California Community Colleges

Community College Pipeline Dashboard Fall 2021 Release Webinar

November 18, 2021

Welcome!

Let’s find out who is joining us today
Introductions

John J. Hetts
Visiting Executive, Research and Data Educational Services and Support
California Community Colleges Chancellor’s Office

Objectives

By the end of this webinar, participants will understand:

• The purpose and value of the Community College Pipeline Dashboard
• Updates and changes in the latest release of the dashboard
• How to navigate and interpret data from the new dashboard features
  • Equity Gap Charts
  • Labor Market Information
The Purpose
Understand students’ journey
Recognize successes
Understand gaps
Identify barriers and opportunities
What is the Community College Pipeline Dashboard?

The most comprehensive dashboard, offering longitudinal data about students that is specific to industry sector or program level

Offers detailed data to understand students’ journeys
Provides over 140 metrics about students and their journey through community colleges and beyond.
Community College Pipeline enables users to find program-specific information for all 140 metrics

<table>
<thead>
<tr>
<th>Location</th>
<th>AND</th>
<th>Program</th>
<th>AND</th>
<th>Year</th>
<th>AND</th>
<th>Demographics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statewide</td>
<td></td>
<td>All programs</td>
<td></td>
<td>2011-2012 to 2019-2020</td>
<td></td>
<td>Gender</td>
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<tr>
<td>Macroregion</td>
<td></td>
<td>All CTE Program</td>
<td></td>
<td></td>
<td></td>
<td>Race/Ethnicity</td>
</tr>
<tr>
<td>Microregion</td>
<td></td>
<td>All Non-CTE Programs</td>
<td></td>
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<td>Age Group</td>
</tr>
<tr>
<td>District</td>
<td></td>
<td>Sector</td>
<td></td>
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<tr>
<td>College</td>
<td></td>
<td>Top04</td>
<td></td>
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<td></td>
<td></td>
<td>Top06</td>
<td></td>
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</tr>
</tbody>
</table>
Recognize Successes

Between 2011-2012 and 2019-2020, the number of Hispanic students who earned degrees, certificates, or attained apprenticeship journey-level status increased from 32,188 to 77,145.
Understand gaps

Equity gap chart for completion

Are there Equity Gaps in Completion using a Proportionality Index?  
For more detailed information, go to the Detailed Data view under the Equity Gap section.

For the locale, program/sector and year selection made above, the Equity Gap charts shows how many students need to complete in order to Close the Equity Gap for underrepresented populations disproportionately impacted either by gender, race/ethnicity or age. The number of students needed to Close the Equity Gap refers to the number of students who need to complete (by gender, by race/ethnicity or by age) to achieve a one-to-one ratio. Example of a one-one-ratio: % of Hispanic students in the Health Sector in 2018-19 who completed = % of Hispanic students who enrolled in the Health Sector in 2018-19 at the college, district, microregion, macroregion, or statewide selected.

![Equity gap chart](chart.png)

Racial/ethnic characteristics of the subgroup who completed compared to the percentage of the subgroup at the locale selected (college, district, microregion, macroregion, statewide)
Identify Barriers and Opportunities

Retention and Persistence

71%
Term-to-Term Retention Rate

46%
Persistence Rate

Most students in this program were not continuously enrolled.
Use Community College Pipeline data to select a path for improvement efforts

• Identify what has worked
• Gather more information to understand why the barriers exist
• Brainstorm and try solutions to address gaps
• Measure results and improve efforts
The Updates
New features and changes in the most recent release
New Feature: Equity Gap Chart Prototypes

Are there Equity Gaps in Access using a Proportionality Index?
For more detailed information, go to the Detailed Data view under the Equity Gap section. Please make any selection besides "All Programs" under Program or Sector.

Are there Equity Gaps in Completion using a Proportionality Index?
For more detailed information, go to the Detailed Data view under the Equity Gap section.

Are there Equity Gaps in Transfer using a Proportionality Index?
For more detailed information, go to the Detailed Data view under the Equity Gap section.

Charts on the Summary and Detailed Data Views and tables with all calculations provided on the Detailed Data view for gender, race/ethnicity and age groups

Feedback and questions are encouraged to improve display. Please email launchboard@cccco.edu
New Feature: Equity Gap Charts

Available in summary and detailed data views for the following metrics:

• Access (Enrollment)
• Completion
• Transfer

Different than just using the drilldown to compare %s

View gaps by gender, race/ethnicity or age group
New Feature: Equity Gap Chart Prototypes

What is a proportionality index?
A methodology to identify where there are equity gaps between different student population groups, beyond direct comparisons

It provides a consistent measurement to identify:

- **For whom?** Which student groups are experiencing disproportionate impact and are underrepresented?
- **How big?** How many students’ outcomes need to change to close the equity gap?

For more information about proportionality indices, please see: [https://bit.ly/CCP-EquityGapCharts-Fall21](https://bit.ly/CCP-EquityGapCharts-Fall21)
New Feature: Equity Gap Chart Prototypes

How is a proportionality index calculated?

A ratio comparing the percentage of students in a specific population who enrolled, completed, or transferred to the percentage of those students in the overall population.

For example, in the Energy, Construction, Utilities sector in the Bay Area region:

- 27% of the students who transferred to a four-year institution in 18-19 identify as Hispanic
- 35% of enrolled students identify as Hispanic

\[
0.27/0.35 = 0.77
\]

Underrepresented with Disproportionate Impact

While PI ratios may be similar, the size of the problem may not be.

For more info. about proportionality indices, please see: https://bit.ly/CCP-EquityGapCharts-Fall21
New Feature: Prototype Metrics for Labor Market Data and Online Job Postings

For more information about Labor Market Data and Online Job Postings:
5 Things to Know About Labor Market Information (LMI)

1. The coding system for LMI or Labor Market Demand and Supply is based on national data by US Bureau of Labor Statistics and the Department of Education:
   - SOC Codes (Standard Occupational Codes)
   - CIP Codes (Classification of Instructional Programs)
   - Typical Entry-Level of Education for a SOC code

2. Since TOP codes are unique to CA Community Colleges, a TOP-SOC crosswalk is needed to map SOC codes to TOP codes which is based on the national CIP-SOC crosswalk.

3. **One SOC code nearly always represents many different jobs** and job titles and can map to more than one program or CIP code (See o*net for more information on SOC codes)
5 Things to Know About LMI (Continued)

4. Labor Market Data is very **different** from Online Job Postings
   • Labor Market Data is useful for getting an understanding of trends in employment and earnings over time
   • Information from online job postings helps to augment the traditional labor market data

5. Since **Typical Entry-Level Education** is based on national data, **alternative paths to employment may vary at the regional level**
   • Because of this, a SOC code’s ‘Typical Entry-Level Education’ might not align to local or regional skills requirements for a given job or industry
New Feature: Labor Market Data

Available in the detailed data view under Labor Market Data under Employment:

• Total Historical Regional Employment
• Total Projected Regional Employment
• Projected Regional Job Openings

Total 2020 and 2025 Jobs in Microregion where college is located displayed along with top 5 SOC codes (in term of 2020 Jobs) mapped to program or sector selection grouped by Skill Level: Typical Entry-Level Education
New Feature: Labor Market Data

Available in the detailed data view under Labor Market Data under Earnings:

• Regional Entry-Level and Median Annual Salaries

Compares the Regional Average Annual Entry-Level and Median Salaries in the Micro or Macro Region or Statewide to the top 5 occupations (in terms of Annual Openings 2020-25) mapped to the program or sector selected.
New Feature: Online Job Postings

Available the detailed data view under Online Job Postings:

- Hard Skills (90- and 365-day periods)
- Common Skills (90- and 365-day periods)
- Qualifications (90- and 365-day periods)
- Employers (90- and 365-day periods)
- Expand to see table with No. of postings for prior 90- or 365-day period compared to latest 90-day or 365-day period

For each group of SOC codes (mapped to the program or sector selected) organized by Typical Entry-Level Education, **top 5 skills** (in terms of latest 90- or 365-day) are displayed over 90-day or 365-day periods
Data Updates & Changes to CCP

• 3 Additional Completed Both Transfer Level Math and English, Math Only and English Only
  • Expanded definition to allow credit ESL students 3 years to complete and all other students one full year to complete (aligned with metrics in the SSM Snapshot View)

• Underlying Student Definition: The underlying student definition has been updated to include dual enrollment students as long as students have a regular or non-special admit enrollment in the selected year
  • Nearly all metrics are affected by this change
  • Consistent with Student Success Metrics and Strong Workforce Program Dashboards

For a thorough explanation of all changes, please see the Changes in Definitions on CCP under Click here to find out more about the data in the Community College Pipeline Dashboard
Data Updates & Changes (Continued)

• Many Changes to Definitions to CCP Metrics for the following reasons:
  • Alignment with other LaunchBoard dashboards, in particular Student Success Metrics
  • Further investigation by data scientists, coders and SMEs in the context of the 2020-21 builds
  • Coding issues are fixed to better align with specifications in the Metric Definition Dictionary

For a thorough explanation of all changes, please see the Changes in Definitions on CCP under
User Interface Improvements

• Flagged all CCP metrics included in the Student Success Metrics dashboard with an “*” and note

• Added **Completion Status** for all **Employment** and **Earnings** metrics as part of the csv export and full export for researchers

• Display consistent and updated messaging for why data is missing or suppressed

• Added 3 additional briefs to help with understanding:
  • CTEOS data in the LaunchBoard (also on SSM and SWP)
  • New Equity Gap charts
  • New Labor Market Data and Online Job Postings metrics
The Use

How to navigate and interpret data from the new dashboard features
How do you navigate and interpret the new dashboard features?

**Equity Gap Charts**

Answer questions such as:
What disparities exist within completion rates for students of different races/ethnicities?

**LMI Data**

Answer questions such as:
What jobs in the region are projected to increase in the next five years?
Live Demo
Using the menu to find the information relevant to your region and program

Select Statewide, Macroregion, Microregion, District or College

Select Credit Status for All Students, Students Who Took Credit Courses or Students Who Took Noncredit Courses
Three ways to see the information

2,016,857 Students Served

Economically Disadvantaged
- 65%
- Students: Explore student characteristics including demographics, race, and enrollment patterns
- Milestones: Examine course successes, self-bases, retention, and completion and career completion

50% Employed
- Students: View Employment
- Milestones: View Employment

47% of Students Earned in Living Wage
- Students: View Earnings
- Milestones: View Earnings

Did Students get Jobs?
- Employed Two Quarters After Exit 58%

Are Some Students More Likely to be Employed Two Quarters After Exit?

Earned 9 or More Career Education Units
- Number of noncredit students who earned a noncredit certificate on the selected TOP code in the selected year and who were enrolled in the same district in the selected year where and whom the student earned the award
- Drill Down: Time Trend, Gender, Race/Ethnicity, Age Group

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Three ways for navigating

Go back to the homepage
Use the arrows
Jump between summary and detailed
Select the relevant metrics from the detailed data menu

Expand carrots in left navigation to see groupings of metrics
Using drill downs to find information for specific populations

How many students persist through three terms?

Example: Los Rios District, All CTE Programs
What equity gaps exist in completion rates for students of different races/ethnicities?

The number of students needed to enroll to eliminate the equity gaps is displayed for Underrepresented student populations with substantive DI.

For example, if 119 more Hispanic CTE students earned a degree, certificate, or attained apprenticeship journey status, the equity gap would be eliminated.
How many students are employed after exiting?

Example: Los Rios, Business & Entrepreneurship
Comparison data Employed in the Second Fiscal Quarter after Exit

Expand the Detailed Data Comparison to compare in the top ribbon.
What jobs are projected to increase in the next five years?

Total 2020 and 2025 Jobs in Microregion where college is located displayed along with top 5 SOC codes mapped to program or sector selection grouped by Skill Level: Typical Entry-Level Education.
What skills are needed for those jobs?

### Hard Skills Requested in Online Job Postings (90 days)

The number of unduplicated online job postings for top five hard skills in top 10 occupations in the region associated with the selected industry sector or TOP code in the locale selected over a 90-day period (July-Sept 2021). Hard skills are specific, learnable, measurable, often industry- or occupation-specific abilities related to a position. Example: JavaScript might be a hard skill for a data analyst or CRP for a nurse.

- Los Rios District, Business and Entrepreneurship, 2019-2020

<table>
<thead>
<tr>
<th>Skill</th>
<th>Bachelor’s Degree Or Higher</th>
<th>Associate Degree</th>
<th>HS Diploma Or Equivalent</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Software Engineering</td>
<td>Javascript (Programming Language)</td>
<td>Merchandising</td>
</tr>
<tr>
<td></td>
<td>Accounting</td>
<td>Cascading Style Sheets (CSS)</td>
<td>Cash Handling</td>
</tr>
<tr>
<td></td>
<td>Java (Programming Language)</td>
<td>HyperText Markup Language (HTML)</td>
<td>Insurance Sales</td>
</tr>
<tr>
<td></td>
<td>Python (Programming Language)</td>
<td>Java (Programming Language)</td>
<td>Medicare</td>
</tr>
<tr>
<td></td>
<td>SQL (Programming Language)</td>
<td></td>
<td>Cash Register</td>
</tr>
</tbody>
</table>

### Common Skills Requested in Online Job Postings (90 days)

The number of unduplicated online job postings for top five common skills in top 10 occupations in the region associated with the selected industry sector or TOP code in the locale selected over a 90-day period (July-Sept 2021). Common skills can be self-taught and usually do not necessitate a certain completed level of education, such as a Master’s degree, or other certifications/credentials. They are essential in many industries and occupations.

- Los Rios District, Business and Entrepreneurship, 2019-2020

<table>
<thead>
<tr>
<th>Skill</th>
<th>Bachelor’s Degree Or Higher</th>
<th>HS Diploma Or Equivalent</th>
<th>On-The-Job Training</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Software Engineering</td>
<td>Customer Service</td>
<td>Retail Salespersons</td>
</tr>
<tr>
<td></td>
<td>Accounting</td>
<td>Operations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Java (Programming Language)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>SQL (Programming Language)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Other skills include:
- Accountants and Auditors (15-2011)
- General and Operations Managers (11-1021)
- Software Developers and Software Quality Assurance Analysts and Testers (15-1256)
- Sales Managers (11-2022)
Click Here to View Resources takes you to the Resource Library

Click Here to find out more about the data in the Community College Pipeline provides resources related to the 2020-21 build and dates of data files received for the build

Click Here to find out more about the data in the Community College Pipeline Dashboard

- Metric Definition Dictionary for November 2021 CCP Release
- Changes in Definitions on CCP November 2021
- Download this document to see which colleges are assigned to each region
- Download either document to see which TOP codes are assigned to each sector in WORD or in EXCEL
- Download this brief to learn more about the new Equity Gap Charts
- Download this brief to learn more about the new Labor Market and Online Job Postings Metrics
- Download this document to learn more about how CTEOS data is incorporated for the Job in Field of Study metric
- Student goal information from CCC Apply updated on 07/06/2020
- Student goal, milestone and completion information from the Chancellor’s Office Management Information System (MIS) last updated on 01/29/2021
- Chancellor’s Office Curriculum Inventory file to identify Associate Degrees for Transfer provided by Chancellor’s Office Management Information System on 12/21/2020
- Employment and earnings information from the Employment Development Department Unemployment Insurance (UI) wage file last updated on 01/22/2021
- Employment and earnings information from the CTE Outcomes Survey last updated on 12/20/2020
- Transfer to postsecondary information from the National Student Clearinghouse and CSU/UC match last updated on 01/21/2021
- Attainment of Apprenticeship Journey Status from the Department of Apprenticeship Standards last updated on 02/11/2021
- Labor market and online job postings information from EMSI
- For more information on labor market demand and supply information, visit the Centers of Excellence for Labor Market Research at http://www.coeccc.net
Taking action on the data

Work with colleagues to answer the following questions:

➢ What other information do you need?
➢ Which partners need to be involved?
➢ What are all the possible ideas for addressing the gaps and acting on the opportunities you identified?
➢ Which of these ideas are likely to benefit students?
➢ Which of these ideas are within your current capacity to implement?
➢ How can you measure what’s working and make improvements as you go?
Q&A
Guided Pathways Dashboard Release Webinar

Friday, December 10th

- What is the purpose of the Guided Pathway Dashboard?
- What changes have been made in this year’s release?
- How do you find the information that you need?
- How can you use the LaunchBoard in your Guided Pathways Efforts?
Give us your feedback!

California Community Colleges

Thank you!

www.cccco.edu
Appendix
New Feature:
Summary View of Equity Gap Chart for Access

The number of students needed to enroll to eliminate the equity gaps is displayed for Underrepresented student populations with substantive DI.

For example, 11,864 more female students need to enroll in the Advanced Transportation and Logistics sector to eliminate the equity gap.

Feedback and questions are encouraged to improve display. Please email launchboard@cccco.edu
Proportionality Index for Calculating Equity Gaps

<table>
<thead>
<tr>
<th>Proportionality Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>A proportionality index of 1.00 indicates that a subgroup's representation among those achieving an educational outcome is identical to that subgroup's representation in the student population. If the ratio or index for a subgroup is less than 0.85 in terms of attainment of a metric outcome, then the Chancellor’s Office considers that subgroup to be disproportionately impacted or underrepresented for that metric outcome.</td>
</tr>
</tbody>
</table>

**Example Calculation:**
- Group A accounts for 30% of the college population and 20% of the completions
  - 20% / 30% = .67 therefore underrepresented in completions and disproportionately impacted
- Group B accounts for 30% of the college population and 30% of the completions
  - 30% / 30% = 1 therefore equally represented in completions and not disproportionately impacted
- Group C accounts for 40% of the college population and 50% of the completions
  - 50% / 40% = 1.2 therefore overrepresented in completions and not disproportionately impacted

**Groups:**
- **Group A:** Underrepresented with Disproportionate Impact
- **Group B:** Underrepresented without Disproportionate Impact
- **Group C:** Overrepresented
New Feature: Detailed Data View of Equity Gap Charts for Completion & Transfer

PI Ratios displayed for all student populations.

The blue line visualizes when an equity gap exceeds a ratio of .85, indicating that a subgroup is considered underrepresented.

Hover over the bar to see a pop-up that provides the number of students who needs to complete in order to eliminate the equity gap.
New Feature: Table on the Detailed Data View of Equity Gap Chart for Completion & Transfer

**Example: Completion | All CTE Programs | Race/Ethnicity**

1. % of Pacific Islander students who completed in all CTE programs
2. % of Pacific Islander students in all CTE programs
3. % Pacific Islander students who completed in all CTE / % of Pacific Islander students in all CTE = PI Ratio
4. # of Pacific Islander completers in all CTE programs
5. Total # of Pacific Islander students who need to complete in all CTE for a 1:1 ratio
6. (Total # of Pacific Islander students who need to complete in all CTE for a 1:1 ratio) – (# of Pacific Islander students who completed in all CTE) = # of Pacific Islander students who need to complete in all CTE for a 1:1 ratio
7. Over (PI ratio > 1), Under without DI Impact (PI ratio 0.85 < 1), Under with DI impact (PI ratio < 0.85)

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>% Completed</th>
<th>% of Total</th>
<th>% Completed 1% of Total</th>
<th>PI Ratio</th>
<th># of Completers</th>
<th>Total # Needed for 1:1 Ratio</th>
<th># Needed to Complete for 1:1 Ratio</th>
<th>Under with Disproportionate Impact (0.85 or lower), Under without Disproportionate Impact, Over Represented</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian/Alaska Native</td>
<td>0.5%</td>
<td>0.40%</td>
<td>0.26% / 0.40% = 0.65</td>
<td>0.58</td>
<td>246</td>
<td>299</td>
<td>44</td>
<td>Under without DI Impact</td>
</tr>
<tr>
<td>Asian</td>
<td>11.0%</td>
<td>8.70%</td>
<td>11.0% / 8.70% = 1.275</td>
<td>0.93</td>
<td>832</td>
<td>715</td>
<td>N/A</td>
<td>Over</td>
</tr>
<tr>
<td>Black or African American</td>
<td>4.00%</td>
<td>3.00%</td>
<td>4.00% / 3.00% = 1.333</td>
<td>0.80</td>
<td>3,048</td>
<td>4,105</td>
<td>870</td>
<td>Under with DI Impact</td>
</tr>
<tr>
<td>Filipino</td>
<td>3.50%</td>
<td>2.90%</td>
<td>3.50% / 2.90% = 1.22</td>
<td>1.22</td>
<td>2,575</td>
<td>2,119</td>
<td>N/A</td>
<td>Under with DI Impact</td>
</tr>
<tr>
<td>Hispanic</td>
<td>35.0%</td>
<td>25.40%</td>
<td>25.90% / 25.40% = 1.02</td>
<td>1.02</td>
<td>33,926</td>
<td>33,563</td>
<td>N/A</td>
<td>Over</td>
</tr>
<tr>
<td>Pacific Islander or Hawaiian</td>
<td>0.5%</td>
<td>0.40%</td>
<td>0.30% / 0.40% = 0.75</td>
<td>0.75</td>
<td>231</td>
<td>308</td>
<td>77</td>
<td>Under with DI Impact</td>
</tr>
<tr>
<td>White</td>
<td>28.10%</td>
<td>25.30%</td>
<td>28.10% / 25.30% = 1.15</td>
<td>1.02</td>
<td>18,772</td>
<td>18,870</td>
<td>N/A</td>
<td>Over</td>
</tr>
<tr>
<td>Two or More Races</td>
<td>3.50%</td>
<td>3.60%</td>
<td>3.50% / 3.60% = 0.94</td>
<td>0.94</td>
<td>2,624</td>
<td>2,787</td>
<td>163</td>
<td>Under without DI Impact</td>
</tr>
</tbody>
</table>
New Feature: Labor Market Historical Employment

**Total Historical Regional Employment**

The total number of jobs for 2015 and 2020 and percentage growth or decline in occupation associated with the selected TOP code in the microregion where the college is located.

- Statewide, Energy, Construction and Utilities, 2018-2019

<table>
<thead>
<tr>
<th>Total Historical Employment:</th>
<th>2015</th>
<th>2020</th>
<th>2015-20 Change</th>
<th>2015-20 % Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Statewide Jobs Total</td>
<td>1,446,527</td>
<td>1,636,015</td>
<td>189,488</td>
<td>12%</td>
</tr>
<tr>
<td>Higher Skill: Bachelor’s Degree Or Higher</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project Management Specialists and Business Operations Specialists, All Other (13-1198)</td>
<td>152,419</td>
<td>249,276</td>
<td>96,858</td>
<td>64%</td>
</tr>
<tr>
<td>Middle Skill: Apprenticeship</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carpenters (47-2031)</td>
<td>160,519</td>
<td>172,965</td>
<td>12,446</td>
<td>8%</td>
</tr>
<tr>
<td>Electricians (47-2111)</td>
<td>73,604</td>
<td>84,821</td>
<td>11,217</td>
<td>15%</td>
</tr>
<tr>
<td>Below Middle Skill: On-The-Job Training</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction Laborers (47-2061)</td>
<td>166,646</td>
<td>176,227</td>
<td>9,581</td>
<td>6%</td>
</tr>
<tr>
<td>Painters, Construction and Maintenance (47-2141)</td>
<td>71,491</td>
<td>74,322</td>
<td>2,831</td>
<td>4%</td>
</tr>
</tbody>
</table>

Statewide selection will give Statewide jobs

Top five SOC codes mapped to program or sector selection displayed by Skill Level: Typical Entry-Level of Education per BLS

Pop-up text for info on skills level
New Feature: Labor Market Projected Employment

Macrorregion selection will give jobs in the Macrorregion

Top five SOC codes mapped to program or sector selection displayed by Skill Level: Typical Entry-Level of Education per BLS

<table>
<thead>
<tr>
<th>Total Projected Regional Employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>The total number of jobs for 2020 and 2025 and percentage growth or decline in occupations associated with the selected TOP code in the microregion where the college is located.</td>
</tr>
<tr>
<td>North/Far North, Energy, Construction and Utilities, 2019-2020</td>
</tr>
<tr>
<td><strong>Regional Jobs Total</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Above Middle Skill: Bachelor’s Degree Or Higher</strong></td>
</tr>
<tr>
<td>Project Management Specialists and Business Operations Specialists, All Other (13-1198)</td>
</tr>
<tr>
<td><strong>Middle Skill: Apprenticeship</strong></td>
</tr>
<tr>
<td>Carpenters (47-2031)</td>
</tr>
<tr>
<td>Electricians (47-2111)</td>
</tr>
<tr>
<td><strong>Below Middle Skill: On-The-Job Training</strong></td>
</tr>
<tr>
<td>Construction Laborers (47-2061)</td>
</tr>
<tr>
<td>Painters, Construction and Maintenance (47-2141)</td>
</tr>
</tbody>
</table>
New Feature: Labor Market Projected Openings

### Projected Regional Job Openings

The total number of annual replacement jobs, average annual new jobs and average annual job openings for 2020-2025 time period in occupations associated with the selected TOP code in the microregion where the college is located.

<table>
<thead>
<tr>
<th></th>
<th>Annual Replacement Jobs</th>
<th>Annual New Jobs</th>
<th>Annual Openings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regional Totals</td>
<td>11,082</td>
<td>5,194</td>
<td>12,200</td>
</tr>
</tbody>
</table>

#### Above Middle Skill: Bachelor’s Degree Or Higher
- Project Management Specialists and Business Operations Specialists, All Other (13-1198): 1,623, 914, 1,813

#### Middle Skill: Apprenticeship
- Carpenters (47-2031): 1,131, 54, 1,179
- Electricians (47-2111): 769, 957, 962

#### Below Middle Skill: On-The-Job Training
- Construction Laborers (47-2061): 1,246, 423, 1,340
- Painters, Construction and Maintenance (47-7141): 501, 273, 570

---

**Total Projected Openings:**
- Annual Replacement Jobs
- Annual New Jobs
- Annual Openings

Including pop-up text to explain each with links to Emsi resources.
New Feature: Hard and Common Skills Requested Over 90-day and 365-day Periods

Top 10 SOC codes mapped to program or sector selection for microregion, macroregion or statewide selection displayed by Typical Entry-Level of Education per BLS

Top 5 hard (or common) skills for each grouping of top 10 SOC codes by Typical Entry-Level of Education

Hard Skills Requested in Online Job Postings (365 days)
The number of unduplicated online job postings for top five hard skills in top 10 occupations in the region associated with the selected industry sector or TOP code in the microregion and macroregion where the college is located over a 365-day period (Oct 2020 - Sept 2021). Hard skills are specific, learnable, measurable, often industry- or occupation-specific abilities related to a position. Example: JavaScript might be a hard skill for a data analyst or CPR for a nurse.

* Greater Sacramento, Advanced Manufacturing, 2019-2020

<table>
<thead>
<tr>
<th>Bachelor's Degree Or Higher</th>
<th>Skill</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Electrical Engineers (17-2071)</td>
<td>Electrical Engineering</td>
</tr>
<tr>
<td>• Industrial Engineers (17-2112)</td>
<td>Mechanical Engineering</td>
</tr>
<tr>
<td>• Mechanical Engineers (17-2141)</td>
<td>Automation</td>
</tr>
<tr>
<td>• Occupational Health and Safety Specialists (19-5011)</td>
<td>AutoCAD</td>
</tr>
<tr>
<td>• Computer Hardware Engineers (17-2061)</td>
<td>Manufacturing Processes</td>
</tr>
<tr>
<td>• Surveyors (17-1022)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HS Diploma Or Equivalent</th>
<th>Skill</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Maintenance and Repair Workers: General (49-9071)</td>
<td>Plumbing</td>
</tr>
<tr>
<td>• First-Line Supervisors of Production and Operating Workers (51-1011)</td>
<td>HVAC</td>
</tr>
<tr>
<td>• Welders, Cutters, Solderers, and Brazers (51-4121)</td>
<td>Painting</td>
</tr>
<tr>
<td>• Machinists (51-4041)</td>
<td>Carpentry</td>
</tr>
<tr>
<td>•</td>
<td>Mechanics</td>
</tr>
</tbody>
</table>

California Community Colleges
New Feature: Table for Hard and Common Skills Requested Over 90-day and 365-day Periods

Expand to View Detailed Table with No. of Postings for Top Hard or Common Skills Requested in Online Job Postings for Top 10 SOC codes Mapped to Program or Sector Selected

No. of Online Job Posting for Previous 90-Day or 365-Day Period compared to the Latest 365-Day Period for Hard or Common Skills Requested by Employers
New Feature: Qualifications Requested Over 90-day and 365-day Periods

Top 5 SOC codes mapped to program or sector selection for microregion, macroregion or statewide selection displayed by Typical Entry-Level of Education per BLS

Expand to View Detailed Table with No. of Postings for Top Qualifications Requested comparing latest 90-day or 365-day period to previous periods

Top 5 qualifications for each grouping of top 5 SOC codes by Skills Level: Typical Entry-Level of Education
New Feature: Top Employers Posting Jobs Over 90-day and 365-day Periods

Top 10 SOC codes mapped to program or sector selection for microregion, macroregion or statewide selection displayed by Typical Entry-Level of Education per BLS

Top 10 Employers posting jobs online mapped to the top 10 SOC codes displayed by Level: Typical Entry-Level of Education