



LABOR MARKET INFORMATION (LMI) HELP WITH PROGRAM DECISION MAKING

Guidelines for Educators and Trainers

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Labor Market Information Division
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“Reliable, accurate, and timely workforce information allows policymakers and program operators to target education and training investments so they can produce the best possible returns to job seekers.”

Unlocking the Treasure Chest of Labor Market Information
Research Brief, [John J. Heldrich Center for Workforce Development](#)
February 2009

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Labor Market Information (LMI) Resources

Introduction to labor market information (LMI)

“Not everything that can be counted counts, and not everything that counts can be counted.” --Albert Einstein

As the California agency charged with producing labor market information (LMI), EDD is in the business of counting those things that can be counted. The Labor Market Information Division (LMID) surveys employers about jobs, industries, and wages in collaboration with the Department of Labor and Bureau of Labor Statistics. The data is aggregated, analyzed, and turned into labor market information resources available on the LMID Web site, www.labormarketinfo.edd.ca.gov.

In order to compile occupational statistics, LMI needs categories. Just as bird watchers need a more specific label than bird, LMI uses several classification systems to categorize data about wages, outlook, and industries.

Classification systems—LMI’s big three

Three major taxonomies support labor market information resources:

Standard Occupational Classification (SOC) defines occupations and provides the structure used to record wage and outlook data collected from employers for the Occupational Employment Statistics System (OES).

Occupational Information Network (O*NET) uses the occupations defined in the SOC and adds descriptive information about interests, values, skills, knowledge, abilities, tasks, tools, and work context—over 277 characteristics in all. O*NET addresses “what” type questions and is the backbone of computer-based career counseling tools used for students and dislocated workers. Employers also use O*NET to build job descriptions and target recruitment. The O*NET contains more occupations than the SOC since O*NET determined some SOC occupations needed further delineation.

North American Industry Classification System (NAICS) is a relatively new classification system for industries developed in partnership with Canada and Mexico. Industry information addresses “where” questions. Many standard business and investment reference publications use NAICS codes as the structure for their research. Those who create ad hoc “industry” labels need to determine the closest NAICS fit in order to access labor market information.

**Educators’
classification
systems**

Educators add their taxonomies to the LMI picture. See Exhibit 1.

Classification of Instructional Programs (CIP)

The Classification of Instructional Programs (CIP) is maintained by the National Center for Education Statistics (NCES) to provide a taxonomic scheme that supports the accurate tracking, assessment, and reporting of fields of study and program completions.

CIP 2000 Occupational Crosswalks <http://nces.ed.gov/pubs2002/cip2000/occupationalcrosswalk.asp>

CIP 2010 <http://nces.ed.gov/ipeds/cipcode/Default.aspx?y=55>

Each CIP description links to an Occupational Crosswalks to other occupational classification systems. The Standard Occupational Classification (SOC) system is the most significant for labor market research.

Taxonomy of Programs (TOP)

California Community Colleges developed their own educational program classification system, *Taxonomy of Programs* (TOP); therefore, community college educators need to crosswalk from the TOP to the related CIP code before accessing labor market information resources.

To find the CIP related to the TOP, use the link below to access *Job Outlook for California Community College Occupational Education Programs* and the full TOP to CIP to SOC crosswalk in an Excel file.

www.labormarketinfo.edd.ca.gov/commcolleges/

**LMI portal page
for educators
and trainers**

Most LMI research can be accomplished at the www.LaborMarketInfo.edd.ca.gov Web site portal page established for educators and trainers: Select the **Customer Center** menu tab and then select [Educators / Trainers](#)

Summary Data Profiles on the right provide two approaches to research:

Local Area Profile – Browse to develop an overview understanding of the economy and industries that could benefit from added training resources.

Occupation Profile – Review a detailed abstract of an occupation’s characteristics plus discover local and/or State LMI related to the occupation.

Once familiar with accessing LMI through the Educators/Trainers portal page, experiment with other navigation paths to LMI resources and discover more resources along the way.

Caveats

Labor market information provides a generalized picture based on aggregated data from all employers. The fact that LMI is collected in a consistent manner facilitates comparison across time and place. Corroborate labor market information with local sources of economic information as part of your decision making process.

Information collected from employers is confidential and maintains that confidentiality because it is used in the aggregate. Should there be so few employers from a given industry or occupation in a geographic area that the confidentiality of data would be breached, that data is not published.

Spreadsheet

Some of the labor market information that follows can be downloaded as Excel files. This enables you to add data to other reports and customize it to your research needs.

Labor Market Information Consultants

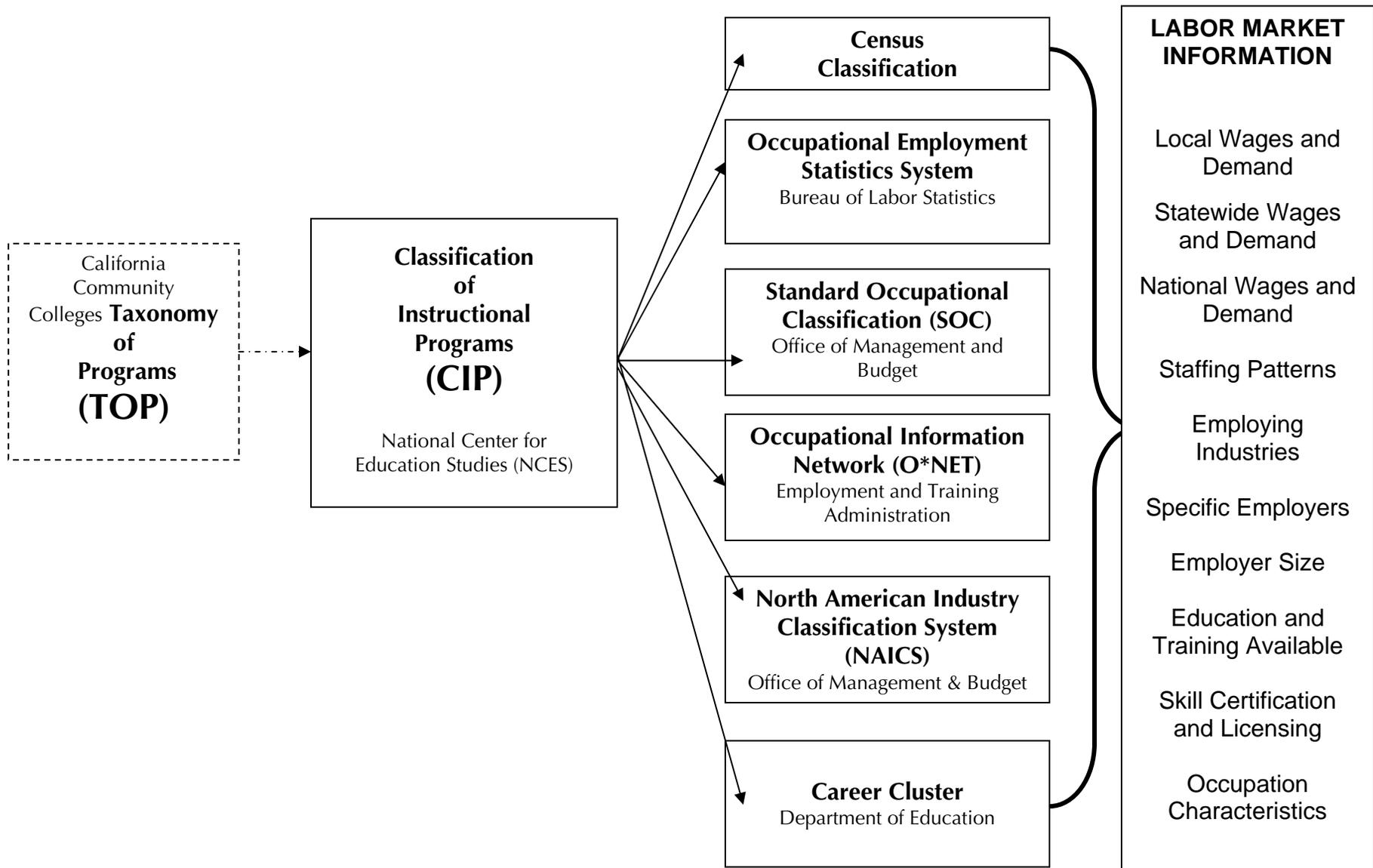
The EDD maintains LMI Consultants around the State to assist with your LMI questions and provide special reports. LMI Consultants for your county can be located in Contact LMI section of www.LaborMarketInfo.edd.ca.gov. A modest fee may be charged for custom reports.

Continuous improvement

The Labor Market Information Division uses comments from customers to improve the features and navigation of our Web site, www.LaborMarketInfo.edd.ca.gov. We welcome your comments and the opportunity to make our labor market resources increasingly useful and user-friendly.

The continuous improvement of our Web site means the detailed navigation instructions in this document could change. Contact our publication staff at (916) 262-2162 for assistance in locating the information you seek should these directions have been superseded.

Exhibit 1: Crosswalk from Training Program Classification to Labor Market Information



Program Decisions

Questions addressed using LMI

Schools and colleges regularly address the question of whether to add, enhance, or retain a program of study. Labor market information (LMI) resources provide data significant to a program decision-making process—resources that address the following questions:

- What occupations relate to the program?
 - What is the employment outlook for those occupations?
 - What are wages for entry-level and experienced workers in these occupations?
 - How do these wages compare to other occupations with the same education or training requirements?
 - What other training providers offer this program? Locally? Regionally? In California?
 - What industries employ these occupations?
 - Who are the local employers in each industry, and what is their size?
 - What skill standards, certifications, or licensing requirements exist for the occupation(s)?
-

What occupations relate to the program?

Identifying the occupations related to a training program begins the research process since LMI flows from occupations. Start with the information you know—training, job title, or industry.

Existing or potential training program - Identify the occupation(s) and opportunities related to training.

- Use the [CIP 2000 Occupational Crosswalk](#) to identify related SOC or O*NET occupations.
- Create an **Occupation Profile** for each occupation related to the CIP.
www.labormarketinfo.edd.ca.gov → Customer Center → Educators/Trainers → Summary Data Profiles → Occupation Profile

Occupation title - Determine potential programs that could contribute to and be sustained by related local employment.

- Use [O*NET Code Connector](#) to link the varied job titles used in the world of work to the O*NET-SOC classification.
- Create an **Occupation Profile** for each occupation linked to the common name.
www.labormarketinfo.edd.ca.gov → Customer Center → Educators/Trainers → Summary Data Profiles → Occupation Profile

Industry –Identify occupations commonly employed in the industry.

- Use [Staffing Patterns by Industry and Occupation](#) www.labormarketinfo.edd.ca.gov/?pageid=1012
Where Can I Find These Data → Staffing Patterns → What Occupations Are Employed in an Industry?
 - TIP! If entering industry name produces an unsatisfactory result, browse the complete list of industries.
 - Create an **Occupation Profile** for each occupation related to the NAICS industry that shows volume and growth.
www.labormarketinfo.edd.ca.gov → Customer Center → Educators/Trainers → Summary Data Profiles → Occupation Profile
-

What are the wages?

What are the wages for occupations related to the program?

Each **Occupation Profile** shows the following wage data:

- Mean hourly wage
- Median hourly wage
- Hourly 25th and 75th percentile wage
- Links to a list of median hourly and annual wages for the occupation in other areas of the State

Spreadsheet Download - Users can download LMI data files in an Excel spreadsheet.

- Follow the *About Wages* link in the Occupation Profile to a portal page of wage-gathering options.
- Select: Download Wages and Employment for All Occupations by Geography.

Self-Employment

Wage data are not collected for self-employed individuals. This may cause wage data for occupations with high self-employment to be skewed toward the entry level in an occupation where workers often start their own business after gaining experience or clientele. See [Occupational Supply Demand](#) (OSDS), Demand Indicators feature for the self-employment rate of an occupation.

How do the wages compare to other occupations with the same training level?

While earnings are not the only or most important reason for choosing a program of study, expected earnings and training duration play a significant role in many individual decisions to pursue a training program. How do wages for occupations related to the CIP compare to wages of other occupations that require a similar investment of time in education or training?

Required Education and Training

The Bureau of Labor Statistics developed a system for classifying occupations by the kind of training required. Exhibit 2 describes that 11- rung system. Column L of the [Projections of Employment](#) spreadsheet supplies the Education and Training Level for each occupation. Note the training levels for the occupation(s) related to the CIP programs under review.

Exhibit 2: Education and Training Levels

- | | |
|--|---|
| 1 - First Professional Degree | 6 - Associate Degree |
| 2 - Doctoral Degree | 7 - Post-Secondary Vocational Education |
| 3 - Master's Degree | 8 - Work Experience in a Related Occupation |
| 4 - Bachelor's Degree or Higher and Some Work Experience | 9 - Long-Term On-the-Job Training |
| 5 - Bachelor's Degree | 10 - Moderate-Term On-the-Job Training |
| | 11 - Short-Term On-the-Job Training |

Continued on page 8

Exhibit 3: 2009 California Wages by Training Level ⁽¹⁾

Education & Training Level	Mean Wage	Entry-Level Wage (2)	10th Percentile	25th Percentile	50th Percentile (Median)	75th Percentile	90th Percentile	May 2008 Est. Empl.
1-First Professional Degree								169,750
Annual	\$147,201	\$82,692	\$69,397	\$101,756	\$132,142	(3)	(3)	
Hourly	\$70.77	\$39.76	\$33.37	\$48.92	\$63.53	(3)	(3)	
2-Doctorate Degree								82,830
Annual	\$88,874	\$53,113	\$47,006	\$62,315	\$82,221	\$106,571	\$137,312	
Hourly	\$42.72	\$25.54	\$22.60	\$29.96	\$39.53	\$51.23	\$66.01	
3-Master's Degree								325,520
Annual	\$69,854	\$38,069	\$33,302	\$45,294	\$64,120	\$87,570	\$111,548	
Hourly	\$33.59	\$18.30	\$16.01	\$21.78	\$30.82	\$42.10	\$53.63	
4-Bachelor's + Experience								760,710
Annual	\$118,619	\$59,638	\$51,842	\$72,748	\$105,031	\$152,051	(3)	
Hourly	\$57.03	\$28.68	\$24.93	\$34.98	\$50.49	\$73.10	(3)	
5-Bachelor's Degree								2,174,200
Annual	\$73,081	\$40,292	\$35,546	\$48,470	\$67,397	\$90,620	\$120,007	
Hourly	\$35.14	\$19.37	\$17.09	\$23.31	\$32.40	\$43.57	\$57.70	
6-Associate Degree								594,490
Annual	\$68,852	\$39,632	\$33,984	\$47,702	\$66,845	\$86,299	\$106,481	
Hourly	\$33.10	\$19.05	\$16.34	\$22.93	\$32.14	41.49	\$51.19	
7-Post-Secondary Vocational								640,830
Annual	\$42,002	\$23,913	\$20,763	\$27,440	\$38,311	\$52,167	\$67,002	
Hourly	\$20.20	\$11.50	\$9.98	\$13.19	\$18.41	25.08	\$32.21	
8-Work Experience, Related								894,160
Annual	\$56,422	\$29,818	\$25,886	\$35,149	\$49,882	\$69,906	\$96,479.00	
Hourly	\$27.13	\$14.33	\$12.45	\$16.90	\$23.99	33.61	\$46.38	
9-Long-Term On-the-Job Training								1,058,410
Annual	\$48,357	\$25,323	\$22,229	\$29,547	\$44,002	\$62,360	\$80,325	
Hourly	\$23.25	\$12.18	\$10.69	\$14.20	\$21.15	29.98	\$38.62	
10-Moderate On-the-Job Training								2,742,950
Annual	\$41,239	\$24,097	\$21,108	\$27,419	\$36,667	\$49,552	\$65,953	
Hourly	\$19.82	\$11.59	\$10.15	\$13.18	\$17.62	23.82	\$31.70	
11-Short-Term On-the-Job Training								5,663,710
Annual	\$26,162	\$18,198	\$17,070	\$18,603	\$22,252	\$30,586	\$41,116	
Hourly	\$12.58	\$8.75	\$8.20	\$8.94	\$10.70	\$14.14	\$19.77	

These survey data are from the 2008 Occupational Employment Statistics (OES) survey. The wages have been updated to the first quarter of 2009 by applying the US Department of Labor's Employment Cost Index to the 2008 wages. (1) Data does not reflect wages for self-employed workers. (2) The mean of the first third of the wage distribution is provided as a proxy for entry-level wage. (3) An estimate of wage could not be provided.

How do the wages compare to other occupations with the same training level?

Continued

Identify Competing Occupations and Their Wages

2009 California Wages by Training Level, Exhibit 3, displays wages for occupations aggregated by each of the 11 BLS-defined training levels. Competing occupations are those within the same BLS training level.

Do competing occupations offer higher wages, lower wages, or about the same wage?

Incumbent Worker Educational Attainment

Another source of national data about the typical education of worker's in an occupation is the Bureau of Labor Statistics' [Occupational Employment, Training, and Earnings Search](#).

<http://data.bls.gov/oep/servlet/oep.noeted.servlet.ActionServlet?Action=empoccp>

Follow the online directions. The resulting table will include fields on the far right that show the Percent of Workers Aged 25-44 by Educational Attainment for the occupation(s) you selected.

- High school or less
- Some College
- Bachelor's degree or higher

This information serves as a reminder that the path to most occupations remains diverse. Keep in mind that California requirements for some occupations may vary from the national norm.

What is the employment outlook?

Employment projections (also known as outlook or demand) play a significant role in driving program enrollment. Students want to know reasonable opportunities exist after completing their studies.

The **Occupation Profile** includes the following projections data:

- Employment number for the beginning and ending years of the ten-year projection period
- Employment growth over the ten-year period
- Percent of employment change over the projections period
- Annual average openings
- Links to projections listings for the other areas of the State

Spreadsheet Download

Follow the *About Projections* link in the **Occupation Profile** to a portal page of projections for all occupations by geography, [Projections of Employment by Industry and Occupation](#), offering the following projections-gathering options:

- Industry Projections
- Occupational Projections
- Occupations with the Most Job Openings
- Fastest Growing Occupations
- Short-term Projections (Two Years)
- Long-term Projections (Ten Years)

Occupational Employment Projections include the following data for each occupation:

- Annual Average Employment
- Employment Change, Numerical and Percent
- Average Annual Job Openings, New Jobs
- Average Annual Job Openings, Net Replacements
- Average Annual Job Openings, Total
- Median Hourly Wage
- Median Annual Wage
- Education and Training Level (1-11) See Exhibit 2.

Since educators need to consider program capacity, projected average annual openings figures provide a relevant reference point.

- How many students could be enrolled at one time in each stage of the program?
- How many completers could be expected each year?

What other institutions provide this type of training?

Identify other training providers who offer the same program of study.

In the **Occupation Profile**, scroll to the Training Programs heading. Some occupations list more than one applicable training program. Occupations with only one type of training program (CIP) simply list the schools. If more than one training program is listed, select each program to view the associated schools.

Identify programs that would be competing for the same students. Does the projections information support enough demand in training-related occupations to provide opportunities for students?

Supply side resource

The Department of Labor provides a Web resource, Occupational Supply Demand System (OSDS), to assist workforce development program planners with supply-side information. www.occsupplydemand.org.

The OSDS created a Unit of Analysis classification system. Crosswalks link Classification of Instructional Programs (CIP), Standard Occupational Classification (SOC), and Career Cluster users to the comparable Units of Analysis. Supply data shows the number of completers by program, certificate or degree type, and program year. Demand side data includes the following tables:

- Occupational Characteristics
- Occupational Projections
- Wage Trends
- Occupational Employment by Industry (top five industries)

Self-Employment Rate – The far right column of Occupational Characteristics table shows a national percentage for self-employment in the occupation. This is the only labor market resource that provides the rate of self-employment.

Users should be aware of the following caveats and use OSDS information within the context of its limitations.

- Considerable inconsistency exists among training providers in their use of training categories.
 - Beware of the temptation to compare the completers data with annual demand data as many occupations do not require a specific certificate or degree to enter the field. To quote the OSDS caveat, “The programs in this cluster train for the related occupations, but do not function as exclusive ports of entry.”
 - Completer data does not convey the annual program capacity, as many students could take a course or two to enhance their skills or obtain a job, and will never show up as completers.
 - Completer information does not address the question of obtaining related employment after training.
-

Supply side limits

Significant training program supply-demand information not available includes the following:

- Capacity of training program.
- Number of students in program.
- Number of students on waiting list for program, when applicable.
- Number of students obtaining related employment before completing program.
- Number of students already employed in field who are enrolled in a program to enhance their skills but have no intention of completing certificate or degree.

Campus placement services, where they exist, might be able to supply information about employer demand for students from specific programs. Employers could also directly contact faculty for access to students, so faculty may add anecdotal information about demand.

What industries employ the target occupations?

Use LMI to identify industries that employ the target occupation(s).

From the Educators/Schools portal Summary Data Profiles

1. Select the **Occupation Profile**, an area, and occupation.
2. Scroll to “Industries Employing This Occupation.”
3. The industry list includes data about the number of local employers in that industry and the statewide percentage of workers in this occupation who work in each industry sector.

Experienced users may prefer to follow the [About Staffing Patterns](#) link for further exploration. Industry staffing patterns help program decision making in several ways:

- Identify industries that employ largest numbers of target occupation.
- Identify industries where occupation is projected to grow
- Identify industries where occupation is projected to decline
- Identify industry code (North American Industry Classification System-NAICS) leading to specific local employers

Become industry savvy by reading the Department of Labor’s [Career Guide to Industries](#) (CGI) for an industry overview. The CGI includes occupations in the industry, training and advancement, earnings, expected job prospects, and working conditions.

County-level industry employment figures may be available as an ad hoc report if there are no confidentiality issues. Contact the [Labor Market Consultant](#) for your county.

Identify local employers in related industries

Identifying local employers of the occupations related to the program provides several benefits:

- Advisory board members for the program.
- Guest speakers to enrich curriculum content.
- Internship and work experience site development.
- Employment opportunities for program graduates.

Use either the **Occupation Profile** or the **Find Employer** feature to identify employers.

The **Occupation Profile** heading, “Industries Employing This Occupation,” links industries to lists of specific employers. Each industry entry includes the number of employers in the location and the statewide percentage of the workers employed in the occupation found in that industry sector.

Industries Employing This Occupation (click on Industry Title to View Employers List) Top		
Industry Title	Number of Employers in Sacramento County	Percent of Total Employment for Occupation in State of California
Machine Shops and Threaded Products	49	27.2%
Metalworking Machinery Manufacturing	11	4.3%
Electronic Instrument Manufacturing	13	3.9%
Employment Services	250	3.0%
Other General Purpose Machinery Mfg	24	2.9%
Other Fabricated Metal Product Mfg	26	2.7%
Motor Vehicle Parts Manufacturing	16	2.7%

Alternatively, **Find Employers** offers four ways to search for employers.

www.labormarketinfo.edd.ca.gov/aspdotnet/databrowsing/empMain.aspx?menuChoice=emp

- *Name*
- *Occupation*
- *Industry*
- *Location*

Either approach leads to the same information—a list of employers in the selected geographic area. Each employer listing includes a contact name, address, phone number, and size of firm.

Identify commute patterns

Understanding commute patterns for an area suggests the distance from which a program might realistically expect to draw students as well as where students could find employment.

County-to-County Commute Pattern information can be accessed in two ways.

- Each **Local Area Profile** presents commuter data in a table format
- Find an index and map in The Economy → Economic Data → County-to-County Commute Patterns

Compare commute pattern information to the **Occupation Profile** data from those same areas and determine if competing training programs and employing industries exist in adjacent counties.

What apprenticeships, certifications, or licensing exist?

Licensure, certification, and apprenticeship play a major role in some occupations. Check the resources below to determine their importance to occupations related to your program.

Apprenticeships

<http://www.dir.ca.gov/databases/das/aigstart.asp>

The Division of Apprenticeship Standards maintains a database of California apprenticeships searchable by occupation and geographic area.

Licensure

www.labormarketinfo.edd.ca.gov

The **Occupation Profile** Details section titled Possible Licenses Required and Issuing Authority lists contact information for California licenses relevant to the occupation. Alternatively, go directly to [Occupational Licenses](http://www.labormarketinfo.edd.ca.gov/?pageid=1010) at www.labormarketinfo.edd.ca.gov/?pageid=1010.

Certifications

http://www.acinet.org/acinet/certifications_new/cert_search_occupation.asp?by=occ

Many professional and trade associations offer certifications. Use America's Career InfoNet, Career Tools' Certification Finder to locate certification programs by occupation or industry.

The **Occupation Profile** and [California Occupational Guides](#) also provide this information.

Take a broader view with O*NET

When the occupation belongs to a job family of other occupations that draw upon the same knowledge, skills, and abilities, those occupations might reasonably be included in demand calculations. Identifying related occupations that use the same skills or tools could convey the broader job market for a program rather than just the demand for the most highly visible occupation(s) related to the CIP.

[O*NET](http://online.onetcenter.org/) can identify occupations that use the same knowledge, skills, abilities, and tools. <http://online.onetcenter.org/>

O*NET offers easy navigation as well as tutorials for specific research applications. Visit the [O*NET Academy](http://www.onetacademy.com/) for a list of archived podcasts and Webinar topics. Discover ways O*NET use can benefit your students, workforce development partners, and employers. <http://www.onetacademy.com/>

Summary

The LMI resources described above provide essential information for assessing an education or training program's significance to the area economy and its graduates' potential employment.

- Occupations related to a training program
- Wages that can be expected
- Competing training programs
- Other occupations with similar earnings competing for the potential students and workers
- Demand for the occupation
- Potential employers of students trained by the program
- Applicable licensing or skill certification

Subscribe to the [Labor Market Information e-Newsletter](#) to keep up to date on new resources and economic trends. Contact your [Labor Market Consultant](#) to sign up for the *California Regional Bulletin*, a weekly round-up of economic developments.
