

# Peralta Community College District

## STUDENT SERVICES ANNUAL PROGRAM UPDATE

Academic Year 2013-2014

This presents the common elements to be addressed by each student services unit/area in its annual program update. Depending on College preferences, elements may be formatted or addressed slightly differently.

### I. OVERVIEW

		<b>Date Submitted:</b>	4-7-2014
<b>College</b>	Laney college	<b>Administrator:</b>	Peter Crabtree
<b>Unit/Area</b>	Environmental Control Technology		
<b>Completed By:</b>	Nick Kyriakopedi		
<b>Mission/History and Description of Service Provided</b> <i>Brief, one paragraph.</i>	Environmental Control Technology is a technical program offering the theoretical, technical, and problem-solving skills essential for employment in the heating, ventilation, air conditioning, and refrigeration industry. Students completing the suggested curriculum can seek employment as refrigeration technicians, heating, ventilation, air conditioning technicians, and building engineers and technicians.		
<b>Student Learning Outcomes (SLOs)</b> <i>(or Service Area Outcomes-SAOs, or Program Learning Outcomes-POs)</i>	<b>Program Level Outcomes Acknowledgements:</b>		
	Demonstrate proper and safe practices on lifting heavy objects, climbing ladders, electricity, and power tools, working with chemicals, high pressure and combustible gases.	Tests, hands-on lab work	
	Explain the theory of Refrigeration and Air Conditioning and the physical properties of components and devices	Tests and written reports	
	Demonstrate proficiency in brazing and soldering, charging, evacuating, and recovering refrigeration and air conditioning equipment.	Tests and hands-on lab work	
	Demonstrate proper and safe handling of refrigerants, following appropriate regulations, standards and procedures.	Tests, hands-on lab work, and written reports	
	Demonstrate good practical skills in diagnosing and troubleshooting refrigeration and air conditioning equipment and controls.	Tests and hands-on lab work	
	Demonstrate proper installation and maintenance practices including software used to analyze data for optimal building and equipment performance and energy savings.	Tests and written reports	

	<p>Demonstrate interpersonal, writing, and reading skills working with team members and customers.</p>	<p>Tests and written reports</p>
<p><b>SLO/SAO/PLO Mapping to Institutional Learning Outcomes (ILOs)</b></p>	<p><i>Example: SLO/SAO/PLO #1 is mapped to College ILO #1: Academic Excellence</i></p> <p><b>Communication</b>  Students will effectively express and exchange ideas through various modes of communication.  Communication skills are imbedded in very courses and in some courses that we use PBL; students are required to do Public Speaking and proper communication skills.</p> <p><b>Critical Thinking and Problem Solving</b>  Students will be able to think critically and solve problems by identifying relevant information, evaluating alternatives, synthesizing findings and implementing effective solutions.  Critical thinking is part of the function of the Program. Students could not function, touch and troubleshoot any electrical mechanical devices without the ability to use the critical thinking skills.</p> <p><b>Career Technical Education</b>  Students will demonstrate technical skills in keeping with the demands of their field of study.  In the Technical Education, students learn the theory and practice on real equipment.</p> <p><b>Global Awareness, Ethics and Civic Responsibility</b>  Students will be prepared to practice community engagement that addresses one or more of the following: environmental responsibility, social justice and cultural diversity.  Students in the program learn about Energy Management and Efficiency, working and interacting with diverse student body.</p> <p><b>Personal and Professional Development</b>  Students will develop their knowledge, skills and abilities for personal and/or professional growth, health and well-being.  Students have to interact with each other working in groups during class and outside class time</p> <p><i>Work is in progress.</i></p>	

## II. ASSESSMENT, EVALUATION AND PLANNING

Quantitative Assessments	
<p><i>Include service area data such as number of students served by your unit/area. Include data and recommendations from program review.</i></p> <p><i>Include data used to assess your SLO/SAO/PLOs.</i></p>	<p>The ECT program serves 573 students in the academic year 2013-2014. The student population includes representation from every ethnic and social group, which presents unique challenges and opportunities. SLO evaluation indicates that introductory courses in mathematics and computers may help improve the learning of advanced subject teach in the ETC program.</p> <p><b><i>NOTE: Given the different type of units/areas under Student Services, each of the VPSS and Student Services Deans will come up with the basic quantitative elements which will be used by each particular Student Services unit/area.</i></b></p>

Qualitative Assessments	
<p><i>Present evidence of community need based on advisory committee input, student surveys, focus groups, etc.</i></p> <p><i>Include data used to assess your SLO/SAO/PLOs.</i></p>	<p>Please see Larry Chang NSF, BEST center coordinator for ECT 510-464-3240 or laneyect@gmail.com</p>

### Identifying Strengths, Weaknesses, Opportunities, and Limitations

<p><b>Strengths</b> <i>What are the STRENGTHS of your unit/area?</i></p>	<p>A diverse teaching team is our best resource at ECT department. In addition, the lab equipment lab and real-world type of activities included in most courses are unique to our program. The students are exposed to problems they will face in their career and not just on software simulators or theory. The program also has high completion and high job placement.</p>
<p><b>Weaknesses</b> <i>What are the current WEAKNESSES of your unit/area?</i></p>	<p>Many of our students do not have some of the basic skills in English, math and computers; the state and the district need to develop assessment test for all community colleges and make a requirement to provide the necessary courses to remediate this issue.</p>
<p><b>Opportunities</b> <i>What are the OPPORTUNITIES in your unit/area?</i></p>	<p>The need for well-trained workers in the HVAC and Direct Digital Controls industry is high. Laney College can become the center for local hiring and the subsequent academic benefits. A well design HVAC and DDC program that can feed the local industry needs. Expand the program in the energy efficiency and sustainability, partner with industry, high schools and universities.</p>
<p><b>Limitations</b> <i>What are the current LIMITATIONS of your unit/area?</i></p>	<p>Finding qualified instructors has been a problem in the past; the district will need to revise the minimum qualifications to allow experience in lieu of an AA certificate to be the main selection criteria. It has been proven so far by not being able to attract instructors with good technical back ground but only with engineering degrees which of course they</p>

	know the theory but they lack any type of hands on experience.
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## **Action Plan for Continuous Improvement**

*Please describe your plan for the continuous improvement of your unit/area.*

Build the twenty five hundred square BEST center building with two smaller buildings on two tennis courts to be used as a show case with the latest technology and the smaller buildings one to be used for installation practices and the other for Building Performance Institute ( BPI ) certification. It will be a passive building and it will have solar thermal water system, photovoltaic system, waterless toilets, rain collectors, green roof, VRF AC units, radiant heating, different types of insulation, double and triple windows, and more.

Acquire two to four AC units with R-410a refrigerant for students to work on with the latest very high pressure and the latest technology.

The department still waiting for the four supermarket refrigerators and freezers that were ordered three years ago from Measure A that hasn't received yet. When we get those items we will be able to teach supermarket type refrigeration systems.

Original breaker panels and out dated electrical outlets need to be changed and all the wiring in the lab should be rewired above ground for safety reasons. Flex gas pipes or rubber hoses on rollers need to be installed for the rooftop and residential furnaces. Two or three exhaust fans need to be installed in the lab area for properly exhausting the lab during Brazing and Soldering practices.

With the expansion of course offerings, the department is in need of a permanent instructional assistant to assist instructors with lab work and safety during the teaching hours.

Hiring a full time assistant to help the instructors and students during lab hours and other lab related activities such as installation and maintenance of equipment, devices and controls.

**Additional Planned Educational Activities Towards FTES, Student Success, Persistence, and Completion**

*Describe your unit/area's plan to meet district FTES target and address student success, persistence, and completion, especially for unprepared, underrepresented, and underserved students. (see Student Success Scorecard-<http://scorecard.cccco.edu/scorecard.aspx>)*

<p><b>Meet District FTES Target for AY2013-2014 of 18,830</b></p>	<p>Activities focused in increasing students enrollment includes:</p> <ul style="list-style-type: none"> <li>• Open houses: target local high school students</li> <li>• Industry adviser: use of existing relationships with industry to market the ETC program</li> <li>• Trade Unions; develop relationships with unions to market Laney ETC capabilities</li> </ul>
<p><b>Increase Student Success</b></p>	<p>Having tutoring on the areas of math, electricity and computer literacy (including programs such as excel, power point) and also an Instructional Assistant to help in the lab will likely increase the students ability and desires to stay in the program and to complete their two year associates degree.</p>
<p><b>Increase Persistence</b> <i>Percentage of degree and/or transfer-seeking students who enroll in the first three consecutive terms. This metric is considered a milestone or momentum point, research shows that students with sustained enrollment are more likely to succeed.</i></p>	<p>Students usually drop out of the 2-year HVAC program after their 2nd semester due to misunderstanding that the only career opportunity for them is to become and installer or a basic entry type of job. Seminars and short courses in sales and communications may increase the number of students willing to complete the two year program.</p>
<p><b>Increase College Completion</b> <i>Percentage of degree and/or transfer-seeking students who complete a degree, certificate or transfer related outcomes.</i></p>	<p>Tutoring, career counselling, job fairs, communication programs, etc. program will increase the number of students graduating from the ECT program.</p>

### III. RESOURCE NEEDS

#### Human Resource/Personnel

Please describe any human resource/personnel needs for your unit/area.

<b>Current Staffing Level:</b>		<b>Headcount</b>	<b>FTE Equiv.</b>
	<b>Faculty (Permanent)</b>	[2]	[51.11]
	<b>Faculty (PT/Adjunct)</b>	[8]	[#]
	<b>Classified Staff (Permanent)</b>	[#]	[#]
	<b>Classified Staff (Hourly)</b>	[1]	[#]
	<b>Students</b>	[2]	[#]
	<b>ICC/Consultant/Other</b>	[#]	[#]
<p><b>Narrative:</b>  <i>Describe the current staffing level in relation to the relative need for effective delivery of your unit/area's programs and services.</i></p> <p><i>Discuss any current position vacancies, the need for additional personnel, the need for permanent faculty/staff instead of adjunct/hourly personnel, etc.</i></p> <p><i>Describe implications of the current staffing level in your unit/area to overall service delivery.</i></p>	<p>Currently, the Department has two full-time instructors and eight part-time instructors.</p> <p>Presently, there is a temporary part time clerical support assisting the department chair with some everyday work.</p> <p>The college needs to start looking for another fulltime position since one of the full time instructors will be retiring in the next couple of years.</p> <p>The new fulltime staff does not participate with the everyday departmental needs other than some paper work which in the long run the department will suffer without someone doing the everyday work in the department. This is a technical program with a lot of theory but not engineering, it needs the staff to do the work.</p>		
<p><b>Human Resource/Personnel Requests</b>  <i>List your human resource/personnel requests in prioritized/ranked order.</i></p> <p><i>Human resource/personnel requests will go through the established College and District planning and budgeting process.</i></p>	<p>Hire a fulltime instructor to replace the retiring staff.</p> <p>Hire an Instructional Assistant(s) or lower the number of students in the lab to be able to teach students more safely and effectively.</p> <p>Hire fulltime clerical support to assist with the everyday work load since the program has outgrown.</p>		

## Facilities/Infrastructure

Please describe any facilities/infrastructure needs for your unit/area.

<p><b>Narrative:</b> <i>Describe the current facilities/infrastructure of your unit/area in relation to the relative need for effective delivery of programs and services.</i></p> <p><i>Describe implications of the current state of facilities/infrastructure in your unit/area to overall service delivery.</i></p>	<p>The current ETC lab needs to be little re-organized to properly accommodate more than one class. The lab has all the components; we just need help to re-arrange the systems to be able to facilitate better lab practices.</p> <p>The new Building Automation (DDC) and Advanced Lighting and Control labs need to be designed and built as a state-of-the-art to attract incumbent workers.</p> <p>Both Labs A-191 and B-150 have many water leaks that make teaching difficult and dangerous.</p> <p>All the electrical outlets in B-150 are old, broken and outdated that need to be updated.</p>
<p><b>Facilities/Infrastructure Requests</b> <i>List your facilities requests in prioritized/ranked order.</i></p> <p><i>Facilities requests will go through the established College and District planning and budgeting process.</i></p>	<p>We are currently painting walls and installing noise reducing panels on the walls with paid student help including installing electrical conduit, wiring, furniture, etc.</p> <p>In A-191 we need window blinds for both rooms.</p> <p>Build a large state of the art self-sustainable building with the latest technology to have at least twelve classrooms and each one capable in handling 30 to 40 students, six to eight labs 4,000 sq.ft a large multi- purpose room to be able to handle 500 or more students, a large kitchen, a large learning center for the students and the community to go too.</p>

## Technology

Please describe any technology needs for your unit/area.

Technical programs are constantly evolving, residential and light commercial programs are being enhanced and the few commercial small industrial programs become even more complex with the ever-changing technology. In the last few years the HVAC industry has finally caught up with the high tech sector such as, wireless web base controls making the HVAC industry more complex and in need of better prepared technicians to work in the 21<sup>st</sup> century facilities. Our current facilities were design for the 1970's which they are inadequate for the current industry standards even though we try maintaining the program and the facilities current with the industry. It should become a college priority not only to have additional space but to have instructional labs to teach the new high tech HVAC systems, Control systems and Energy Management and Efficiency. For the department to be able to teach state of the art technology will also need a large building around 70000 to 100,000 sq feet building to house labs, classrooms, conference rooms and office spaces to use it as a living lab. This will allow the program to collect energy use data, water use data and so much more. Since the department has expanded significantly, we will need additional computers, LCD projectors, and large screen TV's for videos and DVD's. To keep up with rapidly changing technology, we will need different types of software for our building automation controls, refrigeration as well as for the computer lab space.

<p><b>Narrative:</b>  <i>Describe the technology needs of your unit/area in relation to the relative need for effective delivery of programs and services.</i></p> <p><i>Describe implications of the current state of technology in your unit/area to overall service delivery.</i></p>	<p>The new Building Automation (DDC) and Advanced Lighting and Controls Labs need network and communication wiring and also we'll need high lumen projectors and LCD monitors to be able to use and display the latest technology.</p> <p>The existing staff has to do all the work on installation, ordering, designing, developing curriculum and more instead of the district paying some company to do all the physical work so the instructors can devote time and concentrate on the curriculum development.</p>
<p><b>Technology Requests</b>  <i>List your technology requests in prioritized/ranked order.</i></p> <p><i>Technology requests will go through the established College and District planning and budgeting process.</i></p>	<p>The new Building Automation (DDC) and Advanced Lighting and Controls Labs.</p> <ol style="list-style-type: none"> <li>1. Two projectors</li> <li>2. Four 50" LCD monitors</li> </ol>

#### **IV. OTHER**

*Please feel free to provide any additional information about your unit/area below.*

As mentioned above, the college and the district need to see the longer picture of the energy efficiency and sustainability in order to stay current with the ever changing technology. Laney College is one of the few if not number one in the for front in the nation that has advanced technical programs in one campus that if we had new buildings and infrastructure we could be the go to leading college in the nation.