**AIR CONDITIONING TECHNOLOGY PROGRAM**

**Air Conditioning Technology - Critical Systems**

**ASSOCIATE OF APPLIED SCIENCE DEGREE (AAS)**

**REQUIRED CREDITS: 61.5**

**DEGREE CODE: ACTCS-AAS**

**DESCRIPTION**
This program prepares students to install, maintain, service, troubleshoot, and repair critical systems such as in data process centers and hospitals. The program enables students to learn how to maintain, troubleshoot, and repair HVAC equipment for equipment cooling and other related machinery. Instruction includes classroom, laboratory, and hands-on work in the laboratory or in the field. Along with core classes, academic skills emphasizing related math, science, and human relations components are stressed to help students prepare to meet challenges commonly found in the workplace.

**STUDENT LEARNING OUTCOMES**
- Incorporate workforce safety principals while performing basic tasks of a Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC/R) technician.
- Interpret electrical/mechanical schematics on HVAC/R equipment to diagnose mechanical or electrical problems in a residential or light commercial environment.
- Appraise EPA rules, regulations, and refrigerant handling techniques in the performance of HVAC/R duties.
- Diagnose and repair electrical or mechanical problems on commercial air conditioning equipment; critical systems; chillers.

**PLEASE NOTE** - The courses listed below may require a prerequisite or corequisite. Read course descriptions before registering for classes. All MATH and ENG courses numbered 01-99 must be completed before reaching 30 total college-level credits. No course under 100-level counts toward degree completion.

**GENERAL EDUCATION REQUIREMENTS (23 CREDITS)**

<table>
<thead>
<tr>
<th>Area</th>
<th>Credits</th>
<th>Course Code</th>
<th>Course Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathematics</td>
<td>3</td>
<td>MATH 104B</td>
<td>Applied Mathematics</td>
</tr>
<tr>
<td>English Composition</td>
<td>3-5</td>
<td>ENG 100 or 101 or 107 or 113</td>
<td></td>
</tr>
<tr>
<td>Communications</td>
<td>3</td>
<td>COM 115</td>
<td>Applied Communication</td>
</tr>
<tr>
<td>Human Relations</td>
<td>3</td>
<td>MGT 100B</td>
<td>Practical Human Relations for Business</td>
</tr>
<tr>
<td>Natural Science</td>
<td>4</td>
<td>MT 102B</td>
<td>Fundamentals of Electricity</td>
</tr>
<tr>
<td>Fine Arts/Humanities/Social Science</td>
<td>3</td>
<td>GEOG 106</td>
<td>World Geography</td>
</tr>
<tr>
<td>U.S. and Nevada Constitutions</td>
<td>4-6</td>
<td>PSC 101</td>
<td>Introduction to American Politics</td>
</tr>
</tbody>
</table>

**SPECIAL PROGRAM REQUIREMENTS (38.5 CREDITS)**

<table>
<thead>
<tr>
<th>Area</th>
<th>Credits</th>
<th>Course Code</th>
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</thead>
<tbody>
<tr>
<td>Core Requirements</td>
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<td></td>
</tr>
<tr>
<td>AC 102B</td>
<td>5</td>
<td>Introduction to HVAC Electrical Theory and Application</td>
<td></td>
</tr>
<tr>
<td>AC 103B</td>
<td>5</td>
<td>Introduction to HVAC Mechanical Theory and Application</td>
<td></td>
</tr>
<tr>
<td>AC 110B</td>
<td>5</td>
<td>Intermediate HVAC Electrical Theory and Application</td>
<td></td>
</tr>
<tr>
<td>AC 115B</td>
<td>5</td>
<td>Troubleshooting</td>
<td></td>
</tr>
<tr>
<td>AC 119B</td>
<td>1.5</td>
<td>Professionals in Customer Service</td>
<td></td>
</tr>
<tr>
<td>AC 201B</td>
<td>3</td>
<td>HVAC Automatic Controls</td>
<td></td>
</tr>
<tr>
<td>AC 212B</td>
<td>5</td>
<td>Equipment Cooling</td>
<td></td>
</tr>
<tr>
<td>MT 104B</td>
<td>4</td>
<td>Industrial Electricity</td>
<td></td>
</tr>
</tbody>
</table>

Choose five credits from the following

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC 220B</td>
<td>Chiller Operations and Maintenance</td>
<td>5</td>
</tr>
<tr>
<td>AC 295B</td>
<td>Internship HVAC Career</td>
<td>1-16</td>
</tr>
</tbody>
</table>

Choose one from the following (0-3 credits)

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Description</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>IS 100B</td>
<td>Core Computing Competency</td>
<td>0</td>
</tr>
<tr>
<td>IS 101</td>
<td>Introduction to Information Systems</td>
<td>3</td>
</tr>
</tbody>
</table>

**See Degree Plan on next page.**

**NOTE**
- Course numbers with the “B” suffix may be non-transferable for a NSHE baccalaureate degree.
- Course numbers with the “H” suffix are designated Honors-level courses and can be used to fulfill equivalent general education requirements. For more information visit www.csn.edu/honors.
- In no case, may one course be used to meet more than one requirement except for the Values and Diversity general education requirement (only AA, AS, and AB degrees) which may be used to fulfill the corresponding general education or emphasis requirement.
- Students may elect to graduate using the degree requirements in effect at the time of matriculation, or when they declared or changed major or the current catalog. If a program is official after a student has matriculated, the student may choose the degree requirements of the new program. In no case may a student use a catalog which is more than six years old at the time of graduation.
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REQUIRED CREDITS: 61.5
DEGREE CODE: ACTCS-AAS

FULL-TIME STUDENT DEGREE PLAN
Plan can be modified to fit the needs of part-time students by adding more semesters.

FIRST SEMESTER
- MATH 104B Applied Mathematics 3
- ENG 100 or 101 or 107 or 113 3-5
- AC 102B Introduction to HVAC Electrical Theory and Application 5
- AC 103B Introduction to HVAC Mechanical Theory and Application 5

TOTAL CREDITS: 16-18

SECOND SEMESTER
- MGT 100B Practical Human Relations for Business 3
- MT 102B Fundamentals of Electric 4
- GEOG 106 World Geography 3
- AC 110B Intermediate HVAC Electrical Theory and Application 5
- IS 100B or IS 101 0-3

TOTAL CREDITS: 15-18

THIRD SEMESTER
- AC 119B Professionals in Customer Service 1.5
- AC 201B HV AC Automatic Controls 3
- AC 212B Equipment Cooling 5
- MT 104B Industrial Electricity 4

TOTAL CREDITS: 13.5

FOURTH SEMESTER
- COM 115 Applied Communication 3
- PSC 101 Introduction to American Politics 4
- AC 115B Troubleshooting 5
- AC 220B or 295B 5

TOTAL CREDITS: 17

DEGREE PLAN TOTAL CREDITS: 61.5-66.5

1This course has prerequisites of AC 106B and AC 111B. Contact the department of Applied Technologies for permission to complete this class in this semester.