

STEM OCCUPATIONS BY GROUP

Occupational Title	Employment ^[1]			\$ ^[2]		Career Preparation ^[3]			Top Skills ^[4]											
	2012 Estimated	2022 Projected	Annual Growth Rate (%)	2015 Mean Wage	2015 Mean Salary	Educ	Work Exp	Job Training	(L-R in order of significance)											
Healthcare Practitioners & Technical Occupations	84,995	100,885	1.9	32.07	66,705															
Chiropractors	985	1,145	1.6	35.36	73,551	DP	N	N	B2	B7	B3	B9	C1	R4						
Dentists, General	1,495	1,725	1.5	83.89	174,494	DP	N	N	B3	SY1	B2	B6	SO6	B9						
Dietitians & Nutritionists	745	895	2.0	25.14	52,283	BA	N	I	B2	B9	B10	B3	SO1	B7	SO6					
Optometrists	555	665	2.1	61.79	128,524	DP	N	N	B8	B2	B3	B9	SO1	B7	SO5					
Pharmacists	3,160	3,615	1.4	48.44	100,752	DP	N	N	B2	B7	B1	B3	B9							
Family & General Practitioners	2,275	2,560	1.3	104.55	217,463	DP	N	I	B2	B3	B9	B8	SO6							
Physician Assistants	725	955	3.2	44.23	92,003	MA	N	N	B2	B3	B9	B7	SY1	B6	SO6					
Occupational Therapists	855	1,120	3.1	34.43	71,616	MA	N	N	B2	B7	B9	B3	SO5	SO6						
Physical Therapists	1,700	2,240	3.2	36.49	75,895	DP	N	N	B2	B9	B7	B3	SO6	R4						
Respiratory Therapists	920	1,065	1.6	25.54	53,115	AS	N	N	B2	B3	B6	B9	B1	SO5	SO6					
Speech-Language Pathologists	1,055	1,255	1.9	33.05	68,738	MA	N	N	B2	SO6	B9	B3	B7	B10						
Veterinarians	1,520	1,700	1.2	45.85	95,362	DP	N	N	B8	B2	B3	B9	SY1	B7						
Registered Nurses	32,490	38,125	1.7	25.97	54,022	AS	N	N	SO6	B2	SO1	B9	B3	B7	SO5					
Nurse Practitioners	720	920	2.8	44.60	92,765	MA	N	N	B2	B7	B8	B9	B3	B6	SO6					
Medical & Clinical Laboratory Technologists	1,650	1,820	1.0	25.73	53,527	BA	N	N	B2	B8	B3	B7	SY1	B6	B9					
Medical & Clinical Laboratory Technicians	1,460	1,820	2.5	19.43	40,423	AS	N	N	B2	B3	B7	B8	T5	B9						
Dental Hygienists	2,035	2,575	2.7	32.36	67,317	AS	N	N	B2	B9	B3	B7	SO6							
Diagnostic Medical Sonographers	540	780	4.4	29.60	61,576	AS	N	N	B9	B2	B7	SO6	B3	B6	B8	R4				
Radiologic Technologists	2,590	3,030	1.7	23.36	48,588	AS	N	N	B9	B2	T4	SO5	SO1	B6	T5	SO6				
Emergency Medical Technicians & Paramedics	2,245	2,605	1.6	16.04	33,369	PS	N	N	B3	SO5	B2	SO6	B9							
Pharmacy Technicians	3,665	4,415	2.0	14.10	29,318	HS	N	M	B2	B7	B9	B3	SO5	SO6						
Surgical Technologists	625	780	2.5	18.69	38,867	PS	N	N	B6	SO1	T5	B2	B1	B9						
Veterinary Technologists & Technicians	640	825	2.8	14.77	30,723	AS	N	N	B3	B6	B2	B9	SO5							
Licensed Practical & Licensed Vocational Nurses	7,630	9,215	2.1	18.63	38,750	PS	N	N	B2	B9	B3	B7	SO1	SO5						
Medical Records & Health Information Technicians	2,050	2,410	1.8	17.88	37,194	PS	N	N	B2	B7	B9	B1	B6	R4						
Opticians, Dispensing	945	1,145	2.1	14.84	30,859	HS	N	L	B9	B2	B7	B1	B3	SO5	SO6					
Occupational Health & Safety Specialists	475	520	0.9	31.62	65,761	BA	N	S	B2	B9	B3	C1	SY1	SO6	B10					
Healthcare Support Occupations	49,160	58,595	1.9	13.30	27,672															
Occupational Therapy Assistants	360	520	4.4	25.25	52,514	AS	N	N	B7	B2	SY1	SO6	B9	R4	B10					
Physical Therapist Assistants	800	1,105	3.8	22.66	47,141	AS	N	N	B9	B2	SO6	B6	SO1	B3	B7	B10				
Physical Therapist Aides	740	950	2.8	13.07	27,176	HS	N	S	B2	SO5	SO1	SO5	B9							
Massage Therapists	850	1,080	2.7	19.51	40,580	PS	N	N	B2	B9	SO5	B3	SO6							
Dental Assistants	2,800	3,325	1.9	17.66	36,742	PS	N	N	B9	B2	B7	SO5	B3							
Medical Assistants	3,600	4,440	2.3	14.90	30,998	PS	N	N	B2	B9	SO6	B6	B7							
Medical Transcriptionists	2,025	2,065	0.2	15.23	31,684	PS	N	N	B2	B7	B10	B9	R4							
Veterinary Assistants & Laboratory Animal Caretakers	810	855	0.6	11.65	24,234	HS	N	S	B2	B6	B3	B7	SO5	SO6						
Protective Service Occupations	22,335	24,270	0.9	20.57	42,788															
Firefighters	1,695	1,805	0.6	18.29	38,053	PS	N	L	B2	SO1	B3	T5	B6	T4	SO5					
Food Preparation & Serving Related Occupations	132,020	146,170	1.1	9.52	19,800															
First-Line Supervisors of Food Prep & Serving Wkrs	8,415	9,670	1.5	13.50	28,075	HS	< 5	N	B9	B2	SO1	SO5	R3	B6						
Cooks, Institution & Cafeteria	8,400	9,440	1.2	11.21	23,309	< HS	N	S	R4	B2	B3	B6	B7	SO5						
Farming, Fishing, & Forestry Occupations	15,395	16,015	0.4	15.86	32,983															
First-Line Supvs of Farming/Fishing/Forestry Wkrs	1,185	1,230	0.4	26.38	54,870	HS	< 5	N	B2	SO1	B3	B9	R4							
Animal Breeders	535	560	0.5	N.A.	N.A.	HS	< 5	S	B6	B8	B3	B2	C1	SY1	T5	B7	B9	R4		
Education, Training, & Library Occupations	115,965	127,835	1.0	22.61	47,026															
Business Teachers, Postsecondary	1,075	1,230	1.4	43.42	90,309	DP	N	N	B9	B7	B10	SO2	B2	B3	B4					
Biological Science Teachers, Postsecondary	755	890	1.9	40.18	83,583	DP	N	N	B9	B4	B7	B10	B2	SO2	B8					
Nursing Instructors & Teachers, Postsecondary	790	1,070	3.5	30.61	63,659	MA	< 5	N	B9	B7	B1	B2	SO2							
Arts, Design, Entertainment, Sports, & Media Occs	26,560	29,770	1.2	18.07	37,591															
Graphic Designers	2,730	3,085	1.3	18.99	39,502	BA	N	N	B2	T6	B9	B10	B3	B7						

Legend/Methodology/Selection Criteria:

The acronym **STEM**, as used in this publication, is a combined *occupational group* made up of occupations (residual or undefined occupations were not included) from existing and/or established occupational groups adopted from the Office of Management and Budget's (OMB) Standard Occupational Classification (SOC) Manual. The Occupational Information Network (O*NET) and Iowa Workforce Development determined those occupations having a preponderance of tools and skills from **Science**, **Technology**, **Engineering**, and/or **Mathematics**.

[1] Employment includes: **Estimated** = Estimation of labor force by occupation (rounded); **Projected** = Projection of future labor force by occupation (rounded); and **Annual Growth Rate (%)** = Ten year growth rate (not shown) divided by ten.

[2] Mean (Average) Wage & Salary (\$) = dividing the estimated total pay for an occupation by its weighted employment. Pay provided in wage (hourly) and salary (annual) formats; Missing pay data may be derived from calculation or proration of reported wage/salary data if available (i.e., legislator pay based on 4-months service, education and coaching pay based on 12-months service); Occupations with limited or no compensation data (which inhibits either wage or salary calculated derivations) are subsequently omitted from any methodological calculations.

[3] Career Preparation determined by the U.S. Department of Labor's Bureau of Labor Statistics (BLS). Alternative employment pathways may exist as well as differing educational, training, or licensing requirements per state. Iowa requirements are used in this publication when available. Career Preparation areas/levels include:

Education (typical education level needed to enter an occupation): DP = Doctoral or Professional degree; MA = Master's degree; BA = Bachelor's degree; AS = Associate's degree; PS = Postsecondary non-degree award; SC = Some college, no degree; HS = High school diploma or equivalent; < HS = Less than high school; **Work Experience** (typical work experience level commonly considered necessary for entry into an occupation, or substitutable for formal types of training): > 5 = 5 years or more; < 5 = Less than 5 years; N = None; and **Job Training** (typical on-the-job training level needed to attain occupational competency): I = Internship/residency; A = Apprenticeship; L = Long-term on-the-job training; M = Moderate-term on-the-job training; S = Short-term on-the-job training; None = N.

[4] Top Skills refers to the top five (or more if tied) most important skills for a particular occupation as identified by sampled workers' questionnaire responses conducted by occupational analysts of the U.S. Department of Labor's Occupational Information Network (O*NET). These include: **Basic Skills**: B1 = Active Learning; B2 = Active Listening; B3 = Critical Thinking; B4 = Learning Strategies; B5 = Mathematics; B6 = Monitoring; B7 = Reading Comprehension; B8 = Science; B9 = Speaking; B10 = Writing; **Complex Problem Solving Skills**: C1 = Complex Problem Solving; **Resource Management Skills**: R1 = Management of Financial Resources; R2 = Management of Material Resources; R3 = Management of Personnel Resources; R4 = Time Management; **Social Skills**: SO1 = Coordination; SO2 = Instructing; SO3 = Negotiation; SO4 = Persuasion; SO5 = Service Orientation; SO6 = Social Perceptiveness; **Systems Skills**: SY1 = Judgment and Decision Making; SY2 = Systems Analysis; SY3 = Systems Evaluation; and **Technical Skills**: T1 = Equipment Maintenance; T2 = Equipment Selection; T3 = Installation; T4 = Operation and Control; T5 = Operation Monitoring; T6 = Operations Analysis; T7 = Programming; T8 = Quality Control Analysis; T9 = Repairing; T10 = Technology Design; T11 = Troubleshooting. N.A. = Not Available.

Sources:

Education/Work Experience/Job Training: Bureau of Labor Statistics, U.S. Department of Labor; **Employment**: 2012-2022 Occupational Projections estimates based on 2012 annual industry employment data and 2013 2nd quarter occupational staffing pattern data, Labor Market and Workforce Information Division, Iowa Workforce Development; **Skills**: Occupational Information Network (O*NET), Employment and Training Administration, U.S. Department of Labor; **Wages**: 2015 Iowa Wage Survey estimates (based on 2014 2nd quarter occupational wage data updated to 2015 2nd quarter using Employment Cost Index), Labor Market and Workforce Information Division, Iowa Workforce Development. This workforce product was funded by a grant awarded by the U.S. Department of Labor's Employment and Training Administration. The product was created by the recipient and does not necessarily reflect the official position of the U.S. Department of Labor. The Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership. This product is copyrighted by the institution that created it. Internal use by an organization and/or personal use by an individual for non-commercial purposes is permissible. All other uses require the prior authorization of the copyright owner. This publication was produced by the Labor Market and Workforce Information Division of Iowa Workforce Development. Revisions and/or corrections made when necessary. Inquiries may be directed to Brent Paulson at 515.281.3439 or Brent.Paulson@iwd.iowa.gov. Visit www.iowalmi.gov to obtain the latest workforce data and trends including this document. Published 11/2015.