

# Refrigeration and Air Conditioning Technology

Honolulu Community College's Refrigeration and Air Conditioning Technology Program (RAC) curriculum has been designed to provide students with the knowledge and practical skills for entry-level employment in the industry.

## Program Entry Requirements

### English Requirements:

- Completion of ENG 20 BCDE (native speakers only)
- Grade of "C" or higher in ESL 11, 13, and 17 (non-native speakers only)
- OR
- COMPASS\* placement into ENG 21/51

### Math Requirements:

- Completion of Math 20 BCD
- OR
- COMPASS\* placement in Math 50
- \*UH Community College System placement test

## Recommended Preparation

- Pre-algebra, applied mathematics, basic geometry, and English
- COSTS (not including tuition)
- Books, supplies, and tools: \$800

## Program Technical Standards

Our program technical standards have been developed to help students understand the minimum essential mental, physical, and behavioral skills necessary for participation in and completion of all core aspects of our curriculum.

As an RAC student, you will be expected to do the following:

**General:** Apply theories and principles for proper installation, maintenance, troubleshooting, and repair of cooling components and systems.

- Specific:** Read textbooks, handouts, diagrams and charts.
- Visualize three-dimensional objects.
  - Take measurements and do conversions.
  - Interpret readings on meters, gauges, scales and other measurement devices.
  - Identify names and functions of cooling components.
  - Explain operating characteristics of cooling systems.
  - Relate concepts of physics, chemistry, and electricity to operations of cooling systems.
  - Identify tools and materials.
  - Follow safety procedures.
  - Inspect and test cooling components and systems.
  - Recognize indicators of malfunctions.
  - Draw conclusions based on a review of findings.
  - Formulate service or repair plan.
  - Perform procedures according to proper specifications.



RAC student inspects and tests cooling components.



RAC student performs procedures according to proper specifications.

## Refrigeration and Air Conditioning Technology



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RAC student reads meters and gauges.

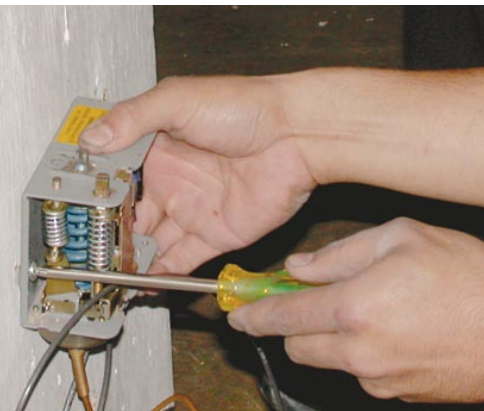
Sensory/  
Observation  
skills 2



3

RAC students work at varying heights.

Motor  
skills 3



6

RAC student works with electrical equipment.

Communication  
skills 4

Behavioral  
skills 5

Environmental  
tolerance 6

**General:** Use sensory cues to conduct inspections and tests to determine root causes of failures and respond properly.

**Specific:** Read meters, gauges, and other measuring devices.  
Distinguish identifying colors of wires, knobs and other objects.  
Recognize and compare shapes and forms of objects.  
Detect and respond to indicators of malfunctions.  
Select appropriate materials, tools and equipment for maintenance and repairs.

**General:** Possess sufficient physical strength, flexibility, and dexterity to safely handle electrical and mechanical parts.

**Specific:** Operate necessary tools, equipment, and machinery.  
Remove and replace failed components.  
Position and maneuver in confined spaces to do repairs.  
Work at varying heights.  
Lift and transport equipment and materials as necessary.

**General:** Communicate effectively to gather and convey information.

**Specific:** Obtain necessary information from oral and written sources.  
Express information coherently.

**General:** Behave appropriately and safely in a cooperative learning environment.

**Specific:** Fulfill personal and shared responsibilities.  
Work cooperatively with partners and groups.  
Exercise good judgement.  
Follow safety procedures.

**General:** Function safely in a refrigeration and air conditioning lab.

**Specific:** Work for prolonged periods exposed to:

Extreme noise	Dust and fumes
Extreme heat	Machinery with moving parts
Sharp tools and materials	Slippery or uneven surfaces
Electrical equipment	Variations in lighting
Chemicals and toxins	

# Refrigeration and Air Conditioning Technology

## For More Information

If you are interested in our program, we encourage you to meet with our RAC counselor (phone: 845-9129) and refer to the information at <http://tech.honolulu.hawaii.edu/rac/index.html> to decide whether the RAC program is right for you.

Please keep in mind that you will have to fulfill additional requirements to be eligible for certification exams or licensure in the field. For information on EPA certification, call 845-9484 or e-mail [derekosh@hcc.hawaii.edu](mailto:derekosh@hcc.hawaii.edu) For examples of employment standards go to [http://www.hiwi.org/admin/uploadedPublications/501\\_Installation,\\_Maintenance,\\_and\\_Repair\\_Occupations.pdf](http://www.hiwi.org/admin/uploadedPublications/501_Installation,_Maintenance,_and_Repair_Occupations.pdf)

## Disability Accommodations

We have developed our technical standards in compliance with the Americans with Disabilities Act and Section 504 of the Rehabilitation Act of 1973. We will provide reasonable accommodations to qualified students with disabilities. If you are interested in our program, we encourage you to review the program technical standards and course information at <http://tech.honolulu.hawaii.edu/rac/index.html> to decide whether the RAC program is right for you.

If you have questions about the RAC program, please call the HCC Counseling Office at 845-9129. Individuals with hearing impairments may call 845-9270 (v/t) or use the Telecommunication Relay Service at 1-877-447-5990.

If you have questions about disability access and accommodations, please direct them to HCC's Services for Students with Disabilities (SSD) at 845-9282 (v/t), 845-9272 (v/t), or e-mail [access@hcc.hawaii.edu](mailto:access@hcc.hawaii.edu)

SSD will be happy to meet with you, evaluate your disability documentation, and, as appropriate, recommend reasonable accommodations consistent with your documented limitations and the technical standards of the program. We will keep your disability information confidential within the parameters of the accommodation process.