

Department Plan
Long Beach City College
Dept - HVAC Mechanical Systems

Dept - HVAC Mechanical Systems

Mission: The Refrigeration & Air Conditioning Technology program's mission is to provide technical training to meet the demands of the industry and the needs of the individual to provide employment and prepare students for the EPA exam which is required in the industry. Also, the Refrigeration & Air Conditioning Technology program's mission is to provide technical training to meet the demands of the industry and the needs of the individual to provide employment and the capacity to attain career success in Air Conditioning/Refrigeration; and a sense of professional responsibility.

Description: The Air Conditioning/Refrigeration program is unique in that the day program courses are 10 unit classes; 5 hours lecture and 15 hours of lab per week.
The program teaches heating, ventilation, air conditioning, and refrigeration technology for residential, commercial and industrial applications.
The Mechanical Maintenance Technology Program gives students the comprehensive skills to maintain, diagnose, and repair mechanical electrical equipment related to any heavy industry (i.e.) transportation, shipping, and rail or the refinery industry. The department also offers courses in forklift training.

Career Certificates and Associates in Science degrees are offered

The top code is 0945. There are currently two full time for both day and evening classes.

The Air Conditioning Curriculum assists students in the following ways: Teach good work habits and acceptance of supervision.

Promote awareness of problems relating to venting, recovery, and recycling of refrigerants.

Ensure environmentally safe service practices.

Ensure that equipment is properly used and maintained.

Encourage students to become adaptable and as competent as possible for whatever opportunity may arise in the future.

Promote the ability to communicate and show courtesy and respect to individuals.

Develop the student's interest in Air Conditioning and refrigeration as a vehicle for getting a good technical education.

Ensure the correct way to perform all tasks in the laboratory.

Develop theoretical knowledge, the how and why a systems performs.

In terms of our student profile, based on data from Fall 2011, we have have 3 female students in the day program. This a 300% increase. Many of our students speak and understand very limited English. Most of our student's goals are to attain a Career Certificate. They are looking for employment in the Air Conditioning field.

The night student is typically older and is working. These students are taking class to improve their job skills, and are looking for employment in the Air Conditioning field.

Summary of Access, Productivity & Effectiveness: In summarizing the HVAC/Mechanical effectiveness report from Spring 2009 the Enrollment Count was 282, the success rate was 73%, the completion rate was 74%, and the retention rate was 86%. In spring 2010 the enrollment count was 187, the success rate was 76%, the completion rate was 79%, and the retention rate was 79%. In spring 2011 the enrollment count was 202, the success rate was 73%, the completion rate was 75%, and the retention rate was 88%.

The enrollment for spring 2009 was 216 with 10 sections. The FTES was 40.48 , and WSCH was 1,214.33

The enrollment for spring 2010 was 136 with 6 sections. The FTES was 33.34 , and WSCH was 1,002.74

The enrollment for spring 2011 was 182 with 7 sections. The FTES was 38.88 , and WSCH was 1,166.29

From the above data, our department is meeting the school mission statement and giving the student quality education and excellent job skills.

Our program awarded in the Spring 2009: 4 Associate in Science - Air Conditioning/ Refrigeration degrees.
25 Certificate of Achievement- Air Conditioning/Refrigeration Practical Experience.

Spring 2010: 2 Associate in Science - Air Conditioning/ Refrigeration degrees.
16 Certificate of Achievement- Air Conditioning/Refrigeration Practical Experience.

Spring 2011: 2 Associate in Science - Air Conditioning/ Refrigeration degrees.
11 Certificate of Achievement- Air Conditioning/Refrigeration Practical Experience.

The HVAC/Mechanical class size has averaged 23 students during this period.

The Air Conditioning/Refrigeration day program is unique in that the day program courses are four(4) 10 unit classes; 5 hours lecture and 15 hours of lab per week.
for a total of 40 units. Our department offeres 2 courses a semester, so a student can complete the program in two years.

The night program required 30 units for a certificate. Our Department has only offered half of the required night classes during this period due to budget cuts.

During this period from Spring 2009 and Spring 2011, our program has cut many classes from the night program, it will take about 4.5 years to complete the program, due the budget cuts.

Internal Conditions (see Help for list): Faculty continue to strive to remain current in the field of learning and study skills instruction. This effort takes place sometimes during Flex Day department meetings and workshops, and other times during individual discussions between instructors and/or through individual research. All faculty attend seminars to upgrade their skills.

Each year the Air Conditioning Department has fought to maintain an acceptable level of service to our students. This has become increasingly difficult because of budget cuts.

Our Department relies on grants and VTEA funds to upgrade computes and purchase new equipment. The Air Conditioning Club is generating funds from various fund raising events and faculty has been successful in obtaining donations from contact in industry to support the program. Some students have received scholarship monies.

External Condition- Grants Available: Our Department relies on grants and VTEA funds to upgrade computes and purchase new equipment. The Air Conditioning Club is generating funds from various fund raising events and faculty has been successful in obtaining donations from contact in industry to support the program. Some students have received scholarship monies.

External Condition- Advisory Committee Input: Our Advisory Committee met on May 20, 2010: Scott Strong stated that the HVAC program must help improve student soft skills. He asked if our program receives donations from the industry. He stated that we need to have a statement on what the student will be able to do when they complete the program.

Jeff Recker stated that his company wants students who have basic skills in electricity. He said that our program needs to work more with industry, especially in the area of skills needed by students entering the field. He said his company is willing to donate equipment.

Eric Ivory said we should work with the local union in helping the students pass the union entrance test, and help them in applying for the union.

The question was asked if our program is using any green/sustainable technology.

All members stated that we must go green. All members agreed that we need to have green, solar and sustainable technology in our program.

All agreed that our program is meeting the needs of the students and the requirements of the industry.

Faculty & Staff : 2 full time faculty, 1 staff

Names & Titles of Program Patrick Heeb, Air Conditioning Department Head

Review Participants:

2009-2010 Developed new course, Solar Hot Water Heating AC 260 3 units.

Accomplishments: Seven (7) students passed the EPA test.

Purchased new solar hot water trainer for new and existing classes.

Developed new green curriculum for all of our day program classes.

2010-2011 Eight (8) students passed the EPA section 608 test and received their universal license.

Accomplishments: Purchased an Infrared Camera using VTEA funds

Goal: Develop GREEN solar renewable and sustainable Energy Technology curriculum and courses to meet the changing industry and students needs

Provide environmental (green) and solar and renewable and sustainable energy technology equipment to the curriculum by experienced and highly trained staff

using a quality curriculum for students

that will equip them with the necessary skills and abilities to successfully

transition from college to work in the green solar field.

Year: 2009 - 2010

2010 - 2011

2011 - 2012

Start Date: 08/14/2009

Goal Status: In Progress

Goal Priority: High

Rationale: Green solar technology describes energy efficiency and water conservation. Having an understanding of how green technology effects our daily lives will allow the students to interpret the global climatic change, by using renewable and sustainable energy sources.

Strategies: Provide new test equipment

Provide training for faculty in the new green solar and renewable and sustainable energy sources.

Develop new curriculum for green solar renewable and sustainable energy sources

Responsible Parties: faculty

Campus supported by this PCC

goal:

Specify if goal is for Department/ Program

department or sub-area:

Level of Support Needed: Department

Related Goals

Board of Trustees' Goals 2009 - 2011

* Measure and improve student success.

Educational Master Plan 2005 - 2010

* Learning

Superintendent-President Agenda 2009 - 2011

* Student Success

Goal: Increase the rates of students obtaining entry level positions in the HVAC/R industry

Develop internships and networks with the HVAC industry to help students attain employment upon the completion of our program.

Year: 2009 - 2010

2010 - 2011

2011 - 2012

Start Date: 08/14/2009

Goal Status: In Progress

Goal Priority: High

Rationale: This program will provide students with the knowledges and skills they will need to obtain entry level positions in the air conditioning/refrigeration industry.

Strategies: This is a two year program of instruction

Responsible Parties: HVAC Instructors

Campus supported by this PCC

goal:

**Specify if goal is for Department/ Program
department or sub-area:**
Level of Support Needed: Department

Goal: Increase passing rates for EPA section 608 of the Clean Air Act licensing exams.

Since November 14, 1994 all refrigerant and air conditioning technicians must be certified by the EPA, and only certified technicians can purchase refrigerants.
Our program will provide the necessary information and help students pass this test. Our instructors can give the test. The CTE center will assist in helping the students pass the test.

Year: 2009 - 2010
2010 - 2011
2011 - 2012

Start Date: 08/14/2009

Goal Status: In Progress

Goal Priority: High

Rationale: A EPA section 608 universal license is required for all jobs in the HVAC/R industry.

Strategies: Provide the students with study material, sample tests, videos, and computer study guides to pass the test.

Responsible Parties: HVAC faculty

Campus supported by this PCC

goal:

**Specify if goal is for Department/ Program
department or sub-area:**
Level of Support Needed: Department