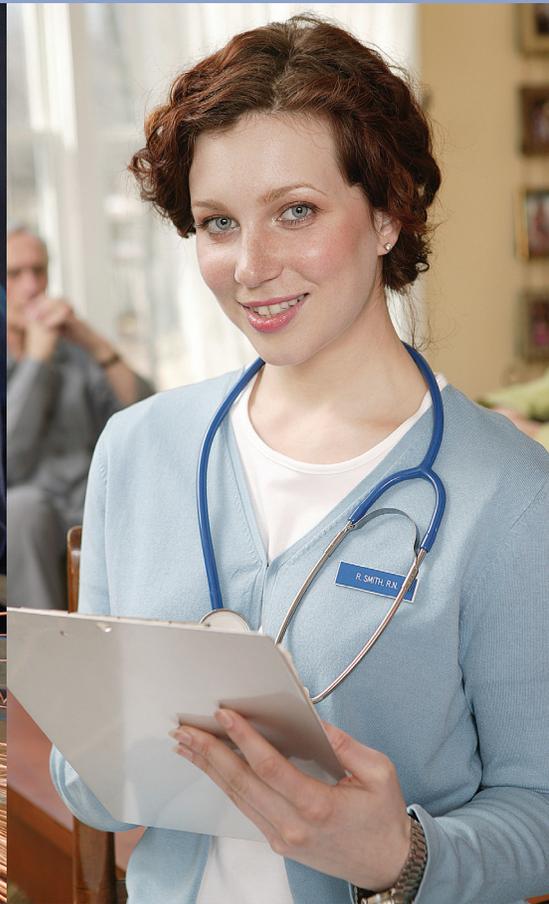
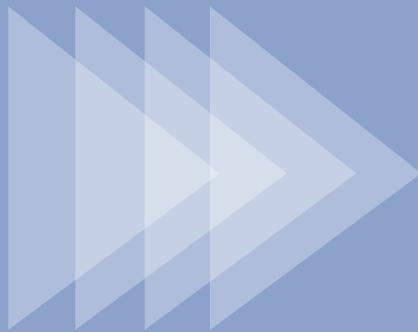


Training Oregonians....
For The Right Jobs



A New Method to Prioritize
Occupational Training



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The Need to Target Training Resources

There are about 1.8 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 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 the 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 introduce the Oregon Employment Department's new *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 ten years than the median for all occupations. What's the median? If you sort all the occupations so the one with most openings is at the top and the one with 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 28 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 2007 median wage of at least \$15.22 per hour.)

In order to be included in this occupational prioritization, occupations had to be both high-demand and high-wage, either at the statewide level or in at least five of Oregon's 15 workforce regions. 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. (OK, maybe that's a bit too strong. We do specifically allow for exceptions. More on that later.)

So this first step reduces the number of occupations under consideration from about 720 to 269 – 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 (*see table on page 3*).

The rationale for each factor starts with the words, "All other things being equal," but of course all other things are not equal, so none of these factors is a perfect measure on its own. However, 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? Simple. 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, for each factor, 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. Add up these scores for the six factors, and an occupation in the top group for each factor would have a score of 30, while an occupation in the bottom group for all factors would have a score of 6.

| Factor | Rationale |
|---|--|
| | <i>All other things being equal, we should target training resources to those occupations ...</i> |
| Total projected openings, 2006-2016 | ... likely to have the most growth and replacement openings. |
| Total projected openings, 2006-2016, relative to current employment | ... growing the fastest. |
| Average wage, 2008 | ... paying the highest wages. |
| Number of vacancies, spring 2008 | ... with the most vacancies. |
| Duration of vacancies, spring 2008 | ... whose vacancies are open the longest, implying that the vacancies are difficult to fill. |
| Geographic dispersion | ... that are important across broad areas of Oregon, not just needed in one or two geographic areas. |
| <i>The data source for all six factors is the Oregon Employment Department's Research Division: 10-year employment projections, Occupational Employment Statistics survey, 2008 Oregon Vacancy Survey, and 2007 high-wage, high-demand job lists by region.</i> | |

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 (see *table on page 4*).

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. Registered nurse, which happened to end up

as the highest priority occupation, scored 29 out of a possible 30 from the initial six factors. We then multiplied that 30 by 1.05 for the immigration factor (we need to train nurses here in Oregon); then by 1.10 for the supply shortages and surpluses factor (we're not producing as many nurses as we need); then by 1.10 for business affirmation (health care businesses have been significantly engaged in the development of additional training capacity for nurses); and then by 1.10 for the key industries (health care is clearly among the highest stated priorities for the Governor and other elected officials). So registered nurse ends up with a score of 41.

Remember that we only use these four more subjective factors when there's good information available and when that information tells us something concrete. 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.

| 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: 2000 Census national data, U.S. Bureau of the Census</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 <u>and</u> we can actually get good data for the occupation.</p> <p><i>Data source: OED Occupational Employment Projections, 2006-2016; education completers from Integrated Postsecondary Education Data System, Oregon Department of Education Private Career Schools Division, Job Corps, and BOLI Apprenticeship Division; 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 Oregon Economic and Community Development Department and Oregon Department of Community Colleges and Workforce Development.</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> |

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?

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.

Note also that some occupations that don't even make the first criteria – the high-demand, high-wage criteria – may be good candidates for training resources under some circumstances. Maybe a particular community has a real need for entry-level workers in a locally important industry... and those workers, at least initially, may not be high-wage. Maybe a low-wage occupation is a great stepping stone to higher-wage opportunities down the road... and individuals can't get to the higher-wage jobs without first gaining experience at the lower levels. Maybe... maybe there are dozens of different scenarios.

So the point is: this methodology should not be viewed as the absolute only approach to all decisions. But we do 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.

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. But we believe the method can be useful for many other purposes. To that end, we have 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 Top 20 list
- ✓ Statewide: Targeted Top 20 lists for
 - Health care
 - Occupations other than health care
 - Manufacturing
 - Clean technology
- ✓ Regional: Overall Top 20 lists for all 15 Oregon Workforce Regions

We are also developing an on-line tool, at www.QualityInfo.org, where you will be able to find all of the above lists plus many more, and the ability to develop your own customized list.

Improvements in the Future

We recognize that this methodology and the associated data analysis were developed quickly, for certain targeted uses, and with very tight deadlines. It is our intent to update the prioritization every two years (starting in early 2010), to incorporate new data. We will also be reviewing the methodology itself, always looking for ways to improve it.

To that end, we welcome comments and input.

For More Detailed Information

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

Statewide Tables:

Overall Top 20 list

Targeted Top 20 lists for:

- **Health care**
- **Occupations other than health care**
 - **Manufacturing**
 - **Clean technology**

Overall Top 20 List:

Oregon Statewide Occupational Prioritization for Training Top 20 Occupations

| SOC Code | SOC Title | Total Openings 2006-2016 | Final Rank |
|----------|---|-----------------------------|------------|
| 29-1111 | Registered Nurses | 13,515 | 1 |
| 51-4121 | Welders, Cutters, Solderers, and Brazers | 2,104 | 2 |
| 29-1060 | Physicians and Surgeons | 3,224 | 3 |
| 29-1123 | Physical Therapists | 865 | 3 |
| 47-2152 | Plumbers, Pipefitters, and Steamfitter | 2,011 | 5 |
| 29-2061 | Licensed Practical and Licensed Vocational Nurses | 1,272 | 5 |
| 49-3023 | Automotive Service Technicians and Mechanics | 2,982 | 7 |
| 51-4041 | Machinists | 1,149 | 7 |
| 29-2011 | Medical and Clinical Laboratory Technologists | 1,017 | 7 |
| 33-2011 | Fire Fighters | 1,461 | 10 |
| 11-9111 | Medical and Health Services Managers | 1,404 | 10 |
| 29-2021 | Dental Hygienists | 1,223 | 12 |
| 11-1021 | General and Operations Managers | 7,141 | 13 |
| 29-1051 | Pharmacists | 1,192 | 13 |
| 29-2034 | Radiologic, CAT, and MRI Technologists and Technicians | 1,029 | 13 |
| 21-1023 | Mental Health and Substance Abuse Social Workers | 753 | 13 |
| 41-4012 | Wholesale and Manufacturing Sales Representatives Non-technical and Scientific | 6,577 | 17 |
| 49-9041 | Industrial Machinery Mechanics | 1,025 | 17 |
| 51-8031 | Water and Liquid Waste Treatment Plant and System Operators | 563 | 17 |
| 31-9091 | Dental Assistants | 2,723 | 20 |
| 11-2021 | Marketing Managers | 1,266 | 20 |
| 29-1122 | Occupational Therapists | 378 | 20 |

Note: Ranks reflect where an occupation's final score falls in the overall list of 269 high-wage, high-demand occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification.

Targeted Top 20 Lists :

Oregon Statewide Occupational Prioritization for Training Top 20 Health Care Occupations

| SOC Code | SOC Title | Total Openings 2006-2016 | Final Rank |
|-------------|--|-----------------------------|---------------|
| 29-1111 | Registered Nurses | 13,515 | 1 |
| 29-1060 | Physicians and Surgeons | 3,224 | 3 |
| 29-1123 | Physical Therapists | 865 | 3 |
| 29-2061 | Licensed Practical and Licensed Vocational Nurses | 1,272 | 5 |
| 29-2011 | Medical and Clinical Laboratory Technologists | 1,017 | 7 |
| 11-9111 | Medical and Health Services Managers | 1,404 | 10 |
| 29-2021 | Dental Hygienists | 1,223 | 12 |
| 29-1051 | Pharmacists | 1,192 | 13 |
| 29-2034 | Radiologic, CAT, and MRI Technologists and Technicians | 1,029 | 13 |
| 21-1023 | Mental Health and Substance Abuse Social Workers | 753 | 13 |
| 31-9091 | Dental Assistants | 2,723 | 20 |
| 29-1122 | Occupational Therapists | 378 | 20 |
| 31-9094 | Medical Transcriptionists | 792 | 23 |
| 21-1022 | Medical and Public Health Social Workers | 471 | 23 |
| 43-6013 | Medical Secretaries | 2,957 | 31 |
| 21-1014 | Mental Health Counselors | 846 | 31 |
| 29-1126 | Respiratory Therapists | 653 | 31 |
| 21-1015 | Rehabilitation Counselors | 964 | 42 |
| 29-2012 | Medical and Clinical Laboratory Technicians | 754 | 42 |
| 29-1021 | Dentists, General | 443 | 42 |

Note: Ranks reflect where an occupation's final score falls in the overall list of 269 high-wage, high-demand 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.

**Oregon Statewide
Occupational Prioritization for Training
Top 20 Occupations (Excluding Health Care)**

| SOC Code | SOC Title | Total Openings 2006-2016 | Final Rank |
|-----------------|---|-------------------------------------|-----------------------|
| 51-4121 | Welders, Cutters, Solderers, and Brazers | 2,104 | 2 |
| 47-2152 | Plumbers, Pipefitters, and Steamfitter | 2,011 | 5 |
| 49-3023 | Automotive Service Technicians and Mechanics | 2,982 | 7 |
| 51-4041 | Machinists | 1,149 | 7 |
| 33-2011 | Fire Fighters | 1,461 | 10 |
| 11-1021 | General and Operations Managers | 7,141 | 13 |
| 41-4012 | Wholesale and Manufacturing Sales Representatives Non-technical and Scientific | 6,577 | 17 |
| 49-9041 | Industrial Machinery Mechanics | 1,025 | 17 |
| 51-8031 | Water and Liquid Waste Treatment Plant and System Operators | 563 | 17 |
| 11-2021 | Marketing Managers | 1,266 | 20 |
| 43-1011 | Supervisors and Managers of Office and Administrative Support Workers | 6,407 | 23 |
| 13-2011 | Accountants and Auditors | 3,744 | 23 |
| 49-3031 | Bus and Truck Mechanics and Diesel Engine Specialists | 1,637 | 23 |
| 15-1071 | Network and Computer Systems Administrators | 1,405 | 23 |
| 15-1021 | Computer Programmers | 1,322 | 23 |
| 49-9044 | Millwrights | 551 | 23 |
| 25-1199 | Postsecondary Teachers, Except Graduate Teaching Assistants | 6,887 | 31 |
| 41-4011 | Wholesale and Manufacturing Sales Representatives; Technical and Scientific | 2,236 | 31 |
| 49-1011 | Supervisors and Managers of Mechanics, Installers, and Repairers | 1,843 | 31 |
| 47-2073 | Operating Engineers and Other Construction Equipment Operators | 1,556 | 31 |
| 13-1051 | Cost Estimators | 1,297 | 31 |
| 11-3031 | Financial Managers | 1,248 | 31 |
| 11-9021 | Construction Managers | 1,170 | 31 |
| 17-2141 | Mechanical Engineers | 1,108 | 31 |

Note: Ranks reflect where an occupation's final score falls in the overall list of 269 high-wage, high-demand 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.

**Oregon Statewide
Occupational Prioritization for Training
Top 20 Manufacturing Occupations**

| SOC Code | SOC Title | Total Openings 2006-2016 | Final Rank |
|-----------------|--|-------------------------------------|-----------------------|
| 51-4121 | Welders, Cutters, Solderers, and Brazers | 2,104 | 2 |
| 51-4041 | Machinists | 1,149 | 7 |
| 49-9041 | Industrial Machinery Mechanics | 1,025 | 17 |
| 49-9044 | Millwrights | 551 | 23 |
| 17-2141 | Mechanical Engineers | 1,108 | 31 |
| 51-1011 | Supervisors and Managers of Production and Operating Workers | 2,472 | 42 |
| 15-1031 | Computer Software Engineers, Applications | 1,675 | 42 |
| 43-5061 | Production, Planning, and Expediting Clerks | 1,199 | 61 |
| 11-3051 | Industrial Production Managers | 649 | 61 |
| 13-1023 | Purchasing Agents, Except Wholesale, Retail, and Farm Products | 1,087 | 73 |
| 51-9061 | Inspectors, Testers, Sorters, Samplers, and Weighers | 1,582 | 88 |
| 51-2041 | Structural Metal Fabricators and Fitters | 722 | 88 |
| 11-9041 | Engineering Managers | 840 | 106 |
| 17-2112 | Industrial Engineers | 776 | 106 |
| 17-2071 | Electrical Engineers | 322 | 106 |
| 53-7051 | Fork Lift, Industrial Truck and Tractor Operators | 2,706 | 122 |
| 17-3023 | Electrical and Electronic Engineering Technicians | 820 | 122 |
| 19-3021 | Market Research Analysts | 594 | 122 |
| 13-2051 | Financial Analysts | 444 | 122 |
| 17-3026 | Industrial Engineering Technicians | 836 | 143 |
| 51-4011 | Computer-Controlled Machine Tool Operators, Metal and Plastic | 533 | 143 |
| 41-9031 | Sales Engineers | 430 | 143 |
| 51-9122 | Painters, Transportation Equipment | 386 | 143 |
| 11-3061 | Purchasing Managers | 343 | 143 |
| 17-3013 | Mechanical Drafters | 322 | 143 |

Note: Ranks reflect where an occupation's final score falls in the overall list of 269 high-wage, high-demand 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.

**Oregon Statewide
Occupational Prioritization for Training
Top 20 Clean Tech Occupations**

| SOC Code | SOC Title | Total Openings 2006-2016 | Final Rank |
|-----------------|---|-------------------------------------|-------------------|
| 51-4121 | Welders, Cutters, Solderers, and Brazers | 2,104 | 2 |
| 47-2152 | Plumbers, Pipefitters, and Steamfitter | 2,011 | 5 |
| 49-3023 | Automotive Service Technicians and Mechanics | 2,982 | 7 |
| 51-4041 | Machinists | 1,149 | 7 |
| 11-1021 | General and Operations Managers | 7,141 | 13 |
| 41-4012 | Wholesale and Manufacturing Sales Representatives Non-technical and Scientific | 6,577 | 17 |
| 49-9041 | Industrial Machinery Mechanics | 1,025 | 17 |
| 51-8031 | Water and Liquid Waste Treatment Plant and System Operators | 563 | 17 |
| 15-1021 | Computer Programmers | 1,322 | 23 |
| 49-9044 | Millwrights | 551 | 23 |
| 41-4011 | Wholesale and Manufacturing Sales Representatives; Technical and Scientific | 2,236 | 31 |
| 49-1011 | Supervisors and Managers of Mechanics, Installers, and Repairers | 1,843 | 31 |
| 47-2073 | Operating Engineers and Other Construction Equipment Operators | 1,556 | 31 |
| 11-3031 | Financial Managers | 1,248 | 31 |
| 11-9021 | Construction Managers | 1,170 | 31 |
| 17-2141 | Mechanical Engineers | 1,108 | 31 |
| 47-2031 | Carpenters | 4,763 | 42 |
| 13-1199 | Business Operations Specialists, All Other | 3,999 | 42 |
| 51-1011 | Supervisors and Managers of Production and Operating Workers | 2,472 | 42 |
| 15-1031 | Computer Software Engineers, Applications | 1,675 | 42 |
| 11-3021 | Computer and Information Systems Managers | 985 | 42 |
| 17-2051 | Civil Engineers | 985 | 42 |
| 47-4041 | Hazardous Materials Removal Workers | 669 | 42 |

Note: Ranks reflect where an occupation's final score falls in the overall list of 269 high-wage, high-demand occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification. These initial definitions of clean tech occupations are drawn from a wide variety of reports in Oregon and California, and from an April 23, 2008 Clean Tech meeting attended by OED staff. Our understanding of the clean tech industries and occupations is expected to improve as we undertake a major research project for the Oregon Workforce Investment Board. Thus, this initial list is likely to change in the summer of 2009.

Regional Tables:

**Overall Top 20 lists for all 15
Oregon Workforce Regions**

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

| SOC Code | SOC Title | Total Openings 2006-2016 | Final Rank |
|-----------------|---|-------------------------------------|-------------------|
| 29-1111 | Registered Nurses | 194 | 1 |
| 51-4121 | Welders, Cutters, Solderers, and Brazers | 54 | 1 |
| 29-1123 | Physical Therapists | 19 | 3 |
| 29-2011 | Medical and Clinical Laboratory Technologists | 18 | 4 |
| 47-2152 | Plumbers, Pipefitters, and Steamfitter | 54 | 5 |
| 29-1051 | Pharmacists | 38 | 5 |
| 29-1060 | Physicians and Surgeons | 33 | 5 |
| 29-1122 | Occupational Therapists | 11 | 8 |
| 11-9111 | Medical and Health Services Managers | 32 | 9 |
| 51-4041 | Machinists | 22 | 9 |
| 29-2061 | Licensed Practical and Licensed Vocational Nurses | 20 | 9 |
| 21-1023 | Mental Health and Substance Abuse Social Workers | 11 | 9 |
| 47-2031 | Carpenters | 212 | 13 |
| 11-1021 | General and Operations Managers | 138 | 13 |
| 49-9044 | Millwrights | 51 | 13 |
| 47-1011 | Supervisors and Managers of Construction Trades and Extraction Workers | 41 | 13 |
| 29-1126 | Respiratory Therapists | 15 | 13 |
| 29-2034 | Radiologic, CAT, and MRI Technologists and Technicians | 13 | 13 |
| 43-1011 | Supervisors and Managers of Office and Administrative Support Workers | 93 | 19 |
| 49-3023 | Automotive Service Technicians and Mechanics | 63 | 19 |
| 11-9199 | Managers, All Other | 39 | 19 |
| 21-1014 | Mental Health Counselors | 16 | 19 |
| 29-1131 | Veterinarians | 15 | 19 |

Note: Ranks reflect where an occupation's final score falls in the overall list of 183 high-wage, high-demand occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification.

**Region 2 - Multnomah and Washington Counties
Occupational Prioritization for Training
Top 20 Occupations**

| SOC Code | SOC Title | Total Openings 2006-2016 | Final Rank |
|-----------------|---|-------------------------------------|-----------------------|
| 29-1111 | Registered Nurses | 5,619 | 1 |
| 29-1060 | Physicians and Surgeons | 1,568 | 2 |
| 51-4121 | Welders, Cutters, Solderers, and Brazers | 828 | 2 |
| 47-2152 | Plumbers, Pipefitters, and Steamfitter | 915 | 4 |
| 11-9111 | Medical and Health Services Managers | 593 | 4 |
| 29-1051 | Pharmacists | 443 | 4 |
| 51-4041 | Machinists | 431 | 4 |
| 29-2011 | Medical and Clinical Laboratory Technologists | 378 | 4 |
| 29-2061 | Licensed Practical and Licensed Vocational Nurses | 329 | 4 |
| 17-2141 | Mechanical Engineers | 828 | 10 |
| 11-2021 | Marketing Managers | 759 | 10 |
| 29-1123 | Physical Therapists | 247 | 10 |
| 21-1022 | Medical and Public Health Social Workers | 208 | 10 |
| 49-9044 | Millwrights | 185 | 10 |
| 11-1021 | General and Operations Managers | 3,266 | 15 |
| 15-1071 | Network and Computer Systems Administrators | 829 | 15 |
| 29-2021 | Dental Hygienists | 416 | 15 |
| 41-4012 | Wholesale and Manufacturing Sales Representatives Non-technical and Scientific | 3,244 | 18 |
| 43-1011 | Supervisors and Managers of Office and Administrative Support Workers | 2,796 | 18 |
| 29-2034 | Radiologic, CAT, and MRI Technologists and Technicians | 277 | 18 |
| 29-1122 | Occupational Therapists | 145 | 18 |

Note: Ranks reflect where an occupation's final score falls in the overall list of 224 high-wage, high-demand occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification.

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

| SOC Code | SOC Title | Total Openings 2006-2016 | Final Rank |
|-----------------|---|---------------------------------|-------------------|
| 29-1111 | Registered Nurses | 1,750 | 1 |
| 29-1060 | Physicians and Surgeons | 307 | 2 |
| 21-1023 | Mental Health and Substance Abuse Social Workers | 124 | 2 |
| 29-2011 | Medical and Clinical Laboratory Technologists | 104 | 2 |
| 29-1123 | Physical Therapists | 64 | 2 |
| 29-2061 | Licensed Practical and Licensed Vocational Nurses | 136 | 6 |
| 29-1051 | Pharmacists | 118 | 6 |
| 51-8031 | Water and Liquid Waste Treatment Plant and System Operators | 71 | 8 |
| 31-9091 | Dental Assistants | 282 | 9 |
| 49-3023 | Automotive Service Technicians and Mechanics | 243 | 9 |
| 51-4041 | Machinists | 133 | 9 |
| 11-9111 | Medical and Health Services Managers | 119 | 9 |
| 29-2034 | Radiologic, CAT, and MRI Technologists and Technicians | 111 | 9 |
| 29-1122 | Occupational Therapists | 43 | 9 |
| 11-1021 | General and Operations Managers | 752 | 15 |
| 49-3031 | Bus and Truck Mechanics and Diesel Engine Specialists | 108 | 16 |
| 29-2032 | Diagnostic Medical Sonographers and Ultrasound Technologists | 35 | 16 |
| 43-3031 | Bookkeeping, Accounting, and Auditing Clerks | 1,056 | 18 |
| 25-1199 | Postsecondary Teachers, Except Graduate Teaching Assistants | 988 | 18 |
| 43-1011 | Supervisors and Managers of Office and Administrative Support Workers | 749 | 18 |
| 13-2011 | Accountants and Auditors | 400 | 18 |
| 43-6013 | Medical Secretaries | 353 | 18 |
| 47-1011 | Supervisors and Managers of Construction Trades and Extraction Workers | 299 | 18 |
| 33-3051 | Police and Sheriff's Patrol Officers | 239 | 18 |
| 41-4011 | Wholesale and Manufacturing Sales Representatives; Technical and Scientific | 144 | 18 |
| 33-2011 | Fire Fighters | 135 | 18 |
| 11-9021 | Construction Managers | 130 | 18 |
| 29-2012 | Medical and Clinical Laboratory Technicians | 120 | 18 |
| 21-1011 | Substance Abuse and Behavioral Disorder Counselors | 109 | 18 |
| 11-2021 | Marketing Managers | 77 | 18 |
| 15-1021 | Computer Programmers | 62 | 18 |
| 17-1022 | Surveyors | 41 | 18 |

Note: Ranks reflect where an occupation's final score falls in the overall list of 209 high-wage, high-demand occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification.

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

| SOC Code | SOC Title | Total Openings 2006-2016 | Final Rank |
|-----------------|--|-------------------------------------|-------------------|
| 29-1111 | Registered Nurses | 637 | 1 |
| 51-4121 | Welders, Cutters, Solderers, and Brazers | 85 | 2 |
| 29-1060 | Physicians and Surgeons | 138 | 3 |
| 29-2011 | Medical and Clinical Laboratory Technologists | 57 | 4 |
| 29-1123 | Physical Therapists | 35 | 4 |
| 29-1051 | Pharmacists | 91 | 6 |
| 29-2034 | Radiologic, CAT, and MRI Technologists and Technicians | 72 | 6 |
| 29-2061 | Licensed Practical and Licensed Vocational Nurses | 52 | 6 |
| 49-3023 | Automotive Service Technicians and Mechanics | 112 | 9 |
| 51-4041 | Machinists | 97 | 9 |
| 11-9111 | Medical and Health Services Managers | 68 | 11 |
| 11-1021 | General and Operations Managers | 278 | 12 |
| 49-3092 | Recreational Vehicle Service Technicians | 48 | 12 |
| 21-1023 | Mental Health and Substance Abuse Social Workers | 25 | 12 |
| 43-6013 | Medical Secretaries | 178 | 15 |
| 31-9091 | Dental Assistants | 128 | 15 |
| 47-2152 | Plumbers, Pipefitters, and Steamfitter | 106 | 15 |
| 43-5061 | Production, Planning, and Expediting Clerks | 61 | 15 |
| 13-1022 | Wholesale and Retail Buyers, Except Farm Products | 48 | 15 |
| 15-1021 | Computer Programmers | 46 | 15 |

Note: Ranks reflect where an occupation's final score falls in the overall list of 235 high-wage, high-demand occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification.

**Region 5 - Lane County
Occupational Prioritization for Training
Top 20 Occupations**

| SOC Code | SOC Title | Total Openings 2006-2016 | Final Rank |
|-----------------|---|-------------------------------------|-----------------------|
| 29-1111 | Registered Nurses | 1,491 | 1 |
| 29-1060 | Physicians and Surgeons | 336 | 2 |
| 51-4121 | Welders, Cutters, Solderers, and Brazers | 282 | 2 |
| 29-1123 | Physical Therapists | 118 | 2 |
| 29-2061 | Licensed Practical and Licensed Vocational Nurses | 177 | 5 |
| 29-2011 | Medical and Clinical Laboratory Technologists | 96 | 5 |
| 29-2034 | Radiologic, CAT, and MRI Technologists and Technicians | 105 | 7 |
| 49-3023 | Automotive Service Technicians and Mechanics | 255 | 8 |
| 29-1051 | Pharmacists | 125 | 9 |
| 11-9111 | Medical and Health Services Managers | 125 | 9 |
| 21-1023 | Mental Health and Substance Abuse Social Workers | 80 | 9 |
| 43-6013 | Medical Secretaries | 238 | 12 |
| 47-2152 | Plumbers, Pipefitters, and Steamfitter | 142 | 12 |
| 29-1122 | Occupational Therapists | 31 | 12 |
| 11-1021 | General and Operations Managers | 582 | 15 |
| 31-9091 | Dental Assistants | 234 | 15 |
| 29-2071 | Medical Records and Health Information Technicians | 157 | 15 |
| 51-4041 | Machinists | 114 | 15 |
| 49-3092 | Recreational Vehicle Service Technicians | 85 | 15 |
| 41-4011 | Wholesale and Manufacturing Sales Representatives; Technical and Scientific | 214 | 20 |
| 49-3031 | Bus and Truck Mechanics and Diesel Engine Specialists | 172 | 20 |
| 31-9094 | Medical Transcriptionists | 111 | 20 |
| 15-1021 | Computer Programmers | 108 | 20 |
| 15-1071 | Network and Computer Systems Administrators | 108 | 20 |
| 49-9044 | Millwrights | 45 | 20 |

Note: Ranks reflect where an occupation's final score falls in the overall list of 218 high-wage, high-demand occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification.

**Region 6 - Douglas County
Occupational Prioritization for Training
Top 20 Occupations**

| SOC Code | SOC Title | Total Openings 2006-2016 | Final Rank |
|-----------------|---|-------------------------------------|-------------------|
| 29-1111 | Registered Nurses | 338 | 1 |
| 51-4121 | Welders, Cutters, Solderers, and Brazers | 108 | 1 |
| 29-1060 | Physicians and Surgeons | 64 | 3 |
| 11-1021 | General and Operations Managers | 151 | 4 |
| 21-1023 | Mental Health and Substance Abuse Social Workers | 12 | 4 |
| 49-3023 | Automotive Service Technicians and Mechanics | 75 | 6 |
| 11-9111 | Medical and Health Services Managers | 35 | 6 |
| 21-1014 | Mental Health Counselors | 25 | 6 |
| 33-2011 | Fire Fighters | 23 | 6 |
| 29-1123 | Physical Therapists | 10 | 6 |
| 31-9091 | Dental Assistants | 64 | 11 |
| 29-2061 | Licensed Practical and Licensed Vocational Nurses | 27 | 11 |
| 49-9044 | Millwrights | 14 | 11 |
| 51-1011 | Supervisors and Managers of Production and Operating Workers | 92 | 14 |
| 49-2022 | Telecommunications Equipment Installers and Repairers, Except Line Installers | 26 | 14 |
| 11-9021 | Construction Managers | 22 | 14 |
| 15-1021 | Computer Programmers | 19 | 14 |
| 29-1126 | Respiratory Therapists | 18 | 14 |
| 29-2021 | Dental Hygienists | 17 | 14 |
| 49-3092 | Recreational Vehicle Service Technicians | 13 | 14 |

Note: Ranks reflect where an occupation's final score falls in the overall list of 208 high-wage, high-demand occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification.

**Region 7 - Coos and Curry Counties
Occupational Prioritization for Training
Top 20 Occupations**

| SOC Code | SOC Title | Total Openings 2006-2016 | Final Rank |
|-----------------|---|-------------------------------------|-----------------------|
| 29-1111 | Registered Nurses | 264 | 1 |
| 29-1060 | Physicians and Surgeons | 39 | 2 |
| 29-2011 | Medical and Clinical Laboratory Technologists | 25 | 3 |
| 51-4041 | Machinists | 17 | 3 |
| 29-1051 | Pharmacists | 20 | 5 |
| 11-9111 | Medical and Health Services Managers | 34 | 6 |
| 29-2034 | Radiologic, CAT, and MRI Technologists and Technicians | 25 | 7 |
| 47-2152 | Plumbers, Pipefitters, and Steamfitter | 20 | 7 |
| 29-1123 | Physical Therapists | 8 | 7 |
| 11-1021 | General and Operations Managers | 93 | 10 |
| 49-3023 | Automotive Service Technicians and Mechanics | 41 | 10 |
| 33-2011 | Fire Fighters | 32 | 10 |
| 29-2061 | Licensed Practical and Licensed Vocational Nurses | 26 | 10 |
| 29-1126 | Respiratory Therapists | 14 | 10 |
| 43-1011 | Supervisors and Managers of Office and Administrative Support Workers | 103 | 15 |
| 49-1011 | Supervisors and Managers of Mechanics, Installers, and Repairers | 35 | 15 |
| 43-6011 | Executive Secretaries and Administrative Assistants | 63 | 17 |
| 51-1011 | Supervisors and Managers of Production and Operating Workers | 50 | 17 |
| 21-1014 | Mental Health Counselors | 20 | 17 |
| 47-2031 | Carpenters | 98 | 20 |
| 11-9199 | Managers, All Other | 25 | 20 |
| 29-2055 | Surgical Technologists | 11 | 20 |
| 29-1131 | Veterinarians | 8 | 20 |

Note: Ranks reflect where an occupation's final score falls in the overall list of 151 high-wage, high-demand occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification.

**Region 8 - Jackson and Josephine Counties
Occupational Prioritization for Training
Top 20 Occupations**

| SOC Code | SOC Title | Total Openings 2006-2016 | Final Rank |
|-----------------|--|-------------------------------------|-------------------|
| 29-1111 | Registered Nurses | 1,017 | 1 |
| 29-1060 | Physicians and Surgeons | 169 | 2 |
| 51-4121 | Welders, Cutters, Solderers, and Brazers | 124 | 2 |
| 29-1123 | Physical Therapists | 75 | 4 |
| 47-2152 | Plumbers, Pipefitters, and Steamfitter | 126 | 5 |
| 29-2061 | Licensed Practical and Licensed Vocational Nurses | 130 | 6 |
| 29-2021 | Dental Hygienists | 70 | 6 |
| 49-3023 | Automotive Service Technicians and Mechanics | 214 | 8 |
| 29-2011 | Medical and Clinical Laboratory Technologists | 87 | 8 |
| 21-1015 | Rehabilitation Counselors | 61 | 8 |
| 11-1021 | General and Operations Managers | 508 | 11 |
| 31-9091 | Dental Assistants | 199 | 11 |
| 29-2034 | Radiologic, CAT, and MRI Technologists and Technicians | 93 | 11 |
| 21-1014 | Mental Health Counselors | 92 | 11 |
| 29-1051 | Pharmacists | 83 | 11 |
| 21-1023 | Mental Health and Substance Abuse Social Workers | 75 | 11 |
| 49-3031 | Bus and Truck Mechanics and Diesel Engine Specialists | 124 | 17 |
| 11-9111 | Medical and Health Services Managers | 98 | 17 |
| 31-9094 | Medical Transcriptionists | 80 | 17 |
| 33-2011 | Fire Fighters | 79 | 17 |
| 15-1071 | Network and Computer Systems Administrators | 73 | 17 |
| 29-1126 | Respiratory Therapists | 68 | 17 |

Note: Ranks reflect where an occupation's final score falls in the overall list of 229 high-wage, high-demand occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification.

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

| SOC Code | SOC Title | Total Openings 2006-2016 | Final Rank |
|-----------------|---|-------------------------------------|-------------------|
| 29-1111 | Registered Nurses | 227 | 1 |
| 29-1060 | Physicians and Surgeons | 44 | 2 |
| 29-1123 | Physical Therapists | 19 | 2 |
| 29-1051 | Pharmacists | 21 | 4 |
| 15-1031 | Computer Software Engineers, Applications | 54 | 5 |
| 21-1022 | Medical and Public Health Social Workers | 11 | 5 |
| 11-1021 | General and Operations Managers | 101 | 7 |
| 49-3023 | Automotive Service Technicians and Mechanics | 40 | 7 |
| 31-9094 | Medical Transcriptionists | 17 | 7 |
| 51-4121 | Welders, Cutters, Solderers, and Brazers | 15 | 7 |
| 29-2011 | Medical and Clinical Laboratory Technologists | 14 | 7 |
| 43-3031 | Bookkeeping, Accounting, and Auditing Clerks | 172 | 12 |
| 31-9091 | Dental Assistants | 34 | 12 |
| 29-2061 | Licensed Practical and Licensed Vocational Nurses | 18 | 12 |
| 47-2152 | Plumbers, Pipefitters, and Steamfitter | 14 | 12 |
| 29-1126 | Respiratory Therapists | 12 | 12 |
| 43-1011 | Supervisors and Managers of Office and Administrative Support Workers | 96 | 17 |
| 13-2011 | Accountants and Auditors | 59 | 17 |
| 51-1011 | Supervisors and Managers of Production and Operating Workers | 32 | 17 |
| 15-1071 | Network and Computer Systems Administrators | 30 | 17 |
| 11-9199 | Managers, All Other | 23 | 17 |
| 11-2021 | Marketing Managers | 15 | 17 |
| 11-3011 | Administrative Services Managers | 15 | 17 |
| 29-2034 | Radiologic, CAT, and MRI Technologists and Technicians | 15 | 17 |
| 11-3021 | Computer and Information Systems Managers | 13 | 17 |
| 21-1023 | Mental Health and Substance Abuse Social Workers | 10 | 17 |
| 29-1122 | Occupational Therapists | 7 | 17 |

Note: Ranks reflect where an occupation's final score falls in the overall list of 179 high-wage, high-demand occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification.

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

| SOC Code | SOC Title | Total Openings 2006-2016 | Final Rank |
|-----------------|---|---------------------------------|-------------------|
| 29-1111 | Registered Nurses | 749 | 1 |
| 29-1060 | Physicians and Surgeons | 141 | 2 |
| 47-2152 | Plumbers, Pipefitters, and Steamfitter | 165 | 3 |
| 49-3023 | Automotive Service Technicians and Mechanics | 151 | 3 |
| 29-1123 | Physical Therapists | 66 | 5 |
| 29-1051 | Pharmacists | 66 | 6 |
| 11-1021 | General and Operations Managers | 508 | 7 |
| 29-2061 | Licensed Practical and Licensed Vocational Nurses | 96 | 7 |
| 29-2011 | Medical and Clinical Laboratory Technologists | 57 | 7 |
| 11-9021 | Construction Managers | 150 | 10 |
| 11-2021 | Marketing Managers | 74 | 10 |
| 29-2034 | Radiologic, CAT, and MRI Technologists and Technicians | 70 | 10 |
| 43-1011 | Supervisors and Managers of Office and Administrative Support Workers | 412 | 13 |
| 31-9091 | Dental Assistants | 140 | 13 |
| 11-3031 | Financial Managers | 70 | 13 |
| 11-9111 | Medical and Health Services Managers | 68 | 13 |
| 29-1122 | Occupational Therapists | 33 | 13 |
| 33-3012 | Correctional Officers | 373 | 18 |
| 33-2011 | Fire Fighters | 147 | 18 |
| 11-9199 | Managers, All Other | 117 | 18 |
| 13-2072 | Loan Officers | 98 | 18 |
| 51-4041 | Machinists | 70 | 18 |
| 33-1021 | Supervisors and Managers of Fire Fighting and Prevention Workers | 46 | 18 |
| 49-3092 | Recreational Vehicle Service Technicians | 34 | 18 |
| 21-1022 | Medical and Public Health Social Workers | 32 | 18 |
| 29-1126 | Respiratory Therapists | 31 | 18 |
| 29-1071 | Physician Assistants | 27 | 18 |

Note: Ranks reflect where an occupation's final score falls in the overall list of 213 high-wage, high-demand occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification.

**Region 11 - Klamath and Lake Counties
Occupational Prioritization for Training
Top 20 Occupations**

| SOC Code | SOC Title | Total Openings 2006-2016 | Final Rank |
|-----------------|--|-------------------------------------|-------------------|
| 29-1111 | Registered Nurses | 161 | 1 |
| 51-4121 | Welders, Cutters, Solderers, and Brazers | 30 | 2 |
| 29-1060 | Physicians and Surgeons | 38 | 3 |
| 47-2152 | Plumbers, Pipefitters, and Steamfitter | 19 | 4 |
| 11-1021 | General and Operations Managers | 109 | 5 |
| 51-4041 | Machinists | 17 | 5 |
| 29-1123 | Physical Therapists | 8 | 5 |
| 11-3031 | Financial Managers | 20 | 8 |
| 29-1051 | Pharmacists | 16 | 8 |
| 29-2011 | Medical and Clinical Laboratory Technologists | 13 | 8 |
| 29-2034 | Radiologic, CAT, and MRI Technologists and Technicians | 23 | 11 |
| 21-1023 | Mental Health and Substance Abuse Social Workers | 19 | 11 |
| 31-9094 | Medical Transcriptionists | 12 | 11 |
| 25-1199 | Postsecondary Teachers, Except Graduate Teaching Assistants | 114 | 14 |
| 41-4012 | Wholesale and Manufacturing Sales Representatives Non-technical and Scientific | 54 | 14 |
| 33-2011 | Fire Fighters | 34 | 14 |
| 11-3011 | Administrative Services Managers | 20 | 14 |
| 33-1021 | Supervisors and Managers of Fire Fighting and Prevention Workers | 18 | 14 |
| 29-2061 | Licensed Practical and Licensed Vocational Nurses | 14 | 14 |
| 11-3061 | Purchasing Managers | 6 | 14 |

Note: Ranks reflect where an occupation's final score falls in the overall list of 186 high-wage, high-demand occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification.

**Region 12 - Morrow and Umatilla Counties
Occupational Prioritization for Training
Top 20 Occupations**

| SOC Code | SOC Title | Total Openings 2006-2016 | Final Rank |
|-----------------|--|-------------------------------------|-----------------------|
| 29-1111 | Registered Nurses | 160 | 1 |
| 51-4121 | Welders, Cutters, Solderers, and Brazers | 41 | 2 |
| 29-2011 | Medical and Clinical Laboratory Technologists | 18 | 3 |
| 49-3023 | Automotive Service Technicians and Mechanics | 39 | 4 |
| 47-2152 | Plumbers, Pipefitters, and Steamfitter | 31 | 4 |
| 29-1051 | Pharmacists | 29 | 6 |
| 29-1060 | Physicians and Surgeons | 21 | 6 |
| 11-1021 | General and Operations Managers | 114 | 8 |
| 11-9111 | Medical and Health Services Managers | 25 | 8 |
| 29-2061 | Licensed Practical and Licensed Vocational Nurses | 21 | 10 |
| 11-3031 | Financial Managers | 19 | 11 |
| 15-1021 | Computer Programmers | 17 | 11 |
| 21-1015 | Rehabilitation Counselors | 9 | 11 |
| 43-1011 | Supervisors and Managers of Office and Administrative Support Workers | 112 | 14 |
| 41-4012 | Wholesale and Manufacturing Sales Representatives Non-technical and Scientific | 55 | 14 |
| 25-2041 | Special Education Teachers, Preschool, Kindergarten, and Elementary School | 20 | 14 |
| 29-2034 | Radiologic, CAT, and MRI Technologists and Technicians | 13 | 14 |
| 29-1126 | Respiratory Therapists | 10 | 14 |
| 51-4041 | Machinists | 9 | 14 |
| 29-1123 | Physical Therapists | 7 | 14 |

Note: Ranks reflect where an occupation's final score falls in the overall list of 194 high-wage, high-demand occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification.

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

| SOC Code | SOC Title | Total Openings 2006-2016 | Final Rank |
|-----------------|--|-------------------------------------|-----------------------|
| 29-1111 | Registered Nurses | 147 | 1 |
| 51-4121 | Welders, Cutters, Solderers, and Brazers | 40 | 2 |
| 29-1060 | Physicians and Surgeons | 27 | 2 |
| 29-2011 | Medical and Clinical Laboratory Technologists | 16 | 4 |
| 29-1123 | Physical Therapists | 10 | 5 |
| 47-2152 | Plumbers, Pipefitters, and Steamfitter | 14 | 6 |
| 49-3023 | Automotive Service Technicians and Mechanics | 33 | 7 |
| 21-1022 | Medical and Public Health Social Workers | 9 | 7 |
| 21-1014 | Mental Health Counselors | 24 | 9 |
| 29-1051 | Pharmacists | 16 | 9 |
| 11-3031 | Financial Managers | 14 | 9 |
| 11-1021 | General and Operations Managers | 65 | 12 |
| 29-2061 | Licensed Practical and Licensed Vocational Nurses | 19 | 12 |
| 11-9111 | Medical and Health Services Managers | 13 | 12 |
| 21-1015 | Rehabilitation Counselors | 10 | 12 |
| 29-1122 | Occupational Therapists | 7 | 12 |
| 51-4041 | Machinists | 10 | 17 |
| 43-3031 | Bookkeeping, Accounting, and Auditing Clerks | 95 | 18 |
| 47-2031 | Carpenters | 54 | 18 |
| 43-6012 | Legal Secretaries | 12 | 18 |
| 29-2034 | Radiologic, CAT, and MRI Technologists and Technicians | 11 | 18 |

Note: Ranks reflect where an occupation's final score falls in the overall list of 184 high-wage, high-demand occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification.

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

| SOC Code | SOC Title | Total Openings 2006-2016 | Final Rank |
|-----------------|--|-------------------------------------|-----------------------|
| 29-1111 | Registered Nurses | 129 | 1 |
| 51-4121 | Welders, Cutters, Solderers, and Brazers | 27 | 1 |
| 29-1060 | Physicians and Surgeons | 28 | 3 |
| 29-2011 | Medical and Clinical Laboratory Technologists | 15 | 4 |
| 29-1123 | Physical Therapists | 7 | 5 |
| 29-1051 | Pharmacists | 20 | 6 |
| 11-9111 | Medical and Health Services Managers | 19 | 6 |
| 49-3023 | Automotive Service Technicians and Mechanics | 34 | 8 |
| 29-2061 | Licensed Practical and Licensed Vocational Nurses | 26 | 9 |
| 49-3031 | Bus and Truck Mechanics and Diesel Engine Specialists | 21 | 9 |
| 21-1022 | Medical and Public Health Social Workers | 5 | 9 |
| 47-2031 | Carpenters | 27 | 12 |
| 21-1014 | Mental Health Counselors | 16 | 12 |
| 11-3031 | Financial Managers | 10 | 12 |
| 21-1023 | Mental Health and Substance Abuse Social Workers | 10 | 12 |
| 11-1021 | General and Operations Managers | 48 | 16 |
| 47-2152 | Plumbers, Pipefitters, and Steamfitter | 6 | 16 |
| 13-2011 | Accountants and Auditors | 27 | 18 |
| 49-1011 | Supervisors and Managers of Mechanics, Installers, and Repairers | 18 | 18 |
| 29-2034 | Radiologic, CAT, and MRI Technologists and Technicians | 11 | 18 |
| 29-2055 | Surgical Technologists | 9 | 18 |
| 29-1126 | Respiratory Therapists | 7 | 18 |
| 51-4041 | Machinists | 4 | 18 |

Note: Ranks reflect where an occupation's final score falls in the overall list of 172 high-wage, high-demand occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification.

**Region 15 - Clackamas County
Occupational Prioritization for Training
Top 20 Occupations**

| SOC Code | SOC Title | Total Openings 2006-2016 | Final Rank |
|-----------------|---|-------------------------------------|-----------------------|
| 29-1111 | Registered Nurses | 1,026 | 1 |
| 29-1060 | Physicians and Surgeons | 324 | 1 |
| 51-4121 | Welders, Cutters, Solderers, and Brazers | 187 | 3 |
| 29-1123 | Physical Therapists | 97 | 4 |
| 51-4041 | Machinists | 149 | 5 |
| 29-2011 | Medical and Clinical Laboratory Technologists | 107 | 5 |
| 47-2152 | Plumbers, Pipefitters, and Steamfitter | 251 | 7 |
| 49-3023 | Automotive Service Technicians and Mechanics | 238 | 7 |
| 29-1051 | Pharmacists | 156 | 7 |
| 11-9111 | Medical and Health Services Managers | 133 | 7 |
| 29-2061 | Licensed Practical and Licensed Vocational Nurses | 117 | 7 |
| 29-2021 | Dental Hygienists | 108 | 7 |
| 41-4012 | Wholesale and Manufacturing Sales Representatives Non-technical and Scientific | 867 | 13 |
| 15-1071 | Network and Computer Systems Administrators | 136 | 13 |
| 11-2021 | Marketing Managers | 131 | 13 |
| 29-2034 | Radiologic, CAT, and MRI Technologists and Technicians | 106 | 13 |
| 29-1122 | Occupational Therapists | 66 | 13 |
| 11-1021 | General and Operations Managers | 676 | 18 |
| 43-1011 | Supervisors and Managers of Office and Administrative Support Workers | 494 | 18 |
| 15-1031 | Computer Software Engineers, Applications | 245 | 20 |
| 13-2072 | Loan Officers | 227 | 20 |
| 13-1051 | Cost Estimators | 156 | 20 |
| 47-2081 | Drywall and Ceiling Tile Installers | 142 | 20 |
| 11-3031 | Financial Managers | 131 | 20 |
| 11-9021 | Construction Managers | 128 | 20 |
| 29-2012 | Medical and Clinical Laboratory Technicians | 94 | 20 |
| 13-2051 | Financial Analysts | 81 | 20 |
| 11-3061 | Purchasing Managers | 43 | 20 |

Note: Ranks reflect where an occupation's final score falls in the overall list of 187 high-wage, high-demand occupations. When occupations' scores are tied, more than 20 occupations can rank in the top 20. SOC = Standard Occupational Classification.



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