

# In-Demand Occupations: Leveraging Labor-Market Data with Industry Insights to Strategically Align Nevada's Education and Workforce

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## BACKGROUND AND OVERVIEW

From July to December 2016, the Governor's Office of Workforce Innovation for a New Nevada (OWINN) partnered with the Governor's Office of Economic Development (GOED) and the Department of Employment, Training and Rehabilitation (DETR) to coordinate and convene industry representatives of Nevada business, education, and labor to acquire insights concerning sector-specific workforce needs and challenges to help guide state workforce development efforts. In doing so, OWINN, GOED, and DETR leveraged the eight Governor's Workforce Development Board (GWDB) [Industry Sector Councils](#), which were redesigned and authorized by Governor Sandoval through [Executive Order 2016-08](#).

The GWDB established eight Sector Councils: Aerospace and Defense, Construction, Information Technology, Health Care and Medical Services, Manufacturing and Logistics, Mining and Materials, Natural Resources, and Tourism, Gaming, and Entertainment. Visit the [OWINN Sector Council webpage for a definition of each industry](#). The Councils represent a mix of existing industries that serve as the backbone of Nevada's economy and emerging industries that complements and align with the state's vision of a vibrant and sustainable economy through diversification.

Since the reorganization of the Sector Councils, OWINN coordinated two rounds of meetings during the fall and winter of 2016. The fall meetings were informational and the winter meetings resulted in the Councils voting on the occupations they believed are priority occupations in relation to economic development and diversification based on labor market data and their industry experiences. A host of employers and training providers also presented information during the meetings.

The 2017 *In-demand Occupation and Insights* report is a resource for K-12, Career Technical Education (CTE), and postsecondary institutions as well as nonprofits, government entities, and workforce boards to leverage in preparing Nevada's workforce to make informed decisions about program or training offerings that align to research and labor market data as well as the state's needs. But perhaps, even more importantly, leveraging the 2017 *In-demand Occupation and Insights* provide a level of information and security for students and adults engaging in various career pathways and spending precious time, energy, and financial resources to make informed decisions and understand the consequences of the choices they make when pursuing skills and training. OWINN, GOED, and DETR in partnership with the GWDB Industry Sector Councils will produce an annual list of in-demand occupations. We encourage institutions to work to align education and training programs shared in these findings and, in doing so, grow a skilled, diverse, and aligned 21<sup>st</sup> century workforce capable of excelling within a vibrant and sustainable economy.

## METHODOLOGY & DATA

This analysis leveraged various data sets to detect jobs that are currently and are projected to be in high-demand. In order to eliminate any bias or weakness that may come from using just one data set, five data sets were used to decide the consensus rankings; merging all of the data sets and averaging results remove much of the bias and weakness within each data set. The five data sets used in the consensus rankings are 1) GOED target sector high priority occupation analysis, 2) DETR long-term Occupational Employment Projections, 3) Real Time Labor Market Information provided by Burning Glass Technologies via Silver State Solutions, 4) Job Openings and Labor Turnover analysis from the Bureau of Labor Statistics, and 5) occupational STEM scores from a the Brookings Institute Report, The Hidden STEM Economy.

The five data sets included in the consensus ranking model were chosen because each of them has properties that can accommodate the specific staffing needs unique to each industry sector and region within the State. Additionally, the model can be updated as workforce dynamics and regional economies evolve to provide updated workforce demand measures. As such, the Governor's Office of Economic Development will continue to collaborate with key stakeholders such as, but not limited to OWINN, DETR, Industry Sector Councils, Nevada Department of Education, and Nevada System of Higher Education.

## IMPLICATIONS FOR K-12, POSTSECONDARY, EMPLOYERS, AND TRAINING PROVIDERS

Leveraging labor market data, employer input, and engaging educational and workforce stakeholders are explicit strategies being utilized by the state of Nevada to create a skilled, diverse, and aligned workforce. Thus, the in-demand occupations and the insights obtained from the Industry Sector Councils should serve as an important guide to stakeholders engaged in training and development.

For example, CTE programs provide critical pipelines for talent into high paying jobs, requiring 21<sup>st</sup> century skills. CTE students also have higher graduation rates than their non-CTE peers. Further, many employers have shared positive experiences recruiting or hiring CTE students. Thus, it is imperative for K-12 and postsecondary institutions to continue to further partner in aligning programs and course offerings that leverage CTE and career pathways that fill critical talent needs identified by labor market research and employer input. It is also imperative to scale programs that will provide individuals with great return on investment and curtail programs that are becoming obsolete or not supported by the labor market. Training to the consensus occupations is a more compelling way to ensure individuals are positioned to receive a greater return on their investments and grow the economy through workforce development.

Since the purpose of the research and Sector Councils is to identify in-demand workforce that supports economic growth within the eight target sectors there may be occupations that fall outside of those sectors relevant to institutions or training organizations. However, educational institutions and training programs would still be prudent to align programs and build skills that lead to in-demand occupations or pathways articulated in this consensus report. This supports efforts to grow and diversify Nevada's economy and the economic capacity of its citizens by strategically investing public funding for education and workforce development.

Moreover, though many employers on the Sector Council are already engaged with school districts and postsecondary institutions through some form of student engagement projects, STEM outreach, internships, mentorship programs, CTE competitions and outreach, scholarships, speaking and lecturing, industry tours, and apprenticeships it is important for all employers to continue to make these types of time and financial investments to not only grow the economy, but to ensure their viability through a trained workforce. However, as some employers have shared, it is equally important for institutions to make it easier for employers to engage.

Finally, there is no substitute for relevant work experience. K-12 and postsecondary institutions should always strive to provide individuals with relevant work experience via internships, on-the-job training, or other work-based learning opportunities as individuals' progress through educational institutions and complete coursework. Council members consistently shared that work experience can sometimes be more valuable than a degree because of the experience gaining relevant soft and technical skills. Developing a skilled, competitive, 21<sup>st</sup> century workforce will allow traditional industries that have served as the foundation of Nevada's economy to continue to thrive as well as new and emerging industries critical to the state's diversification efforts to fortify against future economic downturns.

## TOP OCCUPATIONS AND LABOR MARKET OVERVIEW

Table 1 below provides an in-depth overview of the in-demand occupations identified across all eight-industry sectors. The chart includes the average hourly wage and employment in 2016, projected new jobs by 2024, total openings due to growth and replacement by 2024, and the number of jobs above or below the national average for each occupation. The occupations are listed in rank order based on an initial sort using the statewide consensus ranking methodology mentioned above, and then a reprioritization based on the number of times each was identified across Sector Councils. Further sorting focused on: 1) occupations in which we had a smaller share than the national average, 2) occupations that were at or near the state's 2016 average salary of \$20.89 and, 3) occupations requiring public education beyond high school.

## **DEFINITION OF COLUMN HEADINGS**

### *Standard Occupational Classification (SOC):*

According to the Bureau of Labor Statistics, the (SOC) “system is used by Federal statistical agencies to classify workers into occupational categories for the purpose of collecting, calculating, or disseminating data. All workers are classified into one of 840 detailed occupations according to their occupational definition.”

### *2016 Occupation Wage (Column C) and Employment (Column D):*

Wage and employment estimates come from the 2016 Occupational Employment Statistics (OES) Wage Survey, published by DETR's Research & Analysis Bureau in partnership with the Bureau of Labor Statistics. These are average wages. As Sector Councils convened, some employers shared that their wages are higher, particularly for occupations that are hard to fill.

### *2024 Estimate of New Jobs in Occupation (Column E) and Total Openings Due to Growth (Column F):*

Projected growth and total openings come from DETR's Research and Analysis Bureau's 2014 - 2024 Long Term Occupational Projections. Because these estimates are projecting past patterns into the future, the forecast for some of the occupations in which the state did not have a strong presence in the past may be lower than these numbers indicate. For example, for many of the occupations requiring technical skills, most employers and industry experts believe that they will grow even more significantly than the numbers reflect, for example the projections for advanced manufacturing are higher.

### *Jobs Above or Below the National Average:*

Location quotients (and derived jobs above or below national average) come from Economic Modeling Specialists International's (EMSI) 2016 4th quarter estimates and include Quarterly Census of Employment and Wages (QCEW) employees, Non-QCEW employees, and self-employed workers. QCEW is a complete count of all workers in the state. Leveraging location quotients as a tool in the labor market analysis sheds light on how concentrated a particular occupation or industry is in a region (in this case Nevada) compared to the U.S. Numbers in red indicate that compared to the U.S. average, Nevada has approximately that many occupations lower than the national average and numbers in black mean that Nevada has a greater number of the respective occupation above the national average. For example, in 2016, Nevada would need an additional 4,143 software developers if the state wanted to be at the national average. However, in industries that already have a strong presence, one would expect the occupations to be above the national average such as chefs and head cooks, which are 2,167 above the national average. Regionally, there will always be occupations above or below the national average based on the relative strength of a specific industry in the state.

### *Typical Entry-level Education:*

The “Typical entry-level education” column provides the education level most often needed to enter an occupation based on national reporting to the Bureau of labor and Statistics. In some instances, the education requirement may be more or less. Additionally, alternate pathways to employment may exist in a region of study. However, the analysis provides a reliable projection on the education level typically required for an individual to have access into an occupation.

**Table 1**

SOC	Occupational Title	2016 Wages	2016 Employment	New Jobs in Occupation Due to Growth by 2024	Total Openings Due to Growth and Replacements by 2024	Jobs Above or Below National Average	Typical Entry-level Education
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers	\$33.53	2,960	641	1,210	(777)	High school diploma or equivalent
51-1011	First-Line Supervisors of Production and Operating Workers	\$27.38	2,700	714	1,110	(2,386)	High school diploma or equivalent
15-1132	Software Developers, Applications	\$44.23	1,950	980	1,350	(4,143)	Bachelor's degree
15-1121	Computer Systems Analysts	\$40.25	1,930	646	900	(2,547)	Bachelor's degree
11-1021	General and Operations Managers	\$50.32	17,600	4,661	9,120	(1,412)	Bachelor's degree
15-1151	Computer User Support Specialists	\$23.76	2,480	585	840	(2,524)	Some college, no degree
13-1161	Market Research Analysts and Marketing Specialists	\$26.59	2,090	663	870	(1,918)	Bachelor's degree
15-1142	Network and Computer Systems Administrators	\$43.40	1,590	373	570	(1,457)	Bachelor's degree
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	\$17.39	2,090	1,137	1,690	(2,219)	High school diploma or equivalent
49-9071	Maintenance and Repair Workers, General	\$21.45	13,910	3,522	7,010	1,710	High school diploma or equivalent
11-3051	Industrial Production Managers	\$44.66	760	233	440	(706)	Bachelor's degree
11-9041	Architectural and Engineering Managers	\$65.17	1,010	241	510	(585)	Bachelor's degree
17-2141	Mechanical Engineers	\$42.40	610	327	500	(1,526)	Bachelor's degree
17-2071	Electrical Engineers	\$43.39	580	361	460	(869)	Bachelor's degree
51-4121	Welders, Cutters, Solderers, and	\$21.45	1,790	646	1,130	(1,290)	High school diploma or

SOC	Occupational Title	2016 Wages	2016 Employment	New Jobs in Occupation Due to Growth by 2024	Total Openings Due to Growth and Replacements by 2024	Jobs Above or Below National Average	Typical Entry-level Education
	Brazers						equivalent
11-9199	Managers, All Other	\$45.34	5,930	470	2,960	1,380	Bachelor's degree
17-2051	Civil Engineers	\$41.40	1,850	363	930	(649)	Bachelor's degree
51-9199	Production Workers, All Other	\$20.89	1,084	462	660	(1,065)	High school diploma or equivalent
17-3023	Electrical and Electronic Engineering Technicians	\$34.26	930	482	750	(326)	Associate's Degree
47-2111	Electricians	\$28.94	5,830	2,412	3,190	944	High school diploma or equivalent
15-1134	Web Developers	\$30.73	650	315	420	(263)	Associate's Degree
47-2061	Construction Laborers	\$19.72	8,090	3,163	4,970	(388)	No formal educational credentials
29-2061	Licensed Practical and Licensed Vocational Nurses	\$25.31	2,340	401	1,060	(3,541)	Postsecondary non-degree award
49-9044	Millwrights	\$25.67	220	147	200	(86)	High school diploma or equivalent
15-1199	Computer Occupations, All Other	\$31.05	2,880	466	840	823	Bachelor's degree
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	\$26.37	1,950	496	1,070	(544)	Bachelor's degree
41-4011	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	\$36.55	1,070	384	640	(1,553)	Bachelor's degree
53-7051	Industrial Truck and Tractor Operators	\$17.50	2,560	654	1,310	(1,779)	No formal educational credentials
53-7062	Laborers and Freight, Stock, and Material	\$14.33	23,610	5,748	12,170	1,949	No formal educational credentials

SOC	Occupational Title	2016 Wages	2016 Employment	New Jobs in Occupation Due to Growth by 2024	Total Openings Due to Growth and Replacements by 2024	Jobs Above or Below National Average	Typical Entry-level Education
	Movers, Hand						
17-2199	Engineers, All Other	\$50.17	610	113	250	(438)	Bachelor's degree
13-2011	Accountants and Auditors	\$30.78	7,810	2,577	4,780	(2,921)	Bachelor's degree
15-1133	Software Developers, Systems Software	\$41.97	970	272	380	(2,132)	Bachelor's degree
49-9041	Industrial Machinery Mechanic	\$28.09	1,540	633	980	(1,127)	High school diploma or equivalent
17-3029	Engineering Technicians, Except Drafters, All Other	\$33.38	310	49	140	(255)	Associate's degree
49-9043	Maintenance Workers, Machinery	\$23.47	330	157	240	(317)	High school diploma or equivalent
29-1069	Physicians and Surgeons, All Other	\$99.99	1,370	359	730	(1,124)	Doctoral or professional degree
29-1171	Nurse Practitioners	\$48.41	580	293	420	(521)	Master's degree
29-1141	Registered Nurses	\$39.16	19,470	3,864	8,570	(4,457)	Bachelor's degree
43-1011	First-Line Supervisors of Office and Administrative Support Workers	\$24.60	10,640	2,367	3,870	(1,876)	High school diploma or equivalent
29-2012	Medical and Clinical Laboratory Technicians	\$19.96	840	228	440	(508)	Associate's degree
51-8031	Water and Wastewater Treatment Plant and System Operator	\$29.59	650	89	290	(335)	High school diploma or equivalent
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	\$26.32	1,550	520	780	(485)	High school diploma or equivalent
15-1143	Computer Network Architects	\$43.83	520	57	110	(674)	Bachelor's degree
17-3027	Mechanical Engineering Technicians	\$23.94	260	51	90	(157)	Associate's degree



SOC	Occupational Title	2016 Wages	2016 Employment	New Jobs in Occupation Due to Growth by 2024	Total Openings Due to Growth and Replacements by 2024	Jobs Above or Below National Average	Typical Entry-level Education
19-2041	Environmental Scientists and Specialists, Including Health	\$32.26	760	129	360	(24)	Bachelor's degree
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	\$16.74	9,650	3,548	6,540	1,976	High school diploma or equivalent
11-9111	Medical and Health Services Managers	\$49.72	2,080	468	1,000	(646)	Bachelor's degree
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	\$26.05	1,910	1,130	1,540	(383)	Postsecondary non-degree award
15-1122	Information Security Analysts	\$35.57	360	N/A	N/A	(433)	Bachelor's degree
51-4041	Machinists	\$19.08	1,000	521	800	(2,093)	High school diploma or equivalent
13-1111	Management Analysts	\$39.23	3,110	646	1,130	(1,670)	Bachelor's degree
29-1071	Physician Assistants	\$59.70	550	360	530	(274)	Master's degree
35-1011	Chefs and Head Cooks	\$24.70	3,400	1,015	1,560	2,167	High school diploma or equivalent
13-1051	Cost Estimators	\$29.45	1,820	676	1,210	24	Bachelor's degree
17-2081	Environmental Engineers	\$38.52	350	92	190	(111)	Bachelor's degree
51-9198	Helpers--Production Workers	\$12.23	1,981	459	1,050	(1,773))	No formal educational credentials
11-9051	Food Service Managers	\$29.89	2,360	647	1,360	517	High school diploma or equivalent
17-2131	Materials Engineers	\$43.19	100	12	50	(104)	Bachelor's degree
29-9011	Occupational Health and Safety Specialist	\$34.59	560	72	180	(34)	Bachelor's degree
19-1042	Medical Scientists, Except Epidemiologists	\$41.95	20	16	80	(45)	Doctoral or professional degree
17-2151	Mining and Geographical	\$43.89	480	43	180	410	Bachelor's degree

SOC	Occupational Title	2016 Wages	2016 Employment	New Jobs in Occupation Due to Growth by 2024	Total Openings Due to Growth and Replacements by 2024	Jobs Above or Below National Average	Typical Entry-level Education
	Engineers, Including Mining Safety Engineers						
41-4012	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	\$31.07	9,140	2,087	3,820	(3,031)	High school diploma or equivalent
29-1051	Pharmacists	\$57.67	2,200	402	870	(296)	Doctoral or professional degree
53-3032	Heavy and Tractor-Trailer Truck Drivers	\$22.92	10,370	2,772	4,530	(4,133)	Postsecondary non-degree award
21-1014	Mental Health Counselors	\$23.22	680	123	270	(417)	Master's degree
19-3031	Clinical, Counseling, and School Psychologists	\$33.00	460	155	290	(294)	Doctoral or professional degree
11-3021	Computer and Information Systems Managers	\$56.36	1,460	374	530	(1,348)	Bachelor's degree
21-1023	Mental Health and Substance Abuse Social Workers	\$26.00	580	68	180	(371)	Bachelor's degree
47-2073	Operating Engineers and Other Construction Equipment Operators	\$27.88	2,470	740	1,130	(515)	High school diploma or equivalent
47-2021	Brickmasons and Blockmasons	\$23.42	670	307	370	122	High school diploma or equivalent
13-1081	Logisticians	\$31.11	320	71	110	(442)	Bachelor's degree
51-9023	Mixing and Blending Machine Setters, Operators, and Tenders	\$18.18	360	52	160	(731)	High school diploma or equivalent
47-2181	Roofers	\$18.16	1,420	621	830	316	No formal educational credential

SOC	Occupational Title	2016 Wages	2016 Employment	New Jobs in Occupation Due to Growth by 2024	Total Openings Due to Growth and Replacements by 2024	Jobs Above or Below National Average	Typical Entry-level Education
<b>53-1031</b>	First-Line Supervisors of Trans. & Material-Moving	\$25.58	1,570	404	900	(118)	High school diploma or equivalent
<b>51-9021</b>	Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders	\$20.57	640	31	170	353	High school diploma or equivalent
<b>47-2171</b>	Reinforcing Iron and Rebar Workers	\$27.72	110	38	50	(37)	High school diploma or equivalent
<b>47-5021</b>	Earth Drillers, Except Oil and Gas	\$26.76	686	85	260	508	High school diploma or equivalent
<b>39-1011</b>	Gaming Supervisors	\$27.01	6,150	269	3,590	5,920	High school diploma or equivalent
<b>47-2141</b>	Painters, Construction and Maintenance	\$20.72	3,120	1,126	1,870	655	No formal educational credentials
<b>53-7032</b>	Excavating and Loading Machine and Dragline Operators	\$26.00	310	79	120	(93)	High school diploma or equivalent
<b>11-9071</b>	Gaming Managers	\$46.96	540	16	170	502	High school diploma or equivalent
<b>47-5081</b>	Helpers-Extraction Workers	\$20.03	420	58	110	228	High school diploma or equivalent
<b>47-5042</b>	Mine Cutting and Channeling Machine Operators	\$29.87	960	2	180	907	High school diploma or equivalent
<b>47-2152</b>	Plumbers, Pipefitters, and Steamfitters	\$23.99	3,630	1,147	1,500	210	High school diploma or equivalent
<b>47-2221</b>	Structural Iron and Steel Workers	\$26.11	260	130	200	(160)	High school diploma or equivalent
<b>17-1022</b>	Surveyor	\$33.45	440	53	190	35	Bachelor's degree
<b>29-9012</b>	Occupational Health and Safety Technicians	\$29.90	120	34	60	(7)	High school diploma or equivalent
<b>47-2211</b>	Sheet Metal Workers	\$22.53	950	594	880	(153)	High school diploma or

SOC	Occupational Title	2016 Wages	2016 Employment	New Jobs in Occupation Due to Growth by 2024	Total Openings Due to Growth and Replacements by 2024	Jobs Above or Below National Average	Typical Entry-level Education
							equivalent
47-2051	Cement Masons and Concrete Finishers	\$20.22	1,890	782	980	476	No formal educational credentials
47-2031	Carpenters	\$22.06	9,530	3,363	4,860	2,599	High school diploma or equivalent
47-2081	Drywall and Ceiling Tile Installers	\$19.39	1,390	421	500	572	No formal educational credential

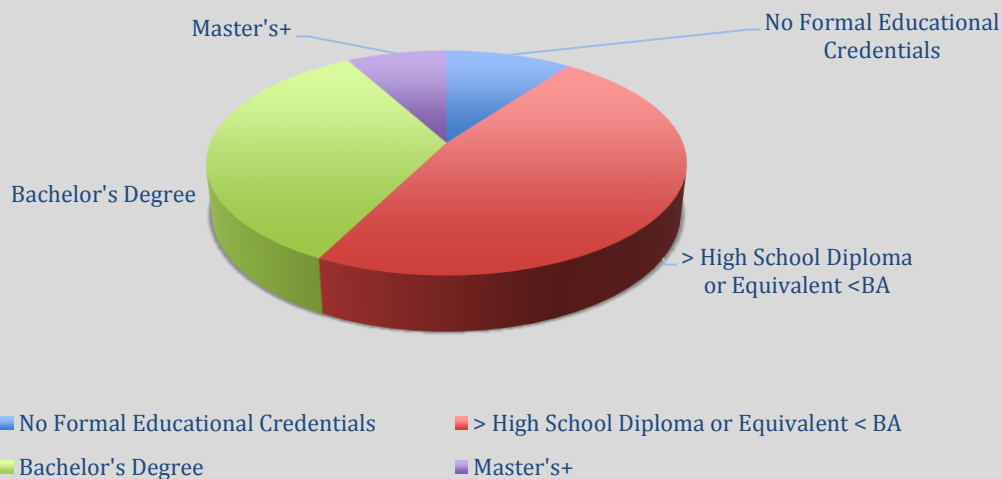
### ADDITIONAL CONSIDERATIONS

The list of top occupations in table 1 will not necessarily capture a few economy wide, high-demand occupations because they fall outside the scope of the private sector companies seated on the eight Industry Sector Councils. The most important of these would be educators where across the economy teachers ranked number 15 out of 94 in the list of top occupation at an aggregate level. Because educators are needed to train for every occupation listed, whether at the K-12 or postsecondary level, they too are in high-demand and should be considered for priority training and development. The chart below shows the total jobs in 2016, the number of jobs above or below the National average and the average hourly earnings.

SOC 6-digit	Description	Rank	2016 Jobs	Jobs Above or Below National Average	Avg. Hourly Earnings	
25-2000	Preschool, Primary, Secondary, and Special Education School Teachers	15	26,722	(9,775)	\$23.95	Preschool: Associate's degree Others: Bachelor's degree
25-3000	Other Teachers and Instructors	61	9,730	(2,738)	\$15.43	Bachelor's degree
25-1000	Postsecondary Teachers	87	8,550	(4,682)	\$31.06	Doctoral or professional degree

## TYPICAL ENTRY-LEVEL EDUCATION ANALYSIS

### 2017 In-Demand Occupations Typical Entry-Level Education



In 2014, the National Skills Coalition concluded, based on the analysis of long-term occupational projections from state labor employment agencies, that 49% of Nevada's job openings in 2020 will require middle skills. Middle skilled jobs require education beyond a high school diploma but less than a four-year degree. However, 30% of all job openings will be low-skilled (less than a high school diploma) and 20% of jobs will be high skilled (typically requires a Bachelor's degree or more).

When examining the typical entry-level education of only the 2017 top in-demand occupations in Nevada, a strong case can be made for investing in educational and workforce training and development programs that prioritize middle skilled occupations. For example, as shown in the pie chart above, approximately 47% of the in-demand occupations will require more than a high school diploma, but less than a four-year degree. Yet, 34% of the in-demand occupations will require a bachelor's degree. However, what is equally important is that only 10% of the in-demand occupations require no formal education and 8% require more than a Bachelor's degree such as a Master's, Doctorate or professional degree. Whether one looks at overall occupational projections or the in-demand occupational projections, middle skilled jobs will be the bulk of what employers will need to fill their vacancies; thus, providing Nevadans with significant opportunities to enhance their quality of life.

As previously mentioned, alternate pathways to employment may exist in a region of study based on an employees' experience or an employer's specific needs or demands. As employers frequently noted during discussions, "a degree is not everything." However, the education analysis provides a reliable projection on the education level typically required for an individual to have access into the in-demand occupation.

## IN-DEMAND OCCUPATIONS SHOWING UP ACROSS INDUSTRY SECTORS

Table 2 provides an overview of all the top occupations within all eight industry sectors that employers identified from the labor market data presented by GOED and DETR during the respective Sector Council meetings. What's important to note in Table 2 is that some occupations show up in more than one industry sector. Thus, an "X" is used to indicate the respective industry in which the occupation shows up. Column J indicates the total number of sectors an occupation shows up. An occupation that shows up in more than one industry has significant implications in diversifying and growing the economy. For example, First-Line Supervisors of Mechanics, Installers, and Repairers each show up as priorities in six different industries. This specific occupation is reflective of employers consistently seeking candidates with those skill sets and suggesting that Nevada needs to increase the number of individuals with technical skills. Training providers and educational institutions would be wise to train individuals who can assume occupations in more than one industry. Another example is software developers and computer systems analysts. Traditionally, one would assume that those occupations are specific to the information technology sector. However, with more sectors leveraging technology, those occupations will be valuable in other industry sectors such as Aerospace, Health Care, Manufacturing and Logistics, and Tourism, Gaming, and Entertainment. Advancement in automation, sensors, and other technological products are having an impact on all industries. The more an occupation shows up across different industries, the more critical it is to grow and train for that occupation to grow the state's economy. Further, there's an added benefit of trainees getting a greater return on investment more and even more security to Nevadans engaged in education and training programs, particularly because many of these occupations will cross regional, state, and even national borders.

Nonetheless, there are many exceptions that should not be ignored when looking at Table 2. Table 2 combines all the occupations of all eight industries. The next section of this report highlights the specific occupations that should be prioritized within each respective industry. There are many occupations that only appear in one industry that are equally important and critical for the growth of the economy. For example, registered nursing is only present in the health and medical services industry but should not be deemed less valuable because it appears in only one industry. In fact, to grow the health and medical services profession, having registered nurses is crucial, as it serves as a critical foundation in the health care industry.

**Table 2**

Occupation	Aero space	Information Technology	Construction	Health & Medical	Manu. & Logistics	Mining & Materials	Natural Resources	Tourism, Gaming, Entertainment	Count
First-Line Supervisors of Mechanics, Installers, and Repairers	X		X		X	X	X	X	6
First-Line Supervisors of Production and Operating Workers	X		X		X	X	X		5
Software Developers, Applications	X	X		X	X			X	5
Computer Systems Analysts	X	X		X	X		X		5
General and Operations Managers	X		X		X	X		X	5
Computer User Support Specialists	X	X		X	X			X	5
Market Research	X			X	X		X	X	5

Occupation	Aero space	Information Technology	Construction	Health & Medical	Manu. & Logistics	Mining & Materials	Natural Resources	Tourism, Gaming, Entertainment	Count
Analysts and Marketing Specialists									
Network and Computer Systems Administrators		X		X	X		X	X	5
Inspectors, Testers, Sorters, Samplers, and Weighers	X				X	X	X		4
Maintenance and Repair Workers, General			X			X	X	X	4
Industrial Production Managers	X				X	X	X		4
Architectural and Engineering Managers	X	X			X		X		4
Mechanical Engineers	X				X		X		3
Electrical Engineers	X				X		X		3
Welders, Cutters, Solderers, and Brazers	X		X			X			3
Managers, All Other		X				X		X	3
Civil Engineers	X		X				X		3
Production Workers, All Other					X	X	X		3
Electrical and Electronic Engineering Technicians					X	X	X		3
Electricians			X			X			2
Web Developers		X						X	2
Construction Laborers			X			X			2
Licensed Practical and Licensed Vocational Nurses		X		X					2
Millwrights			X			X			2
Computer Occupations, All Other	X	X							2
Purchasing Agents, Except Wholesale, Retail, and Farm Products			X			X			2
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific		X			X				2

Occupation	Aero space	Information Technology	Construction	Health & Medical	Manu. & Logistics	Mining & Materials	Natural Resources	Tourism, Gaming, Entertainment	Count
Products									
Industrial Truck and Tractor Operators			X		X				2
Laborers and Freight, Stock, and Material Movers, Hand			X		X				2
Engineers, All Other		X					X		2
Accountants and Auditors			X					X	2
Software Developers, Systems Software	X	X							2
Industrial Machinery Mechanic			X		X				2
Engineering Technicians, Except Drafters, All Other					X	X			2
Maintenance Workers, Machinery			X		X				2
Physicians and Surgeons, All Other				X					1
Nurse Practitioners				X					1
Registered Nurses				X					1
First-Line Supervisors of Office and Administrative Support Workers								X	1
Medical and Clinical Laboratory Technicians					X				1
Water and Wastewater Treatment Plant and System Operator							X		1
Bus and Truck Mechanics and Diesel Engine Specialists						X			1
Computer Network Architects		X							1
Mechanical Engineering Technicians							X		1
Environmental Scientists and Specialists, Including Health							X		1



Occupation	Aero space	Information Technology	Construction	Health & Medical	Manu. & Logistics	Mining & Materials	Natural Resources	Tourism, Gaming, Entertainment	Count
First-Line Supervisors of Food Preparation and Serving Workers								X	1
Medical and Health Services Managers				X					1
Heating, Air Conditioning, and Refrigeration Mechanics and Installers			X						1
Information Security Analysts		X							1
Machinists	X								1
Management Analysts								X	1
Physician Assistants				X					1
Chefs and Head Cooks								X	1
Cost Estimators			X						1
Environmental Engineers						X			1
Helpers--Production Workers	X								1
Food Service Managers								X	1
Materials Engineers						X			1
Occupational Health and Safety Specialist						X			1
Medical Scientists, Except Epidemiologists				X					1
Mining and Geological Engineers, Including Mining Safety Engineers						X			1
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products			X						1
Pharmacists				X					1
Heavy and Tractor-Trailer Truck Drivers			X						1
Mental Health				X					1

Occupation	Aero space	Information Technology	Construction	Health & Medical	Manu. & Logistics	Mining & Materials	Natural Resources	Tourism, Gaming, Entertainment	Count
Counselors									
Clinical, Counseling, and School Psychologists				X					1
Computer and Information Systems Managers		X							1
Mental Health and Substance Abuse Social Workers				X					1
Operating Engineers and Other Construction Equipment Operators			X						1
Brickmasons and Blockmasons			X						1
Logisticians					X				1
Mixing and Blending Machine Setters, Operators, and Tenders					X				1
Roofers			X						1
First-Line Supervisors of Trans. & Material-Moving			X						1
Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders						X			1
Reinforcing Iron and Rebar Workers			X						1
Earth Drillers, Except Oil and Gas						X			1
Gaming Supervisors								X	1
Painters, Construction and Maintenance			X						1
Excavating and Loading Machine and Dragline Operators			X						1
Gaming Managers								X	1
Helpers-Extraction Workers						X			1
Mine Cutting and						X			1

Occupation	Aero space	Information Technology	Construction	Health & Medical	Manu. & Logistics	Mining & Materials	Natural Resources	Tourism, Gaming, Entertainment	Count
Channeling Machine Operators									
Plumbers, Pipefitters, and Steamfitters			X						1
Structural Iron and Steel Workers			X						1
Surveyor						X			1
Occupational Health and Safety Technicians						X			1
Sheet Metal Workers			X						1
Cement Masons and Concrete Finishers			X						1
Carpenters			X						1
Drywall and Ceiling Tile Installers			X						1

## 21<sup>ST</sup> CENTURY IN-DEMAND SKILLS

It is becoming increasingly difficult to know what the future job market will look like with fast advancements in technology such as automation, sensors, software and even artificial intelligence. Although labor market data can provide robust occupational projections, job titles are becoming obsolete. Skills are the new name of the game for young or seasoned individuals who want to succeed in today's and tomorrow's labor markets.

As OWINN convened industry experts to share insight on their needs, there were many lively and robust discussions on skill needs of their industries. A common theme and thread amongst all employers, labor and education representatives was that "soft" and "technical" skills are crucial to success and are significantly in demand. Those skills vary in degree depending on the industry and entry point. Though it is rare for an employee to enter a workplace with every job function skill needed to succeed on day one, the absence of certain skills are a sure way to prevent an individual with even the most advanced job function skill to succeed.

OWINN synthesized the skills Sector Council members specifically mentioned as necessary to workplace success beyond the technical. We categorized the skills based on entry, mid-level or technician level, and management or advance level. Many skills are repeated with the expectation that individuals improve over time to be promoted. Additionally, the absence of a skill does not necessarily mean a skill is not important. In some instances, the explicit mention of a skill reflected frustrations or priorities that were recent concerns in the minds of an employer or industry. The skills list is not meant to be comprehensive since essentially, all skills depend on a specific occupation, job, or employer.

**Table 3**

21 <sup>st</sup> CENTURY IN-DEMAND SKILLS *Indicates Industry Specific Skills			
ENTRY LEVEL			
<ul style="list-style-type: none"> <li>• Communication Skills (Oral and Written)</li> <li>• Ability to Take Direction</li> <li>• Work Ethic</li> <li>• Customer Service</li> <li>• Drug Free</li> <li>• Clean Driving History*</li> </ul>	<ul style="list-style-type: none"> <li>• Problem Solving</li> <li>• Attention to Quality, Safety, and Precision*</li> <li>• Basic Computer Aptitude</li> <li>• Punctuality and Reliability</li> <li>• Integrity</li> </ul>	<ul style="list-style-type: none"> <li>• Comprehension</li> <li>• Teamwork</li> <li>• Troubleshooting*</li> <li>• Understanding of Basic Functions of Equipment or Tools*</li> <li>• Adaptability</li> </ul>	<ul style="list-style-type: none"> <li>• Planned Coordination and Project Management*</li> <li>• Math Skills*</li> <li>• Professionalism</li> <li>• Operating Machine Controls*</li> </ul>
MID-LEVEL/TECHNICIAN			
<ul style="list-style-type: none"> <li>• Relevant work experience</li> <li>• Certifications</li> <li>• Culture Fit</li> </ul>	<ul style="list-style-type: none"> <li>• Leadership Skills</li> <li>• Advanced Technical Skills*</li> <li>• Independent/Self-Starter</li> <li>• Supervisory Skills</li> </ul>	<ul style="list-style-type: none"> <li>• Advanced Communication Skills</li> <li>• Professionalism/Customer Service</li> <li>• Project Management*</li> </ul>	<ul style="list-style-type: none"> <li>• Troubleshooting*</li> <li>• Research* Capabilities</li> <li>• Decision Making Skills and Courage</li> </ul>
MANAGEMENT/ADVANCED LEVEL			
<ul style="list-style-type: none"> <li>• Advanced Experience</li> <li>• Advanced Certifications</li> <li>• Long-Term Vision/Planning</li> <li>• Negotiation Skills</li> </ul>	<ul style="list-style-type: none"> <li>• Project Management and Mastery of the Process (Proposal, Development, Execution, Completion, Evaluation/Feedback)</li> </ul>	<ul style="list-style-type: none"> <li>• Advanced Problem Solving</li> <li>• Collaboration/Teamwork</li> <li>• Ability to Work With Diverse Workforce</li> <li>• Business/Financial Acumen</li> </ul>	<ul style="list-style-type: none"> <li>• Customer Service</li> <li>• Commitment to Culture</li> <li>• Self-Development</li> <li>• Failure Analysis</li> </ul>

## SECTOR SPECIFIC PRIORITY OCCUPATION DESCRIPTION

Below are the listings of the top occupations by specific industry sector and an accompanying description of the occupation. Visit the [OWINN Sector Council webpage for a definition of each industry](#). Please refer to Table 1 above for the occupational wages, projections, and additional labor market data. For a listing of alternate job titles used for any given occupation listed please contact DETR’s research division. Additional, OWINN is providing several key takeaways expressed during each respective Sector Council meeting about the skill needs of the industry.

### ***AEROSPACE AND DEFENSE***

Aerospace and Defense Sector Council members expressed a desire and need for applicants who prioritize precision, quality, and safety. Skills such as, communication, professionalism, good work ethic, the ability to be managed, comprehension, and teamwork, are valued in addition to technical skills and certifications. As people advance to higher levels in organizations, employers value project and people management, advance problem solving skills, advanced communication skills, leadership skills, and experience.

A large numbers of hires have military or defense experience; thus, military background is a bonus. Moreover, an additional challenge to recruiting and hiring is the significant years of work experience typically required for occupations in this sector. Council members also reported challenges with younger applicants, who often have trouble understanding the professional expectations of the work environment.

Title	Description
Mechanical Engineers	Perform engineering duties in planning and designing tools, engines, machines, and other mechanically functioning equipment. Oversee installation, operation, maintenance, and repair of equipment such as centralized heat, gas, water, and steam systems.
Electrical Engineers	Research, design, develop, test, or supervise the manufacturing and installation of electrical equipment, components, or systems for commercial, industrial, military, or scientific use.

First-Line Supervisors of Production and Operating Workers	Directly supervise and coordinate the activities of production and operating workers, such as inspectors, precision workers, machine setters and operators, assemblers, fabricators, and plant and system operators.
First-Line Supervisors of Mechanics, Installers, and Repairers	Directly supervise and coordinate the activities of mechanics, installers, and repairers.
Inspectors, Testers, Sorters, Samplers, and Weighers	Inspect, test, sort, sample, or weigh nonagricultural raw materials or processed, machined, fabricated, or assembled parts or products for defects, wear, and deviations from specifications. May use precision measuring instruments and complex test equipment.
Industrial Production Managers	Plan, direct, or coordinate the work activities and resources necessary for manufacturing products in accordance with cost, quality, and quantity specifications.
Machinists	Set up and operate a variety of machine tools to produce precision parts and instruments. Includes precision instrument makers who fabricate, modify, or repair mechanical instruments. May also fabricate and modify parts to make or repair machine tools or maintain industrial machines, applying knowledge of mechanics, mathematics, metal properties, layout, and machining procedures.
Welders, Cutters, Solderers, and Brazers	Use hand-welding, flame-cutting, hand soldering, or brazing equipment to weld or join metal components or to fill holes, indentations, or seams of fabricated metal products.
Helpers--Production Workers	Help production workers by performing duties requiring less skill. Duties include supplying or holding materials or tools, and cleaning work area and equipment.
Software Developers, Applications	Develop, create, and modify general computer applications software or specialized utility programs. Analyze user needs and develop software solutions. Design software or customize software for client use with the aim of optimizing operational efficiency. May analyze and design databases within an application area, working individually or coordinating database development as part of a team. May supervise computer programmers.
Electrical and Electronic Engineering Technicians	Apply electrical and electronic theory and related knowledge, usually under the direction of engineering staff, to design, build, repair, calibrate, and modify electrical components, circuitry, controls, and machinery for subsequent evaluation and use by engineering staff in making engineering design decisions.
Computer Systems Analysts	Analyze science, engineering, business, and other data processing problems to implement and improve computer systems. Analyze user requirements, procedures, and problems to automate or improve existing systems and review computer system capabilities, workflow, and scheduling limitations. May analyze or recommend commercially available software.
Computer Occupations, All Other	Includes O*NET occupations such as software quality assurance engineers and testers, computer systems engineers/architectures, web administrators, geospatial information scientists and technologists, geographic information systems technicians, database architects, data warehousing specialists, business intelligence analysts, information technology project managers, search marketing strategists, video game designers, and document management specialists.
Civil Engineers	Perform engineering duties in planning, designing, and overseeing construction and maintenance of building structures, and facilities, such as roads, railroads, airports, bridges, harbors, channels, dams, irrigation projects, pipelines, power plants, and water and sewage systems.
Architectural and Engineering Managers	Plan, direct, or coordinate activities in such fields as architecture and engineering or research and development in these fields.
Postsecondary Teachers	Teach undergraduate and graduate level courses in their specialized field of study. Include both teachers primarily engaged in teaching and those who do a combination of both teaching and research. Alternate titles: College Professor.

Computer User Support Specialists	Provide technical assistance to computer users. Answer questions or resolve computer problems for clients in person, or via telephone or electronically. May provide assistance concerning the use of computer hardware and software, including printing, installation, word processing, electronic mail, and operating systems.
Market Research Analysts and Marketing Specialists	Research market conditions in local, regional, or national areas, or gather information to determine potential sales of a product or service, or create a marketing campaign. May gather information on competitors, prices, sales, and methods of marketing and distribution.
General and Operations Managers	Plan, direct, or coordinate the operations of public or private sector organizations. Duties and responsibilities include formulating policies, managing daily operations, and planning the use of materials and human resources, but are too diverse and general in nature to be classified in any one functional area of management or administration, such as personnel, purchasing, or administrative services.
Software Developers, Systems Software	Research, design, develop, and test operating systems-level software, compilers, and network distribution software for medical, industrial, military, communications, aerospace, business, scientific, and general computing applications. Set operational specifications and formulate and analyze software requirements. May design embedded systems software. Apply principles and techniques of computer science, engineering, and mathematical analysis.

### **CONSTRUCTION**

Construction consists of a wide spectrum of positions, each requiring different training, education, and certifications. These positions can be engineers, construction laborers, skilled craftsmen, management, and many more. Often, soft skills are much more imperative than the technical skills since industry employers are confident that those skills can be taught through apprenticeship programs and on-the-job training. Skills that were valued by employers for all positions were mainly soft skills such as communication, punctuality, reliability, problem solving, willingness to learn, and work ethic. Employers also mentioned passing a drug test was a basic requirement that often disqualified prospective applicants. Skills required for advancement from entry-level to higher-level positions include improvement and/or mastery of technical skills, experience, people and project management, advanced communication skills, and independence in actions.

<b>Title</b>	<b>Description</b>
First-Line Supervisors of Mechanics, Installers, and Repairers	Directly supervise and coordinate the activities of mechanics, installers, and repairers.
Civil Engineers	Perform engineering duties in planning, designing, and overseeing construction and maintenance of building structures, and facilities, such as roads, railroads, airports, bridges, harbors, channels, dams, irrigation projects, pipelines, power plants, and water and sewage systems.
General and Operations Managers	Plan, direct, or coordinate the operations of public or private sector organizations. Duties and responsibilities include formulating policies, managing daily operations, and planning the use of materials and human resources, but are too diverse and general in nature to be classified in any one functional area of management or administration, such as personnel, purchasing, or administrative services.
Electricians	Install, maintain, and repair electrical wiring, equipment, and fixtures. Ensure that work is in accordance with relevant codes. May install or service street lights, intercom systems, or electrical control systems.
Construction Laborers	Perform tasks involving physical labor at construction sites. May operate hand and power tools of all types: air hammers, earth tampers, cement mixers, small mechanical hoists, surveying and measuring equipment, and a variety of other equipment and instruments. May clean and prepare sites, dig trenches, set braces to support the sides of excavations, erect scaffolding, and clean up rubble, debris and other waste materials. May assist other craft workers.
Welders, Cutters,	Use hand-welding, flame-cutting, hand soldering, or brazing equipment to weld or join metal

Solderers, and Brazers	components or to fill holes, indentations, or seams of fabricated metal products.
Heating, Air Conditioning, and Refrigeration Mechanics and Installers	Install or repair heating, central air conditioning, or refrigeration systems, including oil burners, hot-air furnaces, and heating stoves.
Cost Estimators	Prepare cost estimates for product manufacturing, construction projects, or services to aid management in bidding on or determining price of product or service. May specialize according to particular service performed or type of product manufactured.
Purchasing Agents, Except Wholesale, Retail, and Farm Products	Purchase machinery, equipment, tools, parts, supplies, or services necessary for the operation of an establishment. Purchase raw or semi-finished materials for manufacturing.
Maintenance and Repair Workers, General	Perform work involving the skills of two or more maintenance or craft occupations to keep machines, mechanical equipment, or the structure of an establishment in repair. Duties may involve pipe fitting; boiler making; insulating; welding; machining; carpentry; repairing electrical or mechanical equipment; installing, aligning, and balancing new equipment; and repairing buildings, floors, or stairs.
First-Line Supervisors of Production and Operating Workers	Directly supervise and coordinate the activities of production and operating workers, such as inspectors, precision workers, machine setters and operators, assemblers, fabricators, and plant and system operators.
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products	Sell goods for wholesalers or manufacturers to businesses or groups of individuals. Work requires substantial knowledge of items sold.
Accountants and Auditors	Examine, analyze, and interpret accounting records to prepare financial statements, give advice, or audit and evaluate statements prepared by others. Install or advise on systems of recording costs or other financial and budgetary data.
Heavy and Tractor-Trailer Truck Drivers	Drive a tractor-trailer combination or a truck with a capacity of at least 26,000 pounds Gross Vehicle Weight (GVW). May be required to unload truck. Requires commercial drivers' license.
Laborers and Freight, Stock, and Material Movers,	Manually move freight, stock, or other materials or perform other general labor. Includes all manual laborers not elsewhere classified.
Industrial Truck and Tractor Operators	Operate industrial trucks or tractors equipped to move materials around a warehouse, storage yard, factory, construction site, or similar location.
Millwrights	Install, dismantle, or move machinery and heavy equipment according to layout plans, blueprints, or other drawings.
Operating Engineers and Other Construction Equipment Operators	Operate one or several types of power construction equipment, such as motor graders, bulldozers, scrapers, compressors, pumps, derricks, shovels, tractors, or front-end loaders to excavate, move, and grade earth, erect structures, or pour concrete or other hard surface pavement. May repair and maintain equipment in addition to other duties.

Brickmasons and Blockmasons	Lay and bind building materials, such as brick, structural tile, concrete block, cinder block, glass block, and terra-cotta block, with mortar and other substances to construct or repair walls, partitions, arches, sewers, and other structures.
Roofers	Cover roofs of structures with shingles, slate, asphalt, aluminum, wood, or related materials. May spray roofs, sidings, and walls with material to bind, seal, insulate, or soundproof sections of structures.
First-Line Supervisors of Trans. & Material-Moving	Directly supervise and coordinate activities of transportation and material-moving machine and vehicle operators and helpers.
Reinforcing Iron and Rebar Workers	Position and secure steel bars or mesh in concrete forms in order to reinforce concrete. Use a variety of fasteners, rod-bending machines, blowtorches, and hand tools. Includes rod busters.
Painters, Construction and Maintenance	Paint walls, equipment, buildings, bridges, and other structural surfaces, using brushes, rollers, and spray guns. May remove old paint to prepare surface prior to painting. May mix colors or oils to obtain desired color or consistency.
Excavating and Loading Machine and Dragline Operators	Operate or tend machinery equipped with scoops, shovels, or buckets, to excavate and load loose materials.
Plumbers, Pipefitters, and Steamfitters	Assemble, install, alter, and repair pipelines or pipe systems that carry water, steam, air, or other liquids or gases. May install heating and cooling equipment and mechanical control systems. Includes sprinklerfitters.
Structural Iron and Steel Workers	Raise, place, and unite iron or steel girders, columns, and other structural members to form completed structures or structural frameworks. May erect metal storage tanks and assemble prefabricated metal buildings.
Sheet Metal Workers	Fabricate, assemble, install, and repair sheet metal products and equipment, such as ducts, control boxes, drainpipes, and furnace casings. Work may involve any of the following: setting up and operating fabricating machines to cut, bend, and straighten sheet metal; shaping metal over anvils, blocks, or forms using hammer; operating soldering and welding equipment to join sheet metal parts; or inspecting, assembling, and smoothing seams and joints of burred surfaces. Includes sheet metal duct installers who install prefabricated sheet metal ducts used for heating, air conditioning, or other purposes.
Cement Masons and Concrete Finishers	Smooth and finish surfaces of poured concrete, such as floors, walks, sidewalks, roads, or curbs using a variety of hand and power tools. Align forms for sidewalks, curbs, or gutters; patch voids; and use saws to cut expansion joints.
Carpenters	Construct, erect, install, or repair structures and fixtures made of wood, such as concrete forms; building frameworks, including partitions, joists, studding, and rafters; and wood stairways, window and door frames, and hardwood floors. May also install cabinets, siding, drywall and batt or roll insulation. Includes brattice builders who build doors or brattices (ventilation walls or partitions) in underground passageways.
Drywall and Ceiling Tile Installers	Apply plasterboard or other wallboard to ceilings or interior walls of buildings. Apply or mount acoustical tiles or blocks, strips, or sheets of shock-absorbing materials to ceilings and walls of buildings to reduce or reflect sound. Materials may be of decorative quality. Includes lathers who fasten wooden, metal, or rockboard lath to walls, ceilings or partitions of buildings to provide support base for plaster, fire-proofing, or acoustical material.
Industrial Machinery Mechanic	Repair, install, adjust, or maintain industrial production and processing machinery or refinery and pipeline distribution systems.
Maintenance Workers, Machinery	Lubricate machinery, change parts, or perform other routine machinery maintenance.



## **HEALTH CARE AND MEDICAL SERVICES**

Typically, health care and medical services sector is one of the more stable sectors since individuals will always get injured or sick, especially as the population ages. Health care and medical services will continue to grow in Nevada. In particular, sector Council members expressed concern that the need for mental health workers will significantly increase and may not be fully represented in the projections data.

A challenge with training for the health care sector is the wide array of occupations within the industry, which can require vast differences in skill sets, education, and credentials. Yet, there are key roles such as registered nursing that is crucial to the sector. Sector council members reported that the estimated forecasted range of hiring by level within the next year will be around 50% entry-level, 25% mid-level/technicians, and 25% advanced-level/management/professional.

Entry-level positions in health care environments require certifications or degrees (Associates or Bachelors), as well as communication skills, problem solving, professionalism, teamwork, customer service skills, and attention to quality, safety, and precision. Advancement from entry-level to higher-level positions requires experience, more education and advanced certifications, process mastery and project management skills, advanced communication skills, people management skills, leadership skills, collaboration, and an ability to work with diverse populations.

Further, Council members believed urgency is needed to strengthen workforce data collection in the health care sector during initial licensure application and renewal through “minimum data sets.” Currently, data collection is inconsistent and data to inform policymakers on health care planning on the “size and “employment characteristics” is limited. Sector Council members believe this issue can be remedied if the 26 state agencies and licensing boards responsible for licensure and certifications of the more than 60 health professionals collected consistent workforce data points. The collection process and frequency could be left to each board but consistent data on current employment status, location of employment or practice, type of employment or practice setting, number of hours worked per week, social and demographic characteristics would allow for more robust and nuanced workforce planning. Further information from the meeting on minimum data sets and a framework highlighted by the Sector Council can be found on the OWINN webpage.

<b>Title</b>	<b>Description</b>
Physicians and Surgeons, All Other	Includes occupations such as allergists and immunologists, dermatologists, hospitalists, neurologists, nuclear medicine physicians, ophthalmologists, pathologists, physical medicine and rehabilitation physicians, preventive medicine physicians, radiologists, sports medicine physicians, and urologists
Nurse Practitioners	Diagnose and treat acute, episodic, or chronic illness, independently or as part of a healthcare team. May focus on health promotion and disease prevention. May order, perform, or interpret diagnostic tests such as lab work and x rays. May prescribe medication. Must be registered nurses who have specialized graduate education.
Registered Nurses	Assess patient health problems and needs, develop and implement nursing care plans, and maintain medical records. Administer nursing care to ill, injured, convalescent, or disabled patients. May advise patients on health maintenance and disease prevention or provide case management. Licensing or registration required.
Medical and Clinical Laboratory Technicians	Perform routine medical laboratory tests for the diagnosis, treatment, and prevention of disease. May work under the supervision of a medical technologist.
Network and Computer Systems Administrators	Install, configure, and support an organization's local area network (LAN), wide area network (WAN), and Internet systems or a segment of a network system. Monitor network to ensure network availability to all system users and may perform necessary maintenance to support network availability. May monitor and test Web site performance to ensure Web sites operate correctly and without interruption. May assist in network modeling, analysis, planning, and coordination between network and data communications hardware and software. May supervise computer user support specialists and computer network support specialists. May administer

	network security measures.
Medical and Health Services Managers	Plan, direct, or coordinate medical and health services in hospitals, clinics, managed care organizations, public health agencies, or similar organizations.
Physician Assistants	Provide healthcare services typically performed by a physician, under the supervision of a physician. Conduct complete physicals, provide treatment, and counsel patients. May, in some cases, prescribe medication. Must graduate from an accredited educational program for physician assistants.
Licensed Practical and Licensed Vocational Nurses	Care for ill, injured, or convalescing patients or persons with disabilities in hospitals, nursing homes, clinics, private homes, group homes, and similar institutions. May work under the supervision of a registered nurse. Licensing required.
Software Developers, Applications	Develop, create, and modify general computer applications software or specialized utility programs. Analyze user needs and develop software solutions. Design software or customize software for client use with the aim of optimizing operational efficiency. May analyze and design databases within an application area, working individually or coordinating database development as part of a team. May supervise computer programmers.
Computer Systems Analysts	Analyze science, engineering, business, and other data processing problems to implement and improve computer systems. Analyze user requirements, procedures, and problems to automate or improve existing systems and review computer system capabilities, workflow, and scheduling limitations. May analyze or recommend commercially available software.
Computer User Support Specialists	Provide technical assistance to computer users. Answer questions or resolve computer problems for clients in person, or via telephone or electronically. May provide assistance concerning the use of computer hardware and software, including printing, installation, word processing, electronic mail, and operating systems.
Medical Scientists, Except Epidemiologists	Conduct research dealing with the understanding of human diseases and the improvement of human health. Engage in clinical investigation, research and development, or other related activities. Includes physicians, dentists, public health specialists, pharmacologists, and medical pathologists who primarily conduct research.
Pharmacists	Dispense drugs prescribed by physicians and other health practitioners and provide information to patients about medications and their use. May advise physicians and other health practitioners on the selection, dosage, interactions, and side effects of medications.
Market Research Analysts and Marketing Specialists	Research market conditions in local, regional, or national areas, or gather information to determine potential sales of a product or service, or create a marketing campaign. May gather information on competitors, prices, sales, and methods of marketing and distribution.
Mental Health Counselors	Counsel with emphasis on prevention. Work with individuals and groups to promote optimum mental and emotional health. May help individuals deal with issues associated with addictions and substance abuse; family, parenting, and marital problems; stress management; self-esteem; and aging.
Clinical, Counseling, and School Psychologists	Diagnose and treat mental disorders; learning disabilities; and cognitive, behavioral, and emotional problems, using individual, child, family, and group therapies. May design and implement behavior modification programs.
Mental Health and Substance Abuse Social Workers	Assess and treat individuals with mental, emotional, or substance abuse problems, including abuse of alcohol, tobacco, and/or other drugs. Activities may include individual and group therapy, crisis intervention, case management, client advocacy, prevention, and education.

### **INFORMATION TECHNOLOGY**

There are occupations that appear in the Information technology (IT) sector that show up in every of the other seven industry sectors, such as software development. Thus, being trained for the IT sector would have a significant return on investment since individuals can find jobs in a host of industries regionally, nationally, and even internationally. IT is one of the fastest growing sectors and also a sector that needs a significantly large number of trained individuals.

Council members forecasted a shift in hiring positions in the future, expecting to hire more mid-level positions due to the impact of automation and new technologies. For example, network and computer systems administrators and even cyber security analysts will be in higher demand as more organizations move to the cloud and other new and evolving technologies.

Council members expressed need for problem solving and troubleshooting skills, professionalism, communication skills, teamwork, customer service, and project management. Advancement into higher-level positions included those skills needed for entry-level positions with the addition of technical skill mastery, experience, team management, organizational and administrative skills, advanced problem solving and project management, and advanced communication and customer service skills.

Title	Description
Software Developers, Applications	Develop, create, and modify general computer applications software or specialized utility programs. Analyze user needs and develop software solutions. Design software or customize software for client use with the aim of optimizing operational efficiency. May analyze and design databases within an application area, working individually or coordinating database development as part of a team. May supervise computer programmers.
Computer Systems Analysts	Analyze science, engineering, business, and other data processing problems to implement and improve computer systems. Analyze user requirements, procedures, and problems to automate or improve existing systems and review computer system capabilities, workflow, and scheduling limitations. May analyze or recommend commercially available software.
Computer User Support Specialists	Provide technical assistance to computer users. Answer questions or resolve computer problems for clients in person, or via telephone or electronically. May provide assistance concerning the use of computer hardware and software, including printing, installation, word processing, electronic mail, and operating systems.
Network and Computer Systems Administrators	Install, configure, and support an organization's local area network (LAN), wide area network (WAN), and Internet systems or a segment of a network system. Monitor network to ensure network availability to all system users and may perform necessary maintenance to support network availability. May monitor and test Web site performance to ensure Web sites operate correctly and without interruption. May assist in network modeling, analysis, planning, and coordination between network and data communications hardware and software. May supervise computer user support specialists and computer network support specialists. May administer network security measures.
Computer Network Architects	Design and implement computer and information networks, such as local area networks (LAN), wide area networks (WAN), intranets, extranets, and other data communications networks. Perform network modeling, analysis, and planning. May also design network and computer security measures. May research and recommend network and data communications hardware and software.
Architectural and Engineering Managers	Plan, direct, or coordinate activities in such fields as architecture and engineering or research and development in these fields.
Information Security Analysts	Plan, implement, upgrade, or monitor security measures for the protection of computer networks and information. May ensure appropriate security controls are in place that will safeguard digital files and vital electronic infrastructure. May respond to computer security breaches and viruses.
Web Developers	Design, create, and modify Web sites. Analyze user needs to implement Web site content, graphics, performance, and capacity. May integrate Web sites with other computer applications. May convert written, graphic, audio, and video components to compatible Web formats by using software designed to facilitate the creation of Web and multimedia content.
Managers, All Other	Includes occupations such as regulatory affairs managers, compliance managers, investment fund managers, supply chain managers, security managers, loss prevention managers, wind energy operations managers, wind energy projection managers, and brownfield redevelopment specialists and site managers
Software Developers,	Research, design, develop, and test operating systems-level software, compilers, and network distribution software for medical, industrial, military, communications, aerospace, business,

Systems Software	scientific, and general computing applications. Set operational specifications and formulate and analyze software requirements. May design embedded systems software. Apply principles and techniques of computer science, engineering, and mathematical analysis.
Computer Occupations, All Other	Includes job titles such as software quality assurance engineers and testers, computer systems engineers/architectures, web administrators, geospatial information scientists and technologists, geographic information systems technicians, database architects, data warehousing specialists, business intelligence analysts, information technology project managers, search marketing strategists, video game designers, and document management specialists.
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	Sell goods for wholesalers or manufacturers where technical or scientific knowledge is required in such areas as biology, engineering, chemistry, and electronics, normally obtained from at least 2 years of post-secondary education.
Engineers, All Other	Includes O*NET occupations such as biochemical engineers, validation engineers, energy engineers, manufacturing engineers, mechatronics engineers, microsystems engineers, photonics engineers, robotics engineers, nanosystems engineers, wind energy engineers, and solar energy systems engineers
Computer and Information Systems Managers	Plan, direct, or coordinate activities in such fields as electronic data processing, information systems, systems analysis, and computer programming.

### **MANUFACTURING AND LOGISTICS**

Manufacturing and logistics is one of the fastest growing sectors in Nevada. In fact, many employers believed that the current projected forecast is not fully representative of the growth of the industry and that many more jobs will be created in the next ten years. Growth in manufacturing and machine technicians is expected due to rapid advancements in technology.

Employers reported that the forecasted range of hiring within the next year is estimated to be around 70% entry-level (direct impact on production), 10% mid-level/technicians (maintenance and troubleshooting), and 20% advanced-level/management/professional (engineers, managers, office personnel). Data analysis, troubleshooting, quality control, and managing machines that perform assembly are highly desired skills. Quality, safety, and precision are also highly valued in manufacturing, which has an impact of product output. Technical skills and exposure to robotics are believed to be strong foundations for young adults in the K-12 system.

<b>Title</b>	<b>Description</b>
Mechanical Engineers	Perform engineering duties in planning and designing tools, engines, machines, and other mechanically functioning equipment. Oversee installation, operation, maintenance, and repair of equipment such as centralized heat, gas, water, and steam systems.
Software Developers, Applications	Develop, create, and modify general computer applications software or specialized utility programs. Analyze user needs and develop software solutions. Design software or customize software for client use with the aim of optimizing operational efficiency. May analyze and design databases within an application area, working individually or coordinating database development as part of a team. May supervise computer programmers.
Electrical Engineers	Research, design, develop, test, or supervise the manufacturing and installation of electrical equipment, components, or systems for commercial, industrial, military, or scientific use.
Network and Computer Systems Administrators	Information Technology Director (IT Director), Information Technology Manager (IT Manager), Information Technology Specialist (IT Specialist), Local Area Network Administrator (LAN Administrator), Network Administrator, Network Engineer, Network Manager, Network Specialist, Systems Administrator, Systems Engineer
First-Line Supervisors of Production and	Directly supervise and coordinate the activities of production and operating workers, such as inspectors, precision workers, machine setters and operators, assemblers, fabricators, and plant and system operators.

Operating Workers	
General and Operations Managers	Plan, direct, or coordinate the operations of public or private sector organizations. Duties and responsibilities include formulating policies, managing daily operations, and planning the use of materials and human resources, but are too diverse and general in nature to be classified in any one functional area of management or administration, such as personnel, purchasing, or administrative services.
Industrial Production Managers	Plan, direct, or coordinate the work activities and resources necessary for manufacturing products in accordance with cost, quality, and quantity specifications.
Inspectors, Testers, Sorters, Samplers, and Weighers	Inspect, test, sort, sample, or weigh nonagricultural raw materials or processed, machined, fabricated, or assembled parts or products for defects, wear, and deviations from specifications. May use precision measuring instruments and complex test equipment.
Production Workers, All Other	All production workers not listed separately.
Electrical and Electronic Engineering Technicians	Apply electrical and electronic theory and related knowledge, usually under the direction of engineering staff, to design, build, repair, calibrate, and modify electrical components, circuitry, controls, and machinery for subsequent evaluation and use by engineering staff in making engineering design decisions.
Industrial Truck and Tractor Operators	Operate industrial trucks or tractors equipped to move materials around a warehouse, storage yard, factory, construction site, or similar location.
Laborers and Freight, Stock, and Material Movers,	Manually move freight, stock, or other materials or perform other general labor. Includes all manual laborers not elsewhere classified.
Computer Systems Analysts	Analyze science, engineering, business, and other data processing problems to implement and improve computer systems. Analyze user requirements, procedures, and problems to automate or improve existing systems and review computer system capabilities, workflow, and scheduling limitations. May analyze or recommend commercially available software.
Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products	Account Development Manager, Account Executive, Account Manager, Channel Sales Director, Distribution Sales Manager, Inside Sales Representative, Marketing Representative, Sales Director, Sales Manager, Sales Representative
Computer User Support Specialists	Provide technical assistance to computer users. Answer questions or resolve computer problems for clients in person, or via telephone or electronically. May provide assistance concerning the use of computer hardware and software, including printing, installation, word processing, electronic mail, and operating systems.
Architectural and Engineering Managers	Plan, direct, or coordinate activities in such fields as architecture and engineering or research and development in these fields.
Market Research Analysts and Marketing Specialists	Research market conditions in local, regional, or national areas, or gather information to determine potential sales of a product or service, or create a marketing campaign. May gather information on competitors, prices, sales, and methods of marketing and distribution.
First-Line Supervisors of Mechanics, Installers, and Repairers	Directly supervise and coordinate the activities of mechanics, installers, and repairers.
Logisticians	Analyze and coordinate the logistical functions of a firm or organization. Responsible for the

	entire life cycle of a product, including acquisition, distribution, internal allocation, delivery, and final disposal of resources.
Mixing and Blending Machine Setters, Operators, and Tenders	Set up, operate, or tend machines to mix or blend materials, such as chemicals, tobacco, liquids, color pigments, or explosive ingredients.
Maintenance Workers, Machinery	Lubricate machinery, change parts, or perform other routine machinery maintenance.
Crushing, Grinding, and Polishing Machine Setters, Operators, and Tenders	Set up, operate, or tend machines to crush, grind, or polish materials, such as coal, glass, grain, stone, food, or rubber.
Engineering Technicians, Except Drafters, All Other	Includes O*NET occupations such as non-destructive testing specialists, electrical engineering technologists, electromechanical engineering technologists, electronics engineering technologists, industrial engineering technologists, manufacturing engineering technologists, mechanical engineering technologists, photonics technicians, manufacturing production technicians, fuel cell technicians, nanotechnology engineering technologists, nanotechnology engineering technicians.

### ***MINING AND METATERIALS***

Employers in the mining and materials sector forecasted that technology would be heavily integrated into projects, lowering the need for entry-level employees and increasing the need for more technically trained mid-level employees.

Soft skills such as punctuality, reliability, teamwork, good work ethic, ability to be managed, strong communication skills, and integrity are highly desired at entry-level positions. These soft skills are valued at mid-level and management positions paired with technical excellence and mastery, project and people management, and leadership skills.

<b>Title</b>	<b>Description</b>
First-Line Supervisors of Mechanics, Installers, and Repairers	Directly supervise and coordinate the activities of mechanics, installers, and repairers.
Electricians	Install, maintain, and repair electrical wiring, equipment, and fixtures. Ensure that work is in accordance with relevant codes. May install or service street lights, intercom systems, or electrical control systems.
First-Line Supervisors of Production and Operating Workers	Directly supervise and coordinate the activities of production and operating workers, such as inspectors, precision workers, machine setters and operators, assemblers, fabricators, and plant and system operators.
Millwrights	Install, dismantle, or move machinery and heavy equipment according to layout plans, blueprints, or other drawings.
Bus and Truck Mechanics and Diesel Engine Specialists	Diagnose, adjust, repair, or overhaul buses and trucks, or maintain and repair any type of diesel engines. Includes mechanics working primarily with automobile or marine diesel engines.
Inspectors, Testers,	Inspect, test, sort, sample, or weigh nonagricultural raw materials or processed, machined, fabricated, or assembled parts or products for defects, wear, and deviations from specifications.

Sorters, Samplers, and Weighers	May use precision measuring instruments and complex test equipment.
Industrial Machinery Mechanic	Repair, install, adjust, or maintain industrial production and processing machinery or refinery and pipeline distribution systems.
Environmental Engineers	Research, design, plan, or perform engineering duties in the prevention, control, and remediation of environmental hazards using various engineering disciplines. Work may include waste treatment, site remediation, or pollution control technology.
Welders, Cutters, Solderers, and Brazers	Use hand-welding, flame-cutting, hand soldering, or brazing equipment to weld or join metal components or to fill holes, indentations, or seams of fabricated metal products.
Materials Engineers	Evaluate materials and develop machinery and processes to manufacture materials for use in products that must meet specialized design and performance specifications. Develop new uses for known materials. Includes those engineers working with composite materials or specializing in one type of material, such as graphite, metal and metal alloys, ceramics and glass, plastics and polymers, and naturally occurring materials. Includes metallurgists and metallurgical engineers, ceramic engineers, and welding engineers.
Occupational Health and Safety Specialist	Review, evaluate, and analyze work environments and design programs and procedures to control, eliminate, and prevent disease or injury caused by chemical, physical, and biological agents or ergonomic factors. May conduct inspections and enforce adherence to laws and regulations governing the health and safety of individuals. May be employed in the public or private sector. Includes environmental protection officers.
Mining and Geological Engineers, Including Mining Safety Engineers	Conduct sub-surface surveys to identify the characteristics of potential land or mining development sites. May specify the ground support systems, processes and equipment for safe, economical, and environmentally sound extraction or underground construction activities. May inspect areas for unsafe geological conditions, equipment, and working conditions. May design, implement, and coordinate mine safety programs.
General and Operations Managers	Plan, direct, or coordinate the operations of public or private sector organizations. Duties and responsibilities include formulating policies, managing daily operations, and planning the use of materials and human resources, but are too diverse and general in nature to be classified in any one functional area of management or administration, such as personnel, purchasing, or administrative services.
Managers, All Other	Includes O*NET occupations such as regulatory affairs managers, compliance managers, investment fund managers, supply chain managers, security managers, loss prevention managers, wind energy operations managers, wind energy projection managers, and brownfield redevelopment specialists and site managers
Maintenance and Repair Workers, General	Perform work involving the skills of two or more maintenance or craft occupations to keep machines, mechanical equipment, or the structure of an establishment in repair. Duties may involve pipe fitting; boiler making; insulating; welding; machining; carpentry; repairing electrical or mechanical equipment; installing, aligning, and balancing new equipment; and repairing buildings, floors, or stairs.
Construction Laborers	Perform tasks involving physical labor at construction sites. May operate hand and power tools of all types: air hammers, earth tampers, cement mixers, small mechanical hoists, surveying and measuring equipment, and a variety of other equipment and instruments. May clean and prepare sites, dig trenches, set braces to support the sides of excavations, erect scaffolding, and clean up rubble, debris and other waste materials. May assist other craft workers.
Purchasing Agents, Except Wholesale, Retail, and Farm Products	Purchase machinery, equipment, tools, parts, supplies, or services necessary for the operation of an establishment. Purchase raw or semi-finished materials for manufacturing.
Industrial Production	Plan, direct, or coordinate the work activities and resources necessary for manufacturing products in accordance with cost, quality, and quantity specifications.

Managers	
Engineering Technicians, Except Drafters, All Other	Includes O*NET occupations such as non-destructive testing specialists, electrical engineering technologists, electromechanical engineering technologists, electronics engineering technologists, industrial engineering technologists, manufacturing engineering technologists, mechanical engineering technologists, photonics technicians, manufacturing production technicians, fuel cell technicians, nanotechnology engineering technologists, nanotechnology engineering technicians.
Production Workers, All Other	All production workers not listed separately.
Electrical and Electronic Engineering Technicians	Apply electrical and electronic theory and related knowledge, usually under the direction of engineering staff, to design, build, repair, calibrate, and modify electrical components, circuitry, controls, and machinery for subsequent evaluation and use by engineering staff in making engineering design decisions.
Earth Drillers, Except Oil and Gas	Operate a variety of drills such as rotary, churn, and pneumatic to tap sub-surface water and salt deposits, to remove core samples during mineral exploration or soil testing, and to facilitate the use of explosives in mining or construction. May use explosives. Includes horizontal and earth boring machine operators.
Helpers-Extraction Workers	Help extraction craft workers, such as earth drillers, blasters and explosives workers, derrick operators, and mining machine operators, by performing duties requiring less skill. Duties include supplying equipment or cleaning work area.
Mine Cutting and Channeling Machine Operators	Operate machinery such as longwall shears, plows, and cutting machines to cut or channel along the face or seams of coal mines, stone quarries, or other mining surfaces to facilitate blasting, separating, or removing minerals or materials from mines or from the Earth's surface. Includes shale planers.
Surveyor	Make exact measurements and determine property boundaries. Provide data relevant to the shape, contour, gravitation, location, elevation, or dimension of land or land features on or near the earth's surface for engineering, mapmaking, mining, land evaluation, construction, and other purposes.
Occupational Health and Safety Technicians	Collect data on work environments for analysis by occupational health and safety specialists. Implement and conduct evaluation of programs designed to limit chemical, physical, biological, and ergonomic risks to workers.

### **NATURAL RESOURCES**

Natural resources contains a wide set of occupations. Employers in this sector expressed a strong desire for prospective applicants to understand the wide set of occupations and experiences that natural resources contains. Outside of technical or relevant work experience, council members expressed the importance of skills such as communication, professionalism, emotional intelligence, and a good attitude and work ethic. There was also an expressed desire for comprehension and basic reading and writing skills. Skills required for advancement from entry-level to mid-level and management positions included competency and mastery of technical skills, certifications, education, and project and people management. Employers in this sector also expressed frustration with younger applicants having trouble internalizing professional expectations.

<b>Title</b>	<b>Description</b>
Computer Systems Analysts	Analyze science, engineering, business, and other data processing problems to implement and improve computer systems. Analyze user requirements, procedures, and problems to automate or improve existing systems and review computer system capabilities, workflow, and scheduling limitations. May analyze or recommend commercially available software.
First-Line Supervisors of Production and Operating Workers	Directly supervise and coordinate the activities of production and operating workers, such as inspectors, precision workers, machine setters and operators, assemblers, fabricators, and plant and system operators.
Production Workers, All	All production workers not listed separately.



Other	
Water and Wastewater Treatment Plant and System Operator	Operate or control an entire process or system of machines, often through the use of control boards, to transfer or treat water or wastewater.
Mechanical Engineering Technicians	Apply theory and principles of mechanical engineering to modify, develop, test, or calibrate machinery and equipment under direction of engineering staff or physical scientists.
Environmental Scientists and Specialists, Including Health	Conduct research or perform investigation for the purpose of identifying, abating, or eliminating sources of pollutants or hazards that affect either the environment or the health of the population. Using knowledge of various scientific disciplines, may collect, synthesize, study, report, and recommend action based on data derived from measurements or observations of air, food, soil, water, and other sources.
Maintenance and Repair Workers, General	Perform work involving the skills of two or more maintenance or craft occupations to keep machines, mechanical equipment, or the structure of an establishment in repair. Duties may involve pipe fitting; boiler making; insulating; welding; machining; carpentry; repairing electrical or mechanical equipment; installing, aligning, and balancing new equipment; and repairing buildings, floors, or stairs.
Mechanical Engineers	Perform engineering duties in planning and designing tools, engines, machines, and other mechanically functioning equipment. Oversee installation, operation, maintenance, and repair of equipment such as centralized heat, gas, water, and steam systems.
Electrical Engineers	Research, design, develop, test, or supervise the manufacturing and installation of electrical equipment, components, or systems for commercial, industrial, military, or scientific use.
Civil Engineers	Perform engineering duties in planning, designing, and overseeing construction and maintenance of building structures, and facilities, such as roads, railroads, airports, bridges, harbors, channels, dams, irrigation projects, pipelines, power plants, and water and sewage systems.
Architectural and Engineering Managers	Plan, direct, or coordinate activities in such fields as architecture and engineering or research and development in these fields.
Market Research Analysts and Marketing Specialists	Research market conditions in local, regional, or national areas, or gather information to determine potential sales of a product or service, or create a marketing campaign. May gather information on competitors, prices, sales, and methods of marketing and distribution.
Inspectors, Testers, Sorters, Samplers, and Weighers	Inspect, test, sort, sample, or weigh nonagricultural raw materials or processed, machined, fabricated, or assembled parts or products for defects, wear, and deviations from specifications. May use precision measuring instruments and complex test equipment.
Engineers, All Other	Includes O*NET occupations such as biochemical engineers, validation engineers, energy engineers, manufacturing engineers, mechatronics engineers, microsystems engineers, photonics engineers, robotics engineers, nanosystems engineers, wind energy engineers, and solar energy systems engineers
Industrial Production Managers	Plan, direct, or coordinate the work activities and resources necessary for manufacturing products in accordance with cost, quality, and quantity specifications.
First-Line Supervisors of Mechanics, Installers, and Repairers	Directly supervise and coordinate the activities of mechanics, installers, and repairers.

### ***TOURISM, GAMING, AND ENTERTAINMENT***

The hospitality industry is heavily customer service based. Therefore, customer service skills, communication, comprehension and language skills, teamwork, professionalism, punctuality and reliability are highly valued. Advancement into mid-level and management positions require technical experience,

mastery of job specific skills, people management and leadership skills, problem solving, organizational skills, self-development, business acumen and solid financial understanding. Sector council members forecasted that entry-level positions would dominate hiring in the coming year at about 75-85% compared to 15-25% for mid-level and management positions. Several large employers stated they had hundreds, and at times, thousands of unfilled openings. Members also expressed frustration of prospective applicants not fully understanding the wide array of occupations available to all applicants depending on one's skill sets. Council members mentioned a handful of occupations critical to this industry, but those were not included when factoring public investment, average earnings, and with concentrations well above the national average. These included maids and housekeepers, waiters and waitresses, janitors and cleaners, and bartenders.

<b>Title</b>	<b>Description</b>
Managers, All Other	Includes O*NET occupations such as regulatory affairs managers, compliance managers, investment fund managers, supply chain managers, security managers, loss prevention managers, wind energy operations managers, wind energy projection managers, and brownfield redevelopment specialists and site managers
Software Developers, Applications	Develop, create, and modify general computer applications software or specialized utility programs. Analyze user needs and develop software solutions. Design software or customize software for client use with the aim of optimizing operational efficiency. May analyze and design databases within an application area, working individually or coordinating database development as part of a team. May supervise computer programmers.
Market Research Analysts and Marketing Specialists	Research market conditions in local, regional, or national areas, or gather information to determine potential sales of a product or service, or create a marketing campaign. May gather information on competitors, prices, sales, and methods of marketing and distribution.
First-Line Supervisors of Office and Administrative Support Workers	Directly supervise and coordinate the activities of clerical and administrative support workers.
Web Developers	Web Designer, Web Developer, Webmaster
First-Line Supervisors of Food Preparation and Serving Workers	Directly supervise and coordinate activities of workers engaged in preparing and serving food.
Management Analysts	Conduct organizational studies and evaluations, design systems and procedures, conduct work simplification and measurement studies, and prepare operations and procedures manuals to assist management in operating more efficiently and effectively. Includes program analysts and management consultants.
Chefs and Head Cooks	Direct and may participate in the preparation, seasoning, and cooking of salads, soups, fish, meats, vegetables, desserts, or other foods. May plan and price menu items, order supplies, and keep records and accounts.
Food Preparation Workers	Perform a variety of food preparation duties other than cooking, such as preparing cold foods and shellfish, slicing meat, and brewing coffee or tea.
Food Service Managers	Plan, direct, or coordinate activities of an organization or department that serves food and beverages.
General and Operations Managers	Plan, direct, or coordinate the operations of public or private sector organizations. Duties and responsibilities include formulating policies, managing daily operations, and planning the use of materials and human resources, but are too diverse and general in nature to be classified in any

	one functional area of management or administration, such as personnel, purchasing, or administrative services.
Maintenance and Repair Workers, General	Perform work involving the skills of two or more maintenance or craft occupations to keep machines, mechanical equipment, or the structure of an establishment in repair. Duties may involve pipe fitting; boiler making; insulating; welding; machining; carpentry; repairing electrical or mechanical equipment; installing, aligning, and balancing new equipment; and repairing buildings, floors, or stairs.
Network and Computer Systems Administrators	Information Technology Director (IT Director), Information Technology Manager (IT Manager), Information Technology Specialist (IT Specialist), Local Area Network Administrator (LAN Administrator), Network Administrator, Network Engineer, Network Manager, Network Specialist, Systems Administrator, Systems Engineer
First-Line Supervisors of Mechanics, Installers, and Repairers	Directly supervise and coordinate the activities of mechanics, installers, and repairers.
Computer User Support Specialists	Provide technical assistance to computer users. Answer questions or resolve computer problems for clients in person, or via telephone or electronically. May provide assistance concerning the use of computer hardware and software, including printing, installation, word processing, electronic mail, and operating systems.
Accountants and Auditors	Examine, analyze, and interpret accounting records to prepare financial statements, give advice, or audit and evaluate statements prepared by others. Install or advise on systems of recording costs or other financial and budgetary data.
Bartenders	Mix and serve drinks to patrons, directly or through waitstaff.
Gaming Supervisors	Plan, direct, or coordinate gaming operations in a casino. May formulate house rules.
Gaming Managers	Supervise and coordinate activities of workers in assigned gaming areas. Circulate among tables and observe operations. Ensure that stations and games are covered for each shift. May explain and interpret operating rules of house to patrons. May plan and organize activities and services for guests in hotels/casinos. May address service complaints.

# CONTRIBUTIONS

Special thanks to the employers, labor, and education representatives who serve on the GWDB Industry Sector Councils for volunteering their time, energy, and intellectual capital to improve Nevada’s workforce. We appreciate their selfless acts of service. The only way the state will improve its workforce is with education, labor, and particularly employers positively engaging and contributing collectively to a shared state vision of a vibrant and sustainable economy. Additionally, we also want to thank the employers and educational institutions that did not officially serve as Sector Council members, but volunteered their time to share insights during the meetings.

ORGANIZATIONS (in alphabetical order)					
SECTOR COUNCIL EMPLOYERS			EDUCATION REPS	LABOR REPS	PRESENTERS
<ul style="list-style-type: none"> <li>99th Communications Squadron</li> <li>Arcata Associates, Inc.</li> <li>AviSight, LLC</li> <li>Barrick Gold, Inc.</li> <li>Boart Longyear Company</li> <li>Caesars Entertainment</li> <li>Cashman Equipment Company</li> <li>Clearwater Paper Corporation</li> <li>Cleveland Clinic Lou Ruvo Center for Brain Health</li> <li>Click Bond</li> <li>Cristek</li> <li>Interconnects, Inc.</li> <li>Dassault Aircraft Services Corp.</li> <li>Dignity Health St. Rose Dominican Hospitals</li> <li>GCW, Inc</li> <li>GE – Bentley Nevada</li> </ul>	<ul style="list-style-type: none"> <li>Grand Sierra Resort &amp; Casino</li> <li>International Game Technology</li> <li>K2 Energy Solutions, Inc.</li> <li>Koch Business Solutions, LP</li> <li>Las Vegas Valley Water District</li> <li>Lifestyle Homes, Inc.</li> <li>MGM Resorts International</li> <li>Nevada Rural Hospital Partners</li> <li>Newmont Mining Corporation</li> <li>NV Energy, Inc.</li> </ul>	<ul style="list-style-type: none"> <li>Peri &amp; Sons Farms</li> <li>Q&amp;D Construction, Inc.</li> <li>RAM Enterprise, Inc</li> <li>Renown Health</li> <li>Sierra Nevada Corporation</li> <li>Southwest Gas</li> <li>Specialty in Aerospace Engineering</li> <li>Spring Valley Hospital</li> <li>Stations Casinos, LLC</li> <li>Storybook Homes</li> <li>Switch</li> <li>Tesla Motors</li> <li>The Cosmopolitan of Las Vegas</li> <li>United Construction</li> <li>Valley Tech Systems, Inc</li> <li>Wynn Las Vegas</li> </ul>	<ul style="list-style-type: none"> <li>College of Southern Nevada/CCSD</li> <li>Desert Research Institute,</li> <li>Great Basin College</li> <li>Truckee Meadows Community College Edison Campus (TMCC)</li> <li>University of Nevada Reno School of Medicine</li> <li>University of Nevada</li> <li>UNLV College of Hotel Administration</li> </ul>	<ul style="list-style-type: none"> <li>Electrical Workers Health &amp; Welfare Trust IBEW 357</li> <li>International Brotherhood of Electrical Workers</li> <li>International Union of Painters &amp; Allied Trades District Council 15</li> <li>Operating Engineers Local No. 3</li> <li>Plumber, Pipefitter &amp; HVAC/R Technicians Local 525</li> <li>Southern Nevada Building &amp; Construction Trades Council</li> <li>Teamsters Local Union No. 631</li> <li>International Association of Sheet Metal, Air Rail and Transportation Workers Local 88</li> </ul>	<ul style="list-style-type: none"> <li>Anderson Dairy Inc.</li> <li>Chelten House Products</li> <li>Faraday Future</li> <li>Magnet, Rancho HS</li> <li>Nevada Advanced Autonomous Systems Innovation Center (NAASIC)</li> <li>Northwest Career &amp; Technical Academy (NWCTA)</li> <li>Panasonic</li> <li>St Mary Health Network</li> <li>Western Nevada College</li> </ul>

# ABOUT OWINN

In March of 2016, Governor Sandoval issued [Executive Order 2016-08](#) which created the Office of Workforce Innovation (OWINN) within the Office of the Governor. The creation of OWINN is aligned with the U.S. Workforce Innovation and Opportunity Act’s (WIOA) vision of a seamless workforce system that helps job seekers access employment, education, training, and other support services. Additionally, it is aligned to Governor Sandoval’s mission of a “New Nevada,” which is a place of innovation, new technologies, and a skilled, diverse and aligned educated workforce within a vibrant and sustainable economy.

Among many other objectives, OWINN will: provide leadership in creating career pathway strategies for Nevada in the fields of advanced manufacturing, education, healthcare, and technology; apply for and administer grants to help carry out its mission; provide support to the [Governor’s Workforce Development Board \(‘State Board’\) and Industry Sector Councils](#); provide strategy in supporting the state in its implementation of WIOA; and enhance cooperation and collaboration among all entities engaged in workforce development. OWINN will serve as a catalyst for systemic change within Nevada’s workforce development system.