

2016

ACR Program 2 year Review



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El Camino College

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2016 ACR 2 Year Program Review

CAREER AND TECHNICAL EDUCATION – SUPPLEMENTAL QUESTIONS 2016

CTE programs must conduct a full program review every 4 years. The full review includes answering these supplemental questions. Every two years (once between full reviews) these supplemental questions must be answered and submitted to Academic Affairs for posting on the College website.

Use labor market data, advisory committee input, institutional data, and the provided CT

1. How strong is the occupational demand for the program? As you analyze demand over the past 5 years and projected demand for next 5 years, address state and local needs for the program.

Over the last 2 ½ years the ACR (Air-Conditioning and Refrigeration) program at El Camino College has made tremendous strides in meeting the needs of both our students, industry partners.

2 ½ years ago the El Camino program was focused on simple residential refrigeration and air-conditioning. The demand for a program by industry is directly related to the skills offered by that program to the program's students. The ACR program for many years did not meet these needs that is why a great change needed to take place within the program. This need for change has led to the evolution of the El Camino ACR program from a residential program into a light commercial and commercial program. Each one of the course offerings have been updated to meet evolving industry needs and standards. Nearly all of the equipment utilized by students including hand tools have been replaced with state-of-the-art tools and equipment that provide opportunities for students to acquire high demand industry skill. This evolution of the ACR program is the result of faculty, staff and administrative personnel working together towards a common goal of providing students a quality education that enable student opportunities not otherwise possible within the old program. The program now focuses on both energy efficiency and global climate change solutions. This focus has resulted in the introduction of new

2016 ACR 2 Year Program Review

courses in energy efficiency and management. Other courses have been updated to include air balance, water balance, chilled water systems, air door testing and a host of other skills that provide our students the opportunity for an industry relevant education.

The El Camino ACR program has also recently been awarded HVAC excellence third-party accreditation. This accreditation provides the ACR program a clear differential marker to note program excellence. The ACR program at El Camino College also works within a collaborative of colleges throughout the district to promote both our individual programs and our combined programs with the goal of enhancing the quality of all programs within the district.

According to the United States Department of Labor Statistics the median pay for heating, air-conditioning and refrigeration mechanics and installers is \$45,110 per year and \$21.69 per hour. The number of jobs as of 2014 was 292,000 with a 14% projected increase between 2014 and 2024 which is an employment change of 39,600 (see figure A (BLS 2016)).

To get a better understanding of where HVACR (Heating, Ventilation Air Conditioning and refrigeration) employment relates to other industries please refer to figure B. Figure B clearly shows that the HVACR industry employment rates are growing rapidly far beyond that of most career occupations. The HVACR industry projected employment growth rate is at 14% which is considered a high level of growth according to the Department of Labor Statistics (BLS 2016). All other occupations combined are projected at a 7% growth rate (BLS 2016). This indicates that HVACR graduates from the ECC HVACR program have a potential of twice the employment opportunity as compared to all other careers. These statistics show a clear and significant opportunity for employment for those completing an HVACR program at ECC.

An analysis of the local demand for HVACR technicians was completed on June 2016 at El Camino Institutional Research and Planning Group. According to the IRP report HVACR technician job growth has increased 22.5% from 2010 to 2015 (see figure C (IRP, 2016)). The IRP regional

2016 ACR 2 Year Program Review

trends shows a significant increase in job opportunities for ECC graduates for many years to come. Regionally the data shows a 22.5% change or growth within a 7.5 mile range of the ECC campus (IRP, 2016). The statistics also indicate a 21.9% growth within the state of California (IRP, 2016).

The data clearly indicates a tremendous need for HVACR technicians locally throughout California and the nation. The ECC HVACR program will continue to seek out industry support to help establish the HVACR program as a premier program to meet the needs of our students to secure long-term career in the HVACR industry.

2. How does the program address needs that are not met by similar programs in the region?

The El Camino ACR program is part of a seven college collaborative within the district that shares a common goal developing each program to their fullest. The collaborative shares ideas, resources and information that promotes the greater good of each college. The collaborative does not see individual programs as competition; they are seen as opportunities for collaborative development. This being the case each college still retains its individuality. ECC ACR program is unique among the programs within the district in many ways. ECC program does not differentiate between controls in the core program. ECC program has integrated system controls within every aspect of the ACR program. The addition of three new courses that promote digital controls is integrated within the ECC ACR Core Program. ECC ACR program is also unique in that we offer introductory level training in chilled water systems, thanks to the support of the Trane Company.

The ECC program also is highly vested in what is called the Living Lab. Living Lab is a concept that promotes student participation in reducing the global footprint of the college while engaging students in project-based and contextualized learning. Students go on field trips in the chiller plant and other locations to get a real-time active learning experience that they would

2016 ACR 2 Year Program Review

otherwise not receive within the program. The Living Lab is just at its beginning stages however it holds great promise to enhance student learning, student engagement, student retention and completion.

The ECC ACR program works closely with industry representatives to ensure quality of education provided to program students. As a result of industry support the ECC ACR program has made many strides forward in the last few years including the introduction to print reading, air balance, water balance, thermal imaging, indoor quality, system controls and a host of other skills not previously available to ECC ACR students. The program will continue to grow and develop with the guidance of industry professionals, faculty, staff and the community college collaborative. It is a guarantee that through these collaborations the ECC ACR program will continue to develop and enhance our offerings to support industry changing needs and student long-term success.

3. What are the completion, success, and employment rates for the students? Discuss any factors that may impact completion, success, and employment rates. If applicable, what is the program doing to improve these rates?

The ECC ACR program has gone through significant changes over the last few years. These changes have impacted student participation and retention as a result of elevated difficulty completing the program. We expect a lot more from our students unlike any time within the program's history as a direct result of industry demands and the commitment of the ACR program staff to student success. Numbers were expected to drop as we transition from the old program to a more industry relevant program. We are just now beginning to see the fruits of our labor in the form of student success. We still fight the old perceptions that the HVACR industry is a dirty job left to those not traditionally aligned with a four-year degree or in fact any degree at all. Please see figures F- J for complete representation of the historical and current status of student success degrees and certificates. To

2016 ACR 2 Year Program Review

combat old stereotypes and to promote the reality of an HVACR technician's role within the HVACR industry and opportunities, the ACR program has started public relations campaign.

The public relations campaign includes a professionally orchestrated video the focus opportunities available to ACR program graduates. We have also developed a new program brochure that can be presented at Trane outreach events.

4. If there is a licensure exam for students to work in their field of study, please list the exam and the pass rate. If there are multiple licensure exams in the program, include them all. Discuss any factors that may impact licensure exam pass rates. If applicable, what is the program doing to improve these rates?

Students in the ECC ACR program has many opportunities to achieve industry recognize credentialing for their efforts in the program. Most notable of these is the EPA (Environmental Protection Agency) Rule 608 Refrigerant Management Certification. It is difficult if not impossible for graduates of the ACR program to acquire meaningful work without the certification. With this in mind the ACR program has established a special website designed for student success. Within this website there is a webpage to provide students opportunities to pass the EPA Rule 608 exam with confidence. The website includes both practice exams and literature to support student success in this area. Additionally students have the opportunity to take both the NATE (North American Technician Excellence) and HVAC excellence exams to validate what they have learned within the program. These exams are integrated into each course within the ACR program and students can take the test at any time. These tests range in complexity, difficulty and skill requirements of the student. They are extremely beneficial to the students that take the time and effort to pass them in the employment process.

ECC ACR program does offer students online and on ground learning opportunities to enhance opportunities for success in achieving these and other certificates. The ACR program works in collaboration with colleges in the district to provide students opportunities to successfully complete the

2016 ACR 2 Year Program Review

certifications often at no charge. In addition to public relations ACR program is focused heavily on aligning student skills and industry demand. New courses that are added to the program provide students the opportunity for greater understanding of system controls which is in high demand by industry. Additionally all courses have been updated to provide students a vision and understanding of all the unique opportunities within the industry. Recently air balance, water balance, air door testing, and a host of other skills have been added to the program to support student skill capabilities.

Two years ago the program is focused on simple residential equipment. Over the last two years program is shifted its focus on energy efficiency and global climate change solutions. This is letting the program move away from simple residential equipment to commercial and light commercial equipment. To achieve this goal most of the equipment available to students has been updated, replaced or new equipment provided to facilitate program goals. The ACR program works closely with the Career Advancement Academy to promote program growth and student awareness.

The ACR program also opens up our facilities to sponsor a national conference hosted by the Refrigeration Service Engineers Society (RSES). This event helps bring recognition to the ECC ACR program and its offerings. The ACR program is not where we need to be and it is going to take a lot of work to get to where we need to be. We have the resources, instructors and motivation and we are exploring new and innovative ways to promote and enhance our program to meet both the industry and student needs.

One of these innovations is called the Living Lab. The Living Lab is a concept which when implemented fully breaks down the barriers between facilities in academia to provide students experiential learning which takes the students out of the classroom and places them in real life situations they would see as a technician. This adds to student engagement and possibly student retention. We are just at the beginning of the Living Lab however students currently have access to the ECC chiller plant and ITEC roof which is a start. Long-term goal of the Living Lab is for all those willing to participate to reduce the

2016 ACR 2 Year Program Review

carbon footprint of the campus and increase student awareness of the global impact of even the simplest actions which move us closer to the goal of sustainability.

5. **Is the advisory committee satisfied with the level of preparation of program graduates? How has advisory committee input been used in the past two years to ensure employer needs are met by the program? Describe any advisory committee recommendations that the program is either unable to implement or is in the process of implementing.**

The advisory committee is an integral part of the ACR program and our success. Meetings are held once a year and an advisory dinner held on the ECC campus. Many smaller meetings are held throughout the year with individual members of the advisory committee. As mentioned before, the ECC ACR program has gone through many changes over the years. These changes are the result of collaborations between faculty, staff and the advisory committee members. The advisory committee is very pleased with the changes that have taken place within the ACR program. The committee suggests that the most important skills provided by the ACR program are the fundamental skills associated with servicing, installing, repairing and maintenance of standard heating cooling systems. The committee believes that these fundamental skills include conceptual understanding of the physics behind the refrigeration cycle, a fundamental understanding of electrical circuits and the soft skills associated with customer service.

Advisory committee members provide insights into industry skill needs as well as employment opportunities for graduates. The committee understands that there is no equality in individual success and that each student rises or falls as a result not only of the academic, social support structures within the campus. Each individual must be fully engaged in the program in order to receive the skills necessary to be productive in the HVACR industry. With this in mind and with the cooperation division representatives, faculty, staff and support personnel each ACR program student is provided with direction,

2016 ACR 2 Year Program Review

counseling and financial awareness to make their time here at El Camino College as productive as possible.

Advisory committee's recommendations over the last two years have included the implementation of a controls program, air balance, and introduction to chilled water systems. A focus on the fundamentals and interpersonal skills necessary to communicate effectively in the field with employers, employees and in those they would interact with in the field. The ACR program faculty and staff review advisory minutes and recommendations and adjust the program as necessary to balance industry and student needs.

Many of the advisory committee's recommendations have been accepted over the years however some recommendations take considerable time to accomplish. With this in mind the ACR program is in a constant state of change we believe the better. ACR program weighs change over time and prioritize recommendations and establishes timelines for meeting the approved recommendations. This includes many times the acquisition of additional resources either through advisory committee member donations or program grants. See figure E for the latest advisory committee meeting minutes.

2016 ACR 2 Year Program Review

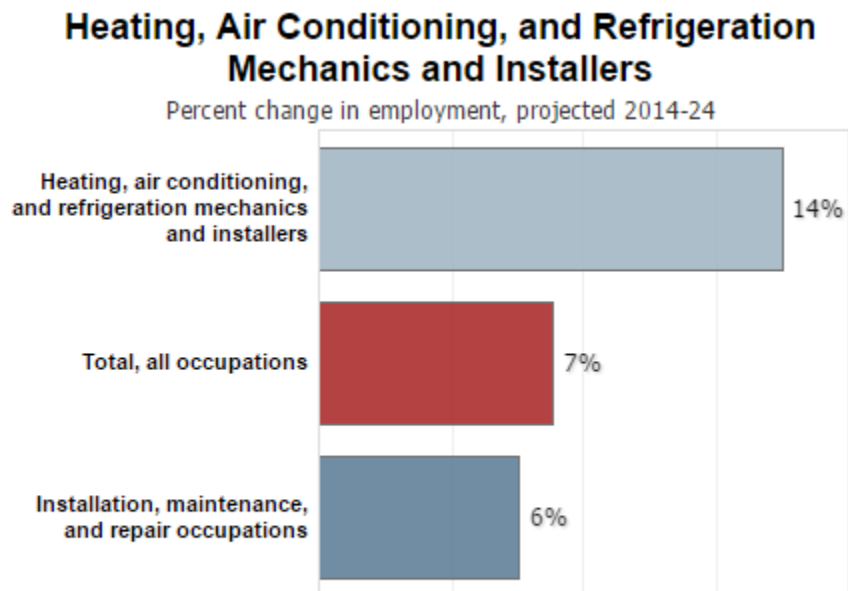
Figures

Figure A
(BLS 2016)

Summary

| Quick Facts: Heating, Air Conditioning, and Refrigeration Mechanics and Installers | |
|--|---------------------------------------|
| 2015 Median Pay ? | \$45,110 per year \$21.69 per hour |
| Typical Entry-Level Education ? | Postsecondary nondegree award |
| Work Experience in a Related Occupation ? | None |
| On-the-job Training ? | Long-term on-the-job training |
| Number of Jobs, 2014 ? | 292,000 |
| Job Outlook, 2014-24 ? | 14% (Much faster than average) |
| Employment Change, 2014-24 ? | 39,600 |

Figure B
(BLS 2016)



Note: All Occupations includes all occupations in the U.S. Economy.
Source: U.S. Bureau of Labor Statistics, Employment Projections program

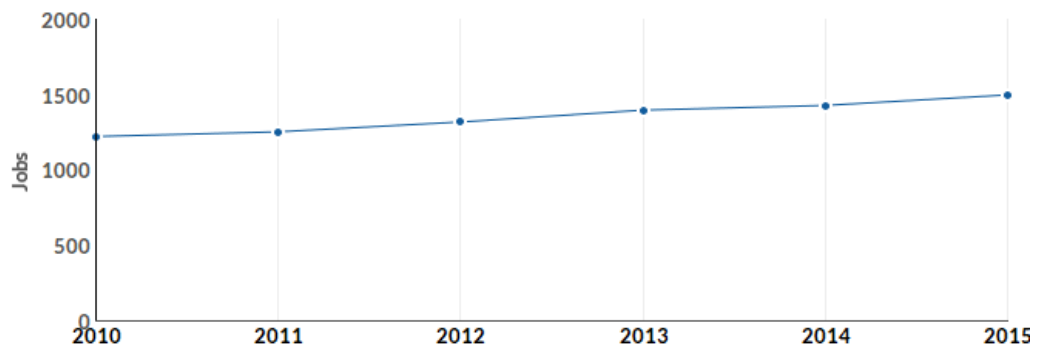
2016 ACR 2 Year Program Review

Figure C

(IRP Occupation Overview 2016)

Growth for Heating, Air Conditioning, and Refrigeration Mechanics and Installers
(49- 9021)

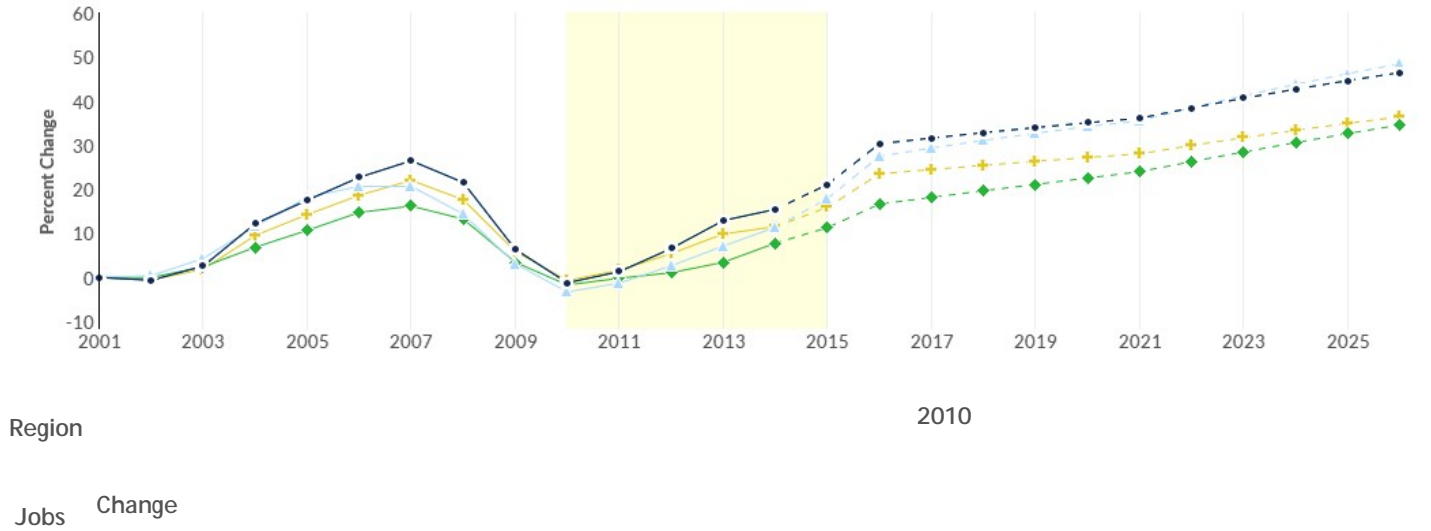
| | | | |
|---------------------------|---------------------------|---------------------------------|--------------------------------------|
| 1,224 2010 Jobs | 1,500 2015 Jobs | 276 Change(2010-2015) | 22.5% % Change (2010-2015) |
|---------------------------|---------------------------|---------------------------------|--------------------------------------|



2016 ACR 2 Year Program Review

Figure D
(IRP Occupation Overview 2016)

Regional Trends



| Jobs Change | | 201 | | % Change |
|-----------------------|---------|---------|--------|----------|
| Region | Job | 201 | 201 | % Change |
| A Region | 1,224 | 1,500 | 276 | 22.5% |
| B 7.5 mile zip radius | 1,224 | 1,500 | 276 | 22.5% |
| C California | 22,353 | 27,241 | 4,888 | 21.9% |
| D United States | 276,925 | 313,509 | 36,584 | 13.2% |
| E Los Angeles County | 5,907 | 6,897 | 990 | 16.8% |

2016 ACR 2 Year Program Review

Figure E

Advisory committee minutes April 28, 2016

1. Program updates
 - a. HVAC excellence accreditation
 - b. Public relations.
 - i. New video.
 - ii. Outreach
 - c. Automation program.
 - i. New courses approved.
 1. Electronics for technicians.
 2. Introduction to automation systems.
 3. Automation system programming.
 - d. New equipment.
 - i. Blower door.
 - ii. Air balance gear.
 - iii. Water balance gear.
 - iv. All new hand tools.
 - v. All new voltage and current meters.
 - vi. All new combustion analysis equipment.
 - vii. New water source heat pumps.
 - viii. New packaged units.
 - ix. Two chillers added to program.
 - x. Air side economizer's.
 - xi. Hermetic compressor analyzers.
 - xii. Automation equipment.
 - xiii. Etc.
2. Internship.
 - a. Requirements.
 - b. Background.
 - c. Future.
3. Certifications.
 - a. Program HVAC excellence.
 - b. Students.
 - c. NATE.
 - d. EPA 608.
 - e. Certificates of achievement.
4. Alignment with industry needs
5. Program needs.
 - a. Refrigeration equipment.
 - b. Controls equipment.
 - c. Internship support.
 - d. Partnerships.
 - e. Industry input.

2016 ACR 2 Year Program Review

6. Program direction and updates

| First Name | Last Name | Company |
|------------|-----------|-----------------------------|
| | | |
| Phyllis | Barghel | ClimatePro |
| Ken | Robinson | ClimatePro |
| Alregory | Bianco | DanFoss |
| Brad | Risser | Flir |
| David | Ondo | Flir |
| Bill | Gregory | Hilton :LAX |
| Summer | Rogers | South Bay wib |
| Stan | James | South Bay wib |
| Laura | Jelin | Climatec |
| Sue | Trobaugh | Hilton LAX |
| Jerry | Trevino | Local 250 |
| Tom | Morton | Local 250 |
| Phil | Jeffrey | Trane |
| Kristie | Wakefield | Accutherm |
| Tim | Muckey | El Camino Community College |

Industry Attendees

During the advisory committee meeting the team reviewed the new El Camino ACR promotional video. Each of the committee members believed that the video will definitely provide for the opportunity to entice students into the ACR program. Each member felt that the video was very professionally done and hit the mark on the importance of HVACR technicians and reducing home and building global footprint.

The committee believed that in general the program focus needs to be on the fundamentals. The committee agreed that the El Camino ACR program has made tremendous strides in the right direction to prepare students for a career in the HVACR industry. Some of the members of the committee expressed that there should also be a focus on providing employment opportunities in HVACR sales. These members pointed out that there is tremendous growth in the sales market and many opportunities for students interested in sales. Among the skills that the committee thought were most important for the students were soft skills including communication, team player, good manners, integrity, empathy, ability to work with others and timeliness. The committee also generally agreed on the importance of academic skills including math, writing, critical thinking and the ability to read technical manuals.

In discussions with the committee on student interpersonal skill requirements it was generally agreed on the importance of an excellent motivated and engaged attitude. It was also noted that the importance of good driving record, computer skills, diagnostic skills, literacy skills, the ability to complete work orders and technology skills. The committee also agreed on the importance of each student having competency in electricity including wiring diagrams and diagnostic skills.

2016 ACR 2 Year Program Review

In general the committee agreed that it is very important that students have documentation to validate their skill levels including the associate's degree, bachelor's degree, industry certifications and credentials. To this end committee was made aware that the El Camino ACR program is currently going through HVAC Excellence accreditation. The committee was very enthusiastic about the opportunity for students to quantify their skills through the use of the HVAC excellence employment ready exam. It was also brought to the attention of the committee that the El Camino ACR program was seeking credentialing NC3, a nationally recognized third-party accreditation and partnership with industry. The Trane Company is supporting the El Camino ACR programs NC3 accreditation.

The committee was informed that the El Camino ACR program included air balancing, water balancing, economizers, VFD's (variable frequency drives), water source heat pumps, cooling towers and a host of other opportunities for learning for students over the last year. The committee felt that the introduction of VFD's within the program was critical to the success of our students. Several of the advisory members reported that it is very difficult to go on to any commercial job that does not have a VFD and many jobs have a great many VFD's. To meet the new federal state and local regulations students must be familiar with control devices and their functions like VFD's in order to be successful. Understanding the fundamentals of electronics is no longer an option but a necessity and a key component in any students' skills toolbox. The committee highly recommended that the program have a focus on the fundamentals of control systems and energy efficiency and optimization.

The advisory committee was informed that the ACR program was introducing three new courses ACR 31 introduction to electronics for technicians, ACR 61 introduction automation systems and ACR 62 control system programming. The committee agreed wholeheartedly on the importance of graduating students to understand the fundamentals of controls and automation systems. The Introduction of a new certificate of achievement and controls was applauded by the committee. The committee believed that the certificate was needed to quantify student skills in control systems. Several of the committee members voice the opinion that no program is complete without the introductory level program and certificate in controls. The members of the committee agreed that in today's highly technical environment students' need an awareness system controls. The committee also agreed on the importance of energy efficiency in the big picture of student success. The committee recommended that the ACR program not only develop a certificate program for controls but they highly stressed the importance of a certificate program in energy efficiency. The committee recommended that the ACR program resources to educating students in both energy efficiency and controls and they would do whatever they could to support this endeavor. The Trane Company agreed to support these endeavors both directly and indirectly now and into the future. The Trane Company has offered El Camino priority discounts on any new controls that El Camino would need to support the program. There was also a further agreement that the Trane Company would supply a host of controls and technical support to support the program directly.

The advisory committee was very enthusiastic about the El Camino ACR programs hosting the RSES 2016 spring conference. The committee was also advised that the El Camino ACR program will be hosting the 2017 RSES spring conference. The committee felt that these conferences provided a great opportunity to both students and industry members to participate in the growth of the El Camino ACR program while furthering participants' knowledge.

2016 ACR 2 Year Program Review

The committee believed that it was very important for the El Camino ACR program to go into the high schools to make students aware of the opportunities available in the HVACR industry. Toward that goal, members of the ACR staff will participate in the 2016 school maker fair. Committee members in general also agreed that the El Camino ACR program needed to get into the middle schools and that just getting in the high schools to promote the program is not enough. Students need to be aware early of the opportunities available in the HVACR industry. That is why the recommendation of the committee was to look at introducing what the ACR program can offer before students enter high school.

The committee was introduced to the internship program offered through the ECC ACR program. Each member agreed that an internship program could be a vital link between the college ACR program and student employment. Each member was interested in how this internship program could be implemented to support industry needs. The internship program is a vital link between the ACR program and industry partners. Internship program provides ACR program feedback on student skill sets and what we need to do to improve our program.

In summary the committee believed the ECC ACR program was on the right path and provided students with the general skills necessary to be successful at an entry-level position within the HVACR industry. It was unanimously agreed that the most important thing that employers look for is the soft skills, including attitude and character. The committee believes that given a person with a good attitude and character and the basic HVACR skills there is no doubt that there would be a place for them within their company. The committee was advised that the ECC ACR program will continue to strive to produce the kind of entry-level students that the industry so desperately needs. The ECC ACR program is evolving into a premier program specifically designed to meet the long-term HVACR industry needs. The committee was advised the ECC ACR program has dramatically improved the quality of the program over the last two years. Improving this quality required a tremendous amount of new resources and over the last two years the program has replaced or updated every piece of equipment and every tool within the program. The advisory committee members each agreed on the importance of the Living Lab which provides students the opportunity for experiential learning. Each member agreed that El Camino College needs to do more to support the Living Lab. The advisory committee agreed that Employment Ready and HVAC excellence certification for students was a must. Committee members or advised that the ACR program provides students the opportunity to receive certificates of competency that they can provide to employers in each course. The ACR program also provides students the opportunity to take the EPA 608 and either NATE or HVAC excellence certifications.

The committee agreed on the importance of adding a certificate achievement in both controls and energy efficiency. Each committee member agreed that controls are an integral part of a technicians skill set. The committee agreed that each student needed an entry-level understanding of system controls. The committee agreed that there is tremendous growth opportunities within the next 2 to 5 years for students entering the HVACR industry and they look toward El Camino College to provide for these entry-level positions within the industry.

The committee agreed that the ECC ACR program needs to take more resources and apply them to marketing ACR program. Overall the committee was very impressed with the progress ECC ACR program has made over the last few years and is excited about participating in the program growth. The Trane Company has offered El Camino College additional equipment to support that growth. In each committee member agreed to explore how

2016 ACR 2 Year Program Review

they can further participate in program growth. Each committee member was extremely excited about the introduction of an internship program within the ACR program and look forward to participating in this program.

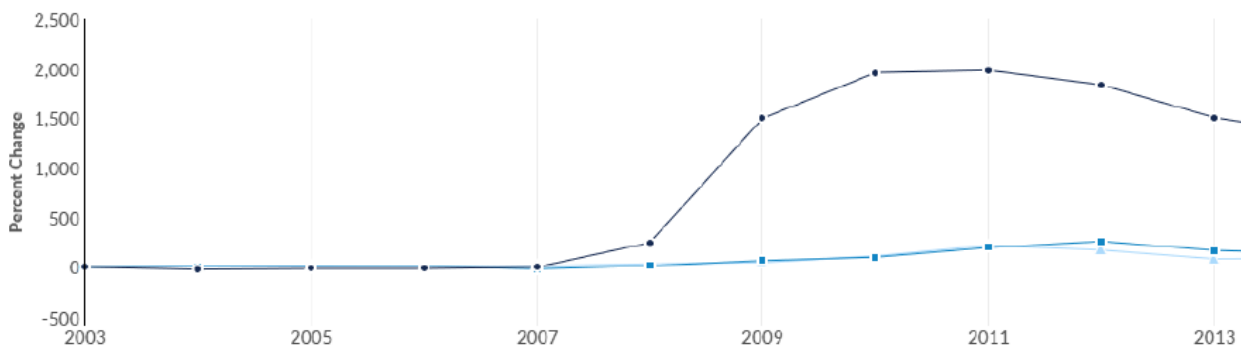
Figure F

(IRP Program Overview 2016)

Regional completion trends

| | | |
|--------------------------------------|--|------------------------|
| 3 | 186 | 93 |
| Regional Institutions | Regional Program Completions (2014) | Annual Openings (2014) |
| had Completions in the last 12 years | El Camino Community College Di... Completions: 56 | |

Regional Trends



| Region | 2003 Completions | 2014 Completions | % Change |
|----------|------------------|------------------|----------|
| ● Region | 13 | 186 | 1,330.8% |
| ■ State | 444 | 1,050 | 136.5% |
| ▲ Nation | 3,533 | 6,725 | 90.3% |

2016 ACR 2 Year Program Review

Figure G

(IRP Program Overview 2016)

Regional Completions by Award Level



| Award Level | Completions (2014) | Percent |
|--|--------------------|---------|
| Award of less than 1 academic year | 43 | 23.1% |
| Award of at least 1 but less than 2 academic years | 139 | 74.7% |
| Associates degree | 4 | 2.2% |
| Award of at least 2 but less than 4 academic years | 0 | 0.0% |
| Bachelors degree | 0 | 0.0% |
| Postbaccalaureate certificate | 0 | 0.0% |
| Masters degree | 0 | 0.0% |
| Post-masters certificate | 0 | 0.0% |
| Doctors degree | 0 | 0.0% |

Figure H

(IRP Program Overview 2016)

Regional Completions by Institution

| Institution | Certificates (2014) | Degrees (2014) | Total Completions (2014) |
|--------------------------------------|---------------------|----------------|--------------------------|
| Wyotech-Long Beach | 118 | 0 | 118 |
| El Camino Community College District | 52 | 4 | 56 |
| El Camino College-Compton Center | 12 | 0 | 12 |

2016 ACR 2 Year Program Review

Figure I

Grades

Success and Retention Rates. (2015)

| Year | Dept. | A | B | C | IPP | D | INP | F | W | Total Grades | Success | Retention |
|-----------|-------|-----|----|----|-----|---|-----|----|----|--------------|---------|-----------|
| Sum. 2015 | ACR | 40 | 14 | 6 | 0 | 0 | 0 | 3 | 9 | 72 | 83% | 88% |
| Fall 2015 | ACR | 44 | 22 | 18 | 0 | 2 | 0 | 7 | 11 | 104 | 81% | 89% |
| Sp 2015 | ACR | 68 | 43 | 18 | 0 | 2 | 0 | 12 | 30 | 173 | 75% | 83% |
| Sum 2014 | ACR | 45 | 12 | 11 | 0 | 1 | 0 | 8 | 2 | 79 | 86.10% | 97.50% |
| Fall 2014 | ACR | 97 | 50 | 8 | 0 | 3 | 0 | 7 | 30 | 195 | 79% | 85% |
| Sp 2014 | ACR | 120 | 61 | 25 | 0 | 1 | 0 | 21 | 10 | 238 | 86.60% | 95.80% |
| Fall 2013 | ACR | 107 | 50 | 35 | 0 | 2 | 0 | 16 | 8 | 218 | 88.10% | 96.30% |
| Sum 2013 | ACR | 74 | 7 | 0 | 0 | 0 | 0 | 0 | 2 | 83 | 97.60% | 97.60% |

Figure J

Degrees & Certificates Awarded. (2016).

Air Conditioning & Refrigeration Degrees & Certificates Awarded

Degrees Awarded

| | 2010-11 | 2011-12 | 2012-13 | 2013-14 | 2014-15 |
|--------------|---------|---------|---------|---------|---------|
| AS Degree | 4 | 15 | 4 | 4 | 4 |
| Certificates | 52 | 54 | 50 | 54 | 59 |

2016 ACR 2 Year Program Review

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1. (BLS) Bureau of Labor Statistics, U.S. Department of Labor, *Occupational Outlook Handbook, 2016-17 Edition*, Heating, Air Conditioning, and Refrigeration Mechanics and Installers, on the Internet at <http://www.bls.gov/ooh/installation-maintenance-and-repair/heating-air-conditioning-and-refrigeration-mechanics-and-installers.htm> (visited August 15, 2016).
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