

AIR CONDITIONING/REFRIGERATION

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

Student is provided the basic theory, upgrading and/or continuing education in H.V.A.C.R. (Heating, Ventilation, Air Conditioning, and Refrigeration).

DEPARTMENTAL ADMISSION REQUIREMENTS

None. For more departmental information call (562) 938-3066.



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

| | | | | In Progress | Completed Grade |
|-----------------------|--------------------------------|-----------|--|-------------|-----------------|
| AC/R 220 | Refrigeration Fundamentals | 3 | | | |
| AC/R 223 | Gas Heating Fundamentals | 3 | | | |
| AC/R 226 | Air Properties and Measurement | 2 | | | |
| AC/R 229 | Heat Pumps | 3 | | | |
| AC/R 230 | Electrical Fundamentals | 3 | | | |
| AC/R 233 | Commercial Electrical for HVAC | 3 | | | |
| AC/R 240 | Advanced Air Conditioning | 4 | | | |
| AC/R 421A | Automatic Controls for HVAC | 3 | | | |
| Subtotal Units | | 24 | | | |

UNITS

Select SIX (6) units from the following courses:

| | | | | |
|-----------------------|--|-----------|--|--|
| † AC/R 421B | Automatic Controls for Refrig., Air Conditioning & Heating | 3:3 | | |
| AC/R 422 | Air Conditioning System Design & Installation | 3 | | |
| AC/R 400A-B | Uniform Mech. Code I & II | 3:3 | | |
| AC/R 450A-B | Transport Refrigeration | 5:5 | | |
| † AC/R 271AD | Work Experience (Maximum 4 units) | 2-4 | | |
| or 272AD or 273AD | | | | |
| FORK 801 | Forklift Safety & Operation | 1 | | |
| Subtotal units | | 6 | | |
| TOTAL UNITS | | 30 | | |

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 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.