

Training Oregonians...
For The Right Jobs



***A Method to Prioritize
Occupational Training***



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The Need to Target Training Resources

There are more than 1.6 million jobs in Oregon, spread across more than 700 published occupational categories. On average, we expect to need about 70,000 new workers every year from 2010 to 2020 to fill jobs created by economic growth, the retirements of baby boomers, and several other factors. Everyone involved in Oregon's workforce system – businesses, employees, policy-makers, training entities – wants Oregon's workers to have the right skills for those jobs.

But there's never enough money to pay for all of the training that might be needed. So we need a way to prioritize training. Which occupations represent the best investment of public-sector workforce and training dollars?

This invariably leads to a question that workforce researchers dread: "What's the demand-supply gap for each of Oregon's occupations?" The concept is simple. If we know how many new workers each occupation will need and how many individuals will complete training relevant for each occupation, we can simply subtract one number from the other, and figure out precisely how many additional trained workers are needed (or how much of a surplus of trained workers we're heading towards). Then we put our training resources to the occupation with the biggest "gap."

The problem is, the concept doesn't work in reality, partly because we don't have perfect demand and supply data for all 700 occupations and partly because the premise that there's a one-to-one match between every occupation and a particular program of training is fatally flawed.

So when asked that dreaded question, the appropriate (but unpopular) answer is: "We can't

measure that gap for all of Oregon's occupations, and even if we could, it would, in many cases, be a meaningless number." To some customers, it seems we're taking too much of a "purist" approach: "We don't have perfect data; therefore, we cannot provide anything useful to you."

There's another extreme, too. Perhaps we could call it the, "You want data? We got data!" approach. The idea here is that a group of analysts with decent computers and flexible assumptions can come up with numbers for any question asked. Not necessarily good numbers. But numbers that the customer will quite possibly be delighted with!

We decided to seek a better option, a middle ground. We thought that perhaps we could identify some data items that are solid, strong, and sound for all occupations, and use those data for all occupations. Then we'd add some other data items – perhaps weaker, perhaps not available for all occupations – and use those data only for occupations where they made sense and added value.

And so we established the Oregon Employment Department's Occupational Prioritization for Training model. This model follows four basic steps, each described in more detail below:

1. Start with Oregon's high-demand, high-wage occupations.
2. Analyze six strong data factors available for all occupations.
3. Analyze four weaker data factors useful for only some occupations.
4. Engage businesses and other relevant groups to make final decisions on training priorities.

The Starting Point: High-Demand, High-Wage Occupations

There are many possible philosophical approaches to allocating public-sector funds to particular types of training. Oregon – in a collaborative process largely driven by the Oregon Workforce Investment Board in 2007 – chose to put most emphasis on high-demand, high-wage occupations.

A high-demand occupation is one that’s projected to have more openings (growth and replacement) in the next 10 years than the median for all occupations. What’s the median? If you sort all the occupations so the one with the most openings is at the top and the one with the least openings at the bottom, the one in the middle is the median ... and all occupations above that one are accepted as being high-demand. For Oregon statewide, this means that a high-demand occupation is one projected to have at least 32 growth and replacement openings per year.

A high-wage occupation is one that pays more than the median wage for all occupations. For Oregon statewide, this means that a high-wage occupation had a 2011 median wage of at least \$16.94 per hour.

This occupational prioritization focuses most attention on those occupations that are both high-demand and high-wage at the state-

wide level. That’s a pretty high bar to set. It removes from consideration some very large occupations that will have lots of openings ... because they pay low wages. It also removes from consideration some very highly paid occupations ... because they don’t have many openings. We’re not saying those occupations are “bad”; we’re just saying they’re not in the running for scarce public-sector training dollars. However, we do specifically allow for exceptions. And, based on requests from customers, the expanded model introduced in this report ranks all occupations regardless of whether they are high-demand or high-wage. (More on that later.)

So this first step reduces the number of occupations under consideration from 713 to 214 – a good first step in helping policy-makers target scarce resources to the areas of highest need and highest return. But only a first step.

Solid Data Available for All Occupations Gets the Prioritization Started

We identified six factors for which there are good data available for all occupations and which, in our view, collectively help identify occupations for which training would be highly valuable for the individual workers, for businesses, and for Oregon as a whole (Table 1).

Table 1

Factor	Rationale
	<i>All other things being equal, we should target training resources to those occupations ...</i>
1. Total projected openings, 2010-2020	... likely to have the most growth and replacement openings.
2. Total projected openings, 2010-2020, relative to current employment	... growing the fastest.
3. Average wage, 2011	... paying the highest wages.
4. Number of vacancies, fall 2011	... with the most vacancies.
5. Duration of vacancies, fall 2011	... whose vacancies are open the longest, implying that the vacancies are difficult to fill.
6. Geographic dispersion	... that are important across broad areas of Oregon, not just needed in one or two geographic areas.

The data source for all six factors is the Oregon Employment Department’s Research Division: 10-year employment projections, Occupational Employment Statistics survey, 2011 Oregon Vacancy Survey, and 2011 high-wage, high-demand job lists by region.

Of course, all other things are not equal, so none of these factors is a perfect measure on its own. But by putting them all together, we believe we can paint a reasonable picture of the occupations that would be Oregon’s highest priorities for training. Occupations topping the list are likely to be adding jobs; growing rapidly; paying good wages; currently having numerous vacancies, many of them difficult to fill; and important in many parts of the state.

How did we combine these very different data items into one prioritization? For each one, we sorted the occupations from highest to lowest (e.g., highest wage to lowest wage; largest number of vacancies to smallest number of

vacancies). Then, we split the sorted occupations into quintiles. For most factors, we gave the top 20 percent of occupations a score of 5; the second 20 percent a score of 4; and so on, down to the bottom 20 percent getting a score of 1. For the two vacancy measures, which result from a smaller survey that is less reliable at the detailed occupation level, we gave the top 20 percent of occupations a score of 2.5; the second 20 percent a score of 2; and so on, down to the bottom 20 percent getting a score of 0.5. Add up these scores for the six factors, and an occupation in the top group for each factor would have a score of 25, while an occupation in the bottom group for all factors would have a score of 5.

Table 2

Factor	Rationale
Immigration	<p>In today’s global economy, workers in some occupations are highly likely to cross state or even national boundaries for the right job. This factor reflects that reality, basically saying, “We may not need to ‘train our own’ workers for every occupation.” This is particularly true in Oregon, a state that’s inherently attractive to in-migrants at any time. So this factor is simply saying that, all other things being equal, we should probably place higher priority on training for occupations where it’s going to be tough to bring workers in from other states than for those occupations where we can likely find workers elsewhere. (We do recognize the value of training existing Oregonians for all the high-wage jobs ... but we also recognize the limitation posed by not having enough training funds to meet all needs.)</p> <p><i>Data source: American Community Survey 2005-2009 PUMS files, U.S. Census Bureau</i></p>
Supply Shortages and Surpluses	<p>As noted in the introduction, it’s not possible to identify the “demand-supply gap” for all occupations. But it is possible to come close for some occupations. Health care occupations would be one example; some licensed occupations would be another. So this factor is saying if we currently have a documentable shortage or surplus between the number of workers graduating with the right skills for an occupation and the number of workers needed in that occupation, the prioritization should reflect that. We only use this when the “supply” of workers from colleges or other training institutions has a meaningful relationship with the “demand” of workers for a particular occupation and we can actually get good data for the particular occupation.</p> <p><i>Data source: OED Occupational Employment Projections, 2010-2020; education completers from Integrated Postsecondary Education Data System, Oregon Department of Education Private Career Schools Division, Job Corps, BOLI Apprenticeship Division, and other external analyses of particular occupations.</i></p>
Business Affirmation	<p>If businesses are really struggling to find workers in certain occupations, they’ll probably actively do something about it. So this factor gives a higher prioritization to occupations for which businesses have taken concrete steps to support training. Examples might include donating faculty, faculty salary, other financial support, or equipment to colleges.</p> <p><i>Source: Primarily OED’s 2011 surveys of Oregon’s Community College Career and Technical Education Deans and Administrators, and Business Development Officers with Business Oregon.</i></p>
Links to Key Industries	<p>If the Governor or other policy-makers decide that certain industries are among their top priorities and focus, it’s better to reflect that in the prioritization model, rather than ignoring it, while knowing it will be part of the final decision-making regardless.</p> <p><i>Source: Conversations with the Governor’s Office, Workforce Policy Cabinet, Oregon Workforce Investment Board, other documents and public statements.</i></p>

Other Information Helps Focus the Prioritization

We could have stopped there, but there were a few other factors that seemed worthy of consideration, even though they weren't necessarily usable for all occupations (Table 2).

Each of these factors started with a numerical value of 1. If we felt the information available suggested we should increase the particular occupation's standing in the prioritization, we increased the factor up to 1.05, 1.1, or even (in a few cases, in the supply shortages and surpluses factor) as high as 1.3. If we felt the occupation's priority should be lowered, we decreased the factor to 0.95, 0.9, or even 0.7 (in just a few cases).

These four factors were then applied in a multiplicative manner.

Let's use an example to make all of this clear. Medical and clinical laboratory technologists, which happened to end up as the highest priority occupation statewide, scored 22 out of a possible 25 from the initial six factors. We then multiplied that 22 by 1.00 for the immigration factor (these technologists aren't considerably different from all occupations in their likelihood of migrating); then by 1.30 for the supply shortages and surpluses factor (we're not producing as many technologists as we need); then by 1.00 for business affirmation (no business affirmation information, so this factor was held constant); and then by 1.05 for the key industries (health care is among the stated priorities for the Governor and other elected officials). So medical and clinical laboratory technologists ended up with a score of 30.

Remember that we only use these four more subjective factors when there's good information available and when that information tells us something concrete. As in the example, when both of those conditions are not met, the factors would remain at a value of 1,

meaning the above multiplication would have no impact on the occupation's final score.

The Prioritization Narrows the Field ... and Leads to Further Conversation

It is very important to realize that this prioritization is not the final word. The prioritization just gives the starting point for discussions with businesses, colleges, policy-makers, and other interested parties.

We envision a scenario where policy-makers would use these lists to identify the handful of occupations they're most interested in focusing on; then they'd bring in local businesses and workforce leaders, and discuss questions like:

- ✓ Why is the occupation expected to need additional training?
- ✓ Are certain skills particularly in need?
- ✓ Is the occupational shortage caused by factors other than the supply of trained workers?
- ✓ Is the occupation impacted by specific training, education, certifications, or skills requirements?
- ✓ Are there barriers to additional training such as lack of equipment, faculty, or internships?
- ✓ Are there opportunities for positive steps that would attract additional workers toward particular occupations, such as scholarships or other incentives?

What About the Rest?

Up to this point, we've kept the conversation focused on Oregon's high-wage, high-demand occupations. However, we realize that openings in this subset of occupations represent only about two-fifths of the expected job openings in the next 10 years. When we first introduced this model in 2008, an insightful question emerged from some customer groups: "What about the rest of Oregon's

occupations? Where do they fall in the prioritization?”

Certainly, limiting the prioritization analysis to only high-wage, high-demand occupations excluded some occupations with high levels of demand, but low wages. It also ignored the high-wage openings provided by some occupations that didn't meet our criteria for a “high-demand” occupation. An occupation can be quite instrumental in the provision of services (for example, nursing aides), or can be instrumental in producing and transporting the goods that make up the state's export base (for example, fork lift operators), without being a high-wage, high-demand occupation.

The ability to rank these other occupations – along with the high-wage, high-demand subset that is most relevant to prioritizing training needs – adds value to the model, and was incorporated starting with the 2010 iteration. With the expanded analysis, it is now possible to see how occupations like nursing aides and fork lift operators rank in comparison to high-wage, high-demand occupations. Ranks are now based on where an occupation falls among all 713 published occupations.

The expanded analysis largely validated our original approach. All of the occupations that ranked among the Top 20 for all occupations are considered high-wage and high-demand. In the Statewide Tables section of this report, we've included a table showing the Top 20 occupations that are high-demand, but low-wage (offering wages below the median that defines the criteria for high-wage occupations), which may be particularly useful to entities providing training for low-wage, but much-needed occupations.

Lower wage occupations tend to require less education. Of the state's high-wage job openings anticipated in the next 10 years, 65 percent required at least postsecondary education and 42 percent required a bachelor's or

higher degree. Of the low-wage job openings anticipated, 6 percent required postsecondary education and just over 1 percent required a bachelor's or higher degree.

Exceptions are Allowed

This is another important point. It's our job to provide the best possible information to policy-makers and many others, to help them make great decisions. But we know it's not our role to “mandate” the final decisions. Elected officials and other leaders make decisions based on a number of factors, and this occupational prioritization is just one of them. So of course, we fully recognize that exceptions are allowed.

But ... we hope this prioritization model will form the foundation for the majority of workforce-related training prioritization decisions.

A Methodology for All of Oregon

We believe the statewide prioritization does a good job of reflecting workforce training needs across the whole state. But we know that the training needs in Prineville may be different from those in Gresham, and we know regional and local policy-makers will at times want to see prioritized lists targeted specifically for their own communities. So we've developed those lists, too: lists for each of Oregon's 15 workforce investment regions, and for The Oregon Consortium/Oregon Workforce Alliance.

A Methodology for Many Purposes

This methodology was developed, and the initial prioritization lists published, in the summer and fall of 2008. Initially, the goal was to help inform decision-making relating to workforce priorities for the 2009 session of the Oregon Legislature. However, as the economy changes it is important to update the model, so we've incorporated an update to the model into each two-year cycle; as we publish new occupation-

al projections late in odd-numbered years, we will then produce new iterations of this model in the early months of even-numbered years.

We also believe the method can be useful for many other purposes, besides informing workforce-related legislative priorities. To that end, we produced a number of “Top 20” lists: an overall statewide Top 20; lists focused on certain industry or occupational groups; and, as mentioned above, lists for each of Oregon’s workforce regions.

Finding the List That’s Relevant for You

In the remainder of this report, we share the following specific Top 20 lists:

- ✓ Statewide: Overall High-Wage, High-Demand Top 20 list
- ✓ Statewide: Targeted High-Wage, High-Demand Top 20 lists for
 - o Manufacturing
 - o Green jobs
 - o Health care
 - o Occupations other than health care
- ✓ Statewide: Overall Low-Wage, High-Demand Top 20 list
- ✓ Regional: Overall High-Wage, High-Demand Top 20 lists for all 15 Oregon Workforce Regions and The Oregon Consortium/Oregon Workforce Alliance

We have also developed an on-line tool where you can find all of the above lists plus many more, and the ability to develop your own customized list at www.QualityInfo.org/olmisj/op4t.

Contacts and Comments

This report provides a deliberately brief summary of the methodology. Numerous more detailed documents are also available. Please feel free to contact Jessica Nelson or Graham Slater for more information.

As we are continually seeking to improve our products, comments and input are always welcome. Please contact the aforementioned staff if you have input to provide.

Statewide Tables:

**Overall High-Wage,
High-Demand Top 20 list**

**Targeted High-Wage,
High-Demand Top 20 lists for:**

- ✓ **Manufacturing**
- ✓ **Green Jobs**
- ✓ **Health Care**
- ✓ **Occupations Other
Than Health Care**

**Overall Low-Wage,
High-Demand Top 20 list**

Overall High-Wage, High-Demand Top 20 List:

Oregon Statewide Occupational Prioritization for Training Top 20 High-Wage, High-Demand Occupations

SOC Code	SOC Title	Total Openings 2010-2020	Final Rank
29-2011	Medical and Clinical Laboratory Technologists	1,087	1
29-1123	Physical Therapists	1,077	2
49-1011	Supervisors and Managers of Mechanics, Installers, and Repairers	1,815	3
29-1111	Registered Nurses	14,499	4
29-1060	Physicians and Surgeons	3,711	5
11-9111	Medical and Health Services Managers	1,704	5
13-1079	Human Resources, Training, and Labor Relations Specialists, All Other	1,397	5
17-2061	Computer Hardware Engineers	1,099	5
41-4011	Wholesale and Manufacturing Sales Representatives, Technical and Scientific Products	2,359	9
13-2072	Loan Officers	1,680	9
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	1,587	9
21-1014	Mental Health Counselors	908	9
29-1122	Occupational Therapists	475	9
41-4012	Wholesale and Manufacturing Sales Representatives, Except Technical and Scientific Products	7,070	14
13-2011	Accountants and Auditors	5,112	14
49-3023	Automotive Service Technicians and Mechanics	2,003	14
11-2022	Sales Managers	1,734	14
15-1021	Computer Programmers	1,575	14
29-1051	Pharmacists	1,537	14
33-2011	Fire Fighters	1,316	14
41-3031	Securities, Commodities, and Financial Services Sales Agents	1,271	14
51-4041	Machinists	1,257	14
11-3051	Industrial Production Managers	858	14
31-9094	Medical Transcriptionists	754	14

Note: Ranks reflect where an occupation's final score falls in the overall list of 713 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2011 had to be greater than the statewide median wage (\$16.94 per hour). To qualify as high demand, the projected number of annual job openings for the occupation had to be greater than the median number of job openings (315).

Targeted High-Wage, High-Demand Top 20 Lists :

Oregon Statewide Occupational Prioritization for Training Top 20 High-Wage, High-Demand Manufacturing Occupations

SOC Code	SOC Title	Total Openings 2010-2020	Final Rank
17-2061	Computer Hardware Engineers	1,099	5
51-4041	Machinists	1,257	14
11-3051	Industrial Production Managers	858	14
43-5061	Production, Planning, and Expediting Clerks	1,531	25
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	1,301	25
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	847	38
51-1011	Supervisors and Managers of Production and Operating Workers	2,095	47
11-9041	Engineering Managers	932	47
17-2199	Engineers, All Other	852	47
15-1031	Computer Software Engineers, Applications	2,873	73
51-4121	Welders, Cutters, Solderers, and Brazers	2,200	73
17-2141	Mechanical Engineers	1,376	73
17-2112	Industrial Engineers	830	73
49-9044	Millwrights	322	73
49-9041	Industrial Machinery Mechanics	1,203	104
17-3023	Electrical and Electronic Engineering Technicians	1,036	104
41-9031	Sales Engineers	407	104
47-2211	Sheet Metal Workers	1,146	136
17-2071	Electrical Engineers	663	136
11-3061	Purchasing Managers	421	136

Note: Ranks reflect where an occupation's final score falls in the overall list of 713 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. Manufacturing occupations are defined here as those with greater than 25 percent of their occupational employment in a manufacturing NAICS. To qualify as high wage, the occupation's median hourly wage in 2011 had to be greater than the statewide median wage (\$16.94 per hour). To qualify as high demand, the projected number of annual job openings for the occupation had to be greater than the median number of job openings (315).

**Oregon Statewide
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Green Jobs Occupations**

SOC Code	SOC Title	Total Openings 2010-2020	Final Rank
49-1011	Supervisors and Managers of Mechanics, Installers, and Repairers	1,815	3
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	1,587	9
41-4012	Wholesale and Manufacturing Sales Representatives, Except Technical and Scientific Products	7,070	14
13-2011	Accountants and Auditors	5,112	14
49-3023	Automotive Service Technicians and Mechanics	2,003	14
33-2011	Fire Fighters	1,316	14
11-3051	Industrial Production Managers	858	14
13-1199	Business Operations Specialists, All Other	5,014	25
41-3099	Sales Representatives, Services, All Other	2,943	25
11-9199	Managers, All Other	2,656	25
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	1,301	25
47-2031	Carpenters	4,365	38
11-9121	Natural Sciences Managers	650	38
11-1021	General and Operations Managers	7,726	47
51-1011	Supervisors and Managers of Production and Operating Workers	2,095	47
53-7081	Refuse and Recyclable Material Collectors	1,278	47
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Engineers	1,135	47
11-9041	Engineering Managers	932	47
17-2199	Engineers, All Other	852	47
11-2031	Public Relations Managers	596	47
11-3071	Transportation, Storage, and Distribution Managers	594	47

Note: Ranks reflect where an occupation's final score falls in the overall list of 713 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. Green jobs occupations are those that had 50 or more green jobs in 2008, according to a special survey conducted by the Oregon Employment Department for the Oregon Workforce Investment Board. To qualify as high wage, the occupation's median hourly wage in 2011 had to be greater than the statewide median wage (\$16.94 per hour). To qualify as high demand, the projected number of annual job openings for the occupation had to be greater than the median number of job openings (315).

**Oregon Statewide
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Health Care Occupations**

SOC Code	SOC Title	Total Openings 2010-2020	Final Rank
29-2011	Medical and Clinical Laboratory Technologists	1,087	1
29-1123	Physical Therapists	1,077	2
29-1111	Registered Nurses	14,499	4
29-1060	Physicians and Surgeons	3,711	5
11-9111	Medical and Health Services Managers	1,704	5
21-1014	Mental Health Counselors	908	9
29-1122	Occupational Therapists	475	9
29-1051	Pharmacists	1,537	14
31-9094	Medical Transcriptionists	754	14
21-1011	Substance Abuse and Behavioral Disorder Counselors	1,000	25
29-2012	Medical and Clinical Laboratory Technicians	616	25
29-2034	Radiologic, CAT, and MRI Technologists and Technicians	1,098	47
29-2099	Health Technologists and Technicians, All Other	758	47
29-1021	Dentists, General	580	47
29-9011	Occupational Health and Safety Specialists	480	73
29-9099	Healthcare Practitioner and Technical Workers, All Other	416	73
21-1021	Child, Family, and School Social Workers	1,639	104
29-2021	Dental Hygienists	1,343	104
21-1015	Rehabilitation Counselors	559	104
31-2021	Physical Therapist Assistants	336	104

Note: Ranks reflect where an occupation's final score falls in the overall list of 713 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. Health care occupations are those determined to be necessary for the delivery of health care services in the 2006 Oregon Health Care Workforce Needs Assessment. This determination was made in partnership with industry. To qualify as high wage, the occupation's median hourly wage in 2011 had to be greater than the statewide median wage (\$16.94 per hour). To qualify as high demand, the projected number of annual job openings for the occupation had to be greater than the median number of job openings (315).

**Oregon Statewide
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations (Excluding Health Care)**

SOC Code	SOC Title	Total Openings 2010-2020	Final Rank
49-1011	Supervisors and Managers of Mechanics, Installers, and Repairers	1,815	3
13-1079	Human Resources, Training, and Labor Relations Specialists, All Other	1,397	5
17-2061	Computer Hardware Engineers	1,099	5
41-4011	Wholesale and Manufacturing Sales Representatives, Technical and Scientific Products	2,359	9
13-2072	Loan Officers	1,680	9
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	1,587	9
41-4012	Wholesale and Manufacturing Sales Representatives, Except Technical and Scientific Products	7,070	14
13-2011	Accountants and Auditors	5,112	14
49-3023	Automotive Service Technicians and Mechanics	2,003	14
11-2022	Sales Managers	1,734	14
15-1021	Computer Programmers	1,575	14
33-2011	Fire Fighters	1,316	14
41-3031	Securities, Commodities, and Financial Services Sales Agents	1,271	14
51-4041	Machinists	1,257	14
11-3051	Industrial Production Managers	858	14
13-1199	Business Operations Specialists, All Other	5,014	25
47-2111	Electricians	3,808	25
15-1041	Computer Support Specialists	3,762	25
41-3099	Sales Representatives, Services, All Other	2,943	25
11-9199	Managers, All Other	2,656	25
47-1011	Supervisors and Managers of Construction Trades and Extraction	2,152	25
43-5061	Production, Planning, and Expediting Clerks	1,531	25
11-2021	Marketing Managers	1,523	25
13-1023	Purchasing Agents, Except Wholesale, Retail, and Farm Products	1,301	25
15-1071	Network and Computer Systems Administrators	1,272	25
13-1073	Training and Development Specialists	941	25

Note: Ranks reflect where an occupation's final score falls in the overall list of 713 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. This list excludes health care occupations, but includes all other occupations. Health care occupations are those determined to be necessary for the delivery of health care services in the 2006 Oregon Health Care Workforce Needs Assessment. This determination was made in partnership with industry. To qualify as high wage, the occupation's median hourly wage in 2011 had to be greater than the statewide median wage (\$16.94 per hour). To qualify as high demand, the projected number of annual job openings for the occupation had to be greater than the median number of job openings (315).

**Oregon Statewide
Occupational Prioritization for Training
Top 20 Low-Wage, High-Demand Occupations**

SOC Code	SOC Title	Total Openings 2010-2020	Final Rank
43-3031	Bookkeeping, Accounting, and Auditing Clerks	7,919	47
43-6013	Medical Secretaries	4,776	47
53-7051	Fork Lift, Industrial Truck and Tractor Operators	4,245	73
25-2011	Preschool Teachers, Except Special Education	2,809	73
43-3021	Billing and Posting Clerks	2,493	73
41-2022	Parts Salespersons	2,106	73
27-2022	Coaches and Scouts	1,492	73
51-9061	Inspectors, Testers, Sorters, Samplers, and Weighers	2,026	104
43-4111	Interviewers, Except Eligibility and Loan	1,659	104
31-9099	Healthcare Support Workers, All Other	1,518	104
39-9031	Fitness Trainers and Aerobics Instructors	1,429	104
33-9099	Protective Service Workers, All Other	911	104
35-3011	Bartenders	4,464	136
35-1012	Supervisors and Managers of Food Preparation and Serving Workers	3,968	136
43-4081	Hotel, Motel, and Resort Desk Clerks	1,919	136
43-3011	Bill and Account Collectors	1,662	136
43-9041	Insurance Claims and Policy Processing Clerks	1,405	136
41-9041	Telemarketers	1,348	136
33-9092	Lifeguards, Ski Patrol, and Other Recreational Protective Service	1,267	136
47-2181	Roofers	1,090	136
51-7011	Cabinetmakers and Bench Carpenters	909	136
37-1011	Supervisors and Managers of Housekeeping and Janitorial Workers	664	136

Note: Ranks reflect where an occupation's final score falls in the overall list of 713 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2011 had to be greater than the statewide median wage (\$16.94 per hour). To qualify as high demand, the projected number of annual job openings for the occupation had to be greater than the median number of job openings (315).

Regional Tables:

**Overall High-Wage, High-Demand Top 20 lists
for all 15 Oregon Workforce Regions and
The Oregon Consortium/Oregon
Workforce Alliance**

Region 1 - Clatsop, Columbia, and Tillamook Counties
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations

SOC Code	SOC Title	Total Openings 2010-2020	Final Rank
29-1123	Physical Therapists	23	1
29-2011	Medical and Clinical Laboratory Technologists	17	2
29-1111	Registered Nurses	219	3
49-3023	Automotive Service Technicians and Mechanics	48	4
29-1122	Occupational Therapists	9	4
49-1011	Supervisors and Managers of Mechanics, Installers, and Repairers	45	6
11-9111	Medical and Health Services Managers	30	6
21-1014	Mental Health Counselors	19	6
13-2011	Accountants and Auditors	90	9
29-1051	Pharmacists	18	9
31-9094	Medical Transcriptionists	14	9
41-4011	Wholesale and Manufacturing Sales Representatives, Technical and Scientific Products	9	9
33-2011	Fire Fighters	48	13
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	48	13
13-1199	Business Operations Specialists, All Other	40	13
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	31	13
29-1060	Physicians and Surgeons	30	13
41-3099	Sales Representatives, Services, All Other	27	13
21-1011	Substance Abuse and Behavioral Disorder Counselors	24	13
11-3051	Industrial Production Managers	18	13
13-1079	Human Resources, Training, and Labor Relations Specialists, All Other	16	13
11-2021	Marketing Managers	8	13

Note: Ranks reflect where an occupation's final score falls in the overall list of 598 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2011 had to be greater than the region's median wage (\$15.20 per hour). To qualify as high demand, the projected number of annual job openings in the region for the occupation had to be greater than the median number of job openings in the region (6).

**Region 2 - Multnomah and Washington Counties
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations**

SOC Code	SOC Title	Total Openings 2010-2020	Final Rank
17-2061	Computer Hardware Engineers	930	1
29-2011	Medical and Clinical Laboratory Technologists	597	2
49-1011	Supervisors and Managers of Mechanics, Installers, and Repairers	728	3
29-1111	Registered Nurses	6,081	4
41-4011	Wholesale and Manufacturing Sales Representatives, Technical and Scientific Products	1,337	4
49-3023	Automotive Service Technicians and Mechanics	882	4
11-9111	Medical and Health Services Managers	757	4
13-2072	Loan Officers	739	4
13-1079	Human Resources, Training, and Labor Relations Specialists, All Other	718	4
41-4012	Wholesale and Manufacturing Sales Representatives, Except Technical and Scientific Products	3,684	10
15-1041	Computer Support Specialists	2,219	10
29-1060	Physicians and Surgeons	1,984	10
11-2022	Sales Managers	1,124	10
15-1021	Computer Programmers	873	10
41-3031	Securities, Commodities, and Financial Services Sales Agents	649	10
13-1051	Cost Estimators	591	10
13-2011	Accountants and Auditors	2,646	17
41-3099	Sales Representatives, Services, All Other	1,797	17
47-2111	Electricians	1,658	17
11-9199	Managers, All Other	1,562	17
47-1011	Supervisors and Managers of Construction Trades and	1,000	17
11-2021	Marketing Managers	999	17
25-3099	Teachers and Instructors, All Other	809	17
15-1071	Network and Computer Systems Administrators	744	17
11-9041	Engineering Managers	719	17
17-2112	Industrial Engineers	669	17
27-2022	Coaches and Scouts	614	17
51-4041	Machinists	563	17
17-2199	Engineers, All Other	543	17
11-3011	Administrative Services Managers	513	17
13-1071	Employment, Recruitment, and Placement Specialists	488	17
11-9033	Postsecondary School Administrators	427	17
11-3071	Transportation, Storage, and Distribution Managers	332	17
27-3042	Technical Writers	227	17
15-2031	Operations Research Analysts	144	17

Note: Ranks reflect where an occupation's final score falls in the overall list of 704 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2011 had to be greater than the region's median wage (\$18.58 per hour). To qualify as high demand, the projected number of annual job openings in the region for the occupation had to be greater than the median number of job openings in the region (134).

Region 3 - Marion, Polk, and Yamhill Counties
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations

SOC Code	SOC Title	Total Openings 2010-2020	Final Rank
29-1123	Physical Therapists	92	1
29-2011	Medical and Clinical Laboratory Technologists	84	1
29-1111	Registered Nurses	1,687	3
11-9111	Medical and Health Services Managers	180	4
49-3023	Automotive Service Technicians and Mechanics	196	5
49-1011	Supervisors and Managers of Mechanics, Installers, and Repairers	185	5
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	96	5
29-1060	Physicians and Surgeons	329	8
33-2011	Fire Fighters	167	8
41-4011	Wholesale and Manufacturing Sales Representatives, Technical and Scientific Products	76	8
21-1014	Mental Health Counselors	61	8
29-2012	Medical and Clinical Laboratory Technicians	45	8
29-1122	Occupational Therapists	39	8
13-1199	Business Operations Specialists, All Other	568	15
13-1073	Training and Development Specialists	184	15
13-1079	Human Resources, Training, and Labor Relations Specialists, All Other	153	15
13-2072	Loan Officers	140	15
15-1021	Computer Programmers	134	15
29-1051	Pharmacists	126	15
15-2041	Statisticians	122	15
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	110	15
21-1011	Substance Abuse and Behavioral Disorder Counselors	106	15
53-2012	Commercial Pilots, Except Airline Pilots	86	15
11-3051	Industrial Production Managers	85	15
11-2021	Marketing Managers	72	15

Note: Ranks reflect where an occupation's final score falls in the overall list of 683 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2011 had to be greater than the region's median wage (\$16.31 per hour). To qualify as high demand, the projected number of annual job openings in the region for the occupation had to be greater than the median number of job openings in the region (31).

**Region 4 - Benton, Lincoln, and Linn Counties
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations**

SOC Code	SOC Title	Total Openings 2010-2020	Final Rank
29-2011	Medical and Clinical Laboratory Technologists	59	1
29-1111	Registered Nurses	756	2
29-1123	Physical Therapists	51	2
29-1051	Pharmacists	127	4
17-2199	Engineers, All Other	105	4
49-1011	Supervisors and Managers of Mechanics, Installers, and Repairers	103	4
11-9111	Medical and Health Services Managers	91	4
49-3023	Automotive Service Technicians and Mechanics	119	8
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	90	8
41-4011	Wholesale and Manufacturing Sales Representatives, Technical and Scientific Products	69	8
15-1021	Computer Programmers	65	8
21-1014	Mental Health Counselors	56	8
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	51	8
11-2021	Marketing Managers	44	8
13-1073	Training and Development Specialists	37	8
13-2011	Accountants and Auditors	219	16
13-1199	Business Operations Specialists, All Other	214	16
11-9199	Managers, All Other	104	16
51-4041	Machinists	100	16
33-2011	Fire Fighters	80	16
13-1079	Human Resources, Training, and Labor Relations Specialists, All Other	79	16
17-3023	Electrical and Electronic Engineering Technicians	63	16
29-1122	Occupational Therapists	23	16
17-2131	Materials Engineers	21	16

Note: Ranks reflect where an occupation's final score falls in the overall list of 660 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2011 had to be greater than the region's median wage (\$16.17 per hour). To qualify as high demand, the projected number of annual job openings in the region for the occupation had to be greater than the median number of job openings in the region (19).

**Region 5 - Lane County
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations**

SOC Code	SOC Title	Total Openings 2010-2020	Final Rank
29-2011	Medical and Clinical Laboratory Technologists	85	1
29-1111	Registered Nurses	1,390	2
29-1123	Physical Therapists	88	2
41-4011	Wholesale and Manufacturing Sales Representatives, Technical and Scientific Products	196	4
11-9111	Medical and Health Services Managers	163	4
29-1122	Occupational Therapists	33	4
49-3023	Automotive Service Technicians and Mechanics	224	7
49-1011	Supervisors and Managers of Mechanics, Installers, and Repairers	177	7
21-1014	Mental Health Counselors	130	7
15-1041	Computer Support Specialists	467	10
29-1060	Physicians and Surgeons	403	10
41-3099	Sales Representatives, Services, All Other	184	10
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	173	10
29-1051	Pharmacists	145	10
11-2021	Marketing Managers	91	10
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	64	10
15-2041	Statisticians	57	10
41-4012	Wholesale and Manufacturing Sales Representatives, Except Technical and Scientific Products	558	18
13-2011	Accountants and Auditors	388	18
13-1199	Business Operations Specialists, All Other	362	18
11-9199	Managers, All Other	206	18
15-1071	Network and Computer Systems Administrators	120	18
13-1079	Human Resources, Training, and Labor Relations Specialists, All Other	110	18
21-1011	Substance Abuse and Behavioral Disorder Counselors	84	18
31-9094	Medical Transcriptionists	65	18
13-1073	Training and Development Specialists	63	18
29-2012	Medical and Clinical Laboratory Technicians	55	18

Note: Ranks reflect where an occupation's final score falls in the overall list of 678 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2011 had to be greater than the region's median wage (\$15.98 per hour). To qualify as high demand, the projected number of annual job openings in the region for the occupation had to be greater than the median number of job openings in the region (24).

**Region 6 - Douglas County
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations**

SOC Code	SOC Title	Total Openings 2010-2020	Final Rank
29-2011	Medical and Clinical Laboratory Technologists	16	1
29-1111	Registered Nurses	304	2
33-2011	Fire Fighters	71	2
11-9111	Medical and Health Services Managers	33	4
49-1011	Supervisors and Managers of Mechanics, Installers, and Repairers	33	4
29-1123	Physical Therapists	11	4
41-4012	Wholesale and Manufacturing Sales Representatives, Except Technical and Scientific Products	79	7
49-3023	Automotive Service Technicians and Mechanics	65	7
29-1060	Physicians and Surgeons	63	7
13-1199	Business Operations Specialists, All Other	52	7
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	39	7
41-4011	Wholesale and Manufacturing Sales Representatives, Technical	18	7
21-1014	Mental Health Counselors	8	7
13-2011	Accountants and Auditors	60	17
15-1041	Computer Support Specialists	38	17
29-1051	Pharmacists	26	17
13-2072	Loan Officers	21	17
21-1011	Substance Abuse and Behavioral Disorder Counselors	20	17
51-4041	Machinists	17	17
31-9094	Medical Transcriptionists	16	17
15-1021	Computer Programmers	12	17

Note: Ranks reflect where an occupation's final score falls in the overall list of 590 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2011 had to be greater than the region's median wage (\$14.85 per hour). To qualify as high demand, the projected number of annual job openings in the region for the occupation had to be greater than the median number of job openings in the region (7).

**Region 7 - Coos and Curry Counties
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations**

SOC Code	SOC Title	Total Openings 2010-2020	Final Rank
29-2011	Medical and Clinical Laboratory Technologists	20	1
29-1111	Registered Nurses	250	2
29-1123	Physical Therapists	10	2
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	31	4
11-9111	Medical and Health Services Managers	31	5
49-3023	Automotive Service Technicians and Mechanics	26	5
33-2011	Fire Fighters	28	7
49-1011	Supervisors and Managers of Mechanics, Installers, and Repairers	21	7
11-3031	Financial Managers	21	7
21-1014	Mental Health Counselors	11	7
43-6013	Medical Secretaries	69	11
13-2011	Accountants and Auditors	40	11
15-1041	Computer Support Specialists	36	11
13-1199	Business Operations Specialists, All Other	32	11
43-6011	Executive Secretaries and Administrative Assistants	26	11
29-2034	Radiologic, CAT, and MRI Technologists and Technicians	21	11
31-9094	Medical Transcriptionists	18	11
29-1051	Pharmacists	17	11
29-1060	Physicians and Surgeons	17	11
53-2012	Commercial Pilots, Except Airline Pilots	10	11
15-1021	Computer Programmers	9	11
29-2012	Medical and Clinical Laboratory Technicians	8	11

Note: Ranks reflect where an occupation's final score falls in the overall list of 554 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2011 had to be greater than the region's median wage (\$14.69 per hour). To qualify as high demand, the projected number of annual job openings in the region for the occupation had to be greater than the median number of job openings in the region (6).

**Region 8 - Jackson and Josephine Counties
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations**

SOC Code	SOC Title	Total Openings 2010-2020	Final Rank
29-2011	Medical and Clinical Laboratory Technologists	55	1
29-1111	Registered Nurses	929	2
29-1123	Physical Therapists	60	2
49-1011	Supervisors and Managers of Mechanics, Installers, and Repairers	106	4
49-3023	Automotive Service Technicians and Mechanics	212	5
41-3099	Sales Representatives, Services, All Other	198	5
33-2011	Fire Fighters	114	5
29-1051	Pharmacists	104	5
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	103	5
11-9111	Medical and Health Services Managers	102	5
41-4011	Wholesale and Manufacturing Sales Representatives, Technical and Scientific Products	81	5
29-1060	Physicians and Surgeons	183	12
13-2072	Loan Officers	84	12
21-1014	Mental Health Counselors	53	12
51-4011	Computer-Controlled Machine Tool Operators, Metal and Plastic	35	12
29-1122	Occupational Therapists	21	12
41-4012	Wholesale and Manufacturing Sales Representatives, Except Technical and Scientific Products	273	17
13-2011	Accountants and Auditors	198	17
15-1041	Computer Support Specialists	141	17
11-2021	Marketing Managers	55	17
15-1021	Computer Programmers	47	17
53-2012	Commercial Pilots, Except Airline Pilots	42	17

Note: Ranks reflect where an occupation's final score falls in the overall list of 658 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2011 had to be greater than the region's median wage (\$14.93 per hour). To qualify as high demand, the projected number of annual job openings in the region for the occupation had to be greater than the median number of job openings in the region (17).

Region 9 - Gilliam, Hood River, Sherman, Wasco, and Wheeler Counties
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations

SOC Code	SOC Title	Total Openings 2010-2020	Final Rank
29-1123	Physical Therapists	17	1
29-2011	Medical and Clinical Laboratory Technologists	11	1
29-1111	Registered Nurses	234	3
49-3023	Automotive Service Technicians and Mechanics	54	3
49-1011	Supervisors and Managers of Mechanics, Installers, and Repairers	30	3
13-2011	Accountants and Auditors	48	6
11-9111	Medical and Health Services Managers	38	6
41-4012	Wholesale and Manufacturing Sales Representatives, Except Technical and Scientific Products	72	8
29-1060	Physicians and Surgeons	54	8
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	21	8
17-3023	Electrical and Electronic Engineering Technicians	15	8
11-2021	Marketing Managers	14	8
43-6013	Medical Secretaries	70	13
13-1199	Business Operations Specialists, All Other	34	13
43-6011	Executive Secretaries and Administrative Assistants	34	13
29-1051	Pharmacists	17	13
33-2011	Fire Fighters	14	13
13-2072	Loan Officers	11	13
15-1021	Computer Programmers	11	13
41-4011	Wholesale and Manufacturing Sales Representatives, Technical and Scientific Products	9	13

Note: Ranks reflect where an occupation's final score falls in the overall list of 589 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2011 had to be greater than the region's median wage (\$14.80 per hour). To qualify as high demand, the projected number of annual job openings in the region for the occupation had to be greater than the median number of job openings in the region (5).

Region 10 - Crook, Deschutes, and Jefferson Counties
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations

SOC Code	SOC Title	Total Openings 2010-2020	Final Rank
29-2011	Medical and Clinical Laboratory Technologists	44	1
29-1111	Registered Nurses	726	2
29-1123	Physical Therapists	64	2
41-4011	Wholesale and Manufacturing Sales Representatives, Technical and Scientific Products	73	4
49-1011	Supervisors and Managers of Mechanics, Installers, and Repairers	69	4
13-2011	Accountants and Auditors	187	6
49-3023	Automotive Service Technicians and Mechanics	124	6
41-3099	Sales Representatives, Services, All Other	120	6
11-3031	Financial Managers	73	6
11-9111	Medical and Health Services Managers	72	6
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	58	6
21-1014	Mental Health Counselors	20	6
29-1060	Physicians and Surgeons	141	13
33-2011	Fire Fighters	125	13
29-1051	Pharmacists	50	13
11-2021	Marketing Managers	41	13
11-3051	Industrial Production Managers	32	13
29-1122	Occupational Therapists	30	13
41-4012	Wholesale and Manufacturing Sales Representatives, Except Technical and Scientific Products	251	19
15-1041	Computer Support Specialists	134	19
13-1199	Business Operations Specialists, All Other	119	19
15-1031	Computer Software Engineers, Applications	95	19
13-1079	Human Resources, Training, and Labor Relations Specialists, All Other	49	19
31-9094	Medical Transcriptionists	32	19

Note: Ranks reflect where an occupation's final score falls in the overall list of 645 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2011 had to be greater than the region's median wage (\$15.56 per hour). To qualify as high demand, the projected number of annual job openings in the region for the occupation had to be greater than the median number of job openings in the region (15).

**Region 11 - Klamath and Lake Counties
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations**

SOC Code	SOC Title	Total Openings 2010-2020	Final Rank
29-2011	Medical and Clinical Laboratory Technologists	12	1
29-1111	Registered Nurses	154	2
29-1123	Physical Therapists	9	2
49-1011	Supervisors and Managers of Mechanics, Installers, and Repairers	29	4
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	28	4
11-9111	Medical and Health Services Managers	23	6
29-1051	Pharmacists	19	6
13-1073	Training and Development Specialists	9	6
13-2011	Accountants and Auditors	50	9
13-1199	Business Operations Specialists, All Other	44	9
25-2011	Preschool Teachers, Except Special Education	43	9
29-1060	Physicians and Surgeons	41	9
33-2011	Fire Fighters	34	9
41-3099	Sales Representatives, Services, All Other	22	9
11-9032	Elementary and Secondary School Administrators	21	9
21-1014	Mental Health Counselors	17	9
13-1079	Human Resources, Training, and Labor Relations Specialists, All Other	16	9
41-4011	Wholesale and Manufacturing Sales Representatives, Technical and Scientific Products	9	9
41-4012	Wholesale and Manufacturing Sales Representatives, Except Technical and Scientific Products	34	20
49-3042	Mobile Heavy Equipment Mechanics, Except Engines	30	20
29-2034	Radiologic, CAT, and MRI Technologists and Technicians	25	20
13-2072	Loan Officers	19	20
15-1041	Computer Support Specialists	19	20
25-2041	Special Education Teachers, Preschool, Kindergarten, and Elementary School	19	20
51-8013	Power Plant Operators	19	20
31-9094	Medical Transcriptionists	14	20
15-1031	Computer Software Engineers, Applications	10	20
15-1021	Computer Programmers	7	20

Note: Ranks reflect where an occupation's final score falls in the overall list of 576 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2011 had to be greater than the region's median wage (\$14.35 per hour). To qualify as high demand, the projected number of annual job openings in the region for the occupation had to be greater than the median number of job openings in the region (5).

**Region 12 - Morrow and Umatilla Counties
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations**

SOC Code	SOC Title	Total Openings 2010-2020	Final Rank
29-2011	Medical and Clinical Laboratory Technologists	32	1
29-1123	Physical Therapists	11	2
29-1111	Registered Nurses	184	3
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	67	3
11-9111	Medical and Health Services Managers	37	3
49-1011	Supervisors and Managers of Mechanics, Installers, and Repairers	31	3
21-1014	Mental Health Counselors	27	3
29-1060	Physicians and Surgeons	38	8
41-3099	Sales Representatives, Services, All Other	28	8
41-4011	Wholesale and Manufacturing Sales Representatives, Technical and Scientific Products	13	8
41-4012	Wholesale and Manufacturing Sales Representatives, Except Technical and Scientific Products	77	12
41-2022	Parts Salespersons	61	12
13-2011	Accountants and Auditors	53	12
15-1041	Computer Support Specialists	34	12
29-1051	Pharmacists	20	12
15-1021	Computer Programmers	18	12
15-1071	Network and Computer Systems Administrators	14	12
15-1081	Network Systems and Data Communications Analysts	14	12
11-3021	Computer and Information Systems Managers	13	12
29-2012	Medical and Clinical Laboratory Technicians	12	12
11-2021	Marketing Managers	7	12

Note: Ranks reflect where an occupation's final score falls in the overall list of 607 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2011 had to be greater than the region's median wage (\$14.29 per hour). To qualify as high demand, the projected number of annual job openings in the region for the occupation had to be greater than the median number of job openings in the region (6).

Region 13 - Baker, Union, and Wallowa Counties
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations

SOC Code	SOC Title	Total Openings 2010-2020	Final Rank
29-2011	Medical and Clinical Laboratory Technologists	11	1
29-1123	Physical Therapists	8	2
29-1122	Occupational Therapists	5	3
29-1111	Registered Nurses	123	4
33-2011	Fire Fighters	45	4
11-9111	Medical and Health Services Managers	18	4
13-2011	Accountants and Auditors	39	7
41-4012	Wholesale and Manufacturing Sales Representatives, Except Technical and Scientific Products	29	7
29-1060	Physicians and Surgeons	27	7
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	17	7
21-1014	Mental Health Counselors	17	7
11-3051	Industrial Production Managers	7	7
11-1021	General and Operations Managers	60	16
13-1199	Business Operations Specialists, All Other	34	16
51-1011	Supervisors and Managers of Production and Operating Workers	22	16
49-3041	Farm Equipment Mechanics	16	16
49-1011	Supervisors and Managers of Mechanics, Installers, and Repairers	15	16
29-1051	Pharmacists	15	16
13-2072	Loan Officers	11	16
13-1073	Training and Development Specialists	9	16
11-9199	Managers, All Other	9	16
15-1071	Network and Computer Systems Administrators	7	16
11-3031	Financial Managers	7	16
15-1021	Computer Programmers	6	16

Note: Ranks reflect where an occupation's final score falls in the overall list of 525 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2011 had to be greater than the region's median wage (\$14.82 per hour). To qualify as high demand, the projected number of annual job openings in the region for the occupation had to be greater than the median number of job openings in the region (4).

Region 14 - Grant, Harney, and Malheur Counties
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations

SOC Code	SOC Title	Total Openings 2010-2020	Final Rank
29-2011	Medical and Clinical Laboratory Technologists	9	1
49-1011	Supervisors and Managers of Mechanics, Installers, and Repairers	17	2
29-1111	Registered Nurses	102	3
49-3023	Automotive Service Technicians and Mechanics	34	3
29-1122	Occupational Therapists	12	3
21-1014	Mental Health Counselors	11	3
29-1123	Physical Therapists	6	3
13-2011	Accountants and Auditors	20	8
11-9111	Medical and Health Services Managers	14	8
29-1051	Pharmacists	14	8
41-4011	Wholesale and Manufacturing Sales Representatives, Technical and Scientific Products	9	8
33-2011	Fire Fighters	42	12
41-4012	Wholesale and Manufacturing Sales Representatives, Except Technical and Scientific Products	30	12
41-2022	Parts Salespersons	24	12
43-6011	Executive Secretaries and Administrative Assistants	20	12
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	17	12
29-1060	Physicians and Surgeons	16	12
21-1011	Substance Abuse and Behavioral Disorder Counselors	15	12
13-2072	Loan Officers	13	12
21-1019	Counselors, All Other	7	12
11-3051	Industrial Production Managers	6	12

Note: Ranks reflect where an occupation's final score falls in the overall list of 485 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2011 had to be greater than the region's median wage (\$14.13 per hour). To qualify as high demand, the projected number of annual job openings in the region for the occupation had to be greater than the median number of job openings in the region (4).

Region 15 - Clackamas County
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations

SOC Code	SOC Title	Total Openings 2010-2020	Final Rank
49-1011	Supervisors and Managers of Mechanics, Installers, and Repairers	164	1
29-1111	Registered Nurses	1,186	2
13-2072	Loan Officers	230	2
29-1123	Physical Therapists	138	2
13-1071	Employment, Recruitment, and Placement Specialists	132	2
11-9111	Medical and Health Services Managers	122	2
13-2011	Accountants and Auditors	577	7
29-1060	Physicians and Surgeons	494	7
41-4011	Wholesale and Manufacturing Sales Representatives, Technical and Scientific Products	258	7
41-3099	Sales Representatives, Services, All Other	258	7
13-1051	Cost Estimators	195	7
11-2022	Sales Managers	179	7
49-3023	Automotive Service Technicians and Mechanics	166	7
41-3031	Securities, Commodities, and Financial Services Sales Agents	160	7
13-1079	Human Resources, Training, and Labor Relations Specialists, All Other	99	7
17-2199	Engineers, All Other	82	7
29-2011	Medical and Clinical Laboratory Technologists	48	7
41-4012	Wholesale and Manufacturing Sales Representatives, Except Technical and Scientific Products	1,028	19
47-2111	Electricians	276	19
47-1011	Supervisors and Managers of Construction Trades and Extraction Workers	248	19
29-1051	Pharmacists	215	19
15-1041	Computer Support Specialists	214	19
11-9199	Managers, All Other	190	19
11-2021	Marketing Managers	168	19
45-1011	Supervisors and Managers of Farming, Fishing, and Forestry Workers	124	19
15-1021	Computer Programmers	94	19
29-1122	Occupational Therapists	67	19

Note: Ranks reflect where an occupation's final score falls in the overall list of 669 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2011 had to be greater than the region's median wage (\$17.59 per hour). To qualify as high demand, the projected number of annual job openings in the region for the occupation had to be greater than the median number of job openings in the region (28).

TOCOWA - Workforce Regions 1, 6, 7, and 9-14
Occupational Prioritization for Training
Top 20 High-Wage, High-Demand Occupations

SOC Code	SOC Title	Total Openings 2010-2020	Final Rank
29-2011	Medical and Clinical Laboratory Technologists	172	1
29-1123	Physical Therapists	160	2
29-1111	Registered Nurses	2,295	3
11-9111	Medical and Health Services Managers	295	4
49-1011	Supervisors and Managers of Mechanics, Installers, and Repairers	289	4
41-4011	Wholesale and Manufacturing Sales Representatives, Technical and Scientific Products	148	4
21-1014	Mental Health Counselors	143	4
13-2011	Accountants and Auditors	587	9
33-2011	Fire Fighters	455	9
29-1060	Physicians and Surgeons	427	9
49-3031	Bus and Truck Mechanics and Diesel Engine Specialists	310	9
29-1051	Pharmacists	196	9
15-1021	Computer Programmers	123	9
11-2021	Marketing Managers	92	9
29-1122	Occupational Therapists	73	9
41-4012	Wholesale and Manufacturing Sales Representatives, Except Technical and Scientific Products	670	17
15-1041	Computer Support Specialists	321	17
41-3099	Sales Representatives, Services, All Other	278	17
11-3031	Financial Managers	208	17
53-2012	Commercial Pilots, Except Airline Pilots	118	17

Note: Ranks reflect where an occupation's final score falls in the overall list of 700 occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. To qualify as high wage, the occupation's median hourly wage in 2011 had to be greater than the region's median wage (\$14.87 per hour). To qualify as high demand, the projected number of annual job openings in the region for the occupation had to be greater than the median number of job openings in the region (45).



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