January 26, 2015

Van Ton-Quinlivan, Vice Chancellor  
Workforce and Economic Development Division  
California Community Colleges Chancellor’s Office  
1102 Q Street, Suite 4554  
Sacramento, CA 95811-6549

Dear Vice Chancellor:

**Chaffey College** is pleased to support the grant RFA for Industry-Driven Regional Collaborative – *Standard Individual IDRC projects that meet the needs and fill gaps in services that respond to local regional needs of business, industry, employee, and workforce.*

As indicated in the instructions in the RFA, we are providing this letter within our electronic submission of the RFA to specify that the Community College District is willing to be the fiscal agent for this 24-month grant.

Sincerely,

Henry D. Shannon, Ph.D.  
Superintendent/President
**District:** Chaffey CCD  
**Address:** 5885 Haven Avenue  
**City:** Rancho Cucamonga  
**State:** CA  
**Zip:** 92371

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**District Chief Business Officer (or authorized designee)**  
**Name:** Lisa Bailey  
**Phone:** (909) 652-6532  
**Title:** Associate Superintendent, Business Services  
**Fax:** (909) 652-6456  
**E-mail Address:** lisa.bailey@chaffey.edu

**Person Responsible for Budget Certification**  
**Name:** Anita Undercoffer  
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**Title:** Executive Director, Budgeting & Fiscal Services  
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**E-mail Address:** anita.undercoffer@chaffey.edu
Abstract

The Industry-Driven Regional Collaborative (IDRC) grant proposal creates a not-for-credit, industry recognized credential in Control Systems Technology. This project is designed to meet the current and future needs and fill gaps in the control systems used in Advanced Manufacturing, Environmental Controls, and Building Automation throughout the region. This proposal is in response to local regional needs from industry to develop a skilled workforce in a new and emerging growth industry with embedded soft skills.

Following the CCCO Doing What Matters model, the Control Systems Technology (CST) training program will develop a lattice structure that is stackable and matched to fit the individual needs of industry since many of the entry-level skill needs are similar among industry sectors. The CST training program will convene two skills panels with industry experts to align the program with local and regional workforce needs. In addition, faculty and instructors will receive professional development through in-service training, externships, and work site experience to better serve their students. The program will explore the use of new training methods including hybrid courses and simulated software to transition into a more flexible and cost-effective delivery of services. Furthermore, the curriculum will be based on nationally recognized industry certified curriculum with embedded soft skills so that students will be able to receive industry-recognized certification upon the completion of training. In addition, the California Community College Foundation system will be retained to provide 50 student internships or work-based learning.

The training will occur at the Inland Empire Regional Training Consortium (IERTC) center that is being renovated under the TAACCCT grant awarded to the consortium led by Chaffey College. Additionally, the industry partnerships associated with this proposal include the Manufacturers’ Council of the Inland Empire, California Steel Industries, Inc., San Bernardino County Workforce Investment Board/Workforce Development Department, and the International Facilities Management Association. The partners are dedicated to the implementation of industry-responsive curriculum, internships, job shadowing, and job placement. Through the funding of this IDRC proposal, the new pipeline in Control Systems Technology will complete a total of 2,548 hours of training for 270 incumbent, entry-level, and high school students over the course of the two-year grant period. While this proposal focuses initially on not-for-credit training, it will serve as a pilot for possible development into a credit program that would lead to certificates and degrees in Control Systems Technology.
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Need

The Industry-Driven Regional Collaborative (IDRC) grant proposal provides a stable and flexible response mechanism for the identification of training priorities and to focus resources on intensive projects for competitive and emerging technologies by creating a not-for-credit, industry recognized credential in Control Systems Technology. This project is designed to meet the current and future needs and fill gaps in the control systems used in Advanced Manufacturing, Environmental Controls, and Building Automation throughout the region. This proposal is in response to local regional needs from industry to develop a skilled workforce in this new and emerging growth industry with embedded soft skills.

The U.S. Department of Labor has predicted that the market for heating, air conditioning, and refrigeration mechanics and installers will grow 34 percent between 2010 and 2020, a rate much faster than the average of all occupations. Nationally, that is over 90,000 jobs in those specialties alone and if extrapolated to all jobs in the industry, countless more vacancies will need to be filled to keep pace with attrition and expansion. The current rate of graduates from technical schools, colleges, and apprenticeship programs will be unable to fulfill the demand. In California, from 2013 through 2016, more than 6,000 job openings are expected for the four primary HVAC occupations responsible for field installation and maintenance: Heating, Air Conditioning and Refrigeration Mechanics and Installers, Construction and Building Inspectors, Sheet Metal Workers, and Stationary Engineers and Boiler Operators.

According to the California Employment Development Department, Labor Market Division, in a report dated August 17, 2012, the industry employment projections in seven California counties between 2010 and 2020, the number of jobs projected will be approximately 2,700 just in manufacturing alone. For example, Siemens plans to hire 7,000 more people in the U.S. by 2020, primarily in IT, software development, software engineering, and computer science. Siemens CEO stated, “People may not count those jobs in IT and software development as manufacturing jobs, but they really are related to manufacturing." In addition, the total building automation and controls market is expected to reach $55.48 billion by 2020 at a CAGR of 9.04% from 2014 to 2020. The market in 2013 was valued at $29.78 billion.

Locally, a report on the economic trends and forecasts presented to the San Bernardino County Workforce Investment Board by Chmura Economics & Analytics, stated that the top key occupations with a high average annual growth percentage over the next three years in the Inland Empire include: Heating, Air Conditioning and Refrigeration Mechanics and Installers (3.1%), Construction Managers (3.4%), and Environmental

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2 California Community Colleges Centers of Excellence, January 2014
3 Eric Spiegel, Siemens USA CEO
Engineering Technicians (2.7%). Furthermore, the key industry sectors that they forecast an increase in employment include Transportation and Warehousing, Manufacturing, Construction, and Utilities, which are the same targeted industries for this proposal. To take advantage of these growth sectors, Chmura recommends incentive plans or target assistance to increase credential attainment through public-private partnerships and funding for high school pathway programs.

**As a mechanism to identify and prioritize the needs of employers**, Chaffey College, in partnership with the State-wide Energy Sector Navigator, convened a skills panel of industry leaders on December 16, 2014 from the three targeted industries, including Advanced Manufacturing, Environmental Controls, and Building Automation. Also, participating were the Inland Empire/Desert DSNs for Information and Communication Technology and Advanced Manufacturing. The convening demonstrated that there are similar needs across multiple industry sectors, including Advanced Transportation and Renewables and Logistics.

The needs put forth by the local industry skills panel correspond to the Western HVAC Performance Alliance (WHPA) recommendations of the Commercial QI/QM Working Group within its Workforce Education and Training Committee. They emphasized that only a few contractors and technicians are highly skilled and qualified to perform quality performance work and that new HVACR technicians need a career preparation education and training program that provides consistent training.

As stated previously, the employer needs in this area require a highly skilled workforce through appropriate certification. Through programs like the National Center for Construction Education and Research (NCCER), a nationally recognized certification with embedded soft skills coupled with a robust internship infrastructure from the Foundation for California Community Colleges, the region can begin to build a pipeline of skilled workers. Through the **Launchpath tool and badging infrastructure**, employers and students are matched and then students’ skills and accomplishments are documented with the Mozilla Open Badges framework. As such, employers in the target industry sectors can track student achievement upon completion of internships to better match the needs of industry. Moreover, with the use of the **payroll management and HR services provided by the Foundation**, the barriers for many employers providing on-the-job training can be removed. Particularly in the highly-technical, hands-on industry sectors in need of Control Systems Technicians, employers are hesitant to take on interns when issues such as workers compensation and human resources management are brought to the forefront.

To create highly-skilled and qualified employees, requires embedded soft skills such that **ACT WorkKeys** provides. The curriculum requires both a pre- and post-test to show the impact of the training and measure the growth over time. Chaffey College

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6 Western HVAC Performance Alliance, *Goal 2.3 & 2.4 WHPA Commercial QI/QM Working Group Gaps Report*, December 2013
currently utilizes the Customer Service Academy curriculum approved by the California Community College Chancellor’s Office to build the professional and employability skills of trainees. The work readiness/foundational skill building model emphasizes communication, decision making, and values and ethics with reassessment at the conclusion of training.

Response to Need

Following the CCCO Doing What Matters model, the Control Systems Technology training program will develop a lattice structure that is stackable and matched to fit the individual needs of industry since many of the entry-level skill needs are similar among industry sectors. We will be able to reach economies of scale by using the Doing What Matters model. To ensure quality of the graduates and successful mastery of student competencies desired by the employer, much of the coursework will utilize nationally recognized industry certification to provide appropriate training. This includes soft skills or work ethic training as required by these industry certifications.

The proposed course development priorities include:

**Priority 1 Incumbent worker training**
- Manufacturing Control Technicians
- Manufacturing Systems Operators
- Building Operators/Stationary Engineers
- HVAC Service Technicians
- Facilities Managers

**Priority 2 Undergraduate Certificate/Degrees**
- Industrial Electricity
- Computer Information Systems
- Engineering Technology

The curriculum model content framework includes:
- Control theory,
- Process control systems,
- Process optimization,
- Networking theory and applications,
- Database applications,
- Data analytics,
- Numerical control systems,
- Programmable logic controllers, and
- Sensor theory.

Some of the preliminary job tasks for a control systems technician include:
- Computerized maintenance and management,
- Data analytics,
- System modeling and configuration,
- Life cycle cost analysis,
• New technology integration, and
• System optimization and sustainability.

As can be seen by the above discussion topics, there is a substantial amount of coding and programming involved in the workforce skills being requested by our industry and organizational partners. They are looking at Chaffey and the other regional colleges to develop a pipeline for new entry-level employees with the requisite skills to make a difference immediately with the new technology being introduced into the workforce. In addition, industry partners are in need of a skilled workforce to replace their aging workforce because they project that 25% to 50% of their existing workforce will be retiring within the next 7-10 years.

The partnership between Chaffey College, the San Bernardino County Workforce Investment Board, and the San Bernardino Workforce Development Department will lower the risk of execution of the new certificate. To screen/select student cohorts, the Job Developers at the County will assist with outreach, screening, case management, and job placement, internships and/or job-shadowing experiences.

To ensure the training is meeting the employers needs and to fill existing work skill gaps in their existing workforce, pre-assessment using nationally recognized industry standardized testing. This will allow the training to be designed to fill specific areas where existing employees have the need to enhance their existing skills to meet current workplace needs. This also will show how much we have moved the needle toward increased skill attainment when they take the post-assessments at the conclusion of the training.

Using the pre-assessment along with the industry input from the convening's, a series of coursework will be developed that will lead to a capstone class that brings all of the stackable pathways together to complete the final work skill development being requested. It is anticipated that it will take at least 2-cohorts of 15 incumbent workers per year to reach the skills required for this capstone course. We will offer at least 1-cohort of 15 per year of this capstone class. Each of the cohorts of the skills gaps courses will complete at least 350 classroom hours. The capstone class will require a minimum of 80 hours. We project we will provide at least 780 hours of training to incumbent workers.

Additionally, we will provide at least 3-cohorts of at least 15 trainees with 400 hours per cohort of entry-level training that will serve as the lattice or base for the various industry pathways that are being requested by the various sectors. This training will be closely aligned with nationally recognized industry certification. This training is designed as stackable certificates and will align for the advanced training being provided above to form the pathway for the development of a credit-based program that will lead to a Certificate and/or Associate Degree.

It is anticipated that once the program has completed the Curriculum approval process, estimated to take approximately 2 years or near the end of this grant period, the
trainees who successfully completed the coursework offered under this funding would be able to apply for credit-by-exam where approved through alignment.

In the first year, we will provide at least 2-cohorts at the high school level using NCCER Core curriculum. This will require approximately 80 hours per cohort. They will receive nationally recognized industry and CAL/OSHA 10 General Industry certification.

In the second year, we will provide these 2-cohorts with 124 hours each of NCCER’s Industrial Maintenance Mechanic Level I. This training provides students with a solid foundation to move into the various industry specific pathways. Those completing the high school pathway can apply for credit-by-exam from colleges in the region.

The Control Systems Technology training program will be structured as part of the larger Trade Adjustment Assistance Community College and Career Training (TAACCCT) grant recently awarded to Chaffey. In partnership with California Steel Industries, Inc. (CSI), Chaffey is anticipating the Inland Empire Regional Training Consortium (IERTC) center will be ready to begin training onsite by August 1st. This 32,000 square foot facility is undergoing a projected $6 million renovation. Chaffey is investing $2.25 million with CSI contributing the remainder. This regional effort will allow the twelve community colleges, three four-year universities, Manufacturing Council of the Inland Empire (MCIE) as well as any other industry or organization to provide training to attain a skilled workforce in the region.

As outlined in the attached statement of work, various leading indicators and momentum points are attached to each objective. The project intends to tackle the leading indicators as follows:

- **LI 1** - Alignment of skillsets within a program (or set of courses) to a particular occupation and the needs of the labor market: convening a skills panel; perform skills gap analysis; increase engagement of key stakeholders; work with industry and local WIBs to assist incumbent workers to get high paying jobs; and provide funding for internships through the CCC Foundation.
- **LI 2** - Regionalization of stackable certificates aligned with a particular occupation ladder: establishing career lattice stackable certificates with multiple entry points and industries served including building maintenance and process control technology; creating a testing process for prior learning for incumbent workers and veterans; and providing credit by exam with regional community colleges.
- **LI 3** - Alignment of a certificate with state-, industry-, nationally-, and/or employer-recognized certification: developing a stackable entry-level pathway certificate that covers the broad-based skills needed for Control Systems Technology, building maintenance, and process control technology that utilizes industry standard curriculum such as NCCER, BOMA, and IFMA; establishing a testing process that uses nationally recognized industry standards; providing trainees with college credit by exam after successfully completing coursework; and purchasing equipment and software to support hands-on training requirements.
• LI 5 – Curriculum articulation along a career or multi-career educational pathway: exploring the use of hybrid/blended instructional models for training; using simulated software for online training for incumbent workers; providing new methodologies, modes, and technologies that enhance performance and outcomes and improve cost-effectiveness of service delivery; and explore the development of conjoined certificates and degrees across several colleges.

• LI 6 – Updating the skills of faculty, teachers, counselors, and/or 'supporting staff to student' to reflect labor market needs: providing professional development to faculty through mentorship, staff development, in-service training, and work site experience to support new curriculum; disseminating data to determine successes; and adjusting training based on input from industry.

The momentum points that will be tracked over the course of the two year grant period include: MP 17 completed a non-C CCCCO-approved certificate within a CTE pathway; MP 18 completed a CCCCO-approved certificate within a CTE pathway; MP 27 participated in a college internship or workplace learning program within a CTE pathway; MP 29 acquired an industry-recognized, third-party credential; MP 33 participated in incumbent worker training or contract education in a CTE pathway; and MP 34 Grant's purported 'beneficial impact' on relevant businesses.

The acquisition of equipment will be necessary to meet the hands-on training and skill demonstration needs of industry. This includes a 40 station computer lab, of which 28 stations will be purchased through IDRC funds, with high tech software including simulation and training modules such as Programmable Logic Control, Process Control, Industrial Electrical and Mechanical stations. This lab will be incorporated into the IERTC center with $14.9 million of leveraged funds from the TAACCCT grant recently awarded to Chaffey. The Amatrol Air Conditioning/Heat Pump Troubleshooting Learning System will be added to the equipment at the center to facilitate the hands-on instruction for the training program.

Faculty mentorships, faculty and staff development, in-service training, and worksite experience supporting the new curriculum will be offered through our partnership with industry. To allow trainees/students the opportunity to obtain the requested workplace skills while in training, subsidized student internships or work-based learning program will be offered to participants in the identified industry sectors. To provide appropriate training in the Control Systems Technology, the faculty champions include Steve Siedschlag, a long-term instructor for computer information sciences at Chaffey, that is developing the not-for-credit course, and Elmano Alves, head of the industrial electrical program, who has a close relationship with our industry partners.
**Statement of Work (Annual Workplan)**

**Objectives/Leading Indicators/Momentum Points**

**Objective:**
Convene a skills panel to establish deliverables that contribute to workforce skills development for competitive emerging industry sectors and industry clusters within the region.

**Metric Number**

<table>
<thead>
<tr>
<th>Leading Indicator</th>
<th>Momentum Point</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LI 1</td>
<td>MP 33</td>
<td>Alignment of skillsets within a program (or set of courses) to a particular occupation and the needs of the labor market. Participated in incumbent worker training or contract education in a CTE pathway.</td>
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<table>
<thead>
<tr>
<th>#</th>
<th>Activities</th>
<th>Performance Outcomes</th>
<th>Timelines</th>
<th>Responsible Person(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Assist region to perform skills gap analysis.</td>
<td>Convened two skills panels of industry partners that are impacted by the shortage of control system technicians, regional education partners, and workforce development boards to ensure training aligns with industry needs and further develop pathways.</td>
<td>April 2015; April 2016</td>
<td>Project Director; Industry partners</td>
</tr>
<tr>
<td>1.2</td>
<td>Increase engagement of key stakeholders across region and improve communication and outreach.</td>
<td>Attended and presented at four meetings of various industry partners such as the Manufacturing Council of Inland Empire (MCIE) and International Facilities Management Association (IMFA) on the intent and progress of this program; increased Advisory Committee membership by 20%</td>
<td>1st Quarter – July; 2nd Quarter – October; 3rd Quarter – January; 4th Quarter – April</td>
<td>Project Director; Industry partners; Professional organizations</td>
</tr>
<tr>
<td>1.3</td>
<td>Partner with industry, regional community colleges, labor, and professional organizations to research and identify innovative ways to assist incumbent workers to obtain industry driven certification in high demand and high paying jobs.</td>
<td>Research results studied; LMI data applied; innovative curriculum delivery strategies implemented resulting in satisfaction in skill attainment as documented by job placement, wages, employer and employee surveys.</td>
<td>1st Quarter – July; 2nd Quarter – October; 3rd Quarter – January; 4th Quarter – April</td>
<td>Project director; Industry partners; Regional colleges; Professional organizations</td>
</tr>
</tbody>
</table>
**Statement of Work (Annual Workplan)**  
**Objectives/Leading Indicators/Momentum Points**

**Objective:** 1  
Convene a skills panel to establish deliverables that contribute to workforce skills development for competitive emerging industry sectors and industry clusters within the region.

**Metric Number:**
- **Leading Indicator:** LI 1  
  Alignment of skillsets within a program (or set of courses) to a particular occupation and the needs of the labor market
- **Momentum Point:** MP 33  
  Participated in incumbent worker training or contract education in a CTE pathway

<table>
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</thead>
<tbody>
<tr>
<td>1.4</td>
<td>Partner with the regional community college collaborative on</td>
<td>Quarterly collaborative meetings attended; strategic plan for</td>
<td>1st Quarter – July</td>
<td>Project director</td>
</tr>
<tr>
<td></td>
<td>workforce development to integrate and sustain training.</td>
<td>sustainability developed.</td>
<td>2nd Quarter – October</td>
<td>Industry partners</td>
</tr>
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<td></td>
<td></td>
<td></td>
<td>3rd Quarter – January</td>
<td>Regional colleges</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>4th Quarter – April</td>
<td></td>
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# Objective:
Develop a pathway focusing on Control Systems Technology and workforce skills that are requested by industry.

## Metric Number:
- **Leading Indicator**: LI 3  
  Alignment of a certificate with state-, industry-, nationally-, and/or employer-recognized certification

- **Momentum Point**: MP 34  
  Grant's Purported "Beneficial Impact" on Relevant Businesses

<table>
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</table>
| 2.1 | Using information gathered at the skills panel, develop a series of stackable certificates that can be latticed into industry specific comprehensive programs. | Developed a stackable certificate in at least four of the industry sectors involved in the convening process. | June 2015-June 2016 | Project Director  
Industry partners  
Faculty  
Instructors |
| 2.2 | Provide students and trainees with a national recognized certification. | Aligned stackable certificates in development with nationally recognized certification where possible. | June 2015-June 2016 | Project Director  
Faculty  
Instructors  
Certification organizations |
| 2.3 | Obtain Accredited Training and Educational Facility (ATEF) status for the Inland Empire Regional Training Consortium (IERTC) center. | Performed audit and submitted required documentation to obtain ATEF status through the the California Community College System, an Approved Training Sponsor for National Center for Construction Education and Research (NCCER). | July 2015 | Project director  
California Community College System Sponsor Representative |
**Objective:**

2

Develop a pathway focusing on Control Systems Technology and workforce skills that are requested by industry.

**Metric Number**

- **Leading Indicator:** LI 3
  - Alignment of a certificate with state-, industry-, nationally-, and/or employer-recognized certification

- **Momentum Point:** MP 34
  - Grant's Purported "Beneficial Impact" on Relevant Businesses

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<tr>
<td>2.4</td>
<td>Determine the skills gap of incumbent workers from participating employers.</td>
<td>Provided pre-assessment to at least 120 incumbent workers using nationally recognized curriculum.</td>
<td>April of each year June of each year August of each year December of each year</td>
<td>Industry Director Industry certified instructors or proctors</td>
</tr>
<tr>
<td>2.5</td>
<td>Schedule and implement incumbent training designed to fill identified skills gaps.</td>
<td>(A) Provided at least 780 hours of training to 90 incumbent workers to advance the skills identified through the pre-assessment process to advance their skills in Control Systems Technology. (B) Provided nationally recognized industry standardized certification where possible.</td>
<td>April 2015-March 2017</td>
<td>Project Director Faculty/instructors</td>
</tr>
<tr>
<td>2.6</td>
<td>Schedule and implement entry-level training to build the skills of potential workers in Control Systems Technology.</td>
<td>(A) Provided at least 1200 hours of training to 90 entry-level workers seeking entry into Control Systems Technology. (B) Provided nationally recognized industry standardized certification where possible</td>
<td>April 2015-March 2017</td>
<td>Project Director Faculty/instructors</td>
</tr>
</tbody>
</table>
**Statement of Work (Annual Workplan)**

**Objectives/Leading Indicators/Momentum Points**

**Objective:**

2 Develop a pathway focusing on Control Systems Technology and workforce skills that are requested by industry.

**Metric Number**:  

<table>
<thead>
<tr>
<th>Leading Indicator</th>
<th>LI 3</th>
<th>Alignment of a certificate with state-, industry-, nationally-, and/or employer-recognized certification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Momentum Point</td>
<td>MP 34</td>
<td>Grant’s Purported “Beneficial Impact” on Relevant Businesses</td>
</tr>
</tbody>
</table>

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</thead>
</table>
| 2.7 | Schedule and implement entry-level training to expose high students to careers in Control Systems Technology. | (A) Provided at least 320 hours of training to 45 high school students who wish to major in Control Systems Technology using NOCCER Core curriculum.  
(B) Provided nationally recognized industry standardized certification where possible. | April 2015-March 2017 | Project Director  
Faculty/instructors |
| 2.8 | Schedule and implement entry-level training to expose high students to careers in Control Systems Technology. | (A) Provided at least 248 hours of training to 45 high school students who wish to major in Control Systems Technology using the NOCCER Industrial Maintenance Mechanic Level 1.  
(B) Provided nationally recognized industry standardized certification where possible. | April 2015-March 2017 | Project Director  
Faculty/instructors |

*Limit one (1) metric per page. Activities should have corresponding numbers (i.e., 1.1, 1.2, 1.3, ...)*
**Objective:**
Provide professional development to faculty through mentorship, staff development, in-service training, and work site experiences to support the new curriculum and instructional modes responding to identified needs.

**Metric Number:**

<table>
<thead>
<tr>
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<th>Momentum Point</th>
<th>Performance Outcomes</th>
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</thead>
</table>
| LI 6              | MP 17          | Updating the skills of faculty, teachers, counselors, and/or 'supporting staff to student' to reflect labor market needs  
Completed a non-CCCCO-approved certificate within a CTE pathway |

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</table>
| 3.1 | Provide students and trainees with nationally recognized certification.      | Provided at least two Instructor Certification Training Programs (TCP) sessions to certify 10 faculty and instructors to provide NCCER's nationally recognized curriculum.                                                        | August 2015  
January 2016 | NCCER Master Trainer |
| 3.2 | Provide externship opportunities to faculty and instructors.                 | Provided at least two externships opportunities for 10 instructors and/or faculty to work on site with industry.                                                                                                       | Summer 2015  
Summer 2016 | Project director  
Industry partners |
| 3.3 | Maintain faculty/instructor knowledge of current processes and procedures used in industries with workforce needs and control systems technology. | Provided at least two professional development opportunities for 10 faculty and/or instructors to attend training in new equipment or processes related to the instruction of control systems technology. | Summer 2015  
Summer 2016 | Project director  
Faculty/instructors |
**Statement of Work (Annual Workplan)**

**Objectives/Leading Indicators/Momentum Points**

**Objective:**
Establish various career pathways and career lattice stackable certificates that allow for multiple entry points and industries served.

**Metric Number***:
- **Leading Indicator:** LI 2
  - Regionalization of stackable certificates aligned with a particular occupation ladder
- **Momentum Point:** MP 18
  - Completed a CCCO-approved certificate within a CTE pathway

<table>
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<tbody>
<tr>
<td>4.1</td>
<td>Development of a stackable entry-level pathway certificate that covers the broad-based skills needed in Control Systems Technology.</td>
<td>Develop and implement an entry-level pathway certificate utilizing nationally recognized industry standardized curriculum such as NCCER's Core curriculum.</td>
<td>April 2015</td>
<td>Project director, Faculty/instructors, Industry partners</td>
</tr>
<tr>
<td>4.2</td>
<td>Development of a certificate that focuses on building maintenance operation that builds on the entry-level stackable certificate.</td>
<td>Develop and implement a stackable certificate in building maintenance operations.</td>
<td>May 2015</td>
<td>Project director, Faculty/instructors, Industry partners, Professional organizations</td>
</tr>
<tr>
<td>4.3</td>
<td>Development of a certificate that focuses on process control technology.</td>
<td>Developed and implemented one stackable certificate in process control technology utilizing nationally recognized industry curriculum such NCCER's Industrial Maintenance Electrical and Instrumentation curriculum.</td>
<td>June 2015</td>
<td>Project director, Faculty/instructors, Industry partners, Professional organizations</td>
</tr>
</tbody>
</table>
**Objective:**

Establish various career pathways and career lattice stackable certificates that allow for multiple entry points and industries served.

**Metric Number**:  
- **Leading Indicator**: LI 2  
  Regionalization of stackable certificates aligned with a particular occupation ladder  
- **Momentum Point**: MP 18  
  Completed a CCCCO-approved certificate within a CTE pathway

<table>
<thead>
<tr>
<th>#</th>
<th>Activities</th>
<th>Performance Outcomes</th>
<th>Timelines</th>
<th>Responsible Person(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.4</td>
<td>Establish an assessment process to evaluate prior learning of incumbent workers and military veterans.</td>
<td>Developed and implemented an assessment process using nationally recognized industry standardized testing to establish skill levels for incumbent workers and military veterans. Testing will require both written and hands-on skill performance.</td>
<td>May 2015</td>
<td>Project director, Faculty/instructors</td>
</tr>
<tr>
<td>4.5</td>
<td>Work with regional community colleges to provide credit by exam for the training provided.</td>
<td>In partnership with regional colleges who currently offer similar training, provided trainees the opportunity to receive college credit through credit by exam to those who successfully completed coursework determined to be equivalent to the colleges credit-based programs. Many regional colleges are using NCCER curriculum in their credit-based programs in many of the stackable certificates proposed as part of the of the Control Systems Technology pathway.</td>
<td>August 2015</td>
<td>Project director, Faculty/instructors, Dean's from regional colleges</td>
</tr>
<tr>
<td>4.6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Objective:  5  
Establish an institutional work team to focus on removing systematic barriers to develop new methods and transition to a flexible and more responsive administration of programs and the timely and cost-effectiveness delivery of services.

**Metric Number**:  
**Leading Indicator**: LI 5  
Curriculum articulation along a career or multi-career educational pathway  
**Momentum Point**: MP 34  
Grant's Purported "Beneficial Impact" on Relevant Businesses

<table>
<thead>
<tr>
<th>#</th>
<th>Activities</th>
<th>Performance Outcomes</th>
<th>Timelines</th>
<th>Responsible Person(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1</td>
<td>Explore the use of hybrid/blended instructional models for incumbent worker training.</td>
<td>Developed and implemented at least two instructional modules utilizing hybrid/blended instruction.</td>
<td>August 2015, January 2016</td>
<td>Faculty/instructors, Industry partners</td>
</tr>
<tr>
<td>5.2</td>
<td>Explore the use of simulated software for online training of incumbent workers.</td>
<td>Developed and implemented at least two instructional modules utilizing simulated software for online training.</td>
<td>September 2015, February 2016</td>
<td>Faculty/instructors, Industry partners</td>
</tr>
<tr>
<td>5.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Statement of Work (Annual Workplan)
Objectives/Leading Indicators/Momentum Points

**Objective:**
Provide new methodologies, modes, and technologies that enhance performance and outcomes and improve cost-effectiveness of service delivery or create new college programs.

**Metric Number:**

<table>
<thead>
<tr>
<th>Leading Indicator</th>
<th>Momentum Point</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LI 5</td>
<td>MP 29</td>
<td>Curriculum articulation along a career or multi-career educational pathway</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#</th>
<th>Activities</th>
<th>Performance Outcomes</th>
<th>Timelines</th>
<th>Responsible Person(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.1</td>
<td>Review training models used in control systems technology training to assess the viability of converting to a new certificate or degree program offered through Chaffey College.</td>
<td>Hosted at least 4 meetings of the partners involved in this project to obtain input on the direction, value, and validity of the training provided.</td>
<td>December 2015, March 2016, December 2016, March 2017</td>
<td>All partners</td>
</tr>
<tr>
<td>6.2</td>
<td>Explore opportunities to develop conjoined certificates and degree programs with other regional colleges that offer similar coursework in the components of the Control Systems Technology program.</td>
<td>Researched regional and statewide colleges that offer components of the control systems technology program for credit on their campuses and presented to the partners involved in the project.</td>
<td>May 2015</td>
<td>Project director, Faculty/instructors, Regional colleges</td>
</tr>
<tr>
<td>6.3</td>
<td>Development of conjoined certificate and degree across several colleges.</td>
<td>Developed and implemented at least one conjoined certificate/degree between at least two colleges.</td>
<td>April 2015-March 2017</td>
<td>Project director, Faculty/instructors, Regional colleges</td>
</tr>
</tbody>
</table>
**Objective:**

Provide new methodologies, modes, and technologies that enhance performance and outcomes and improve cost-effectiveness of service delivery or create new college programs.

**Metric Number**:

<table>
<thead>
<tr>
<th>Leading Indicator</th>
<th>Li 5</th>
<th>Curriculum articulation along a career or multi-career educational pathway</th>
</tr>
</thead>
<tbody>
<tr>
<td>Momentum Point</td>
<td>MP 29</td>
<td>Acquired an industry-recognized, third-party credential</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#</th>
<th>Activities</th>
<th>Performance Outcomes</th>
<th>Timelines</th>
<th>Responsible Person(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.4</td>
<td>Explore the potential to offer online, open access, hybrid/blended, portable and short-term delivery methods for courses to accelerate time completion rates.</td>
<td>Developed and offered at least one online, open access, hybrid/blended, and portable delivery method to determine the validity and value of that method.</td>
<td>April 2015-March 2017</td>
<td>Project director, Faculty/instructors, Industry partners</td>
</tr>
<tr>
<td>6.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.6</td>
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<td></td>
</tr>
</tbody>
</table>
Objective: 7
Provide one-on-one counseling, seminars, workshops, and conferences that contribute to the achievement and success of existing businesses and foster the growth in new businesses and jobs in emerging industry clusters.

<table>
<thead>
<tr>
<th>Metric Number*:</th>
<th>Leading Indicator: 6LI</th>
<th>Momentum Point:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Updating the skills of faculty, teachers, counselors, and/or 'supporting staff to student' to reflect labor market needs</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Activities</th>
<th>Performance Outcomes</th>
<th>Timelines</th>
<th>Responsible Person(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.1</td>
<td>Disseminate data collected to determine the success of this project.</td>
<td>Hosted two skills panels, four advisory committee meetings, and several workshops and seminars to disseminate project information, techniques, and the value of the training provided.</td>
<td>November 2015, March 2016, December 2016, March 2017</td>
<td>Project director</td>
</tr>
<tr>
<td>7.2</td>
<td>Adjust training program as needed as a result of input obtained at these partner meetings.</td>
<td>Modified and adjusted training program as needed to utilize the input obtained from industry convenings.</td>
<td>November 2015, March 2016, December 2016, March 2017</td>
<td>All Partners</td>
</tr>
<tr>
<td>7.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Statement of Work (Annual Workplan)**

**Objectives/Leading Indicators/Momentum Points**

**Objective:**

Provide coursework that will allow students to receive credit and/or industry recognized certification.

**Metric Number:**

<table>
<thead>
<tr>
<th>Leading Indicator</th>
<th>Momentum Point</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LI 3</td>
<td>MP 29</td>
<td>Acquired an industry-recognized, third-party credential</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#</th>
<th>Activities</th>
<th>Performance Outcomes</th>
<th>Timelines</th>
<th>Responsible Person(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.1</td>
<td>Development of a stackable entry-level pathway certificate that covers the broad-based skills needed in Control Systems Technology.</td>
<td>Developed and implemented one entry-level pathway certificate utilizing nationally recognized industry standardized curriculum such as NCCER's Core curriculum which includes: basic safety, intro to construction math, intro to hand tools, intro to power tools, intro to construction drawings, basic communication skills, basic employability skills, intro to material handling. All of these lead to nationally recognized industry certification.</td>
<td>April 2015</td>
<td>Project director, Faculty/instructors, Industry partners</td>
</tr>
<tr>
<td>8.2</td>
<td>Development of a certificate that focuses on building maintenance operation that builds on the entry-level stackable certificate.</td>
<td>Developed and implemented one stackable certificate in building maintenance operations utilizing nationally recognized industry curriculum recommended by BOMA and IFMA. Suggested topics: refrigeration fundamentals, fundamentals of AC refrigeration, the load calculation and design air properties in management.</td>
<td>May 2015</td>
<td>Project director, Faculty/instructors, Industry partners, Professional organizations</td>
</tr>
<tr>
<td>8.3</td>
<td>Development of a certificate that focuses on process control technology.</td>
<td>Developed and implemented one stackable certificate in process control technology utilizing nationally recognized industry curriculum such as NCCER's Industrial Maintenance Electrical and Instrumentation curriculum.</td>
<td>June 2015</td>
<td>Project director, Faculty/instructors, Industry partners, Professional organizations</td>
</tr>
</tbody>
</table>
## Statement of Work (Annual Workplan)
### Objectives/Leading Indicators/Momentum Points

**Objective:**
8

Provide coursework that will allow students to receive credit and/or industry recognized certification.

### Metric Number:

<table>
<thead>
<tr>
<th>Leading indicator:</th>
<th>LI 3</th>
<th>Alignment of a certificate with state-, industry-, nationally-, and/or employer-recognized certification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Momentum Point:</td>
<td>MP 29</td>
<td>Acquired an industry-recognized, third-party credential</td>
</tr>
</tbody>
</table>

### # | Activities                                                                                           | Performance Outcomes                                                                                                                                                                                                 | Timelines                  | Responsible Person(s)               |
<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>8.4</td>
<td>Establish an assessment process to evaluate prior learning of incumbent workers and military veterans.</td>
<td>Developed and implemented an assessment process using nationally recognized industry standardized testing to establish skill levels for incumbent workers and military veterans. Testing to require both written and hands-on skill performance.</td>
<td>May 2015</td>
<td>Project director, Faculty/instructors</td>
</tr>
<tr>
<td>8.5</td>
<td>Work with regional community colleges to provide credit by exam for the training provided.</td>
<td>In partnership with regional colleges who currently offer similar training, provided trainees the opportunity to receive college credit through credit by exam to those who successfully completed coursework determined to be equivalent to the colleges credit-based programs. Many regional colleges are using NCCER curriculum in their credit-based programs in many of the stackable certificates proposed as part of the Control Systems Technology pathway.</td>
<td>August 2015-March 2017</td>
<td>Project director, Faculty/instructors, Dean's from regional colleges</td>
</tr>
<tr>
<td>8.6</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
### Objective:

Provide funding for students for internships and work-based learning.

### Metric Number:

<table>
<thead>
<tr>
<th>Leading Indicator</th>
<th>Momentum Point</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>LI 1</td>
<td>MP 27</td>
<td>Alignment of skillsets within a program (or set of courses) to a particular occupation and the needs of the labor market</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Participated in a college internship or workplace learning program within a CTE pathway</td>
</tr>
</tbody>
</table>

### Activities and Performance Outcomes

<table>
<thead>
<tr>
<th>#</th>
<th>Activities</th>
<th>Performance Outcomes</th>
<th>Timelines</th>
<th>Responsible Person(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.1</td>
<td>Provide opportunities to nonincumbent worker trainees to obtain on-the-job experience through internships.</td>
<td>Provided funding for 50 non-incumbent worker trainees to obtain on-the-job experience through internships.</td>
<td>August 2015-March 2017</td>
<td>Project director</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Industry partners</td>
</tr>
<tr>
<td>9.2</td>
<td>Work with industries willing to provide internships, but are concerned about the legal issues sometimes encountered through the establishment of internships using the California Community Colleges Foundation as the employer of record.</td>
<td>Provided funding for 50 nonincumbent worker trainees to obtain on the job experience and internships.</td>
<td>August 2015-March 2017</td>
<td>Project director</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Industry partners</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>California Community Colleges Foundation</td>
</tr>
<tr>
<td>9.3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Objective: 10
Purchase equipment to support eligible activities to accommodate delivery of eligible services.

Metric Number:

<table>
<thead>
<tr>
<th>Leading Indicator</th>
<th>LI 3</th>
<th>Alignment of a certificate with state-, industry-, nationally-, and/or employer-recognized certification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Momentum Point</td>
<td>MP 29</td>
<td>Acquired an industry-recognized, third-party credential</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>#</th>
<th>Activities</th>
<th>Performance Outcomes</th>
<th>Timelines</th>
<th>Responsible Person(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.1</td>
<td>Determine computer requirements, software and hands-on training equipment required for training.</td>
<td>Purchased 28 computers and related software and hands-on training equipment required to allow trainees to receive nationally recognized industry standardized certification.</td>
<td>March-August 2015</td>
<td>Project director, Faculty/instructors, Industry partners</td>
</tr>
<tr>
<td>10.2</td>
<td>Install purchased equipment in the Inland Empire Regional Training Consortium (IERTC) center.</td>
<td>Installed all required computers and training equipment to begin the developed pathways.</td>
<td>July-August 2015</td>
<td>Project director</td>
</tr>
<tr>
<td>10.3</td>
<td>Provide training on use the purchased equipment to facilitate the required hands-on testing of industry-recognized third-party certification.</td>
<td>Provided faculty and instructors training in the use and operation of new hands-on training equipment and the use of the simulation software.</td>
<td>July-September 2015</td>
<td>Project director, Equipment suppliers</td>
</tr>
</tbody>
</table>
# APPLICATION BUDGET DETAIL SHEET

<table>
<thead>
<tr>
<th>Object of Expenditure</th>
<th>Classification</th>
<th>FUNDS REQUESTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000</td>
<td><strong>1100 Academic Salaries, Instructional, Contract or Regular status</strong></td>
<td>$699,420</td>
</tr>
<tr>
<td></td>
<td>1000 hours x 85 p/h for full-time faculty</td>
<td>$65,000</td>
</tr>
<tr>
<td></td>
<td><strong>1200 Academic Salaries, Non Instructional, Contract or Regular status</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>200 x 100 for curriculum development, professional development</td>
<td>$20,000</td>
</tr>
<tr>
<td></td>
<td><strong>1300 Instructional Salaries, Other, Adjunct or Parttime</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>1400 Non-instructional Salaries ,Other</strong></td>
<td>$85,000</td>
</tr>
<tr>
<td>2000</td>
<td><strong>2100 Classified Salaries, Noninstructional</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2000 hrs x $20 p/h for Administrative Assistant</td>
<td>$40,000</td>
</tr>
<tr>
<td></td>
<td><strong>2200 Professional Expert</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1500 hrs x $33 p/h for Internship Coordinator/Job Placement Specialist</td>
<td>$50,000</td>
</tr>
<tr>
<td></td>
<td><strong>2300</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>2400</strong></td>
<td></td>
</tr>
<tr>
<td>3000</td>
<td><strong>Employee Benefits</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Faculty/Instructors @ 15%</td>
<td>$9,750</td>
</tr>
<tr>
<td></td>
<td>Administrative Assistant @ 38%</td>
<td>$15,200</td>
</tr>
<tr>
<td></td>
<td><strong>Employee Benefits</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>3000</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Supplies and Materials</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Wizard Presentation Podium</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Multimedia Courseware-Process control software</td>
<td>$15,800</td>
</tr>
<tr>
<td></td>
<td>Non-instructional supplies &amp; materials</td>
<td>$12,420</td>
</tr>
<tr>
<td></td>
<td><strong>4000</strong></td>
<td></td>
</tr>
</tbody>
</table>

Total: $28,220
# APPLICATION BUDGET DETAIL SHEET

<table>
<thead>
<tr>
<th>Object of Expenditure</th>
<th>Classification</th>
<th>FUNDs Requested</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Other Operating Expenses and Services</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Travel</td>
<td>$ 699,420</td>
</tr>
<tr>
<td></td>
<td>Travel &amp; mileage</td>
<td>$ -</td>
</tr>
<tr>
<td></td>
<td>Conference Expenses (2 conferences @ $1500 ea)</td>
<td>$ 2,500</td>
</tr>
<tr>
<td></td>
<td>Meetings (Convening meeting and attendance of regional industry meetings)</td>
<td>$ 3,000</td>
</tr>
<tr>
<td></td>
<td>Workshops (professional development meetings)</td>
<td>$ 250</td>
</tr>
<tr>
<td></td>
<td>Training Manuals (required classroom textbooks)</td>
<td>$ 50,000</td>
</tr>
<tr>
<td></td>
<td>Subcontractors</td>
<td>$ -</td>
</tr>
<tr>
<td></td>
<td>Provide 50 internships through the California Community College Foundation</td>
<td>$ 50,000</td>
</tr>
<tr>
<td></td>
<td>Contract Trainers: 2424 x $75 p/hr for classroom instruction</td>
<td>$ 191,100</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Capital Outlay</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2-T7082A AC/Heat pump Learning Systems with 50 print license</td>
<td>$ 45,000</td>
</tr>
<tr>
<td></td>
<td>Computer Lab: 28-Dell Computers with workstations, Smart Board with podium,</td>
<td>$ 98,500</td>
</tr>
<tr>
<td></td>
<td>Wizard Presentation Podium</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>300,850</td>
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<tr>
<td></td>
<td>Other Outgo</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>143,500</td>
</tr>
<tr>
<td></td>
<td>TOTAL DIRECT COSTS:</td>
<td>$ 672,520</td>
</tr>
<tr>
<td></td>
<td>TOTAL INDIRECT COSTS (Not to exceed 4% of Direct Costs):</td>
<td>$ 26,900</td>
</tr>
<tr>
<td></td>
<td>TOTAL COSTS:</td>
<td>$ 699,420</td>
</tr>
</tbody>
</table>
**APPLICATION BUDGET DETAIL SHEET**

**MATCH**

<table>
<thead>
<tr>
<th>Object of Expenditure</th>
<th>Classification</th>
<th>Match</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000</td>
<td></td>
<td>$ -</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$ -</td>
</tr>
<tr>
<td>2000</td>
<td>San Bernardino County Department of Workforce Development</td>
<td>$ 50,000</td>
</tr>
<tr>
<td></td>
<td>Manufacturers' Council of the Inland Empire</td>
<td>$ 450,000</td>
</tr>
<tr>
<td></td>
<td>Chaffey College - Kathy Dutton Project Director &amp; Ann Marie Allen Coordinator and Ken Eaves DSN Manufacturing</td>
<td>$ 141,000</td>
</tr>
<tr>
<td></td>
<td>International Facilities Management Association</td>
<td>$ 10,000</td>
</tr>
<tr>
<td>3000</td>
<td></td>
<td>$ -</td>
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**TOTAL DIRECT COSTS:** $ 751,000

**TOTAL INDIRECT COSTS (Not to Exceed 4% of Direct Costs):**

**TOTAL COSTS:** $ 751,000
## APPLICATION BUDGET SUMMARY

NOTE: Submit details explaining the expenditures by category on the Application Budget Detail Sheet.

<table>
<thead>
<tr>
<th>Object of Expenditure</th>
<th>Classification</th>
<th>Line</th>
<th>TOTAL PROGRAM FUNDS REQUESTED</th>
<th>MATCH</th>
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<tbody>
<tr>
<td>1000</td>
<td>INSTRUCTIONAL SALARIES</td>
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<td>2000</td>
<td>NONINSTRUCTIONAL SALARIES</td>
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<tr>
<td>4000</td>
<td>SUPPLIES AND MATERIALS</td>
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<td>OTHER OPERATING EXPENSES AND SERVICES</td>
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<td>$300,850</td>
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<td>6000</td>
<td>CAPITAL OUTLAY</td>
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<td>7000</td>
<td>OTHER OUTGO</td>
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<td>$</td>
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</table>

**TOTAL DIRECT COSTS:**
8 $672,520 $0

**TOTAL INDIRECT COSTS** (Not to exceed 4% of Direct Costs):
9 $26,900

**TOTAL COSTS:**
10 $699,420 $751,000

I authorize this cost proposal as the maximum amount to be claimed for this project and assure that funds shall be spent in compliance with State and Federal Regulations. I also certify the match listed above are valid match funding that is not being used as a match for another program requiring match funding and in total are equal, or greater than, the funds requested from CCCCO.

**Project Director:**

Name: Kathy Dutton
Authorized Signature: [Signature]
Title: Director, Employment Development
Date: 1-27-15

**District Chief Business Officer (or authorized designee):**

Name: Lisa Bailey
Authorized Signature: [Signature]
Title: Associate Superintendent, Business Services
Date: 1-27-15
Project Management Plan

Chaffey College intends to utilize the California Community College Chancellor’s Office’s (CCCCO) Career Technical Education (CTE) LaunchBoard application as its platform for collecting and reporting Employment Results Scorecard data. The LaunchBoard application was specifically developed by the CCCCCO to provide accountability for and measurement of grant activities administered through the CCCCCO’s Workforce and Economic Development Division. In this capacity, LaunchBoard directly addresses the five performance metrics identified by the Employment and Training Administration, as well 34 unique and distinct performance outcome metrics. LaunchBoard currently provides institution-specific data by program area (e.g., Electronics and Electric Technology; Environmental Control Technology (HVAC); Manufacturing and Industrial Technology; etc.) and academic year, resulting in the ability to compare performance outcomes across programs and time. Metrics are grouped into meaningful “momentum point (MP)” clusters that track student progression and achievement from middle school through postsecondary education and employment. All MPs in LaunchBoard report current year outcomes, 5-year averages, and a trend analyses for each data point that shows whether observed outcomes are increasing, decreasing, or remaining constant. For most MPs, disaggregated data by student characteristics are also available, increasing the ability to develop actionable strategies for select student populations.

The Project Director has established grant objectives that have clear, measurable criteria. Utilizing LaunchBoard and other applicable data sources, the Control Systems Technology advisory committee will have access to a robust data collection system that provides quantitative and qualitative evidence about the efficacy of existing practices and the extent to which grant objectives are being met, as well as trend data. With the ability to disaggregate data by program, institution, and student characteristics, the advisory committee will also possess the capacity to observe the potential impact of grant goals and objectives relative to unique programs and historically underrepresented populations. With the granular level of data that is available, the advisory committee will be able to specifically identify program strengths and weaknesses, allowing the Project Director actionable strategies to improve programs and possibly eliminate ineffective ones.

In conjunction with the data reporting procedures through LaunchBoard outlines above, the Project Director has reviewed the onboarding items from the WEDD Grantee Resources. The Chaffey College Employment Development Department currently utilizes many of the logistical suggestions put forth, including but not limited to, CCCConf, eUpdates/eAlerts, Google Drive, Google Docs, and Google Calendar. In addition, Chaffey College currently has several stories posted to the Practices with Promise eShowcase and intends to continue to contribute to the database.
Proposed IDRC Control Systems Technology Organizational Chart

Dr. Henry Shannon, Superintendent/President

Lisa Bailey, Interim Associate Superintendent, Business Services

Kathy Dutton, Director, Employment Development (Project Director)

Ann Marie Allen, Coordinator, TAACCCT Grant

Administrative Assistant

Internship/Job Placement Coordinator

Ken Eaves, DSN Advanced Manufacturing
January 27, 2015

Dr. Henry Shannon
Superintendent/President Chaffey College
5885 Haven Ave.
Rancho Cucamonga, California 91737

Dear Dr. Shannon,

As the Statewide Sector Navigator for Energy Efficiency & Utilities, I am pleased to provide support for the project proposed by Chaffey College through the Industry-Driven Regional Collaborative to provide training in Control Systems Technology (CST).

Meeting the carbon reduction and energy savings goals of the California Global Warming Solutions Act (AB 32) will require extensive workforce skills to install advanced environmental controls technologies in more than 8 billion square feet of commercial buildings. The state’s workforce, 58,000 in heating, ventilation, and Air Conditioning (HVAC) occupations alone, has received little or no training in the systems that control these technologies. Further, the community college system lacks an integrated approach to Control Systems Technology in preparing new entrants to the workforce.

Through the Doing What Matters initiative, as Sector Navigator, I will work with Chaffey College on the following:

- Facilitating the engagement of industry subject matter experts in defining the knowledge, skills, and abilities required for competence in Control Systems Technology.
- Assisting in the development of opportunities for workplace experience to expose students to careers these fields.
- Providing input regarding curriculum development, including a stackable certificate, as a model course for replication and scaling statewide.
This project is an opportunity to expand the college’s outstanding track record of providing education by providing viable pathways into good-paying, high-demand jobs in the areas of HVAC technician, Stationary Engineer, and Sheet Metal Technician.

Sincerely,

[Signature]

Jim Caldwell
Sector Navigator
Energy Efficiency & Utilities
Doing What Matters for Jobs and the Economy
1141 Catalina Drive, Suite 272
Livermore, CA 94550
January 20, 2015

Dr. Henry Shannon  
Superintendent/President  
Chaffey College  
5885 Haven Ave.  
Rancho Cucamonga, California 91737

Dear Dr. Shannon,

As the Advanced Manufacturing Sector Navigator for the California Community College Chancellor’s Office, I am pleased to support Chaffey College’s Industry-Driven Regional Collaborative grant proposal in Control Systems Technology.

My experience has shown this area is one of the most sought after workplace skills by manufacturers throughout the state and your region. The reason is because of the infusion of control technology in manufacturing, building operations and other areas of the economy. Employers today are looking for community colleges to deliver an educated workforce that can understand, use, and maintain their sophisticated equipment.

I will support the Desert/Inland Region Deputy Sector Navigator for Advanced Manufacturing and Chaffey College with the following: Assist in the development of workplace experience opportunities to expose students to careers in these fields; Provide input regarding curriculum development and a stackable certificate; Provide support and enrollment into NCCER’s national database for the students/trainees completing NCCER curriculum.

This project is an excellent example of Doing What Matters for Jobs and the Economy by providing viable pathways for good-paying jobs in welding and industrial maintenance.

Sincerely,

Jose Anaya  
Sector Navigator, Advanced Manufacturing  
California Community Colleges  
janaya@elcamino.edu  
310.973.3165
January 20, 2015

Dr. Henry Shannon
Superintendent/President
Chaffey College
5885 Haven Ave.
Rancho Cucamonga, California 91737

Dear Dr. Shannon,

As the Advanced Manufacturing Deputy Sector Navigator for the Inland Empire/Desert Region, I am pleased to provide support for the project proposed by Chaffey College through the Industry-Driven Regional Collaborative to provide training in Control Systems Technology (CST).

Through my work as DSN for Advanced Manufacturing in this region, this area is among the most mentioned and requested workplace skills by industry. As manufacturing continues to recover and as the existing workforce moves into retirement, the need will continue to grow. The increased implementation of control technology in manufacturing, building operations, and other sectors also adds to the increased demand for a skilled educated workforce that can understand, use, and maintain the equipment in today’s working environment.

Through the Doing What Matters initiative, as Deputy Sector Navigator, I will work with Chaffey College on the following:

- Assist in the development of workplace experience opportunities to expose students to careers these fields
- Providing input regarding curriculum development, including a stackable certificate, to include in-demand industry technical skills and work experience for the students.
- Provide support and enrollment into NCCER’s national database for the students/trainees completing NCCER curriculum.
This project is an opportunity to expand the college’s outstanding track record of providing education by providing viable pathways toward good-paying, in-demand jobs in the areas of welding and industrial maintenance mechanic.

It is anticipated these activities provided in-kind match of $25,000 of grant period.

Sincerely,

[Signature]

Ken Eaves
Deputy Sector Navigator-Advanced Manufacturing
Desert/Inland Region
13170 Seventh Street
Chino, California 91710
January 28, 2015

Dr. Henry Shannon  
Superintendent/President  
Chaffey College  
5885 Haven Ave.  
Rancho Cucamonga, California 91737

Dear Dr. Shannon:

As chair of the Inland Empire/Desert Regional Consortium, it is my pleasure to write this letter of support for Chaffey College in their application for funding through the Industry-Driven Regional Collaborative grant.

The regional consortium is committed to working collaboratively with our partner college to respond and innovate in order to meet the needs of our regional labor market and we have long recognized the importance of manufacturing to the economic vitality of our region. As the lead college for our region’s TAACCCT grant in manufacturing as well as serving as host to the region’s deputy sector navigator for advanced manufacturing, Chaffey College is uniquely positioned to lead this IDRC grant and has both the experience and capacity to achieve the goals and outcomes described in their application.

Their proposal to provide training in Control Systems Technology (CST) is a good fit with what manufacturers in our region tell us they need. Our region’s deputy sector navigator for Advanced Manufacturing has noted on many occasions that the increased implementation of control technology in manufacturing, building operations, and other sectors adds to the increased demand for a skilled educated workforce that can understand, use, and maintain the equipment in today’s working environment. Additionally, as manufacturing continues to recover and as the existing workforce moves into retirement, this need will continue to grow.

I am looking forward to working closely with Chaffey and providing regional leadership and support for this worthwhile effort.

Sincerely,

Julie Pehkonen  
Chair, Inland Empire/Desert Regional Consortium
January 26, 2015

Chaffey College
5885 Haven Avenue
Rancho Cucamonga, CA 91737
ATTN: Dr. Henry Shannon

Dear Dr. Shannon,

On behalf of the Manufacturers’ Council of the Inland Empire, we pledge our support of the Industry Driven Regional Collaborative Grant, dedicated to developing and implementing training in Control System Technology, for which they are applying. The partnership and vested support for this effort includes the San Bernardino County Workforce Investment Board, San Bernardino Workforce Development Department, Sector Navigator of Energy and Utilities, Sector Navigator and Deputy Sector Navigator of Advanced Manufacturing and the Manufacturers’ Council of the Inland Empire representing over 50 manufacturing and logistic companies.

Through the Sector Navigator of Energy and Utilities and the Deputy Sector Navigator of Advanced Manufacturing, two Industry Advisory Councils have been convened to identify needs in this area. Results indicate that a severe gap exists between employee current skills and the skills needed to operate these advanced systems. It has become apparent within our county that several operations are being negatively impacted by the lack of trained Control Systems Technicians with the skills necessary to effectively and efficiently operate environmental systems. Hence, this grant will dedicate training to the incumbent worker for the first year and then move to develop a career pathway and credit curriculum exploring a partnership with IFMA (International Facilities Management Association).

Should Chaffey College receive funding to implement this needed training program, we are committed to providing the following:

- Support the adoption and implementation of proved curriculum responsive to industry need
- Support the design and implementation of effective teaching methodologies and strategies to enhance training outcomes to the diverse population identified in this grant
- Participate in industry surveys to assess needs and measure outcomes
- Pay incumbent employee wages while in training
- Refer at least 90 incumbent workers to this training over a two year period (Council wide)
- Collaborate in the design of an efficient and effective evaluation strategy
- Actively participate in the Control Systems Technology Industry Advisory Committee
- Provide space for staff to meet with participants, conduct workshops/training, etc.
- Participate in recruitment activities, career days, college fairs, etc. as available
- Attend collaborative meetings to assess training curriculum and ensure training is meeting industry needs

The estimated calculation of match funding for these services and commitment is $450,000.

We feel that this innovative new grant will be of enormous benefit to the employers and residents of this area and are dedicated to doing everything within our power to contribute to the success of this program. We are committed to being full partners in promoting the education of our residents and the community at large and increasing the economic viability of our region.

Sincerely,

Pearl Virgen, President
Manufacturers’ Council of the Inland Empire
January 26, 2015

Chaffey College
5885 Haven Avenue
Rancho Cucamonga, CA 91737
ATTN: Dr. Henry Shannon

Dear Dr. Shannon,

On behalf of the California Steel Industries, Inc. (CSI), I pledge our support of the Industry Driven Regional Collaborative Grant, dedicated to developing and implementing training in Control System Technology, for which you are applying. As a collaborative partner and host of the Regional Training Center, funded through the recently awarded TAACCCT grant, CSI recognizes the need for a concentrated training program to upgrade the skills of incumbent workers to provide Control Systems Technicians meeting an ever-increasing skills gap within San Bernardino County.

Through the Sector Navigator of Energy and Utilities and the Deputy Sector Navigator of Advanced Manufacturing, two Industry Advisory Councils have been convened to identify needs in this area. Results indicate that a severe gap exists between employee current skills and the skills needed to operate these advanced systems. It has become apparent within our county that several operations are being negatively impacted by the lack of trained Control Systems Technicians with the skills necessary to effectively and efficiently operate environmental systems. Hence, this grant will dedicate training to the incumbent worker for the first year and then move to develop a career pathway and credit curriculum exploring a partnership with IFMA (International Facilities Management Association).

Should Chaffey College receive funding to implement this needed training program, we are committed to providing the following:

- Participate in industry surveys to assess needs and measure outcomes
- Pay incumbent employee wages while in training
- Refer incumbent workers to this training over a two year period
- Collaborate in the design of an efficient and effective evaluation strategy
- Actively participate in the Control Systems Technology Industry Advisory Committee
- Provide space for staff to meet with participants, conduct workshops/training, etc.
- Participate in recruitment activities, career days, college fairs, etc. as available
- Attend collaborative meetings to assess training curriculum and ensure training is meeting industry needs

The estimated calculation of match funding for these services and commitment is $100,000 (facilities, personnel etc.).

We feel that this innovative new grant will be of enormous benefit to the employers and residents of this area and are dedicated to doing everything within our power to contribute to the success of this program. We are committed to being full partners in promoting the education of our residents and the community at large and increasing the economic vitality of our region.

Sincerely,

[Signature]

Rod Hoover
Manager—Human Resources
January 27, 2015

Chaffey College
5885 Haven Avenue
Rancho Cucamonga, CA 91737

ATTN: Dr. Henry Shannon

Dear Dr. Shannon,

The San Bernardino County Workforce Investment Board (WIB) and Department of Workforce Development (WDD) pledges support of the Industry Driven Regional Collaborative Grant, dedicated to developing and implementing training in Control System Technology, for which they are applying. The partnership and vested support for this effort includes the WIB, WDD, Sector Navigator of Energy and Utilities, Sector Navigator and Deputy Sector Navigator of Advanced Manufacturing, and the Manufacturers’ Council of the Inland Empire representing over 50 manufacturing and logistics companies.

Through the Sector Navigator of Energy and Utilities and the Deputy Sector Navigator of Advanced Manufacturing, two Industry Advisory Councils have been convened to identify needs in this area. Results indicate that a severe gap exists between the current skills of employees and the skills needed to operate these advanced systems. It has become apparent within our county that several operations are being negatively impacted by the lack of trained Control Systems Technicians with the skills necessary to effectively and efficiently operate environmental systems. The Industry Driven Regional Collaborative Grant will dedicate training to the incumbent worker for the first year and then move to develop a career pathway and credit curriculum exploring a partnership with International Facilities Management Association (IFMA).

Should Chaffey College receive funding to implement this needed training program, the WIB and WDD are committed to the following:

- Support the adoption and implementation of proven curriculum responsive to industry need
- Support the design and implementation of effective teaching methodologies and strategies to enhance training outcomes to the diverse population identified in this grant
- Assist in facilitating job placement, internships and/or job-shadowing experiences
- Collaborate in the design of an efficient and effective evaluation strategy
- Actively participate in the Control Systems Technology Industry Advisory Committee
- Provide space for staff to meet with participants, conduct workshops/training, etc.
- Participate in recruitment activities, career days, college fairs, and other events
- Attend collaborative meetings to assess training curriculum and ensure training is meeting industry needs
- Speak at meetings to promote the program
- Enroll qualified participants into WIA/WIOA to provide services
- Provide workshops on employability skills, academic and career choices, or other relevant topics
- Act as a liaison between IFMA and the college to provide industry recognized certifications and/or curriculum as requested by the college
The estimated calculation of match funding for these services is $50,000.

We believe that this innovative new grant will be of enormous benefit to the employers and residents of this area and are dedicated to doing everything within our power to contribute to the success of this program. We are committed to being full partners in promoting the education of our residents and the community at large and increasing the economic vitality of our region.

Sincerely,

Sandra Harmsen
Executive Director, Workforce Investment Board
Director, Department of Workforce Development

SH/ep
January 27, 2015

Chaffey College
5885 Haven Avenue
Rancho Cucamonga, CA 91737
Attn: Dr. Henry Shannon

Re: Industry Driven Regional Collaborative Grant

Dear Dr. Shannon:

As President of International Facilities Management Association (IFMA) Inland Empire Chapter, I pledge our chapter's support of the Industry Driven Regional Collaborative Grant, dedicated to developing and implementing training in Control System Technology, for which you are applying. IFMA is the recognized authority nationally and world-wide for facility management and recognizes the need to develop career pathways in the Facility Management arena. Control Systems Technology is one of the identified training areas in great demand in this sector at this time.

Through the Sector Navigator of Energy and Utilities and the Deputy Sector Navigator of Advanced Manufacturing, two Industry Advisory Councils have been convened to identify needs in this area. Results indicate that a severe gap exists between employee current skills and the skills needed to operate these advanced systems. It has become apparent within our county that several operations are being negatively impacted by the lack of trained Control Systems Technicians with the skills necessary to effectively and efficiently operate environmental systems. Hence, this grant will dedicate training to the incumbent worker for the first year and then move to develop a career pathway and credit curriculum exploring a partnership with IFMA (International Facilities Management Association). IFMA is looking forward to sharing its expertise to provide the industry expertise needed to develop effective and efficient pathways in Facility Management.

Should Chaffey College receive funding to implement this needed training program, we are committed to providing the following:

- Participate in industry surveys to assess needs and measure outcomes
- Provide industry expertise to develop and implement relevant curriculum
- Refer incumbent workers to this training over a two year period
- Collaborate in the design of an efficient and effective evaluation strategy
- Actively participate in the Control Systems Technology Industry Advisory Committee
- Participate in recruitment activities, career days, college fairs, etc. as available
- Attend collaborative meetings to assess training curriculum and ensure training is meeting industry needs

The estimated calculation of match funding for these services and commitment is $10,000 and/or in kind services.

We feel that this innovative new grant will be of enormous benefit to the employers and residents of this area and are dedicated to doing everything within our power to contribute to the success of this program. We are committed to being full partners in promoting the education of our residents and the community at large and increasing the economic vitality of our region.
Sincerely,

Corey Lee Wilson
President

IFMA® Inland Empire Chapter
International Facility Management Association
Partnership and Scalability

Various partners are dedicated to developing and implementing training in Control Systems Technology, including: the San Bernardino County Workforce Investment Board, San Bernardino Workforce Development Department, Sector Navigator of Energy and Utilities, Sector Navigator and Deputy Sector Navigator of Advanced Manufacturing and the Manufacturers' Council of the Inland Empire representing over 50 manufacturing and logistic companies. They are dedicated to support the adoption and implementation of proved curriculum responsive to industry need and facilitate job placement, internships, and/or job-shadowing experiences. The Project Director will utilizes the active participation of these partners in the Control Systems Technology Industry Advisory Committee to distribute grant materials and receive feedback from industry partners.

The potential to scale this project is high since many colleges throughout the region or state have courses that will align and could become part of a conjoined or similar program. Such programs include but are not limited to industrial electrical technology, networking, and engineering technology. The Energy Sector Navigator and the Regional DSNs will assist in reaching out to regional colleges to determine if their existing courses align with the pathway to create a stackable program.

As discussed in the Response to Need section, industry is requesting the colleges to develop a pipeline to ensure they will have a pool of skilled candidates from which they can hire. They want to be able to hire from the local area. Those from the local area are more likely to stay long term and have a commitment to them and the region. Using SB 1070 funding, the Inland Empire/Desert region will cultivate the next generation of qualified employees by introducing CST course work at the high school level.

Additionally, Chaffey and its manufacturing partners are exploring the development of apprentice or “Learn/Earn” programs. With the increased RSI funding recently made available, Chaffey will continue to work with employers to implement these programs. Using the IDRC funding as “seed money”, we could expand the program to other industries that have need for a skilled workforce in this area.

Integration and Sustainability

By 2018, fields like construction and manufacturing will provide nearly 8 million job openings, 2.7 million of which will require a post-secondary credential.\(^\text{7}\) To fulfill this need, a key outcome for the IDRC proposal is the availability of a Control Systems Technology for-credit course that is approved by the college, regional consortium, and Chancellor’s Office for delivery as a capstone course to existing for-credit certificate programs such as those highlighted above by exploring a partnership with International Facilities Management Association (IFMA). While this proposal focuses initially on not-for-credit, it will serve as a pilot for possible development into a credit program that

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\(^7\) Symonds, Schwartz, and Ferguson, *Pathways to prosperity: Meeting the challenge of preparing young Americans for the 21st century*. Cambridge, MA: Pathways to Prosperity Project, Harvard University Graduate School of Education, 2011.
would lead to certificates and degrees in Control Systems Technology. Currently, the skills panel's recommendations are being used to develop curriculum for a capstone course that will be delivered, beta-tested, and refined through the college's not-for-credit training program for incumbent workers. Once the course is delivered and assessed, it will be modified based on participating industry feedback and alignment with existing for-credit certificate programs that relate to the course.

To further integrate sustainability into the embedded soft skills IDRC proposal, NCCER's Core curriculum will develop the pipeline for the high school level, where students will complete two modules and receive nationally recognized certification in soft skills related to industry. NCCER has additional soft skills curriculum that will be introduced as this program expands. This is especially necessary since soft skills are one of the most requested "needed" skills from employers. CTE students are significantly more likely than their non-CTE counterparts to report that they developed problem-solving, project completion, research, math, college application, work-related, communication, time management, and critical thinking skills during high school. ⁸

By introducing high school students to cutting edge technology early, the dropout rate can be reduced. Also, providing hands-on skill development has shown students stay more engaged and develop the skills mentioned above. This assists in the development of much sought out soft skills ⁸1% of dropouts said that "more real-world learning" may have influenced them to stay in school. A ratio of 1 CTE class for every 2 academic classes minimizes the risk of students dropping out. ⁹

Chaffey College, along with its partners, are exploring the development of apprenticeship and other "Learn/Earn" models as a potential sustainability strategy once the EWD program concludes. California recently increased the amount of RSI funding available. Chaffey is working with industry partners throughout the region develop apprenticeship programs to take advantage of this funding. Chaffey is also meeting regional and state entities interested in partnering to submit a proposal for the $100 million DOL Apprenticeship grant. In addition, Chaffey and several region colleges have ETP funds that might be able to be used to sustain this effort.

The Control Systems Technology program can further integrate with other employer endeavors through an apprenticeship training program that can be expanded and utilized as a model across the state. It utilizes a latticed and stackable approach. This allows for Chaffey and other regional colleges to meet the workforce needs of many of the varied industry partners who share common entry level skill needs, but do not have sufficient employees in specific individual job headings to allow for the development of training in that area. This allows the region to achieve economies of scale for the industries as a whole to meet the common skills gaps. This proposal meets the overall industry sector need targeted areas.

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⁹ Ibid.