 43.91	5
130	49-2011	Computer, Automated Teller, and Office Machine Repairers	Computers and Electronics	97	83	180	49-2011.00	49-2011	Computer, Automated Teller, and Office Machine Repairers	\$ 18.08	3
131	49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	Computers and Electronics	83	73	156	49-2094.00	49-2094	Electrical and Electronics Repairers, Commercial and Industrial	\$ 22.42	3
132	49-9062	Medical Equipment Repairers	Computers and Electronics	75	65	140	49-9062.00	49-9062	Medical Equipment Repairers	\$ 18.50	3
133	51-4012	Numerical Tool and Process Control Programmers	Mathematics	80	75	155	51-4012.00	51-4012	Computer Numerically Controlled Machine Tool Programmers, I	\$ 21.29	3
134	51-8011	Nuclear Power Reactor Operators	Physics	71	66	137	51-8011.00	51-8011	Nuclear Power Reactor Operators	\$ 39.95	3
135	53-6041	Traffic Technicians	Engineering and Technology	90	77	167	53-6041.00	53-6041	Traffic Technicians	\$ 20.36	3

* Did not meet the established O*NET knowledge values criteria, but was identified by O*NET as a STEM occupation

** This rating indicates the degree of importance a particular subject knowledge has to the occupation. The possible standardized ratings range from "Not Important" (1) to "Extremely Important" (100).

***This rating indicates the level of skill required in a particular subject knowledge to perform the occupation. The possible standardized ratings range from "limited skill" (1) to "very high skill" (100).

Education Codes/Requirements

- 1-Less than High School
- 2-High School Diploma
- 3-Postsecondary Adult Vocational Training
- 4-Associate's Degree
- 5-Bachelor's Degree
- 6-Master's Degree or Higher