# AIR CONDITIONING TECHNOLOGY — 63 Credits

## ASSOCIATE OF APPLIED SCIENCE DEGREE (AAS)

This program prepares students to install, maintain, service, troubleshoot and repair residential heating and cooling systems. Additionally, the program includes commercial refrigeration courses enabling students to learn how to maintain, troubleshoot and repair walk-in freezers, ice machines and other related machinery. Instruction includes classroom, laboratory and hands-on work 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 – *Graduates of this program will have the opportunity to:*

- Perform the basic tasks of a Heating, Ventilation, Air Conditioning, and Refrigeration (HVAC/R) technician in a residential and light commercial environment.
- Read and interpret electrical schematics; troubleshoot and diagnose mechanical and electrical problems using methods and equipment appropriate to this industry.
- Utilize currently accepted EPA rules, techniques, and regulations in the performance of HVAC/R duties; observe proper safety practices when working with high- and low-voltage electricity, and when working with refrigerants under pressure.
- Demonstrate knowledge of mathematics, communication skills, and other core degree requirements adequate to assume supervisory or entry-level management positions in HVAC/R industry.

### GENERAL EDUCATION REQUIREMENTS (22 Credits):

| | CR | SEMESTER |
|---|---|---|
| **COMMUNICATIONS**: COM 115, ENG 107 | 3 | _____ |
| **ENGLISH**: ENG 100, 101, 107, 113 | 3-5 | _____ |
| **HUMAN RELATIONS**: ALS 101, ANTH 101, 112, 201, 205, HIST 105, 106, 107, 150, 151, 210, 247, 260, HMS 130, 135B, 265B, MGT 100B, 283, PHIL 135, PSC 201, PSY 101, 102, 207, 208, 261, SOC | 3 | _____ |
| **MATHEMATICS**: MATH 104B, 116 or above (except MATH 122, 123) | 3 | _____ |
| **SCIENCE:** AST 103, CHEM 105, ENV 101, MT 102, PHYS 110 | 3 | _____ |
| **FINE ARTS/HUMANITIES/ SOCIAL SCIENCES:** AM, ANTH, ART, COM, ECON, ENG 223 or above, GEOG 106 or above, HIST, International Languages, Music, PHIL, PSC, PSY, SOC, THTR, WMST 113 | 3 | _____ |
| **U.S. AND NEVADA CONSTITUTIONS:** PSC 101 or HIST 101 and HIST 102 or HIST 101 and HIST 217 | 4-6 | _____ |

### SPECIAL PROGRAM REQUIREMENTS (41 Credits):

| | | CR | SEMESTER |
|---|---|---|---|
| **AC 102B** | Introduction to HVAC Electrical Theory and Application | 5 | _____ |
| **AC 103B** | Introduction to HVAC Mechanical Theory and Application | 5 | _____ |
| **AC 106B** | Residential Gas Heating | 5 | _____ |
| **AC 110B** | Intermediate HVAC Electrical Theory and Application | 5 | _____ |
| **AC 111B** | Heat Pumps | 5 | _____ |
| **AC 115B** | Troubleshooting | 5 | _____ |
| **AC 200B** | Commercial Refrigeration I | 5 | _____ |
| **Plus 6 credits from the following:** | | | |
| **AC 114B** | Heat Load and Duct Design | 5 | _____ |
| **AC 116B** | Copper Fundamentals | 1 | _____ |
| **AC 119B** | Professionals in Customer Service | 1.5 | _____ |
| **AC 120B** | Air Conditioning Duct Work Fabrication | 3 | _____ |
| **AC 202B** | Commercial Refrigeration II | 5 | _____ |
| **AC 210B** | Boiler Operation and Maintenance | 3 | _____ |
| **AC 221B** | Gas Heat Pump Technology I | 5 | _____ |
| **CADD 100** | Introduction to Computer Aided Drafting | 3 | _____ |
| **CONS 120B** | Printreading and Specifications | 3 | _____ |
| **IS 101** | Introduction to Information Systems | 3 | _____ |

**NOTE:** Courses with a B suffix (example - XYZ 123B) may be non-transferable for a NSHE baccalaureate degree.

AC-AAS **63** Total Credits

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.

ASSOCIATE OF APPLIED SCIENCE

Guided Pathway 2013-2014

# AAS AIR CONDITIONING TECHNOLOGY

66 Credits

| **First Semester** *Fall* | | *Credits* | *Completed* |
|---|---|---|---|
| AC 102B | Intro to HVAC Electrical Theory and Application | 5 | |
| AC 103B | Intro to HVAC Mechanical Theory and Application | 5 | |
| Science: Choose one from back | | 3 | |
| ENG 100, 101, 107, or 113 | | 3 | |
| | Prerequisite: English Placement Test | | |
| | ***Total*** | **16** | |

| **Second Semester** | | *Credits* | |
|---|---|---|---|
| AC 106B | Residential Gas Heating | 5 | |
| | Prerequisite: AC 102, 103 | | |
| AC 110B | Intermediate HVAC Electrical Theory and Application | 5 | |
| | Prerequisite: AC 102, 103 | | |
| MATH 116 | Technical Mathematics | 3 | |
| | Prerequisite: Math Placement Test | | |
| ENG 107 | Technical Communications I | 3 | |
| | ***Total*** | **16** | |

| **Third Semester** | | *Credits* | |
|---|---|---|---|
| AC 111B | Heat Pumps | 5 | |
| | Prerequisite: AC 110 | | |
| AC 200B | Commercial Refrigeration I | 5 | |
| | Prerequisite: AC 102, 103, 111 | | |
| Human Relations: Choose one from back | | 3 | |
| Science: Choose one from back | | 3 | |
| | ***Total*** | **16** | |

| **Fourth Semester** | | *Credits* | |
|---|---|---|---|
| AC 115B | Troubleshooting | 5 | |
| | Prerequisite: AC 111 | | |
| AC Elective: Choose one from back | | 3 | |
| AC Elective: Choose one from back | | 3 | |
| Fine Arts/ Humanities/ Soc Sc: Choose one from back | | 3 | |
| PSC 101 **or** | Introduction to American Politics | 4 | |
| HIST 101&102 | U.S. History I & U.S. History II | | |
| | ***Total*** | **18** | |

Guided Pathway 2014-2015

# AAS AIR CONDITIONING TECHNOLOGY

63 Credits

| **First Semester** *Fall* | | *Credits* | *Completed* |
|---|---|---|---|
| AC 102B | Intro to HVAC Electrical Theory and Application | 5 | |
| AC 103B | Intro to HVAC Mechanical Theory and Application | 5 | |
| MATH 104, 116 or above (except MATH 122, 123) | | 3 | |
| | Prerequisite: Math Placement Test | | |
| ENG 100, 101, 107, or 113 | | 3 | |
| | Prerequisite: English Placement Test | | |
| | ***Total*** | **16** | |

| **Second Semester** | | *Credits* | |
|---|---|---|---|
| AC 106B | Residential Gas Heating | 5 | |
| AC 110B | Intermediate HVAC Electrical Theory and Application | 5 | |
| | Prerequisite: AC 102, 103, MATH 104 or above | | |
| AC Elective: Choose one from back | | 3 | |
| COM 115 | Applied Communication | 3 | |
| | ***Total*** | **16** | |

| **Third Semester** | | *Credits* | |
|---|---|---|---|
| AC 111B | Heat Pumps | 5 | |
| | Prerequisite: AC 110 | | |
| AC 200B | Commercial Refrigeration I | 5 | |
| | Prerequisite: AC 110 and COM 115 or ENG 107 | | |
| Human Relations: Choose one from back | | 3 | |
| Science: Choose one from back | | 3 | |
| | ***Total*** | **16** | |

| **Fourth Semester** | | *Credits* | |
|---|---|---|---|
| AC 115B | Troubleshooting | 5 | |
| | Prerequisite: AC 111 | | |
| AC Elective: Choose one from back | | 3 | |
| | | | |
| Fine Arts/ Humanities/ Soc Sc: Choose one from back | | 3 | |
| PSC 101 **or** | Introduction to American Politics | 4 | |
| HIST 101&102 | U.S. History I & U.S. History II | | |
| | ***Total*** | **15** | |