PERKINS V
COMPREHENSIVE LOCAL NEEDS ASSESSMENT (CLNA) REPORTING FRAMEWORK
for
CALIFORNIA COMMUNITY COLLEGES

Community College District:

MiraCosta Community College District

To be submitted with the 2020-2022 Local Application

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Executive Summary

Element 1: Student Performance on Required Performance Indicators

The core indicator reports suggest that MiraCosta College Career Education (CE) programs are meeting or exceeding performance standards for the majority of core indicators and special population groups. One exception is the nontraditional participation among special populations (economically disadvantaged, limited English proficiency and disabled students) – the rates slightly lower than the 26% threshold goal. The disaggregated course success data show a persistent disproportionate impact for Black/African Americans, Hispanic/Latinx, and Pacific Islander students across all CE programs and in many individual programs.

Students that are economically disadvantaged experience the most achievement gaps in employment. This is true for programs in Automotive technology, Accounting, Biotechnology, Hospitality, Media Arts & Technologies, and Medical Assisting. The other groups that show lower employment rates are students with limited English proficiency (Kinesiology, Child Development, and Accounting) and students with disabilities (Business and Medical Assisting).

Nursing programs shows the highest percentage of students (86%) attaining the living wage. The majority of students in Biotechnology, Accounting, and Design are also able to earn the living wage or above upon the completion of their studies. Design and Nursing provide the highest median change in earnings for student, with 85 and 72 percent respectively. Horticulture and Business are the other programs with over 50% wage gains for their students. The college needs to continue to develop high-wage in-demand pathways for students and better connect them to viable jobs.

In order to address these gaps, MiraCosta College will employ the following strategies: bolster participation of nontraditional student populations through club, work-based learning, and other activities; provide direct support to students to improve their success and persistence; strengthen industry partnerships for internships, mentorships, and employment; partner with non-credit programs; Provide opportunities to learn about and connect with transfer universities such as CSUSM, SDSU, and UCSD; provide greater access to technology and industry certifications to disproportionately impacted students; increase awareness among the student populations about degrees and certificates that are valued by employers; and continue curriculum development to increase student interest in high-wage in-demand pathways.

Element 2: Program Size, Scope, and Quality to Meet the Needs of all Students

The size of CE programs is generally reflective of the labor market need. Our larger five programs, such as Child Development, Business Administration, Accounting, Computer Science, and Nursing, are all in the top seven program with the largest labor market demand. Programs that could increase their enrollment capacity based on labor market demand include Marketing and Sales, CSIT Business Information Technology, Biotechnology, and Medical Assisting.

Many CE programs are effective in providing clear pathways to completion or transfer through sequencing of courses and stackable credential options. The college has developed clear Career

Pathways mappings for our high-wage in-demand programs: Computer Studies & Information Technology, Media Arts & Technologies, Business, Accounting, and Biotechnology. In order to address low completion, transfer and employment, there are opportunities for reviewing, streamlining, and developing curriculum in some of the other programs. After curriculum is developed/streamlined, pathway mappings need to be created to clarify stackability of credentials and alignment of pathways to careers and industry certifications.

The majority of CE programs meet the quality standards for high-skilled, high-wage and in-demand career pathways. Six programs meet all three criteria, 11 programs meet two of the three criteria, and two programs meet only one criterion. Funding needs to be aligned to support the high-wage in-demand programs. While several Career Education programs have already aligned curriculum to industry-recognized credentials, there is still work to be done to align curriculum and provide students with opportunities to obtain these valuable credentials as well as gain work experience through experiential learning.

Strategies to improve program size, scope, and quality include: 1) Increase awareness of programs that lead to high-wage, in-demand careers through marketing, outreach, and early college credit options; 2) Improve alignment with industry standards and effective learning practices through elimination of duplicative certificates, creation of new programs, alignment to transfer requirements, improvement of instructional materials, and new technology/equipment; 3) Build robust employer partnerships and infrastructure for work-based and experiential learning; 4) Enhance professional development for CE faculty and staff; and 5) Provide direct student support to create a sense of community and foster success.

Element 3: Progress towards Implementation of CE Programs of Study

All credit Career Education courses at MiraCosta are organized in programs of study that result in certificates or associate degrees. Some students pursuing transfer follow the course requirements that meet the criteria of a specific 4-year university. Many Career Education courses are aligned to UC and CSU requirements to allow for easier transferability. MiraCosta also offers four Associate Degrees for Transfer (ADTs) in Career Education disciplines.

As part of the Guided Pathways efforts, all credit programs have developed Academic Maps, with recommended term-by-term course sequences. However, many programs still show low completion numbers despite relatively high course enrollments. Computer Science, Commercial Dance, Music Technology, Hospitality, and Technical Theater are among programs with the lowest completions. Programs would benefit from a detailed review of curriculum and identification of opportunities for streamlining certificate options and aligning courses to the requirements of the 4-year universities.

Disaggregated data point to population groups that still experience barriers to access and success in the high-quality CTE programs of study. These include Black/African Americans, Latinx, Pacific Islander students, students of the nontraditional gender with limited English proficiency, economically disadvantaged students, and students with disabilities.

There is a need to strengthen program alignment and articulation across secondary and postsecondary education. While the college has tripled the participation in high school articulated classes in the last

three years, more partnership work between K-12 and college faculty is necessary to create better alignment and raise awareness of articulation and dual enrollment opportunities in CE.

Strategies to strengthen CE pathways include: 1) Growing early college credit opportunities for high schools in high-wage in-demand pathways through articulation, dual enrollment, and pathway alignment; 2) Streamlining and developing curriculum to improve existing high-wage pathways and create new ones; 3) Exploring scheduling and enrollment management options that would benefit special populations and under-served students; 4) Strengthening pathways from noncredit to credit through credit course offerings at CLC; and 5) Creating a system to identify, monitor and guide students.

Element 4: Improving Recruitment, Retention and Training of CE Professionals

Classroom faculty, support staff are key in improving program quality and ensuring student success. While MiraCosta has made great strides in hiring talented faculty with industry experience and diverse academic backgrounds and adjusting its recruitment practices to increase equity and diversity, we still have fewer faculty of color than students and workforce across our CE programs. One of the challenges in recruiting faculty for our high-wage in-demand pathways (such as Biotechnology, Computer Science, Information Technology (e.g. Cybersecurity), and Design) is finding individuals with extensive industry experience at the available pay rates. The working professionals are sometimes not as successful in the classroom due to constraints on their time.

Many industries for CE programs are rapidly evolving. Traditional professional development/flex opportunities within the college don't address industry-specific practices or technology trends. Although some of the program faculty recently completed their graduate studies, new technologies have emerged that the faculty must familiarize themselves. Faculty professional development in the new/emerging or specialized areas is necessary so that our CE departments can develop coursework that will train students to meet industry needs.

To improve recruitment, retention, and training of CE professionals MiraCosta College will using the following approaches: 1) Improve equity and diversity in full-time and associate faculty through direct recruitment from the industry; 2) Enhance discipline-specific technical knowledge of all faculty to remain current with industry advances; 3) Increase professional development opportunities for associate faculty through training, industry events, and externships to ensure faculty are keeping up with the changing pace of the industry; 4) Implement faculty peer mentorships for new associate faculty hires, especially those that come from industry; 5) Provide opportunities and funding to develop associate faculty skills in distance learning and online pedagogy through professional development and work with instructional designers; and 6) Support faculty engaging in professional development that may include non-traditional 'practice-based' activities, conferences/workshop, or boot camps.

Element 5: Progress towards Equal Access to CTE Programs for All Students

MiraCosta works to ensure that every student has access to programs that will lead to high wage employment. MiraCosta has met the standard in terms of nontraditional participation, but there are still opportunities for improvement in select key areas:

- Ensure that there are no disparities between students who enroll in traditionally high-wage programs and those who enroll in lower wage programs.
- Increase nontraditional participation with special emphasis on students with limited English proficiency, economically disadvantaged students and students with disabilities
- Continue to reduce/eliminate success and retention gaps of disproportionately impacted groups

Efforts to address these disparities include: Increasing and strengthen partnerships with professional organizations to encourage participation by under-served student populations; providing internship and mentor support opportunities; additional tutoring and academic support services; collaborating across academic disciplines to provide more comprehensive training for students; tailoring marketing and recruitment efforts to under-served populations, hosting workshops and guest speakers that focus on under-served student populations; increasing participation in campus programs and events specific to identity-based groups; encouraging faculty to participate in professional development opportunities that focus on student-centered and equitable hiring practices; working with MiraCosta's Disabled Students Programs and Services office to improve accommodations for students with disabilities; and providing greater access to technology, through free or low cost hardware and software.

Element 6: Alignment to Labor Market Information (LMI)

MiraCosta College CE offerings are generally reflective of the projected demand for workforce. Our larger programs, such as Child Development, Business Administration, Accounting, Computer Science, and Nursing, are all in the top seven program with the largest projected new and replacement jobs. Programs that could grow their enrollment capacity to meet demand include Marketing, Computer Studies & Information Technology, Biotechnology, and Medical Assisting.

Generally, our programs are in alignment with the needs of the Innovation Industries (life sciences, software development, cybersecurity, information technology, architecture), with fewer pathways available in the Opportunity Industries (automotive technology, construction management). To respond to industry needs, faculty meet with their industry advisors, review labor market and employment outcomes data, and make curriculum revisions. Examples of the programs that recently revamped curriculum include: Computer Studies & Information Technologies, Biotechnology/Biomanufacturing, Accounting, Automotive Technology, Business, Computer Science, Hospitality, Horticulture, and Media Arts & Technologies.

Data and stakeholder input suggest that employers continue to value work experience. Some employers require at least 6 months of directly related work experiences is a minimum qualification for an entry-level jobs. Employers across various industries expressed a desire and willingness to work more closely with the college departments on internships and student employability skills, provide company tours, conduct mock interviews and serve as mentors to students.

To ensure alignment with the labor market across programs, the college will engage in the implementation of the following strategies: 1) Provide real-time labor market data and connect internal processes and funding opportunities to robust data reviews. 2) Develop, and adjust curriculum to align to high-wage, in-demand industry needs; support new curriculum with the latest equipment and technology that meets industry standards as well as faculty and lab staff training. 3) Build robust employer partnerships for internships and other work-based learning. 4) Align programs to industry-

recognized certifications and provide certification opportunities through exam prep and vouchers for economically disadvantaged students. 5) Continue promoting CE programs that align to industry needs and provide pathways into high-wage, in-demand pathways.

Key Stakeholders

The consultation component of MiraCosta College's comprehensive local needs assessment engaged a diverse group of stakeholders, including:

- Representatives of career education programs, career center, and special population departments at MiraCosta College
- Representatives of career education programs at K-12 districts in MiraCosta's service areas
- Representatives of business and industry
- Representatives of regional workforce development and economic development agencies
- Students
- Representatives of special populations as well as organizations and
- Representatives of local agencies serving out-of-school youth, homeless children and youth, and at-risk youth

Stakeholders directly involved in the **completion of this needs assessment** included:

- CE Dean
- CE Associate Dean
- CE Research Analyst
- CE Pathways Coordinator
- Administrative Assistant, Career Education Grants
- Career Center Faculty Director
- 14 CE Department Chairs (or lead faculty)

Other stakeholders provided input to inform the CLNA, but did not complete it. The input was collected using a multi-prong approach and qualitative data collection methods. Below is the outline of the consultation efforts and the stakeholders involved in each consultation.

1) LOCAL Industry Advisory Board Surveys/Meetings

Between March 15th and April 15th, 2020, MiraCosta College contacted current members of the Industry Advisory Boards for CE programs via a structured online survey. The survey asked about industry and/or technology trends have recently affected or may soon affect respondent's business or workforce generally, how well MiraCosta's program offerings reflect the workforce needs; what is necessary to add, remove or change, and what technical skills are most important for entry-level jobs. Two programs managed to collect input via in-person and zoom advisory board meetings (instead of online survey). A total of **144 representatives** of local business and industry participated in this consultation. The participants include Genentech, Lexus Carlsbad, SDG&E, Booz Allen Hamilton, Illumina, Viasat, Hunter Industries, Aviara Resort, Kaiser Permanente, Rady Children's Hospital, among others. See Appendix A

for the full list of local industry advisory board members who provided input. The information collected was used by each CE department to inform Program-Level Needs Assessments (Element 6).

2) LOCAL Special Populations Survey

Between April 1st and April 15th, 2020, MiraCosta College surveyed service departments that work with special populations on campus in order to help inform the needs assessment in relation to access and improve success for special populations in our Career Education programs. The survey asked about the barriers that different special populations face and about the recommended strategies to increase participation, completion and employment of special populations through Career Education. **Eight representatives** of the following departments provided input:

- EOPS
- DSPS
- Student Employment/Career Center
- Financial Aid
- Raffy
- Veteran Services
- Student Equity

3) REGIONAL Perkins V Comprehensive Needs Assessment Consultation Report

Between March 25, 2020 and April 27, 2020, the UC San Diego Extension Center for Research and Evaluation conducted 22 stakeholder consultation interviews for the San Diego and Imperial Counties Community Colleges Career Education Perkins V Comprehensive Needs Assessment. The following stakeholder groups were engaged in the interviews:

a. Eleven educational and special population service providers in San Diego and Imperial Counties,

- Interfaith Services
- Helen Keller Institute
- Just in Time for Foster Youth
- Trace School –
- San Diego Unified High School for Disabled Youth
- Avid Behavioral Day Program
- Access to Independence
- United Way
- PATH
- Autism Center at San Diego State University
- San Diego County Office of Education
- Towards Maximum Independence

b. Workforce and economic development groups:

- San Diego Workforce Partnership
- San Diego Regional EDC

c. Representatives of 4-year universities:

- UC San Diego, Office of Admissions/Transfer Student Services
- UC San Diego, Office of Student with Disabilities (OSD)

d. Representatives of Perkins V special populations (seven anonymous individuals)

Each interview lasted roughly 30-45 minutes, and was conducted by telephone or Zoom video conferencing. The Covid-19 pandemic impacted the ability of some special population service providers to participate in interviews as they responded to an uptick in demand for their services. Particularly occupied by the pandemic were those working with homeless and economically disadvantaged individuals. Despite more limited availability among these groups, several representatives were interviewed, and their perspectives are captured and summarized in a report.

Summary of Key Stakeholder Input

As noted in the Regional Stakeholder Consultation Report, area service providers, workforce and economic development organizations, universities, and students recognize the great value the San Diego and Imperial County Community Colleges bring to the region, particularly for underserved populations. One respondent said, "The community colleges are very essential… they are essential to training the workforce and for the community in general". Community college students, and especially those from underserved special populations, enrich our communities—they carry with them diverse and unique life experiences, and tremendous resilience, creativity, and motivation to succeed. These students enrich learning communities and it is important that community colleges continue the important work of understanding how to best serve them through career and technical education, and the critical support services community colleges provide.

Regional stakeholder input centered around the following themes:

1) ***Facilitating access*** to higher education for special population groups by providing direct assistance with financial aid, counseling, wraparound services, and transportation.
2) ***Marketing and communication*** efforts to increase awareness about high-quality career pathways available at community colleges by conducting direct high school outreach focused on special populations, disseminating information on community college success stories, ensuring visibility of programs and career options.
3) Ensuring that ***programs are connected to workforce demand*** by:
    a. developing additional certificate offerings for in-demand sectors, including: security, medical, IT, logistics, trucking, manufacturing, and construction;
    b. developing/adapting programs to respond to the needs of the fast growing Innovative Industries occupations: a) Traditional Tech—Information Communication, Software Development and Cyber Security, 2) Life Sciences—the Pharmaceutical Industry, Biotechnology, Medical Technology and Genomics, and 3) Defense Industry—Shipbuilding and other Defense Contracts.
    c. developing/adapting programs to respond to the Opportunity Industries workforce needs, namely in Transportation, Construction and Warehousing that share a lot of the same talent needs as the 'Innovative Industries' but "need more people and don't require a bachelor's degree", but still provide quality employment and sustainable wages.

4) ***Facilitate access to high-wage jobs for special population groups*** through internships, job fairs (tailored for special populations), site visits to workplace facilities, and more involvement with employers—speaking on campus (employer panels) and providing mentorship to students.

Local consultation with the departments serving special populations identified the following priorities for MiraCosta College Career Education programs:

1. Focus on faculty recruitment, professional development and pedagogy:
    - Increase the level of diversity among the instructional faculty for CE programs to give our students the opportunity to see more leaders engage in these fields that look like them. As noted by one stakeholder, "Research shows that when students can see leaders that look like them they can imagine their future selves in these fields".
    - Examine culturally relevant and culturally sustained pedagogy across the CE program curriculum, taking into account the racial and gender breakdowns of each program and thus tailoring curriculum to ensure it speaks to the unique identities of the students enrolled in the programs
    - Train the counselors regarding those High Wage career options, provide EOPS and DSPS counselors with such information.
2. Provide more direct support in the form of connections with a dedicated counselor and student service resources
    - Provide priority childcare to students (not staff, faculty and community) and give students a much lower price, especially if students are low income.
    - Give students a short survey in beginning of semester so you can know which challenges students are facing and refer to services accordingly.
    - Provide specialized tutoring support for CE courses and workshops specific to students with disabilities.
    - Connect with EOPS services
    - Team up with the FAO to demystify the FAFSA & CADAA applications and offer incentives for continued progress
    - Prioritize paid student worker opportunities on campus for special populations.
    - Identify and designate a support staff that can work one on one with students that are at high risk of dropping out.
    - Build in soft skills employment opportunities for students that have little experience but need income immediately.
3. Provide instruction either early in the morning or evening, so students can work before or after school. Provide reasonable office hours and online office hours as well.
4. Provide targeted tutoring services to assist with completion. Ed planning can assist the student with knowing a roadmap for where they'd like to end up educationally. Although the classes may change, they have an idea of what they're working towards if they need to change schools/states.
5. Emphasize the importance of exploring early on, make career counseling part of the matriculation process and no student will be left behind or on them to figure out what they want to do in life.

Assessment Across All Programs

Element 1: Student Performance on Required Performance Indicators

The overall course success rate for all CE programs is 73.3%. The success rate has increased by about three percentage points in the last five years, which points to a positive overall trend. Programs with the highest success rates include cohort-based programs and those with built-in academic supports, such as Nursing and Biotechnology/biomanufacturing. Automotive technology has high success rate too, which is likely related to the hands-on nature of the courses and small class sizes. Programs with the lowest success rates include Computer Science and Media Arts & Technologies, among others. These programs are highly technical with many transfer students. Programs with lower success rates need to examine additional academic supports for students, such as embedded tutoring.

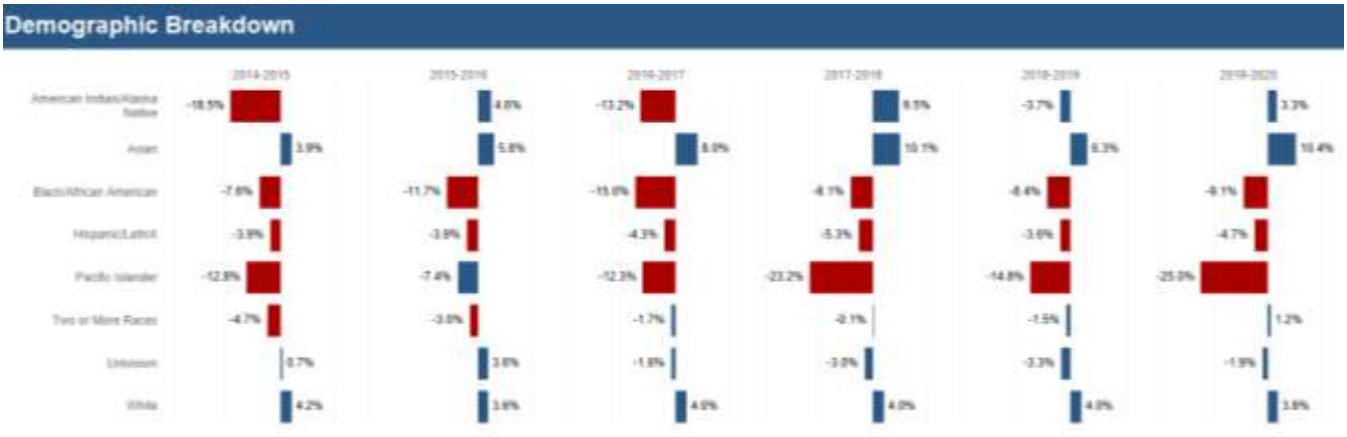
Figure 1 – Programs with the Highest and the Lowest Success Rates

Programs with the highest success rates	Programs with the lowest success rates
• Biotechnology (90%) • Nursing (84%) • Kinesiology (83%) • Automotive Technology (77%) • Design (77%)	• Computer Science (62%) • Media Arts & Technologies (64%) • Music Technology (69%) • Accounting (70%) • Hospitality (70%)

Data Source: MiraCosta College Data Warehouse 2016-2017

The disaggregated course success data show a persistent disproportionate impact for three ethnic/racial groups of students across all CE programs. Black/African Americans, Hispanic/Latinx, and Pacific Islander students are consistently underperforming in terms of course success rates. These trends are also seen in many individual Career Education programs. However, sample sizes are often too small to be able to assess the impact. Programs with no disproportionate impact on these groups are Biotechnology, Automotive Technology, and Child Development.

Figure 2 – Disproportionate Impact Analysis for Success Rates by Race/Ethnicity

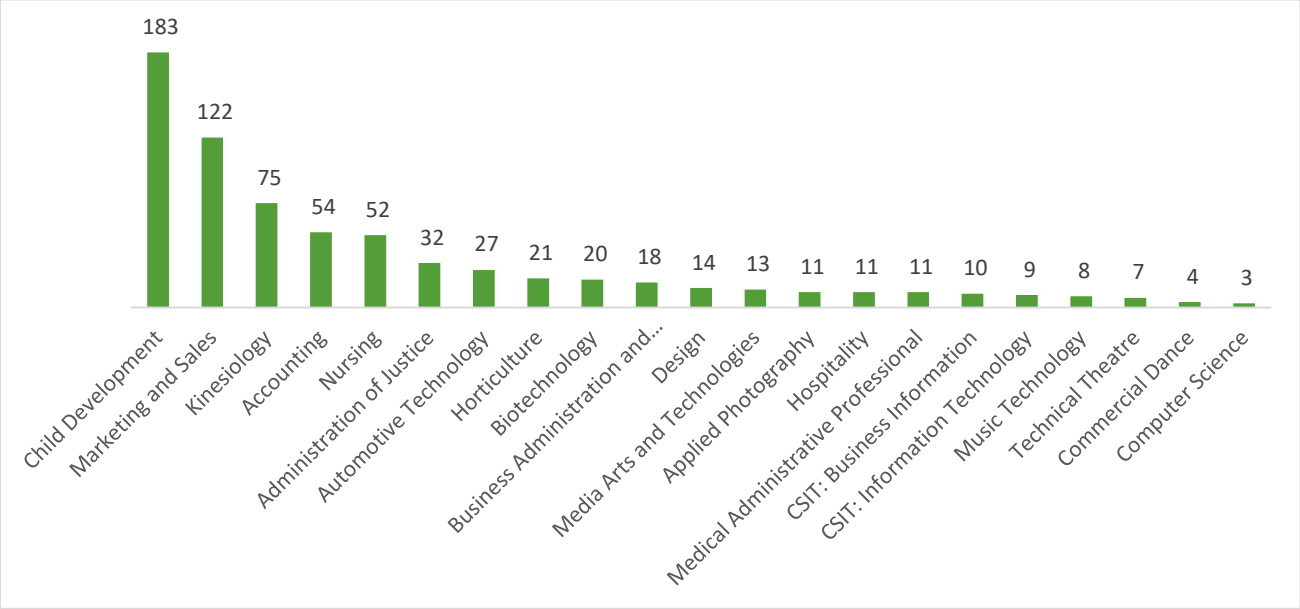


Data Source: MiraCosta College Data Warehouse 2016-2017

Looking at the overall core indicator reports for the last three years of available data (2014/15 – 2016/17), MiraCosta College Career Education programs (as a group) are meeting or exceeding all core indicator standards as negotiated with the state. This is also true for all special population groups, for which the data are reported in Core Indicator reports. One exception is the nontraditional participation (Core Indicator Report #5A), where the nontraditional participation rates among special populations are slightly lower than the negotiated 26% threshold – namely, economically disadvantaged students (25.7%), students with limited English proficiency (18.6%), and disabled students (24.9%). The college needs to develop a cross-program strategies to increase program participation among nontraditional gender students who also have limited English proficiency.

Looking at the volume of completions (degree and certificate awards), the programs with the highest numbers are Child Development, Marketing and Sales, Kinesiology (Fitness and Yoga Trainer), Accounting, and Nursing. All of these programs have options for low-unit certificates, which increases opportunities among students to obtain credentials. Computer Science, Commercial Dance, and Technical Theater have the lowest completions, thus pointing to the need to review curriculum and its relevance to employer needs. Notably, Computer Science program is one of the programs with a significant relative enrollment, but with very low completion.

Figure 3 – Number of Awarded Degrees and Certificates by CE Program Area



Data Source: MiraCosta College Data Warehouse 2016-2017

In terms of completion for CTE concentrators, as defined by Perkins IV, all programs at MiraCosta College are exceeding the completion rate (Core Indicator 2) threshold for their entire student populations as well as special population groups. The overall completion across all programs is 99.5% for academic year 2016-17.

The following are the completion rates by program area:

- Accounting (100%)

- Applied Photography (100%)
- Biotechnology (100%)
- Business (100%)
- Computer Science (100%)
- Computer Studies & Information Technology (100%)
- Design (Drafting Technology) – 100%
- Horticulture (100%)
- Hospitality (100%)
- Medical Assisting (100%)
- Music technology (100%)
- Automotive technology (97.5%)
- Media Arts and Technologies (97.4%)
- Child Development (99.2%)
- Nursing (99.1%)

Similar to completion rates, student employment rate (Core Indicator 5) across all Career Education programs at MiraCosta College is at 75.6%, which is all above the 68% performance goal. However, there is some variability among specific programs. Programs with the highest student employment include Computer Science, Applied Photography, Drafting Technology/Design, Nursing, Kinesiology, Automotive Technology, and Child Development. Programs with the lowest employment are Computer Studies & Information Technology, Horticulture, and Media Arts & Technologies. Computer Studies and Information Technologies department has made significant curriculum revisions and additions and implemented many student support initiatives, such as Club IT and industry certification vouchers. Media Arts and Technologies depart has also incorporated changes to their teaching and student support. We are expecting to see significant improvements in student employment rates in these programs when more recent data become available.

Figure 4 – Programs with the Highest and the Lowest Employment Rates

Programs with the highest employment rates	Programs with the lowest employment rates
• Computer Science (100%) • Applied Photography (100%) • Design/Drafting Technology (90.9%) • Nursing (83.3%) • Kinesiology (82.8%) • Automotive technology (77.8%) • Child Development (77.3%)	• Computer Studies & Information Technology (42.9%) • Horticulture (58.3%) • Media Arts and Technologies (63.6%) • Business (67%) • Accounting (68%)

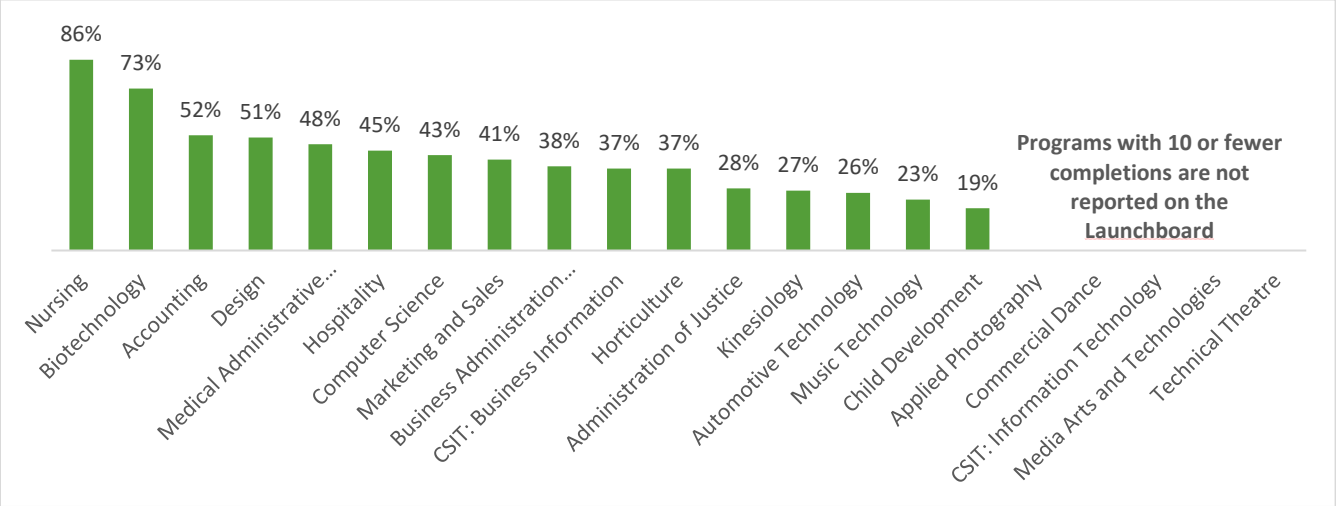
Data Source: Perkins IV Core Indicator Reports, 2016-2017

In terms of the performance of special populations, students that are economically disadvantaged experience the most achievement gaps in employment. This is true for programs in Automotive Technology, Accounting, Biotechnology, Hospitality, Media Arts and Technologies, and Medical Assisting. The other groups that show lower performance rates are students with limited English proficiency (Kinesiology, Child Development, and Accounting) and students with disabilities (Business and Medical Assisting).

To analyze the quality of the employment, it is important to look at the wages attained by Career Education students across different programs. Figures 5 and 6 provides the indicators of students who attained the living wage and the median change in student wages before and after attending CE programs.

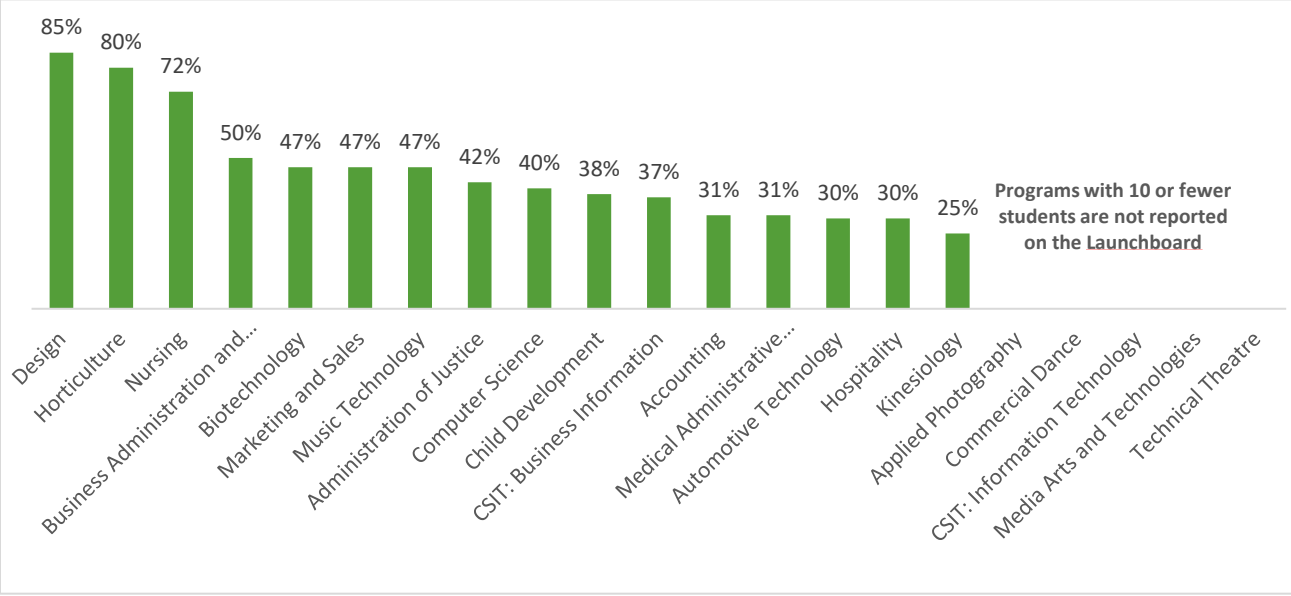
Nursing programs shows the highest percentage of students (86%) attaining the living wage. The majority of students in Biotechnology, Accounting, and Design are also able to earn the living wage or above upon the completion of their studies. Design and Nursing are also among the programs that provide the highest median change in earnings for student, with 85 and 72 percent respectively. Horticulture and Business Administration are the other programs that provide over 50% wage gains for their students.

Figure 5 – Students Who Attained the Living Wage



Data Source: CTE Launchboard, 2016-2017

Figure 6 - Median Change in Earnings for Exiting Students



Data Source: CTE Launchboard, 2016-2017

Nontraditional participation (Core Indicator 5A) for all programs is at 26.7%, which is right at the performance goal of 26%. However, nontraditional participation rates are slightly below that threshold for econ disadvantaged students (25.7%), students with disabilities (24.9%), and students with Limited English (18.6%). Programs with the lowest nontraditional participation include Computer Studies & Information Technology, Child Development, Music Technology, and Automotive Technology. However, looking at the three-year trend, many programs have seen a significant increase in nontraditional participation. Purposeful programming is still necessary to attract nontraditional gender students into these programs.

Figure 4 – Programs with the Highest and the Lowest Employment Rates

Programs with the highest nontraditional participation rates	Programs with the lowest nontraditional participation rates
• Media Arts and Technologies (83.3% male) • Applied Photography (80% female) • Biotech (50% female) • Accounting (47.5% female) • Horticulture (43.8% female) • Business (40.2% female)	• Computer Studies & Information Technology (2.5% female) • Child Development (3.5% male) • Music technology (7.7% female) • Automotive Technology (9.7% female) • Medical Assisting (13% male) • Computer Science (13.2% female) • Nursing (15.5% male) • Design/Drafting Technology (22.2% female)

Data Source: Perkins IV Core Indicator Reports, 2016-2017

Overall **strategies and tactics** to address the needs in student performance include:

1) Provide targeted support services to students to increase participation and success among all students by:
    - Providing academic support via mentoring, study partners, effective use and implementation of technology, peer editing of writing assignments, online tutoring, and supplemental instruction (Accounting, Business, Hospitality, Media Arts & Technologies, Music technology)
    - Partnering with non-credit ESL to increase the success rates for students with limited English proficiency (Child Development)
    - Offering vouchers for industry recommended certification exams and exam preparation materials to underserved student populations (Medical Assisting)
    - Providing greater technology access to students—especially disproportionately impacted students—to free or low cost technology hardware and software through open labs, equipment check-out, and/or 'at home' access options. (Media Arts & Technologies)
    - Increasing student engagement for implementation of career pathways, academic advising by faculty. Incorporating ways to facilitate students' progress through academic maps as part of Canvas shells or course assignments (Music Technology)
2) Raise awareness about high-wage, in-demand Career Education pathways and careers they lead to among under-represented student groups through:

- Developing and implementing new introductory courses with significant lab or hands-on components to increase student interest in high-wage in-demand pathways (Biotechnology)
- Partnering with student groups (e.g. Emoja, Puente) to promote CE programs to underrepresented populations. (Business, Hospitality)
- Partnering with noncredit to create a pipeline of students from special populations into high-wage in-demand pathways (Biotechnology)
- Promoting the value of CE degrees and certificates in the labor market (Horticulture)

3) Bolster participation of nontraditional student populations through club, work-based learning activities, nontraditional peer mentoring, publicizing the success of nontraditional populations (Auto tech, Child Development, Computer Studies & Information Technology, Media Arts & Technologies)
4) Build strong employer partnerships for internships and employment, site visits, international exchanges, club attendance, Tech talk events, surveys, etc. (Applied Photography, Business, Hospitality, Child Development, Computer Studies and Information Technology, Design, Horticulture, Music Technology)
5) Keep equipment and software up-to-date and at the leading-edge of the industry standards to ensure students are gaining skills valued by employers (Automotive technology, Media Arts & Technologies, Nursing)
6) Provide opportunities to learn about and connect with transfer universities such as CSUSM, SDSU, and UCSD either by connecting students with the counseling department or bringing in guest speakers from these universities. (Business, Hospitality)

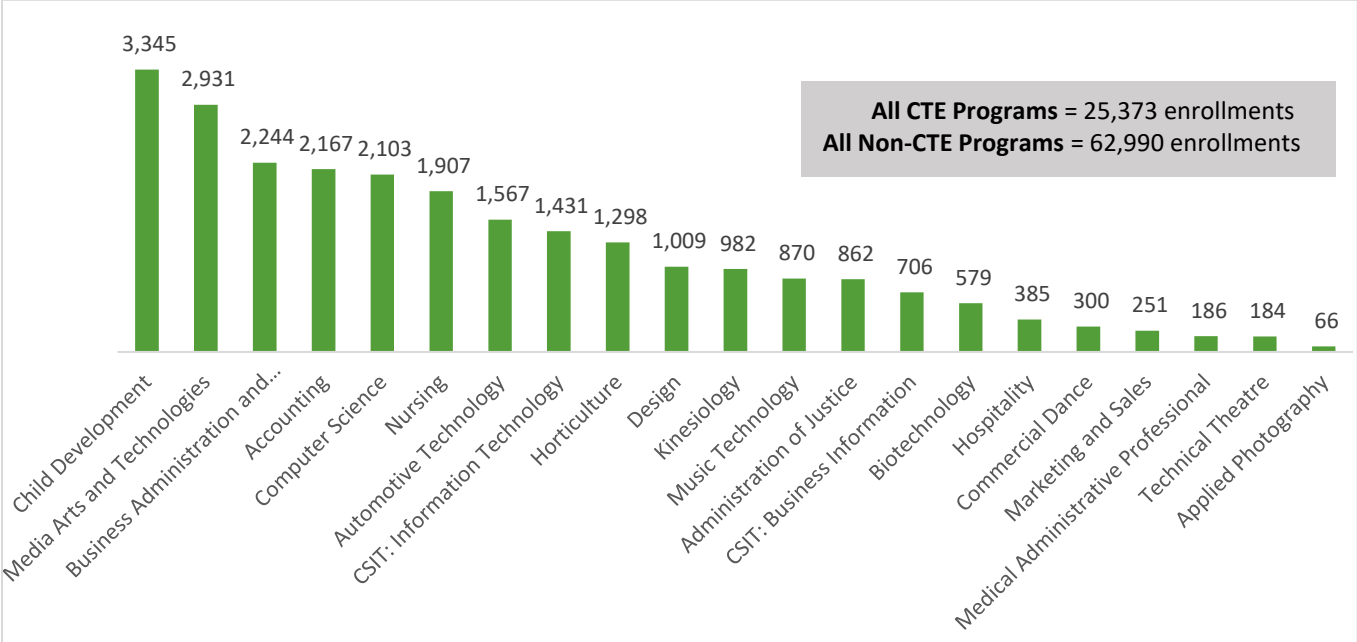
Element 2: Program Size, Scope, and Quality to Meet the Needs of all Students

Looking at the portfolio of CE programs at MiraCosta College and the projected demand for workforce in each of the areas (Figures 1 and 2), the enrollment size is generally reflective of the labor market need, with some exceptions. Our larger programs, such as Child Development, Business Administration, Accounting, Computer Science, and Nursing, are all in the top seven program with the largest labor market demand. Media Arts & Technologies program is the second in terms of annual enrollment, but has lower numbers of projected job openings. This program provides a viable transfer track for many students. It also serves many skills-builders with Bachelor's degrees who access education opportunities to upgrade their skills. There is a need for more cross-departmental collaboration between Media Arts and Computer Science and Information technology departments to create pathways for emerging jobs and skills, such as UI/UX developer.

Program that could increase their enrollment capacity based on labor market demand include:

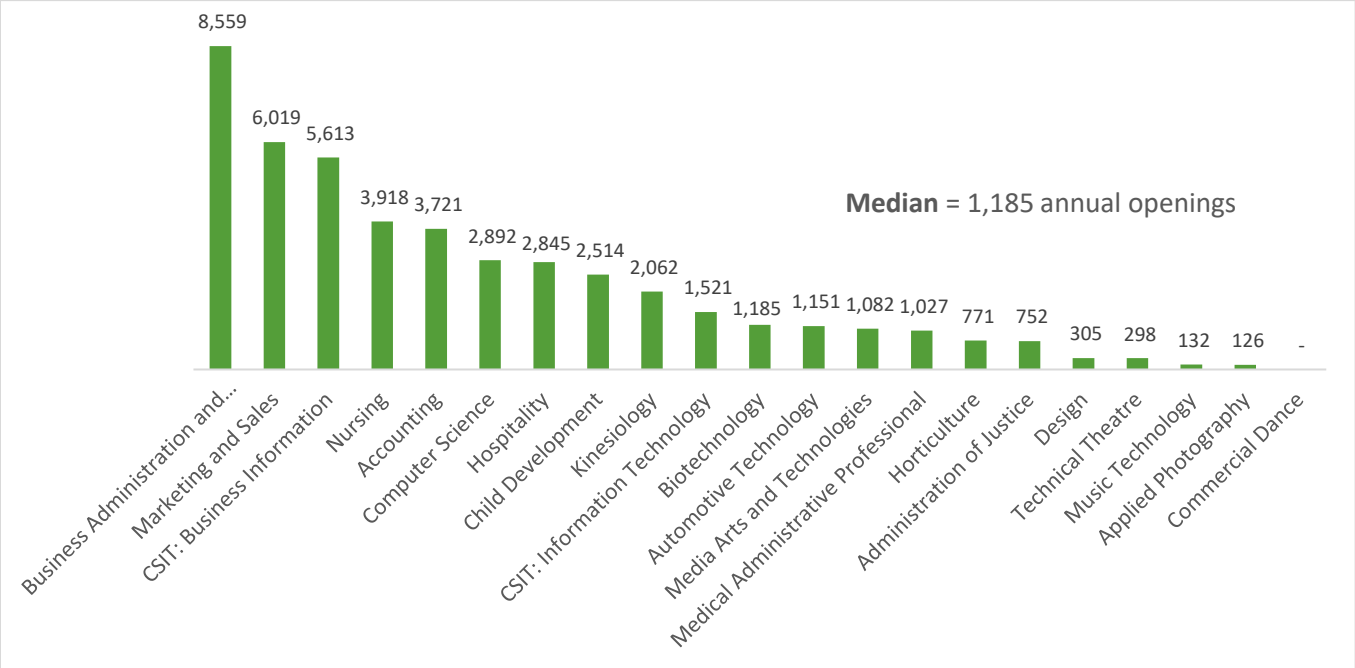
- Marketing and Sales
- Business Information Technology
- Biotechnology
- Medical Assisting

Figure 1 – Number of Annual Enrollments by Program



Data Source: MiraCosta College Data Warehouse 2016-2017

Figure 2 – Projected Annual Job Openings in San Diego Region



Data Source: COE Demand and Supply Tables

In terms of program scope, many CE programs at MiraCosta College are effective in providing clear pathways to completion or transfer through sequencing of courses and stackable credential options. All Career Education programs went through the CTE Code Alignment process in 2017-2019 and reviewed

the alignment of courses, degrees and certificates. Several departments identified duplication and initiated curriculum changes to ensure better scope and alignment of certificates to each other and to occupations. However, in order to address low completion, transfer and employment rates, there are opportunities for reviewing, streamlining, and developing curriculum in some programs, such as Hospitality, Medical Assisting, Automotive Technology, Media Arts and Technologies, and Computer Science.

Under the leadership of the CE Pathways Coordinator at MiraCosta College and with the help of CE Research Analyst, the faculty have developed visual Career Pathways mappings for the following departments:

- Computer Studies and Information Technology
- Media Arts & Technologies
- Business and Entrepreneurship
- Accounting
- Biotechnology

Moving forward, the college intends to complete the mappings for the remainder of the programs to clarify stackability of credentials and alignment of pathways to careers and industry certifications. Pathway mappings will be used in outreach to high schools as well as with the counselors to assist in guiding students through their career and CE pathway options at MiraCosta.

The majority of the Career Education programs at MiraCosta meet the quality standards for high-skilled, high-wage and in-demand career pathways. The programs that meet all three criteria include Accounting, Nursing, Biotechnology, Business Administration, Media Arts & Technologies, CSIT Information Technology, and Computer Science. Many CE programs meet two of the three criteria (see Figure 3) and two programs (Commercial Dance and Technical Theater) only meet one criteria for quality.

Figure 3 – CE Program Quality Criteria

Programs	**High-skilled:** Programs that result in industry-recognized certificates, credentials, or degrees.	**High-wage:** Programs with entry-level wages above the living wage standard	**In-demand:** Occupations with significant number of regional job openings.
Accounting	X	X	X
Nursing	X	X	X
Biotechnology	X	X	X
Business Administration	X	X	X
Media Arts & Technologies	X	X	X
CSIT: Information Technology	X	X	X
Computer Science	X	X	X
Child Development	X		X
Marketing & Sales		X	X
Design	X	X	
Applied Photography	X	X	
Medical Assisting	X		X

Music Technology	X	X	
CSIT: Business Information	X		X
Hospitality Management		X	X
Admin of Justice		X	X
Horticulture	X		X
Kinesiology	X		X
Technical Theater	X		
Commercial Dance			

Many of our Career Education programs have already aligned curriculum to industry-recognized credentials and developed programs to support students in taking optional exams to obtain third-party certifications. These include various IT certifications, bookkeeping and payroll, computer science, biotechnology, and others. Industry certifications enhance student employment and wage potential. Students with credentials are often hired by large employers into jobs that normally require Bachelor's degrees. There is still work to be done with many of our programs to improve curriculum and skills that we teach to ensure the alignment with in-demand, high-wage jobs.

Several issues related work-based learning were identified across CE programs. Of the 14 CE programs, 12 referenced issues with achieving the college's performance goals for employment and/or a need to connect their students with industry partners for guest speaking, panel presentations, field trips, internships, and more. Three departments specifically plan to outreach to students whose gender is non-traditional for the programs in which the students are enrolled, focusing on inviting more women as guest speakers, panelists, and internship hosts (Automotive Technology, Computer Studies and Information Technology, and Design). Four departments, Design, Horticulture, Media Arts & Technologies, and Music Technology describe the need for a case management approach to help students understand the requirements of their programs and the value of their certificates and degrees to employers. While the Career Center already has a robust internship program and provides work-based learning opportunities to students in CE programs, these services needs to continue to expand. The San Diego and Imperial Region Comprehensive Needs Assessment cites the importance of everything from employment support services to internships, job fairs, resume writing, and interviewing.

Overall **strategies and tactics** to improve program size, scope, and quality include:

1) Increase enrollment through awareness of programs that lead to gainful employment and careers:

- Increase high school outreach, program marketing, and student and faculty awareness of the available high-wage in-demand pathways and programs at MiraCosta, including certificates and the career paths that they represent (Accounting, Biotechnology, Child Development, Horticulture, Media Arts & Technologies)
- Develop opportunities for early college credit in high wage in-demand pathways through curriculum development, articulation agreements, and dual enrollment in Career Education. (Biotechnology)
- Market programs to underrepresented student populations, such as Hispanic/Latinx, African American students and students of nontraditional gender. (Design, Child Development)

2) Improve alignment of programs with industry standards and effective learning practices:

- Streamline curriculum to eliminate duplicative certificates and to increase completion. Develop new certificates and strengthen transfer pathways. (Hospitality, Media Arts & Technologies, Music technology)
- Align curriculum to industry-recognized certifications and provide support to subsidize the cost of review programs and exam fees related to professional certification in the related field (Accounting)
- Incorporate the latest technological advances that would allow our programs to stay current with the industry standards and our students to meet employer expectations for technical knowledge and skills. (Applied Photography, Automotive Technology, Business, Medical Assisting, Nursing)
- Enhance instructional materials by creating videos or other media that focus on discipline related content as well career aspects of the different areas in the accounting field. (Accounting)

3) Enhance program quality through robust work-based and experiential learning opportunities embedded in CE programs

- Purposefully incorporate work-based learning strategies by working with local employers in high-wage in-demand pathways. (Biotechnology, Design, Hospitality, Medical Assisting, Music Technology)
- Develop experiential learning opportunities in entrepreneurship to facilitate startup whether as a traditional, freelance, or a social enterprise. An incubator space would provide students with space and resources such as laptops, tablets, workshop areas, and advisory support. (Business)

4) Enhance professional development for CE faculty and staff

- Provide training for faculty on equity-minded pedagogy, for both online courses and on ground (Child Development)
- Hire and onboard a new Computer Studies and Information Technology instructor to enhance the ability to teach in-demand, emerging skills, such as cloud computing, Internet of Things, and Development/Operations (DevOps).

5) Improve student support to create a sense of community and provide just-in-time ***guidance students enrolled in each program.***

- Develop faculty advising model to monitor progress and guide students. (Design)
- Develop department guidelines for those who teach online classes that addresses DI (Child Development,
- Support English learners in CE programs. Increased support for these learners, such as bilingual teaching assistants and instruction tailored to English learners would be beneficial for better attracting and serving this group of students. Partnering with Spanish instruction colleagues is a possible way to improve the experience of the bilingual student and strengthen outcomes for English learners. (Horticulture)
- Utilize student clubs and enhance opportunities for peer tutoring (Media Arts & Technologies).

Element 3: Progress towards Implementation of CE Programs of Study

The comprehensive needs assessment for Element 3 focuses on progress toward the implementation of career and technical education programs and programs of study. Based the Perkins V definition, the full scope of programs of study is "a coordinated, non-duplicative sequence of academic and technical content at the secondary and postsecondary levels".

At MiraCosta College, all credit Career Education courses are organized in programs of study that result in Certificates of Proficiency (locally approved low-unit certificates), Certificates of Achievement approved by the State Chancellor's Office, or associate degrees. Some students pursue transfer to a university and follow the course requirements and sequences that meet the criteria of a specific 4-year university. Many Career Education courses are aligned to UC and CSU requirements to allow for easier transferability.

MiraCosta also offers multiple Associate Degrees for Transfer (ADTs) in Career Education disciplines, such as:

- Business Administration
- Early Childhood Education
- Administration of Justice
- Computer Science

As part of the Guided Pathways efforts, all credit programs have developed Academic Maps, which represent recommended semester-by-semester course sequences toward a certificate or degree completion. However, as discussed in Element 1 of this CLNA, many programs still show low completion numbers despite relatively high course enrollment numbers. The programs with the highest completion numbers (Child Development, Marketing and Sales, Kinesiology (Fitness and Yoga Trainer), Accounting, and Nursing) offer viable low-unit certificates and stackable credentialing options, which increases opportunities for all students to complete programs. Computer Science, Commercial Dance, Music Technology, Hospitality, and Technical Theater are among programs with the lowest completions. Several programs would benefit from a detailed review of curriculum and identification of opportunities for streamlining certificate programs and better aligning courses to the requirements of the 4-year universities. One example is Computer Science program that shows 2,000+ course enrollments and almost no completions of the certificate program in Computer Programming. Faculty plan to create a new certificate in Software Engineering that is in alignment with the skills requirements as evidenced in the recent study by the San Diego Regional EDC.

Based on the analysis of the student performance in Element 1 of this CLNA, disaggregated data in the core indicator reports and the disproportionate impact analysis point to several population groups that still experience barriers to access and success in the high-quality CTE programs of study. Black/African Americans, Hispanic/Latinx, and Pacific Islander students are consistently underperforming in terms of course success rates across all CE programs. The nontraditional gender participation rates among special populations are slightly lower than the 26% threshold, especially for students with limited English proficiency (18.6%) and disabled students (24.9%). Students that are economically disadvantaged experience the most achievement gaps in employment in Automotive Technology, Accounting, Biotechnology, Hospitality, Media Arts and Technologies, and Medical Assisting. Students with limited English proficiency experience lower employment rates in Kinesiology, Child Development, and Accounting.

Across all CE Programs at MiraCosta, there is a need to strengthen program alignment and articulation across secondary and postsecondary education. While the college has tripled the participation in high school articulated classes from the 2017-18 to 2019-20 school year (see Figure 1), more partnership work between high schools and college faculty is necessary to create opportunities for early college credit options in high-wage in-demand career pathways. There is not always a seamless alignment between high school and college courses. In some cases, we don't have courses that match the high school courses, and in other cases faculty would like to articulate one of their courses but the high schools don't have a comparable course.

Figure 1 – Enrollment and Outcomes for Articulated High School Courses

Data Sources: MiraCosta Data Warehouse and CATEMA

There is also lack of knowledge and awareness around articulation and opportunity for dual enrollment in career education courses. Providing opportunities for early college credit can keep high school students engaged in their education, especially those that are economically disadvantaged and do not see themselves as college going populations. Over the last two years, we have strengthened outreach to recruit students for our CE programs at MiraCosta by engaging and training student ambassadors and providing Career Pathways mapping to k-12 partners. We have launched a dual enrollment course in Career and Life Planning at a credit-recovery high school. More efforts are needed to continue to work with our K-12 partners on career pathways.

Overall **strategies and tactics** to improve the implementation of CE programs of study include:

1) Strengthen and grow early college credit opportunities for high schools in high-wage in-demand pathways:

    - Provide opportunities for high school and college faculty to review their pathways and explore matches for articulation and dual enrollment. Both parties will become more

aware of the offerings at the secondary and postsecondary levels. Realistic goals regarding articulation and dual enrollment customized to each high school will be established. (all programs)

- Promote specific courses for concurrent enrollment when college faculty don't see a HS course that aligns for articulation but recognize an introductory course at the college would be a good fit, communication to HS counselors and teachers to encourage concurrent enrollment will promote these opportunities. (all)
- Review high school pathway course sequences that are articulated with MiraCosta classes and see if there's a Certificate of Proficiency that can be created, so that pathway completers also earn a Certificate from MiraCosta to motivate and encourage students to continue their education. (all)
- Expand outreach efforts for K12 students and educators, including open houses (virtual and in person), mailings and phone calls to high school students who have earned articulated credit. (all)
- Develop new courses that can be articulated with high schools or offered for dual enrollment and provide students with an opportunity to explore career education pathways early in their education while earning GE credit for associate degrees and/or transfer (Biotechnology)

2) Streamline and develop curriculum to strengthen existing high-wage pathways and create new ones.

    - Improve career pathways through collaboration and partnerships with industry, research, and curriculum development. Conduct research to identify current and emerging career pathways that might align with our programs and then prepare curricular responses, which may entail course revision, course development, and/or program development. (Media Arts & Technologies, Music Technology)
    - Align courses to UC and CSU requirements. (Hospitality, Music Technology) For example, develop transfer pathway for Hospitality to local universities. Gainful employment in the hospitality industry can best be obtained through the acquisition of a bachelor's degree in hospitality. Starting wages for BS recipients frequently start at $27.00 per hour with benefits.

3) Explore scheduling options that would benefit special populations and under-served students in Career Education programs:
    - Strategize on long-term course planning, scheduling, and enrollment management to ensure the smoothest path possible for students through our programs. Communicate clear pathways through print and online materials, such as curriculum planning guides. (Media Arts & Technologies)

4) Strengthen pathways from noncredit to credit through credit course offerings at CLC. (Business)

5) Create a system to identify, monitor and guide students who enroll in CE programs. (Design)

Element 4: Improving Recruitment, Retention and Training of CE Professionals

MiraCosta has managed to attract talented group of faculty members with industry experience and diverse academic backgrounds. In terms of recruitment, the college has set a goal to increase diversity of faculty and staff and has revised its hiring practices to be more equity minded and culturally inclusive. Many CE departments with recent faculty hiring have revised their job descriptions with equity in mind. Our Business department job description was used in the Faculty Hiring workshop in January 2020 as a model job description that successfully incorporates best practices for equity and diversity. Also, all selection committee members for Faculty Hiring are now required to complete a training on Equity and Diversity in Faculty Hiring.

MiraCosta College's culture is such that professional development of faculty and staff is welcomed and supported. Structured workshops are offered during the flex weeks at the beginning of the fall semester. More recently, the college has implemented a Social Justice Symposium, a professional development day for all employees focusing on equity-minded practices and cultural inclusivity.

The biggest challenge in recruiting faculty for our high-wage in-demand pathways is finding individuals with extensive industry experience. The pay rates for community college faculty are below industry salaries making it difficult for working professionals to transition to academia. Although we have found professionals interested in associate faculty opportunities, the workloads in industry are such that working professionals have a difficult time juggling their full-time industry obligations with part-time teaching. For this reason, we have found that working professionals are not as successful in the classroom due to constraints on their time, and retention of these individuals has been inconsistent. This is especially true for Biotechnology, Computer Science, Information Technology (e.g. Cybersecurity), and Design.

The other challenge is increasing ethnic and gender diversity of faculty in each of our CE disciplines. When comparing gender and race/ethnicity of our faculty (full-time and associate), students, and workforce for each of the CE disciplines, faculty gender breakdown is generally reflective of the student body and often more diverse than the workforce. However, faculty tend to be less diverse in terms of race/ethnicity in comparison to students and workforce across many of CE programs. We have made great strides in the full-time faculty by adding more Latinx faculty in the recent years. This is of particular importance given that MiraCosta is a Hispanic-Serving Institution, with fewer faculty of color than students and workforce. For example, in our Child Development program, Latinx make up 5% of faculty, 52% of students, and 38% of workforce. More strategic recruitment and hiring is necessary to continue to diversify our faculty body.

The following challenges/gaps have been identified related to training and professional development for Career Education instructional faculty:

- Many industries for CE programs are rapidly evolving. Traditional professional development/flex opportunities within the college don't address industry-specific practices or technology trends. Although some of the program faculty recently completed their graduate studies, new technologies have emerged that the faculty must familiarize themselves. Faculty professional development in the new/emerging or specialized areas is necessary so that our CE departments can develop coursework that will train students to meet industry needs.

- In order to try to keep up with industry practices and technology, CE faculty currently do much more professional development/flex time than they are paid for or that is required by their contract obligations.
- Specialized industry conferences/events are expensive and difficult to attend because the time involved competes with teaching and other college responsibilities.
- Conferences, workshops, and training emphasize passive rather than active learning, as they don't focus on 'practice' and the need to be doing/making/exploring. Faculty need to be "doing" in order to be teaching as CE curriculum emphasizes project-based learning, but it takes time (and practice) to digest, apply, filter, and synthesize new information, software, and practices into our curriculum.

Overall **strategies** to improve recruitment, retention, and training of CE professionals include:

1) Improve equity and diversity in full-time and associate faculty by casting a wider net to find well-qualified faculty candidates among women and Hispanic/Latinx professionals and by cultivating more relationships with industry partners to form a broader network of potential part-time and full-time faculty. Recruit directly from industry (Design, Business, Child Development, Biotechnology, Computer Science)

2) Enhance discipline-specific technical knowledge of all faculty to remain current with industry advances. (Biotechnology, Automotive Technology, Applied Photography, Accounting)
    - Provide opportunities for certification of faculty and staff in simulations through California Simulation Alliance. (Nursing)
    - Provide opportunities for certification of associate faculty for Cisco Network Academy courses, MeasureUp exam prep, and MOS and CompTIA certification opportunities. (Computer Studies and Information Technology)

3) Increase professional development opportunities for associate faculty through training, industry events, and externships to ensure faculty are keeping up with the changing pace of the industry (Medical Assisting, Computer Studies and Information technology, Hospitality, Design, Automotive Technology, Applied Photography, Accounting)
    - Create department-level Canvas sites for training new faculty that would organize resources for the associate faculty, such as best practices in teaching, information about specific student populations, and an overview of all coursework that the students complete. This would help new faculty understand the larger context of programs and pathways. (Biotechnology, Business)

4) Implement faculty peer mentorship model for new associate faculty hires, especially those that come from industry. Each new part-time instructor will be assigned a full-time faculty mentor. The full-time faculty mentor provides important background information on active learning strategies and provides resources to the associate faculty.

5) Provide opportunities and funding to develop associate faculty skills in distance learning and online pedagogy through professional development and work with instructional designers. (Horticulture, Biotechnology)

6) Support faculty engaging in professional development that may include non-traditional 'practice-based' activities, conferences/workshop, or boot camps. (Media Arts and Technologies)

Element 5: Progress toward Equal Access to CE Programs for All Students

The ultimate goal of career education is to prepare students find successful employment in high wage positions. It is incumbent upon the institution to ensure that certain groups of students are not funneled into or out of specific programs. Figure 1 lists the top and bottom three programs that report the percentage of students earning a living wage.

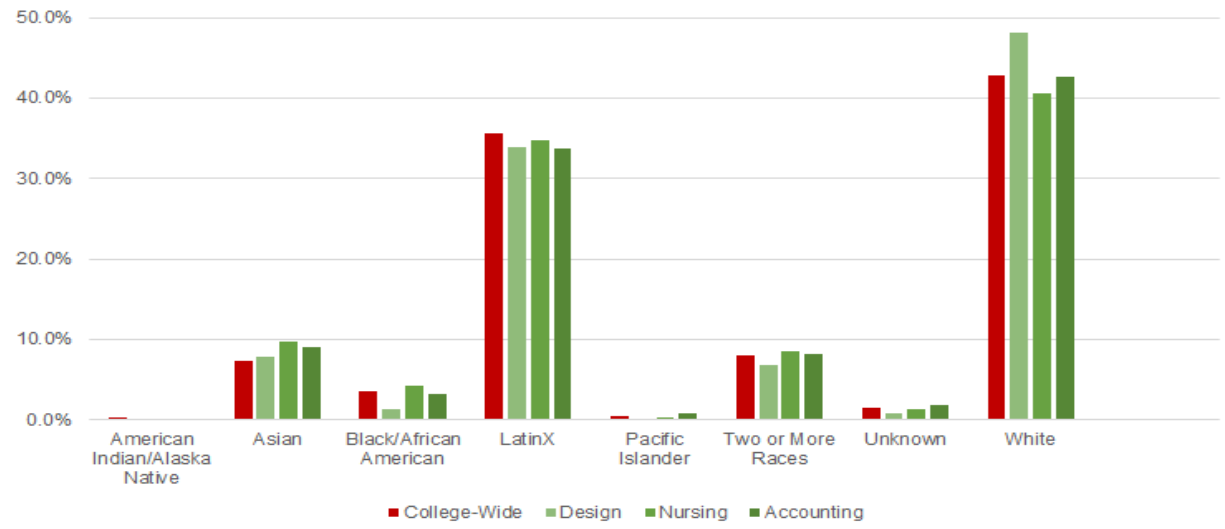
Figure 1 – Programs with the Highest and Lowest Living Wage Percentage[1]

Programs reporting the highest percentage of students earning a living wage	Programs reporting the lowest percentage of students earning a living wage
• Design • Nursing • Accounting	• Automotive Technology • Music Technology • Child Development

Data Source: CTE Launchboard, 2016-2017

Comparisons of enrollment by ethnicity to the college-wide percentages were made in each of these programs.

Figure 2 – High Living Wage Programs Disaggregated by Ethnicity

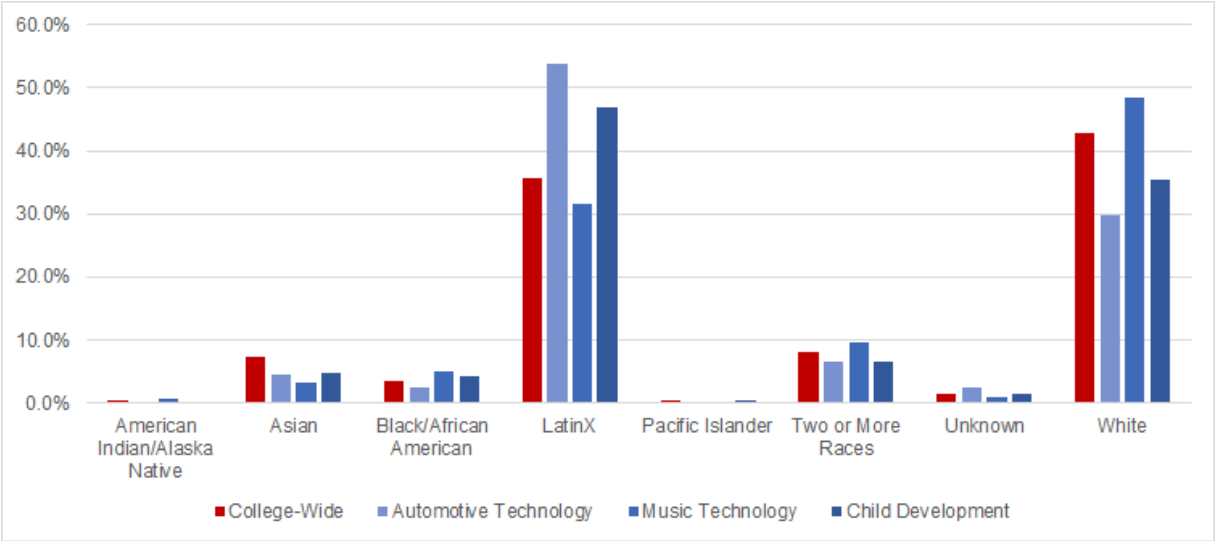


Data Source: MiraCosta College Data Warehouse 2016-2017 through 2018-2019

[1] Programs with 10 or fewer students (n=5) were not included in the analysis.

The ethnic makeup of the top three programs providing a living wage closely mirrors that of the institution overall. The one exception is the Design program, whose white population is 5% higher than the institution.

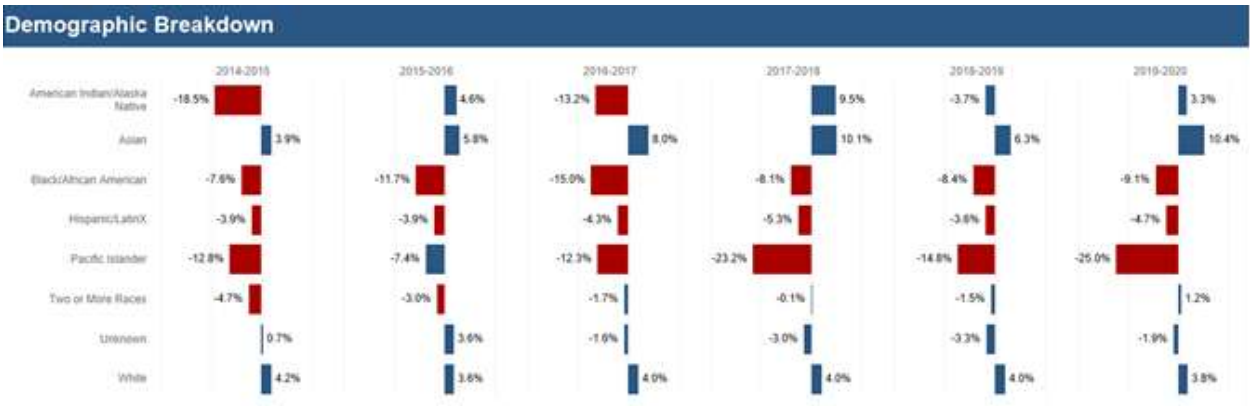
Figure 3 – Low Living Wage Programs Disaggregated by Ethnicity



Data Source: MiraCosta College Data Warehouse 2016-2017 through 2018-2019

Significant gaps exist in terms of course success by ethnicity. The disaggregated course success data show a persistent disproportionate impact for three ethnic/racial groups of students across all CE programs. Black/African Americans, Hispanic/Latinx, and Pacific Islander students are consistently underperforming in terms of course success rates. These trends are also seen in many individual Career Education programs. However, sample sizes are often too small to be able to assess the impact. Programs with no disproportionate impact on these groups are Biotechnology, Automotive Technology, and Child Development.

Figure 4 – Disproportionate Impact Analysis for Success Rates by Race/Ethnicity



Looking at the overall core indicator reports for the last three years of available data (2014/15 – 2016/17), MiraCosta College Career Education programs (as a group) are meeting or exceeding all core indicator standards as negotiated with the state. This is also true for all special population groups, for which the data are reported in Core Indicator reports. One exception is the nontraditional participation

(Core Indicator Report #5A), where the nontraditional participation rates among special populations are slightly lower than the negotiated 26% threshold – namely, economically disadvantaged students (25.7%), students with limited English proficiency (18.6%), and disabled students (24.9%). The college needs to develop a cross-program strategies to increase program participation among nontraditional gender students who also have limited English proficiency.

Overall **strategies and tactics** to address equal access to high quality career and technical education courses and programs include

- Increase and strengthen partnerships with professional organizations to encourage participation by under-served student populations (Accounting, Applied Photography, Music Technology)
- Provide internship and mentor support opportunities (Applied Photography, Automotive Technology, Horticulture, Hospitality, Music Technology)
- Additional tutoring and academic support services (Accounting, Biotechnology, Business, Horticulture, Hospitality, Media Arts and Technology, Medical Administrative Professional)
- Collaborate across academic disciplines to provide more comprehensive training for students (Automotive Technology, Hospitality)
- Tailor marketing and recruitment efforts to under-served populations (Automotive Technology, Biotechnology, Computer Science, Design, Horticulture)
- Host workshops and guest speakers that focus on under-served student populations. (Automotive Technology, Biotechnology, Design)
- Increased participation in campus programs and events specific to identity-based groups. (Accounting, Automotive Technology, Biotechnology, Business, Hospitality, Media Arts and Technology)
- Encourage faculty to participate in professional development opportunities that focus on student-centered and equitable hiring practices. (Child Development, Medical Administrative Professional)
- Work with MiraCosta's Disabled Students Programs and Services office to improve accommodations for students with disabilities (Computer Science)
- Provide greater access to technology, through free or low cost hardware and software (Media Arts and Technology)

Element 6: Alignment to Labor Market Information (LMI)

MiraCosta College's portfolio of CE program offerings is generally reflective of the projected demand for workforce for occupations that map to each program area. Our larger programs, such as Child Development, Business Administration, Accounting, Computer Science, and Nursing, are all in the top seven program with the largest labor market demand (in terms of projected new and replacement jobs). Media Arts & Technologies program is the second in terms of annual enrollment, but has lower numbers of projected job openings. This program provides a viable transfer track for many students. It also serves many skills-builders with Bachelor's degrees who access education opportunities to upgrade their skills and improve their earning potential. There is a need for more cross-departmental collaboration between Media Arts and Computer Science and Information Technology departments to create pathways for emerging jobs and skills, such as UI/UX developer.

Programs that could grow their enrollment capacity based on labor market demand include:

- Marketing and Sales
- Computer Studies & Information Technology
- Biotechnology
- Medical Assisting

This is also confirmed by the Industry Advisory Board members' comments that emphasized that many of the fields require graduates to have skills in marketing, especially social media marketing and branding. Industry representatives also note a growing need for skills in cloud computing, virtualization, cybersecurity, etc. Our biotechnology and biomanufacturing programs align well to the industry needs, but need to expand capacity to meet growing demand for workers not just in North County, but across San Diego County as a whole.

One regional workforce/economic development stakeholder in the San Diego and Imperial Counties Consultation Report mentioned two areas of opportunity for community colleges – workforce needs in Innovation Industries with the fastest employment growth and those in Opportunity Industries with large employment opportunities, but slower growth. MiraCosta College Career Education programs portfolio is mainly focused on Innovation, with fewer pathways into Opportunity employment. The following offerings can be mapped to the Innovation Industries:

Innovation and Opportunity Industries in San Diego Region	**MiraCosta College Career Education Programs**
Innovation: Traditional Technology (Information Communication, Software Development and Cyber Security)	- Computer Science (Preferred Provider for Software Talent) - Computer Studies and Information Technology (Cybersecurity, Information Technology, Management of Information Systems, etc.)
Innovation: Life Sciences (Pharmaceuticals, Biotechnology, Medical Technology and Genomics)	- Biotechnology and Biomanufacturing - Design (Engineering Design)
Innovation: Defense Industry (Shipbuilding and other Defense Contracts)	- Design (Drafting, Architectural Design, Engineering Technology)
Opportunity: Transportation, Construction and Warehousing	- Construction Management - Architectural Drafting - Automotive Technology

Adapting to New and Changing Workforce Landscape

MiraCosta College Career Education faculty meet with their industry advisory boards on annual basis, review labor market information and employment outcomes data, and update their offerings by making curriculum revisions and developing new programs. The following are the examples of the most recent or upcoming curriculum changes in our high-wage, in-demand CE pathways:

- **Computer Studies and Information Technology** - The CSIT Department revamped legacy programs and launched eight revised and new Certificates of Achievement (CoA) that are eligible as associate of science degrees and five Certificate of Proficiency programs that stack into one or more CoAs/AS Degrees. This was a top to bottom approach looking at labor market data and trends along with consultation of the CSIT Department Advisory Board with 16 persons from industry and 4-year institutions that provided feedback on the new curriculum. This included content and sequencing of the courses. Additionally the CSIT Department has created maps for all of our programs in conjunction with counseling/transfer. Part of this effort was creating pathways to 2+2 programs, specifically with Point Loma Nazarene University's Bachelor of Arts in Computer Information Technology (CIT) including alternate CIT with Cyber Security emphasis and National University's Bachelor of Science in Cybersecurity.

- **Biotechnology/Biomanufacturing** – MiraCosta is one of the two community colleges in California now offering a Bachelor's of Science degree in Biomanufacturing. This is a robust program built to meet employer needs. Two graduating cohorts thus far have shown some of the highest success, completion and employment rates. With San Diego being one of the national hubs for the life sciences sector, earning a BS degree allows students to access occupations insulated from automation risks and with wages significantly higher (median wage of $39 for biological scientists and biomedical engineers) than those for the Inspectors occupation (median wage of $21). Biotechnology program faculty have put plans in place to modernize the Research & Development program to include experience with genomics and bioinformatics. Analysis of these large data sets often requires some familiarity with computer programming languages, such as PERL and Python. This is an opportunity to work across departments at MiraCosta to provide students with a broader skill set beyond lab sciences.

- **Accounting** – The department faculty made it top priority to conduct a comprehensive review of the curriculum. One of the main goals of this review, and the subsequent course and certificate revisions, additions and subtractions, was to create multiple pathways, including traditional transfer pathway as well as skill-based micro certificates (Certificates of Proficiency) in taxation and payroll that allow students to obtain employment in the in-demand areas without a bachelor's degree.

- **Automotive Technology** – Building on the relatively high demand for trained automotive technicians at dealerships, franchises, and independent repair facilities in North San Diego County, the program concentrated on traditional auto and light truck service and repair. However, recent discussions with the industry advisory board and examination of labor market data surfaced a need for curriculum changes to provide training in automotive detailing experience, dealership lot porters, motorcycle service and repair, and hybrid/alternative fuel vehicles. This Fall, the program will launch a brand new Certificate of Achievement that correlates with the ASE G1 Automotive Service and Light Repair Certificate. This is a 4-course 16-unit certificate designed to get students into the workforce in as minimal time as practical, meeting the needs of economically challenged students and the needs of our industry partners. Our Hybrid and Alternative Fuels course has been offered for seven years. Recent revision incorporated a larger all-electric and hydrogen fuel component.

- **Business** – The Business Department has recognized a need for a fast-track program to support aspiring entrepreneurs and developed a low-unit certificate program Business Quick Startup in

both English and Spanish that can be completed within one semester. The program is specifically marketing to undocumented students who have limited options for employment.

- **Computer Science** – MiraCosta's Computer Science program is one of the very few community college programs in San Diego County that has a robust transfer pathway. With over 76% of our CS students transferring to a 4–year institution, it is a major factor in MCC's high ranking. In Spring 2020, the program was designated as Partial Preferred Provider of Software Talent by the Advancing San Diego initiative thanks to the close alignment of the curriculum to employer skill requirements. The outlined skills have provided a roadmap for faculty to create a certificate and degree program in Software Engineering that will replace an outdated Programming Fundamentals certificate with low completion numbers. The faculty are also planning to add coursework to qualify for the full Preferred Provider designation in 2021.

- **Horticulture** – Program faculty conducted a major curriculum revision in 2017 to align curriculum with the state model curriculum, respond to workforce demand and increase emphasis on environmental sustainability and respond to new industry laws and regulations. Several new certificate program were created, including Sustainable Agriculture and Viticulture. There is a statewide effort to create stackable certificates for the irrigation industry and our faculty plan to participate once the model curriculum is approved by the Chancellor's Office.

- **Hospitality** – Last year the college has eliminated outdated courses in Hospitality and aligned the program to business course that provide students with more transferrable skills and more resilient employment opportunities. The department plans additional curriculum updates/ revisions to courses and certificates based on the need to align the program to high-wage hospitality management jobs, rather than low-wage entry-level employment. The program will develop/update courses and streamline certificates based on labor market as well as 4-year transfer requirements.

- **Media Arts & Technologies** – Career pathway mapping with the department faculty two years ago resulted in a recognition for a foundational stackable certificate in Media Arts. A recently launched certificate in Media Arts Foundations provides strong foundation and allows students explore a breath of career areas. The department offers an AA and CoA in Web Development and Design, and a CoP in Web Design, all of which feed into high paying, in-demand jobs, yet the award numbers are in decline. Beyond the web design and development skills covered within the program, significant supply gaps exist for programmers who can create software applications. The department plans to extend the web development curriculum into more advanced web application development to address this gap.

Additional opportunities for curriculum revisions have been uncovered in the input from the industry advisory board members, including:

1) Addressing the need for education and training in the new, emerging technology and technical competencies needed:
    - Online based gaming
    - Information security
    - Automation
    - Customer Relationship Management (CRM) tools

- Machine learning/Artificial intelligence (AI)
- Cloud technology
- 3D in media design
- UX/UI development
- Drone photography
- Electric and hybrid vehicles
- Telemedicine and electronic records, simulations
- Validation, quality, lean operations for biotech
- General Engineering skills (as evidenced by Advancing San Diego study)

2) Incorporating social media, marketing and business aspects into technical programs that provide a path to self-employment (applied photography, yoga teacher, graphic design, web design and development).
3) Offering coursework in Spanish for Spanish-speaking students (Child Development)

Labor market data and stakeholder input suggests that employers continue to value work experience. Some employers require at least 6 months of directly related work experiences is a minimum qualification for an entry-level employment, even for our Biomanufacturing bachelor's degree graduates. Employer across various industries expressed the desire and willingness to work more closely with the college departments on internships and student employability skills, provide company tours, conduct mock interviews and serve as mentors to students. Currently, MiraCosta College provides about 250 internships annually. With Strong Workforce funding, our goal is to use case management approach and purposeful employer partnership to increase the number of internships by 25% within the next year.

To ensure alignment with the Labor Market needs across MiraCosta's portfolio of Career Education programs, the college will engage in the implementation of the following **strategies**:

1) Continue to provide real-time labor market and employment outcomes data and connect internal process and funding opportunities to robust data review. The CE Team will obtain the list of existing job titles that our programs prepare students for from the CE department chairs and pull Burning Glass Labor Insight reports on emerging skills and "salary premium" skills as well as new emerging job titles. These reports will be used by the department chairs to review existing curriculum for currency and identify opportunities for developing new programs to meet emerging needs of employers.

2) Review, develop, and adjust curriculum to meet labor market needs and to ensure pathways into high-wage, in-demand employment for all students. Support new curriculum with the latest equipment and technology that meets industry standards as well as faculty and lab staff training.
    - Develop bridge program for MA to LVN - resources needed would be time, talent, clinical/lab
    - Revise Music Technology transfer, AA degree and certificate curriculum to better prepare students for success in the greater entertainment industry by identifying and aligning with industry demands. The addition of one Practical Applications Course could help students

who require additional time to fine-tune skill building and a summation of all the coursework.

- Examine current Medical Assisting curriculum for rigor in the billing and coding course and identify curriculum changes/additions needed to address the phlebotomy needs of industry.
- Update curriculum for Web Development and Design track through course revisions and collaboration with other departments on new course development. Create more assignment topics that allow for cultural focus and personal engagement for disproportionately impacted students.
- Update curriculum for Video and Media Production track though a new course development focused on story development, integrating 3D more as an aspect of video production.
- Develop Illustration and Animation certificate pathway.
- Enhance the offering for construction management and project management degrees to meet growing demand for jobs in the construction sector (7-8% annual growth). Augment the certificate of proficiency in Construction Management to a certificate of achievement and expand to the degree in coordination and with input from 4yr institutions that are offering further degrees in this area.
- Explore additional areas for curriculum development, such as cloud computing and AI.
- Seek alternative offerings to meet CHLD 270 requirements. Possibilities include revising the course outline and limiting the required hours, work with the MiraCosta Foundation for assistance for mentor stipend. Possibly add an afternoon program at the child development center which would include a salary position for afternoon teacher so that we could increase the number of students who complete their practicum requirements at the CDC.
- Develop a skills standard for cell- and gene-based therapy and conceptualize new courses and potentially a new certificate program for this career pathway.

3) Develop robust employer partnerships for internships and other work-based learning opportunities for students. Partner with Career Center resources and Regional Directors for Priority Sectors to connect students to opportunities through case-management approach and long-term employer partnerships. Work-based learning provides students a realistic experiential preview of the world of work. We will continue to develop these opportunities through internships, guest speakers, field trips, career mentoring, and assignments that require students to perform primary and secondary research related to academic and career pathways. Job shadowing for faculty may be included in these efforts. An important partner in these efforts will be the Work-based learning coordinator(s) which we hope will be institutionalized.

4) Align programs to industry-recognized certifications and provide students with certification opportunities through exam preparation and sponsored vouchers for economically disadvantages students (CSIT, Medical Assisting,

5) Continue marketing CE programs that align to industry needs and provide pathways into high-wage, in-demand pathways.

Appendix A:
Stakeholder List

Stakeholder Group	Organization/Institution	Name	Title	Email or Telephone
K-12 CTE Program Representatives	Carlsbad Unified School District	[redacted]		
K-12 CTE Program Representatives	San Dieguito Union High School District			
K-12 CTE Program Representatives	San Dieguito Union High School District			
K-12 CTE Program Representatives	Oceanside Unified School District			
K-12 CTE Program Representatives	Oceanside Unified School District			
Postsecondary CTE Program Representatives	MiraCosta College			
Postsecondary CTE Program Representatives	MiraCosta College			
Postsecondary CTE Program Representatives	MiraCosta College

Postsecondary CTE Program Representatives	MiraCosta College	[redacted]		
Postsecondary CTE Program Representatives	MiraCosta College			
Postsecondary CTE Program Representatives	MiraCosta College			
Postsecondary CTE Program Representatives	MiraCosta College			
Postsecondary CTE Program Representatives	MiraCosta College			
Postsecondary CTE Program Representatives	MiraCosta College			
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Postsecondary CTE Program Representatives	MiraCosta College			
Postsecondary CTE Program Representatives	MiraCosta College			
Postsecondary CTE Program Representatives	MiraCosta College			
Postsecondary CTE Program Representatives	MiraCosta College			
Postsecondary CTE Program Representatives for Special Populations	MiraCosta College			
Postsecondary CTE Program Representatives for Special Populations	MiraCosta College			
Postsecondary CTE Program Representatives for Special Populations	MiraCosta College			
Postsecondary CTE Program Representatives for Special Populations	MiraCosta College			
Postsecondary CTE Program Representatives for Special Populations	MiraCosta College			
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Postsecondary CTE Program Representatives for Special Populations	MiraCosta College			
Postsecondary CTE Program Representatives for Special Populations	MiraCosta College			
Postsecondary CTE Program Representatives for Special Populations	MiraCosta College			
Postsecondary CTE Program Representatives for Special Populations	MiraCosta College			
Postsecondary CTE Program Representatives	UC San Diego, Office of Admissions/Transfer Student Services			
State Board, Local Workforce Development Board, or Local Regional Business and Industry Representatives	San Diego Regional EDC			
State Board, Local Workforce Development Board, or Local Regional Business and Industry Representatives	San Diego Workforce Partnership			
State Board, Local Workforce Development Board, or Local Regional Business and Industry Representatives	See Appendix A-1 for complete list of local business and industry representative stakeholders with their contact information.			
Parent and Student Representatives of Special Populations	Referred by the Autism Center of San Diego – Low Income and Chicano Individual	Anonymous participant - designated as Respondent #1	n/a	n/a

Parent and Student Representatives of Special Populations	Referred by a Special Ed Service Provider	Anonymous participant - designated as Respondent #2	n/a	n/a
Parent and Student Representatives of Special Populations	Foster Care Youth	Anonymous participant - designated as Respondent #3	n/a	n/a
Parent and Student Representatives of Special Populations	Foster Care Youth – Disabled and First Generation Student	Anonymous participant - designated as Respondent #4	n/a	n/a
Parent and Student Representatives of Special Populations	Referred by the Autism Center of San Diego – Single Parent and Low Income Student who was recently diagnosed with Autism	Anonymous participant - designated as Respondent #5	n/a	n/a
Parent and Student Representatives of Special Populations	Disabled (Hearing)	Anonymous participant - designated as Respondent #6	n/a	n/a
Parent and Student Representatives of Special Populations	Single Parent	Anonymous participant - designated as Respondent #7	n/a	n/a
Parents and Students	MiraCosta College	[redacted]		
Parents and Students	MiraCosta College			
Parents and Students	MiraCosta College			
Representatives of special populations	Helen Keller Institute			
Representatives of special populations	Just in Time for Foster Youth			
Representatives of special populations	Trace School – San Diego Unified High School for Disabled Youth			
Representatives of special populations	Avid Behavioral Day Program			
Representatives of special populations	Access to Independence			
Representatives of special populations	United Way			
Representatives of special populations	Autism Center at San Diego State University			
Representatives of special populations	Towards Maximum Independence			
Representatives of special populations	UC San Diego, Office of Student with Disabilities (OSD)			
Representatives of special populations; Agencies serving at-risk, homeless and out-of-school youth	Interfaith Services			
Representatives of special populations; Agencies serving at-risk, homeless and out-of-school youth	PATH			
Representatives of special populations; Agencies serving at-risk, homeless and out-of-school youth	San Diego County Office of Education			

Appendix A-1:
Business and Industry Representative Stakeholder Consultation

Advisory Board Program	Name	Job Title	Company/Organization	Contact E-Mail
Accounting	[redacted]	[redacted]	Tax Accounting	[redacted]
Accounting			OUM & Co. LLP	
Accounting			SFI Tax & Bookkeeping Service	
Accounting			Torrey Pines High School	
Accounting			JKS Bookkeeping Services	
Accounting			Parra Accounting and Tax	
Accounting			Seaside Resources, Inc.	
Accounting			Paperwork and Errand Lady	
Automotive Technology			Mini of San Diego	
Automotive Technology			Snap-on Industrial	
Automotive Technology			Keiths Automotive	
Automotive Technology			Richer Auto & Truck Electric	
Automotive Technology			n/a	
Automotive Technology			MISSION EQUIPMENT AND LIFTS INC	
Automotive Technology			John Smith Racing	
Automotive Technology			Encinitas Foreign & Domestic Auto Repair	
Automotive Technology			taskers automotive	
Automotive Technology			Lexus Carlsbad	
Automotive Technology			Vista High School	
Biotechnology			Genentech	
Biotechnology			Abzena	
Biotechnology			Gossamer	
Biotechnology			Brisc	
Biotechnology			Kelly Services	
Biotechnology			Kelly Science	
Biotechnology			Open Bio Pharma	
Biotechnology			Sterogene	
Biotechnology			Millipore Sigma	
Biotechnology			Vista High School	
Biotechnology			Millipore Sigma	
Biotechnology			Vista Unified School District	
Biotechnology			Abzena	
Biotechnology			GNF/Novantis	
Biotechnology			Beckman	
Biotechnology			Sequoia Consulting	
Biotechnology			Genmark	
Biotechnology			CSUSM	
Biotechnology			Genetech	
Biotechnology			California Community Colleges Chancellor's Office	
Business			ParkerWhite	

Business	[redacted]	[redacted]	SDG&E	[redacted]
Business			DB CONSULTING	
Business			San Diego Futures Foundation	
Business			torrey pines high school	
Business			California State University San Marcos	
Business			Marketing and Management Consulting	
Business			Palomar College	
Business			HM Electronics Inc.	
Business			Web Shop Manager	
Business			Left Coast Brewing/ Oggi's	
Business			Southern Wealth Management, LLP	
Child Development			Oceanside High School	
Child Development			City of Carlsbad - Kruger House	
Child Development			North County Community Services	
Child Development			California State University San Marcos	
Child Development			MAAC Child Development Program	
Child Development			YMCA Childcare Resource Service	
Child Development			WestEd	
Computer Science			Surfline/WaveTrak	
Computer Science			Servicenow	
Computer Science			Cisco Systems	
Computer Science			ServiceNow	
Computer Studies and Information Technology			SDSU	
Computer Studies and Information Technology			Booz Allen Hamilton	
Computer Studies and Information Technology			Illumina	
Computer Studies and Information Technology			ISAFE	
Computer Studies and Information Technology			Point Loma Nazarene University	
Computer Studies and Information Technology			Dell Secureworks	
Computer Studies and Information Technology			Secureworks	
Computer Studies and Information Technology			Point Loma Nazarene University	
Computer Studies and Information Technology			GRMG	
Computer Studies and Information Technology			BAE Systems Inc	
Computer Studies and Information Technology			Test Engineering Branch, Marine Corps Tactical Systems Support Activity	

Computer Studies and Information Technology	[redacted]	[redacted]	Viasat	[redacted]
Design			Balfour Beatty	
Design			Alliance Engineering of CA, inc.	
Design			Lord Architecture Inc.	
Design			FormFactor	
Design			Element Consulting, Inc.	
Design			The Consulting Engineers Group	
Design			Davy Architecture	
Design			JCSA Oceanside	
Design			Marlene Imirzian & Associates Architects	
Design			Kenny Consulting Services	
Design			MJK Architecture	
Design			HMC Architects	
Design			California Community Colleges Chancellor's Office	
Design			DLR Group	
Design			Quartus Engineering Incorporated	
Digital Photography			Studio Carre Photographie	
Digital Photography			Oceanside High School	
Digital Photography			Oceanside High School	
Digital Photography			GEORGES CAMERA	
Digital Photography			Sage Creek High School/CUSD	
Digital Photography			Carlsbad High School	
Fitness & Yoga (Kinesiology)			UC San Diego Health, San Diego Cancer Research Institute, North County Cancer Fitness, Be Well Therapy, The HeartWay	
Fitness & Yoga (Kinesiology)			Carlsbad Village Yoga	
Fitness & Yoga (Kinesiology)			Yoga Oceanside	
Fitness & Yoga (Kinesiology)			Vista Adult School & 24hr Homecare	
Fitness & Yoga (Kinesiology)			Practice Stillness	
Fitness & Yoga (Kinesiology)			The Willow Tree Center	
Fitness & Yoga (Kinesiology)			Shanti Kitti Yoga	
Fitness & Yoga (Kinesiology)			FCI/ CommuniTea Yoga & Meditation	
Horticulture			San Diego Zoo Safari Park	
Horticulture			BrightView Landscape Services	
Horticulture			Nutrien Ag Solutions	
Horticulture			Marilyns Garden Design	
Horticulture			Falling Waters Landscape, Inc.	
Horticulture			Nature Designs	
Horticulture			First Step Greenhouses	
Horticulture			Hunter Industries	
Horticulture			Plantopia, Inc.	

Horticulture	[redacted]	[redacted]	[redacted]	Poway Unified School District-Career Technical Education	[redacted]
Hospitality				Holiday Inn Oceanside Camp Pendleton Area	
Hospitality				Dream Vacations	
Hospitality				Four Seasons Residence Club Aviara	
Hospitality				Oceanside Unified School District/Ditmar Academy	
Hospitality				San Diego State University	
Hospitality				Club Wyndham Oceanside Pier Resort	
Media Arts & Technologies				Rockstar Games	
Media Arts & Technologies				Abreu Video Production	
Media Arts & Technologies				LeaseLabs	
Media Arts & Technologies				Agency73	
Media Arts & Technologies				Paradeigm, LLC	
Music Technology				n/a	
Music Technology				New England School of Broadcasting	
Music Technology				Manley Laboratories	
Music Technology				PowerPlus Productions Sound and Touring	
Music Technology				Holland Synthesizer	
Music Technology				Riverside City College	
Music Technology				n/a	
Music Technology				n/a	
Music Technology				n/a	
Music Technology				n/a	
Music Technology				George Mason University	
Music Technology				California Baptist College	
Nursing and Allied Health				Azusa Pacific University	
Nursing and Allied Health				Vista Adult School	
Nursing and Allied Health				Palomar College	
Nursing and Allied Health				San Marcos Unified School District	
Nursing and Allied Health				Palomar College	
Nursing and Allied Health				Palomar College	
Nursing and Allied Health				Rady Childre's Hospital San Diego	
Nursing and Allied Health				Kaiser Permanente	

Appendix B:
Data Sources Used for Perkins V 2020 Comprehensive Local Needs Assessment Data Dashboard

Data Type	Data Source
Chancellor's Office Perkins Core Indicator Reports	https://misweb.cccco.edu/perkins/Core_Indicator_Reports/Default.aspx
Perkins Success and Retention Data	MiraCosta College Data Warehouse - (MCC Access only) – Timeframe varies depending on dashboard parameters https://portal.miracosta.edu/Departments/PlanningResearchGrants/Dashboards/SitePages/CE%20Program%20Success%20and%20Retention.aspx
Perkins V Needs Assessment Program Summary (CO requested worksheets for each program)	All but two items on these pages came from the MiraCosta College Data Warehouse - (MCC Access only) https://portal.miracosta.edu/Departments/PlanningResearchGrants/Dashboards/SitePages/CE%20Program%20Success%20and%20Retention.aspx The exceptions were the number of Articulations, which came from CATEMA, and the question related to the programs with advisory committees. Overall Summary is provided below.
Perkins Course information	MiraCosta College Data Warehouse - (MCC Access only) – Timeframe varies depending on dashboard parameters https://portal.miracosta.edu/Departments/PlanningResearchGrants/Dashboards/SitePages/Perkins%20Course%20Information.aspx
Career and Technical Education Outcomes Survey (CTEOS)	CTEOS Data - 2016-2018 – (MCC Access Only) https://portal.miracosta.edu/Departments/PlanningResearchGrants/Dashboards/SitePages/CTEOS%20Satisfaction%20Data.aspx
Degrees, Certificates and Diplomas Awarded	MiraCosta College Data Warehouse - (MCC Access Only)

	https://portal.miracosta.edu/Departments/PlanningResearchGrants/Dashboards/SitePages/Degrees%20and%20Certificates.aspx
High School Articulations	MiraCosta College Data Warehouse and Career & Technology Education Management Application (CATEMA) Data – (MCC Access Only) https://portal.miracosta.edu/Departments/PlanningResearchGrants/Dashboards/SitePages/Articulation%20Dashboard%20v2.0.aspx
Perkins Career Education Demographics 2016-2020	Demographic Comparison of Ethnicity and Gender by Population (Students, Faculty and Workforce) -(MCC Access Only) https://portal.miracosta.edu/Departments/PlanningResearchGrants/Dashboards/SitePages/Perkins%20Career%20Education%20Demographics.aspx Student and Faculty Data provided by the MiraCosta College Data Warehouse Workforce data provided by Economic Modeling Specialists (EMSI) – Occupations Table – San Diego County - 6 year Average (2017-2022)
Centers of Excellence Labor Market Organizer	San Diego Centers of Excellence – (MCC Access Only) https://portal.miracosta.edu/Departments/PlanningResearchGrants/Dashboards/SitePages/Centers%20of%20Excellence%20Supply%20and%20Demand%20Analyzer.aspx
Industry Advisory Survey Summaries	Survey responses collected from advisory board members – April 2020
Strong Workforce Program Metric and Labor Market Information	Call-Pass Plus Launchboard Data https://www.calpassplus.org/LaunchBoard/SWP.aspx

Size, Scope, and Quality Summary (All CE Programs)

Description	FY 2019-20	FY 2018-19	FY2017-18	Average	Comments
1. # of CTE Students Enrolled	9,403	11,376	9,955	10,245	
2. # of Females Enrolled	5,429	6,274	5,699	5,801	
3. Min Class Size	N/A	N/A	N/A	N/A	MiraCosta does not have a standard minimum class size
4. # of Dual Enrollment	0	0	0	0	MiraCosta does not offer CE courses in the dual enrollment program.
5. # of CTE Instructors	190	180	181	184	Based on Part and Full Time Instructors teaching at least one class in the fall semester of a given year.
6. # of CTE Counselors	0	0	0	0	MiraCosta does not employ CTE-Specific Counselors
7. # of Career Pathways					Faculty will need to complete this section
8. # of Articulations	47	37	35	40	Number of High School articulation agreements by program.
9. Work-Based Learning	54	219	142	138	Based on program-specific work-based learning and internship questions
10. # of Credentials Awarded		1,317	1,143	1,230	All degrees, and certificates, including certificates of proficiency. 19-20 not yet complete
11. # of Classes Aligned with Industry	300	290	289	293	All classes are aligned with industry, so this reflects all classes offered by the program
11a. # of Sections	879	963	894	912	NOT requested by the Chancellor's Office. Local data request.
12. # of Apprenticeships	0	0	0	0	MiraCosta does not offer Apprenticeships.
13. # of Job Openings	0	0	0	0	From SWP dashboard. One year only
14. Advisory Committee? (Y/N)	Y	Y	Y	Y	

Appendices C-H: Program-Level Comprehensive Needs Assessments for Elements 1-6 (not included herein)

Appendices can be provided on request.

Appendix I:
Regional Consortia Certification

Regional Consortia Review of Comprehensive Local Needs Assessment

I acknowledge receipt of this comprehensive local needs assessment document and confirm that it will be vetted with regional consortium governing bodies as appropriate.

Mollie Smith

Regional Consortia Chair (Print Name)

Signature

June 15, 2020

Date