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AIR CONDITIONING/REFRIGERATION THEORY & PRACTICAL EXPERIENCE

LONG BEACH CITY COLLEGE

Curriculum Guide for Academic Year 2010-2011

Certificate of Achievement and/or Associate in Science

ALL INFORMATION CONTAINED HEREIN IS SUBJECT TO CHANGE WITHOUT NOTICE

For possible updates to this guide please refer to the following website: http://osca.lbcc.edu

CAREER OPPORTUNITIES

Students prepare for entry-level positions in air conditioning and refrigeration. The program includes H.V.A.C.R. (Heating, Ventilation, Air Conditioning, and Refrigeration) technology for commercial and industrial applications. Emphasis will be placed on training an individual to have the theory and manipulative skills that will enable that person to be a productive member of the air conditioning and refrigeration industry.

UPON COMPLETION OF THE AIR CONDITIONING/REFRIGERATION PROGRAM, THE STUDENT WILL BE ABLE TO:

1. Establish vocational objectives based on a thorough knowledge of the various job opportunities and general job requirements in the occupational service fields of air conditioning, heating, and refrigeration.
2. List and identify the elements of an air conditioning system and explain why each is critical to the total comfort system.
3. List and identify the elements of commercial and industrial refrigeration systems and explain the function of each part as it relates to the entire unit.
4. Function safely in a refrigeration air conditioning shop or equipment room without danger to self or others while performing assigned tasks.
5. Locate and repair or replace those elements and components within an air conditioning, refrigeration, or heat pump system that are found to be defective or worn beyond repair and return the systems to service.
6. Install all gauges and test instruments necessary to check the operation of a refrigerating or air conditioning system.
7. Perform those skills necessary to assemble the elements of a commercial and industrial refrigeration or air conditioning system.
8. Operate and maintain a refrigeration or air conditioning system.
9. Identify and explain the function of components in solar heating and/or cooling systems.

DEPARTMENTAL ADMISSION REQUIREMENTS

None. For more departmental information call (562) 938-3053 or 938-3054.

	Students pursuing an Associate Degree for this field of concentration need to select from specific courses in general education disciplines. For a complete listing of courses or disciplines, refer to the Associate Degree information section of this guide OR view the guide online at http://osca.lbcc.edu.	

	REQUIRED COURSES		***UNITS***	In Progress	Completed Grade
	AC/R 211	Air Conditioning & Refrig. Fundamentals	10		
	AC/R 212	Electrical Theory & Component Application	10		
†	AC/R 213	Psychrometrics, Ducting and Load Calculations	10		
†	AC/R 214	Troubleshooting Total Comfort Systems	10		
	TOTAL UNITS		**40**		

***Recommended* but not required course:**

	FORK 801	Forklift Safety & Operation	1		

LEGEND

† **This course has a prerequisite; prerequisite courses must be completed with at least a "C" or "P" grade (see catalog or schedule of classes).**

GRADUATION REQUIREMENTS

For **CERTIFICATE OF ACHIEVEMENT:**

This certificate is a one to two year program in occupational/technical areas at Long Beach City College which provides training in job skills and employment opportunities. Complete the required units listed above with a minimum grade of "C" in each course. Fifty percent (50%) or more of the unit requirements for this field of concentration must be completed in residence (credit earned by exam, where applicable, may be included).

For ASSOCIATE DEGREE:

The Associate Degree is a two-year college degree awarded by Long Beach City College that includes general education courses and a major. In addition to the requirements for the Certificate of Achievement, complete the A. A. degree requirements specified in the Catalog. The requirements for general education/proficiency and the field of concentration need to be from the same catalog year. This catalog year may be any year between the year of initial enrollment to the present, provided continuous enrollment is maintained throughout (see the catalog for definition of "continuous enrollment"). Fifty per cent (50%) or more of the unit requirements for this field of concentration must be completed in residence (credit earned by exam, where applicable, may be included).

 ***REQUIRED*** for the Communication and Analytical Thinking requirement:

† Math Requirement: Math 120, Math 130, Math 130A ***OR*** a more advanced level of Mathematics.

NOTE: To receive a certificate or degree you must submit completed application forms in the Admissions and Records Office during your final semester of course work.

In general, "double-counting" is not allowed. That is, one course may not be used to fulfill both a field of concentration requirement and to fulfill a general education requirement.

Students interested in transferring to a university to continue their study in this field of concentration or other majors are strongly advised to consult an LBCC academic counselor and refer to the ASSIST website (www.assist.org) for major preparation information. Counselors can clarify the different major and admissions requirements at a university. Students may visit the Student Success/Transfer Services Center to access further educational resources. If you need to set up an appointment to see a counselor or schedule the SOAR Test, call LAC (562) 938-4561 or PCC (562)938-3920.