

Background Paper:

Moving the Needle: Data, Success, and
Accountability for Workforce Programs

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CALIFORNIA COMMUNITY COLLEGES

**Task Force on
WORKFORCE**

JOB CREATION AND A STRONG ECONOMY

Discussion Category:

- 1. Workforce Data & Outcomes
- 2. Curriculum & Instructors
- 3. Structured Career Pathways & Student Support
- 4. Funding
- 5. Regional Coordination

Moving the Needle: Data, Success, and Accountability for Workforce Programs

This document was prepared for the Board of Governor’s Task Force on Workforce, Job Creation, and a Strong Economy. It provides background information on how career and technical education (CTE) success is captured and documented in the California community college system, to provide context for recommendations from the field. This information is intended to support the development of recommendations by the Task Force.

Introduction: Understanding Workforce Education Success

Overwhelmingly, current efforts to improve community college success focus on the concept of “completion.” Whether students complete community college by earning an associate’s degree or certificate, or transfer to a four-year institution to pursue a bachelor’s degree, reformers are striving to ensure that students leave their community college experience with a coherent body of knowledge and skills that are recognized with a credential.

The focus on completion is driven by many factors. By 2018, the United States will need 22 million new workers with college degrees, but projected graduation rates will fall short by at least 3 million (Carnevale, Smith & Strohl, 2014). In addition, those examining the value of education-related investments worry about low completion rates. Although more students are attending college, public two-year institutions graduate 20 percent of their first-time, full-time students nationwide (National Center for Education and Statistics, 2014). Many studies show that people who hold post-secondary degrees are more likely to be employed and to make a living wage than those who do not (Bureau of Labor Statistics, 2014). As a result, the current call for one million industry-valued credentials in California is part of a larger movement that aims to improve education’s value for students, employers, and the economy.

The term “industry-valued” is increasingly being added when identifying completion goals. However, most community colleges only have access to employer advisory committees to determine whether their credentials are valued in the employment marketplace. To get better data about the economic value of attending community college, states like California have begun matching student records with state earnings data. The California Community Colleges Chancellor’s Office research division and experts like Peter Riley Bahr have conducted studies that examine the economic returns to community college, whether or not students earn a degree or certificate. Their analyses indicate that tracking completion rates alone will not give a comprehensive picture of success, particularly for career and technical education. Specifically:

- 1) ***The value of completion varies by field.*** Students who earn an associate’s degree in agriculture and natural resources increase their earnings by 16%, whereas those in business and management earn 6% more after attaining an associate degree (Bahr, 2014).
- 2) ***The type of credential valued by employers varies by field of study.*** In fields like engineering and industrial technologies, low-unit certificates (which require fewer than 10 courses), high-unit certificates, and associate’s degrees all yield about the same increase in wages (11-12%). In public

and protective services, low-unit certificates increase wages by 32%, whereas associate’s degrees increase wages by 11% (Bahr, 2014).

- 3) **Older students who successfully complete one or two courses may make higher wages without completing a degree or certificate.** “Skills-builder” students—experienced workers who are maintaining and adding to skill-sets required for ongoing employment and career advancement—show significant earnings gains in two-thirds of CTE programs in California (Booth & Bahr, 2013). For example, in water and wastewater technology, students who successfully pass three courses but don’t graduate increase their earnings by 22%.
- 4) **Many community college credentials don’t confer economic value.** In many CTE fields, students who earned a degree or certificate made the same amount of money as students who passed the same courses but did not graduate (Bahr, 2014). In short, for some disciplines, completion may not be a strong indicator of whether students have the skills that are needed in the workplace.

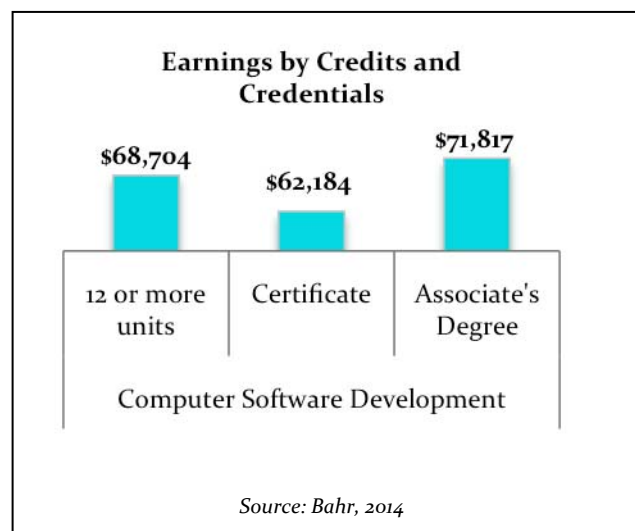
Why Success Looks Different in CTE

Changes in the workplace are affecting the role colleges play in career training.

In the past, a degree was a life-long ticket to a living-wage job, certifying that workers had the necessary skills to be competitive. However, given the fundamental restructuring of the American job market, a degree may no longer be enough. Many workers are shifting from jobs that no longer exist to professions that didn’t exist when they first got their education. As technology gets integrated into jobs ranging from auto repair to real estate, workers need ongoing training to remain up to date. At the same time, more employers expect job applicants to be ready for work with no additional training, shifting the responsibility for professional development from employers to individual employees or job seekers. Furthermore, the credentials that employers are seeking are often issued by industries and governments rather than academic institutions (McCarthy, 2014).

Individuals who have earned bachelor’s degrees and/or have years of work experience may find that they don’t have the skills necessary for the jobs they seek. During the recent recession, an increasing number of bachelor’s-degree holders returned to community college for additional training. In 2008-09, roughly 14% of students who had already earned a bachelor’s degree in biological and biomedical sciences and 10% of those who had earned psychology degrees sought further education by enrolling in community colleges (National Student Clearinghouse, 2013).

Students may also pursue coursework at community colleges with the intention of securing a third-party credential, such as a Cisco networking certification or an Occupational Safety and Health (OSHA) certificate. The Census Bureau (2014) found that third-party credentials are common among workers at all education levels, and that they have a significant impact on the incomes of workers who reported having “some college” or an associate’s degree. California data are also available from the



2013 CTE Outcomes Survey. This study, conducted on behalf of more than 20 colleges, gathered information from 11,595 former community college students, including both those who took nine or more vocational units and then stopped taking courses and those who had earned a CTE certificate or degree. Almost a third (31%) of these former students had gone on to earn an industry certification, state license, or journey status (Greaney, 2013).

CTE programs serve diverse student types, for whom completion may not be the primary goal.

Although there is still a solid core of traditional-aged students who start programs soon after high school graduation, students in CTE programs tend to be older. The average starting age for CTE students ranges from 25 for business and management to 29 for information technology (Stevens, Kurlaender & Grosz, 2014). In addition, many community colleges work closely with adult schools and workforce investment boards to provide training to displaced workers and those needing basic job skills. Finally, many colleges partner with high schools to offer dual-enrollment courses in CTE pathways that allow students to get a head start on earning college credits.

Community colleges have changed their offerings in response to the shifting market.

Community colleges are increasingly creating short-term certificates that allow students to gain specific competencies. In some cases, these credentials are “stackable,” so students can build entry-level skills, get a job, and then return later for further education. Certificates have become so popular that they are now the second-most common higher education credential in the United States, behind bachelor’s degrees but ahead of associate’s degrees (Carnevale, Rose, & Hanson, 2012).

Why Completion Isn’t Enough

The value of a community college education will be understated if success is only measured when students complete the required coursework at a single college. Instead, it needs to be measured at the individual level, such as whether students successfully master skills that allow them to secure employment and a living wage.

Completion should yield economic value.

Although completion doesn’t affect earnings in many CTE fields, it makes an enormous difference in the health sector. Students who earn an associate’s degree in health program earn 99% more than students who complete all the necessary coursework but don’t earn the degree. Similarly, students who earn a high-unit health certificate make 26% more than those who simply pass the coursework. An associate’s degree in health also yields the highest returns of any science, technology, engineering, and math (STEM) field—increasing wages by 106% whereas the second-highest-value STEM associate’s degree, in agriculture and natural sciences, only boosts earnings by 16% (Bahr, 2014). One reason that community college credentials in health offer such value is that they are closely aligned with employer needs. Many health programs have additional accreditation requirements that provide regular opportunities to examine whether offerings are in alignment with current standards of practice. Other programs of study could follow this

Evaluating programs based on whether credentials confer value, whether students are able to secure jobs, and whether they are making living wages, would help ensure that a community college credentials are of high value to employers and students.

model to improve the economic value of community college degrees and certificates.

Economic value should be captured in credentials.

If colleges know when courses yield economic value, it is easier to determine which skill-sets to cluster into discrete credentials. If a suite of internet and social media skills was found to be valuable to employers, colleges could create a low-unit certificate that bundles these competencies. Furthermore, examining earnings gains for individual programs could help to identify awards that do not yield economic returns or don't lead to a living wage.

Student attainment of job-ready status should be captured.

Bundling high-value courses would also help colleges track whether programs are training the appropriate number of people. Currently, most supply-and-demand analyses examine the number of graduates that programs produce compared to projected job openings. However, if students are entering the job market without completing, it becomes harder to determine whether education programs are flooding the market with job seekers. Understanding the supply of qualified workers is particularly important when building regional strategies. Colleges need to align their demand analyses with the skilled workers being produced by other institutions in the area, as well as to understand whether students are building skill-sets at multiple institutions.

Establishing Expanded Success Measures

Evaluating programs based on whether degrees and certificates help students secure jobs and make living wages would help ensure that community college credentials are of high value to employers and students. Therefore, there are many efforts underway to expand success measures for CTE, with an emphasis on reporting students' employment outcomes.

National and State Efforts

Now that colleges are beginning to have access to employment data, employment and earnings figures are being required or recommended in a number of contexts, such as:

- 1) Financial Aid.** All colleges that offer workforce training and receive federal financial aid must report on students' gainful employment to document that students are making wages sufficient to pay back their loans. Similarly, the California Student Aid Commission requires colleges to report on the earnings of students who receive state financial aid.
- 2) Worker Training.** Employment metrics are required for federally-funded adult education, postsecondary education, and programs for youth, adult, and dislocated workers. In 2014, the federal government added the requirement that states develop consistent accountability dashboards for community colleges, adult education, and workforce investment boards as part of the *Workforce Innovation and Opportunity Act (WIOA)*. California underscored similar goals in AB 2148, which requires a common accountability dashboard for workforce development activities offered by the same training providers.

- 3) National Success Definitions.** The Obama Administration, which is developing a national scorecard for colleges, has focused on the economic value of education and proposed that colleges make information available on the average earnings of their graduates. The National Governor's Association and the Center for Postsecondary and Economic Success (CLASP) have gone further by recommending that CTE success measures also capture third-party credentials and employment retention.

California Community College System

In response to these shifts in measuring CTE success, California community colleges are making significant changes in how they examine CTE program outcomes. Examples include:

- 1) Student Success Scorecard.** The Chancellor's Office Student Success Scorecard reports outcomes such as how many students earn a degree or certificate, transfer to a four-year institution, or become transfer-prepared (see page 10). As a first step in including third-party credentials on the Scorecard, the Chancellor's Office integrated information on students' apprenticeship status. In addition, the Chancellor's Office is working to develop a new metric that reports outcomes for skills-builder students, such as showing earnings gains for students who passed higher-level CTE courses but did not complete.
- 2) Expanded Metrics for CTE Grants.** In 2013-14, the Chancellor's Office adopted the Common Metrics, a set of seven leading indicators and 34 momentum points that track student outcomes. In addition to tracking completion, the Common Metrics include K-12, community college, and four-year college milestones, as well as post-college outcomes such as whether students attain and retain employment, secure earnings gains, and complete industry-valued academic and third-party credentials. All entities receiving grant funding from the Chancellor's Office Workforce and Economic Development Division must pick at least five of these metrics to report on
- 3) Expanded Access to CTE Data.** As a way to further accelerate this change, the Chancellor's Office is building a data tool called the LaunchBoard, which compiles various workforce metrics in one place (see page 11). The LaunchBoard has an easy-to-read dashboard format and makes program-level information available to community college faculty and administrators on student course-taking, completion, and employment, as well as showing regional labor market demand and wages for related occupations. In addition, the Chancellor's Office's Salary Surfer reports the average earnings and wage increases for students who earn certificates and degrees, by program of study (see page 12).
- 4) Support for Using CTE Data.** The Chancellor's Office has been working to build the capacity of colleges to use labor market information. Each region has a Center of Excellence that provides labor market research, data analysis, and technical expertise.
- 5) Securing Additional Data.** The Chancellor's Office helped to found the Workforce Credentials Coalition, which is working with twenty states to secure data from third-party credential providers.

Data Challenges

Tools like the Student Success Scorecard, the Salary Surfer, and the LaunchBoard make information more readily accessible to students, policymakers, and community colleges. However, both the Chancellor's Office and its grantees have encountered a number of challenges in collecting and acting on this information.

Breadth of Metrics

Education institutions must report on a large number of metrics, with metric definitions varying based on the funding source.

Shortly after the Chancellor's Office identified the Common Metrics, the California Department of Education (CDE) also established outcomes metrics for its CTE grants. While many are similar in concept to the Common Metrics, they are not defined consistently. As a result, it will be difficult to compare programs and to establish the aggregate impact of state CTE funding. Furthermore, the metrics required by the Chancellor's Office and CDE are not necessarily consistent with metrics required by other funders, such as foundations and the federal government.

Colleges are challenged by the lack of alignment between required metrics. Information gathered on program outcomes is inconsistent both among grantees and between agencies.

This definitional challenge emanates in part from the legislation that authorizes many of the state's CTE grants. Written over a period of years by various legislators, the four major pieces of legislation — *SB 1402: California Community Colleges Economic and Workforce Development Program*; *SB 1070: Career Technical Education Pathways Program*, *AB86: California Career Pathways Trust*, and *SB852: CTE Enhancement Fund* — each requires slightly different metrics and emphases. This variation limits the Chancellor's Office and CDE in efforts to streamline reporting requirements. Nevertheless, the two agencies have begun efforts to jointly examine their CTE outcomes and the Chancellor's Office has prioritized aligning its metrics with other workforce training providers.

Missing Data

Many certificate programs are not included in accountability metrics.

The California community college system offers certificates in 142 fields of study, two thirds of which can be earned within a year. However, many of these certificates are not recognized by the Chancellor's Office because they require fewer than 12 units. Colleges are not required to secure approval for low-unit certificates, and at times the Chancellor's Office has been reluctant to recognize low-unit certificates because the value of these credentials was unclear. As a result, students who earn non-Chancellor's Office-approved awards are not counted as successes in statewide accountability metrics (Booth, 2014).

Many of the Common Metrics are not tracked in statewide or local data systems.

Numerous research studies have shown that work-based learning improves student retention and employment outcomes (Wonacott, 2002). With that in mind, both CDE and the Chancellor’s Office have included work-based learning in their CTE metrics. However, because work-based learning is not tracked in either the K-12 or community college statewide data system, each grantee must modify its local student information system to flag each of these variables. This presents considerable challenges because both K-12 systems and community colleges have limited institutional research and information technology resources and they may have to renegotiate contracts with vendors to include additional fields in their databases.

Data are not shared between CTE providers.

Even though collaborative intersegmental efforts are a primary focus of state CTE funding, there is no statewide data system. For example, students can only be tracked into and through higher education if K-12 districts, colleges, and universities voluntarily share their information with the Cal-PASS Plus data system (a project of the Chancellor’s Office). In addition, there is no statewide dataset for adult education, making it very difficult to track whether adult education students take the next step in their education by enrolling in community college. In addition, there is no formal data exchange that allows community colleges and workforce investment boards to share information on students who are using both systems. Furthermore, because there is no common ID for students, institutions that secure data-sharing agreements with other training providers for grant reporting often must match records by comparing fields such as first and last name, date of birth, and gender.

Many metrics require that outside entities share data with Chancellor’s Office or CDE grantees, but due to actual and perceived legal hurdles, this information is difficult to secure.

Both the Chancellor’s Office and CDE ask grantees to track whether students earn third-party credentials. Yet there is no established data-sharing mechanism that allows community colleges and K-12 institutions to determine whether students attain these external awards. The Chancellor’s Office has established several data-sharing precedents, including securing data-sharing agreements with the Employment Development Department, California’s Department of Apprenticeship Standards, and the Commission on Peace Officer Standards and Training. However, other state agencies have been reluctant to share information for fear of violating federal and state statutes.

Even when data exchanges can be secured, these outside entities often do not capture, or decline to share, sufficient detail to reliably match them against the Chancellor’s Office dataset. For example, the Chancellor’s Office may receive information that a person with a common name, such as Maria Gonzalez, who resides in a large city, such as Los Angeles, received a computer literacy certificate. However, it cannot be confirmed whether this is the same Maria Gonzalez who attended Claremont High School or Los Angeles City College.

Data collection challenges are likely to become more urgent as the state strives to build stronger connections between K-12, adult education, community college, and workforce investment board training.

Using Metrics

Even when labor market and employment data are available, few practitioners understand how to interpret this information.

In order to deliver credentials that are of high value to employers, colleges need to have a sophisticated ability to interpret labor-market information. Colleges are currently required to use supply and demand projections to evaluate and develop programs. However, in doing so, colleges may look only at the number of graduates they are producing, even though they may be training a large number of students who get jobs *before* completing their degree — students whom they may not be counting on their supply side. Or, they may only look at the number of graduates from their institution compared to region job openings, not taking into account the number of students being educated by other colleges and training providers in the same region.

Different data displays and reports may be needed to speak to the key concerns of different stakeholders.

To be broadly useful in decision-making, data tools may need to provide information in formats that are more directly applicable for specific audiences. Different stakeholders may need to look at different outcomes, or to see results at various levels of granularity. For example, the Salary Surfer compiles average earnings for all graduates in the state over a five-year period, and displays them by program of study. While this is a very helpful resource for students trying to select a major, it would not help a CTE dean who needs college-specific information on whether revising their local curriculum resulted in improved employment outcomes. While the LaunchBoard has begun to develop reports that provide information in a format useful to program managers, they are not yet fully implemented.

Many college leaders are reluctant to adopt strategies that focus on outcomes beyond increasing completion rates because they are not recognized outside of CTE-specific grants.

Many college leaders still emphasize completion over employment outcomes.

Although the Chancellor's Office is working to expand CTE data collection and success definitions, these changes are only currently in place for grants issued by the Workforce and Economic Development Division. Furthermore, because access to employment data is relatively new, wage gains are not widely used in the evaluation of program outcomes. As a result, many college leaders are reluctant to adopt strategies that focus on student outcomes beyond increasing completion rates.

Recommendations for Action from the Field

In preparation for the Task Force on Workforce, Job Creation, and a Strong Economy, the Chancellor's Office convened 14 regional meetings with community college chancellors, presidents, chief instructional officers, CTE deans, and faculty. More than 600 practitioners identified strategies, policies, and practices that would strengthen the ability of California community colleges to provide relevant skills and quality credentials that match employer needs and fuel a strong economy. Some of the most common recommendations from the practitioner meetings are summarized below.

Expand the Definition of Success

One of the top recommendations from the regional meetings was that the Chancellor's Office expand the definition of CTE success to include skills-builders and economic outcomes. Some possible actions include:

- Support the pending proposal that the Student Success Scorecard be amended to include a skills-builder metric and address skills-builder outcomes in contexts such as measuring institutional effectiveness and establishing systemwide goals.
- Factor employment metrics into examination of program outcomes, such as exploring whether low-unit certificates should receive Chancellor's Office approval and identifying high-value course clusters within existing offerings.
- Establish policies that track students' progress toward earning a degree or certificate across institutions and allow all contributing colleges to receive credit for enabling students to build key skills.

Improve Available Data and Data Use

Across the state, practitioners articulated a need for more information on student outcomes and labor market conditions, data visualization and analysis tools, and assistance to make better use of the data. Possible actions include:

- Provide regulatory and statutory authorization to allow expanded sharing of education records, earnings records, and third-party credential data to use in program improvement.
- Strengthen existing data tools and resources, such as the Salary Surfer, LaunchBoard, and Centers of Excellence.
- Invest in systemwide licenses for employment- and labor-market tools so that all colleges have better access to information.

Establish Consistent Accountability Measures

Participants in the regional meetings recommended that, in order to align various state efforts, CTE accountability systems be simplified to focus on a limited number of outcomes with consistent data elements. Key elements in this proposed redesign would include:

- Establish a common set of CTE metrics for Chancellor's Office and CDE career pathway projects, and align them with other statewide and national efforts to track workforce outcomes.
- Ensure that metrics are tracked as part of required annual reporting in statewide data systems.
- Address gaps and inconsistencies in key datasets, such as ensuring that a single ID follows students across education providers as well as consistently defining key elements.

Examples of CTE Data Produced by the Chancellor's Office

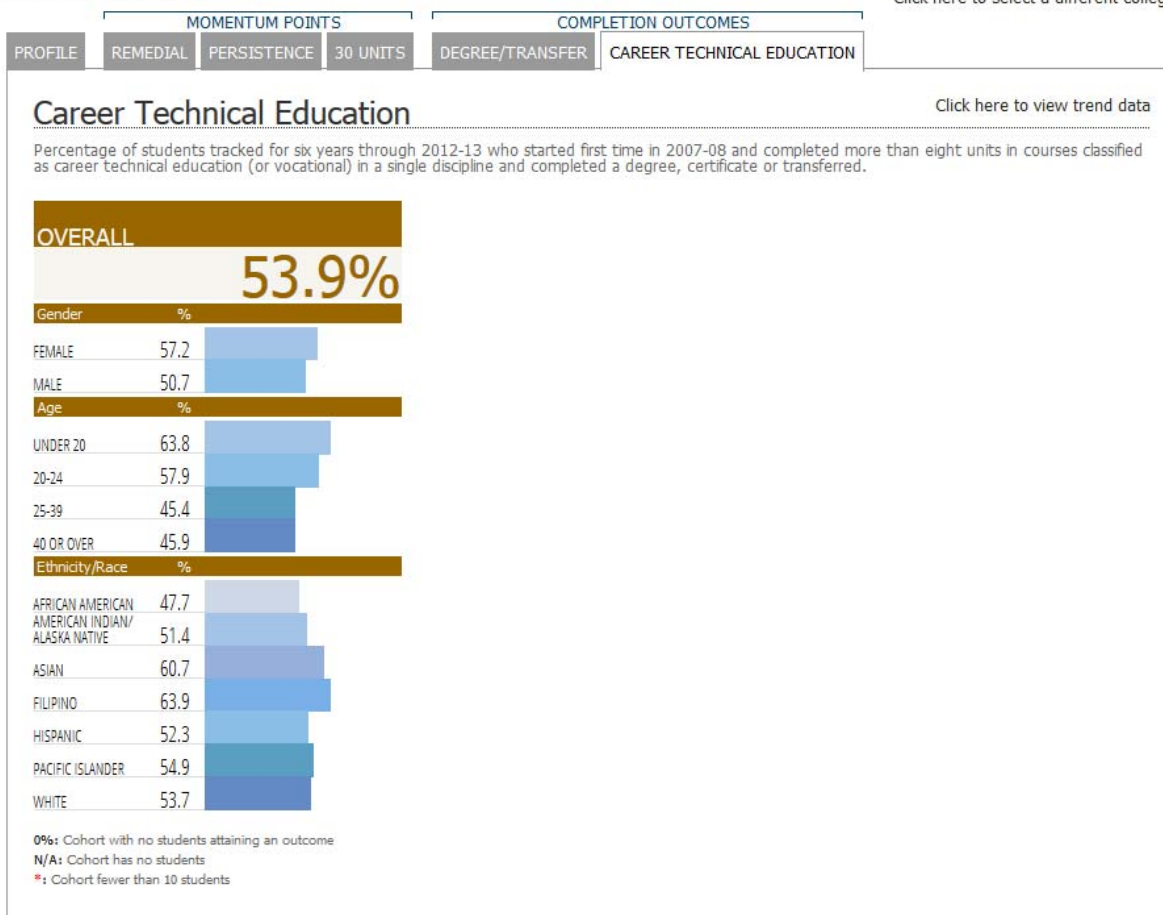
The Student Success Scorecard shows completion outcomes for the California community college system, as well as for individual colleges.

<http://scorecard.cccco.edu/scorecard.aspx>



Statewide

[Click here to select a different college](#)

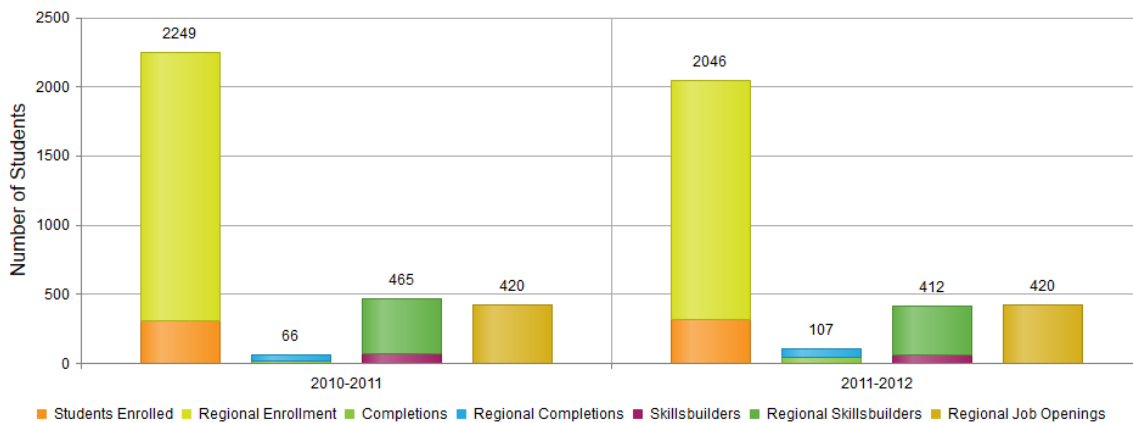


The LaunchBoard shows information on student progress and outcomes in CTE programs, along with employment and labor market information. Data are shown by college, region, sector, and statewide.

<https://www.calpassplus.org/Launchboard/LaunchboardDemo.aspx>

Enrollments				
	5 Year Average	Current Metric	% Increase / Decrease	Trend
Distinct students Explain Methodology	13,687	11,958	-13 %	↓
Capacity				
	5 Year Average	Current Metric	% Increase / Decrease	Trend
Number of sections offered Explain Methodology	2,049	1,715	-16 %	↓
Credentials				
	5 Year Average	Current Metric	% Increase / Decrease	Trend
Locally issued certificates Explain Methodology	30	22	-26 %	↓
	5 Year Average	Current Metric	% Increase / Decrease	Trend
Noncredit certificates Explain Methodology	\$0	15	100 %	↑
	5 Year Average	Current Metric	% Increase / Decrease	Trend
Chancellor's office approved certificates Explain Methodology	277	389	40 %	↑
	5 Year Average	Current Metric	% Increase / Decrease	Trend
Associate's degrees Explain Methodology	91	204	124 %	↑

Are the number of students being educated in alignment with available jobs?



[Explain Methodology](#)

Year	Students Enrolled	Regional Students Enrolled	Completions	Regional Completions	Skillsbuilders	Regional Skillsbuilders	Regional Job Openings
2010-2011	311	1938	17	49	72	393	420
2011-2012	317	1729	42	65	62	350	420

The Salary Surfer shows the amount that students made before and after earning a degree or certificate, as well as finds colleges that offer programs in each area.

<http://salarysurfer.cccco.edu/SalarySurfer.aspx>



Health

Instructional programs that study the theories and techniques for the restoration or preservation of mental and physical health through the use of drugs, surgical procedures, manipulations, or other curative or remedial methods.

Curriculum	Award Type	Median Annual Salary		
		2 Years Before	2 Years After	5 Years After
<input type="checkbox"/> Administrative Medical Assisting	Certificate	\$21,679	\$30,654	\$30,773
<input type="checkbox"/> Cardiovascular Technician	Degree	\$18,536	\$68,056	\$74,484
<input type="checkbox"/> Cardiovascular Technician	Certificate	\$19,029	\$62,885	\$67,097
<input type="checkbox"/> Clinical Medical Assisting	Degree	\$6,966	\$24,183	\$23,165
<input type="checkbox"/> Clinical Medical Assisting	Certificate	\$12,438	\$27,037	\$35,298
<input type="checkbox"/> Dental Assistant	Degree	\$15,971	\$29,719	\$30,629
<input type="checkbox"/> Dental Assistant	Certificate	\$13,526	\$29,513	\$29,921
<input type="checkbox"/> Dental Hygienist	Degree	\$16,225	\$64,338	\$61,555
<input type="checkbox"/> Dental Laboratory Technician	Certificate	\$21,616	\$21,048	\$29,043
<input type="checkbox"/> Diagnostic Medical Sonography	Degree	\$28,777	\$75,970	\$79,669
<input type="checkbox"/> Diagnostic Medical Sonography	Certificate	\$38,173	\$66,183	\$79,362
<input type="checkbox"/> Health Information Coding	Certificate	\$39,256	\$51,270	\$54,188
<input type="checkbox"/> Health Information Technology	Degree	\$37,907	\$52,140	\$60,865
<input type="checkbox"/> Health Information Technology	Certificate	\$43,093	\$54,493	\$59,604
<input type="checkbox"/> Health Professions, Transfer Core Curriculum	Degree	\$17,789	\$22,723	\$55,765
<input type="checkbox"/> Licensed Vocational Nursing	Degree	\$16,009	\$53,692	\$55,749
<input type="checkbox"/> Licensed Vocational Nursing	Certificate	\$16,625	\$45,640	\$47,676
<input type="checkbox"/> Massage Therapy	Certificate	N/A	\$27,289	N/A
<input type="checkbox"/> Medical Assisting	Degree	\$12,154	\$25,114	\$27,686
<input type="checkbox"/> Medical Assisting	Certificate	\$15,151	\$25,278	\$32,314
<input type="checkbox"/> Medical Laboratory Technology	Degree	\$17,364	\$54,385	\$60,391
<input type="checkbox"/> Mortuary Science	Degree	\$20,399	\$36,400	\$43,900
<input type="checkbox"/> Occupational Therapy Technology	Degree	\$16,053	\$49,973	\$53,061

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