

# AIR CONDITIONING AND REFRIGERATION

The air conditioning and refrigeration industry offers a bright future for people who wish to prepare for entry into this profession. This field includes sales, installation, maintenance, service and operation of equipment not only in residential settings, but also in commerce and industry.

The Facilities Maintenance/Management program offers training in addition to the Air Conditioning and Refrigeration course work to enable graduates to pursue broader employment opportunities. Course work prepares students for careers in facilities and grounds maintenance fields. Students pursuing the Associate of Applied Science degree will be better prepared to pursue positions that will lead to promotion and management positions in the facilities and grounds maintenance fields.

Students are required to take the Industry Competency Exam, a test in residential air conditioning and heating, and the EPA certification test before graduation.

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**Air Conditioning  
 and  
 Refrigeration**

## Curriculum in Air Conditioning/Refrigeration Technical Certificate

Course Number	Course Name	Semester Hours
<b>Fall</b>		
ACR 1203	Fundamentals of Electricity	3
ACR 1205	Tubing and Piping	5
ACR 1301	Industrial Safety in Air Conditioning and Refrigeration	1
ACR 1302	Basic Compression and Refrigeration	2
BUS 1003	Business English or	
ENGL 0303	Foundational Composition or	3
ENGL 1013	Composition I	
BUS 1023	Business Mathematics or	3
MATH 0803	Beginning Algebra (or higher math)	
	<b>Total</b>	<b>17</b>
<b>Spring</b>		
ACR 1222	Industrial Controls	2
ACR 1503	Electronic Components	3
ACR 1602	Schematics	2
ACR 2102	Residential Systems	2
ACR 2104	Heat Gain and Loss	4
	<b>Total</b>	<b>13</b>
<b>1st Summer</b>		
ACR 2112	Air Conditioning Service	2
ACR 2904	Internship (or approved elective)	4
	<b>Total</b>	<b>6</b>

## Curriculum in Air Conditioning/Refrigeration Associate of Applied Science Degree in General Technology

Course Number	Course Name	Semester Hours
<b>1st Semester</b>		
ACR 1203	Fundamentals of Electricity	3
ACR 1205	Tubing and Piping	5
ACR 1301	Industrial Safety in Air Conditioning and Refrigeration	1
ACR 1302	Basic Compression and Refrigeration	2
ENGL 1013	Composition I	3
MATH 0903	Intermediate Algebra (or higher math)	3
<b>Total</b>		<b>17</b>
<b>2nd Semester</b>		
ACR 1222	Industrial Controls	2
ACR 1503	Electronic Components	3
ACR 1602	Schematics	2
ACR 2102	Residential Systems	2
ACR 2104	Heat Gain and Loss	4
ENGL 1023	Composition II	3
<b>Total</b>		<b>16</b>
<b>3rd Semester</b>		
	Any Approved Social Science <sup>1</sup>	3
ACR 2112	Air Conditioning Service*	2
ACR 2134	Boiler Operations	4
COMS 1003	Introduction to Computer Based Systems or	3
COMS 2003	Microcomputer Application or	
BUS 1303	Introduction to Computers	
<b>Total</b>		<b>12</b>
<b>4th Semester</b>		
ACR 2114	Industrial Refrigeration	4
ACR 2124	Sheet Metal	4
ACR 2904	Internship (or approved elective)*	4
WLD 1403	Welding for Trades and Industry	3
<b>Totals</b>		<b>15</b>
<sup>1</sup> See appropriate alternatives or substitutions in "General Education Requirements" on page 30 *Usually offered Summer I term		

## Curriculum in Air Conditioning/Refrigeration Facilities Maintenance Option Technical Certificate

## Facilities Maintenance Option

Course Number	Course Name	Semester Hours
<b>Fall</b>		
ACR 1203	Fundamentals of Electricity	3
ACR 1205	Tubing and Piping	5
ACR 1301	Industrial Safety in Air Conditioning and Refrigeration	1
ACR 1302	Basic Compression and Refrigeration	2
BUS 1003	Business English	
	or	
ENGL 0303	Foundational Composition	3
	or	
ENGL 1013	Composition I	
WLD 1302	Metallurgy	2
	<b>Total</b>	<b>16</b>
<b>Spring</b>		
ACR 1222	Industrial Controls	2
ACR 1503	Electronic Components	3
ACR 1602	Schematics	2
BUS 1023	Business Mathematics	
	or	
MATH 0803	Beginning Algebra (or higher math)	3
FAC 2202	Carpentry (or approved elective)	2
FAC 2212	Plumbing (or approved elective)	2
	<b>Total</b>	<b>14</b>
<b>1st Summer</b>		
ELT 2123	Industrial Fluid Power	3
FAC 2203	Facilities Analysis and Troubleshooting (or approved elective)	3
	<b>Total</b>	<b>6</b>
(Suggested approved electives include: AST 1004, BUS 1073, CRT 1124, ICS 1104, and ICS 1303)		

**Facilities  
Management Option**

**Curriculum in Air Conditionin/Refrigeration  
Facilities Management Option  
Associate of Applied Science Degree in General Technology**

Course Number	Course Name	Semester Hours
<b>1st Semester</b>		
ACR 1203	Fundamentals of Electricity	3
ACR 1205	Tubing and Piping	5
ACR 1301	Industrial Safety in Air Conditioning and Refrigeration	1
ACR 1302	Basic Compression and Refrigeration	2
ENGL 1013	Composition I	3
WLD 1302	Metallurgy	2
<b>Total</b>		<b>16</b>
<b>2nd Semester</b>		
ACR 1222	Industrial Controls	2
ACR 1503	Electronic Components	3
ACR 1602	Schematics	2
FAC 2202	Carpentry (or approved electives)	2
FAC 2212	Plumbing (or approved electives)	2
MATH 0903	Intermediate Algebra (or higher math)	3
<b>Total</b>		<b>14</b>
<b>3rd Semester</b>		
ACR 2134	Boiler Operations	4
ELT 2115	<i>or</i> Programmable Controllers	5
BUS 2143	Introduction to Management	3
COMS 1003	Introduction to Computer Based Systems	
COMS 2003	<i>or</i> Microcomputer Applications	3
BUS 1303	<i>or</i> Introduction to Computers	
ELT 2123	Industrial Fluid Power	3
FAC 2203	Facilities Analysis and Troubleshooting (or approved electives)	3
<b>Total</b>		<b>16 or 17</b>
<b>4th Semester</b>		
	Any Approved Social Science <sup>1</sup>	3
ACR 2904	Internship*	4
ENGL 1023	Composition II	3

**Curriculum in Air Conditionin/Refrigeration  
Facilities Management Option  
Associate of Applied Science Degree in General Technology  
*Continued***

FAC 2222	Grounds Maintenance (or approved electives)	2
WLD 1403	Welding for Trades and Industry	3
<b>Total</b>		<b>15</b>

<sup>1</sup> See appropriate alternatives or substitutions in "General Education Requirements" on page 30. (Suggested approved electives include: AST 1004, BUS 1073, CRT 1124, ICS 1104, and ICS 1303)

\*Usually offered in Summer I term