

## AIR CONDITIONING, HEATING, & REFRIGERATION

**Physical/Health Requirements**

1. Finger and manual dexterity are necessary when working with electrical and mechanical systems.
2. Color discrimination is necessary to differentiate wire and resistance color coding.
3. Ability to climb, balance, stoop, kneel and/or lift heavy loads, i.e., ladders and tool boxes.
4. Near-visual acuity and depth perception are needed when working with small parts.

**COURSE ENROLLMENT GUIDELINES:**

1. Enrollment in any Air Conditioning or Refrigeration course should be based solely upon student knowledge and experience of the subject matter. Any attempt to bypass course prerequisites may cause student failure.
2. To prevent failure, ALL STUDENTS MUST MEET PREREQUISITES of all courses BEFORE registration unless he or she has completed an Advanced Standing Credit Test or has audited a class. NO EXCEPTIONS.

### ASSOCIATE OF APPLIED SCIENCE AIR CONDITIONING AND HEATING (2652)

TOTAL CREDIT HOURS REQUIRED: 64

	Major	Gen. Educ.	Elective
<b>YEAR 1</b>			
<b>First Semester</b>			
HART 1403 AC Control Principles -----	4		
HART 1407 Refrigeration Principles I -----	4		
HART 1471 Refrigeration Principles II -----	4		
*SPCH 1321 Business/Professional Speech -----			3
<b>Second Semester</b>			
HART 1441 Residential Air Conditioning -----	4		
HART 1445 Gas/Electrical Heat -----	4		
HART 1472 Psychrometry & Duct Fab. -----	4		
*PHYS 1305 Intro. to Physics I -----			3
<b>Summer Semester</b>			
ITSC 1301 Introduction to Computers -----			3
HART 2434 Advanced Controls -----	4		
<b>YEAR 2</b>			
<b>First Semester</b>			
HART 2401 AC & Refrigeration Codes -----	4		
HART 2445 AC Systems Design -----	4		
HART 2436 Troubleshooting -----	4		
*GOVT 2301 American/Texas -----			3
<b>Second Semester</b>			
HART 2449 Heat Pumps -----	4		
HART 2268 Practicum -----	2		
*ENGL 1301 Freshman Comp -----			3
*MATH 1373 College Math -----			3
<b>TOTAL CREDIT HOURS: -----</b>	<b>46</b>		<b>18</b>

\*This is part of the General Academic Core Requirement, all substitutions must be approved prior to enrollment by a department advisor. Students wishing to transfer academic credits to other institutions or students transferring credits to St. Philip's College must also see a department advisor. See pages 99-100 for transferable courses.

**CERTIFICATE OF COMPLETION  
AIR CONDITIONING AND HEATING (2689)**

TOTAL CREDIT HOURS REQUIRED: 32

	Major	Gen. Educ.	Elective
<b>First Semester</b>			
HART 1403 AC Control Principles -----	4		
HART 1407 Refrigeration Principles I -----	4		
HART 1471 Refrigeration Principles II -----	4		
<b>Second Semester</b>			
HART 1441 Residential Air Conditioning -----	4		
HART 1445 Gas & Electric Heating -----	4		
HART 2449 Heat Pumps -----	4		
<b>1st Summer Semester</b>			
HART 1472 Psychrometry & Duct Fab -----	4		
<b>2nd Summer Semester</b>			
HART 2434 Advanced Controls -----	4		
<b>TOTAL CREDIT HOURS -----</b>	<b>32</b>		

**ASSOCIATE OF APPLIED SCIENCE  
REFRIGERATION TECHNOLOGY (2644)**

TOTAL CREDIT HOURS REQUIRED: 64

	Major	Gen. Educ.	Elective
<b>YEAR 1</b>			
<b>First Semester</b>			
HART 1403 AC Control Principles -----	4		
HART 1407 Refrigeration Principles I -----	4		
HART 1471 Refrigeration Principles II -----	4		
*SPCH 1321 Business/Professional Speech -----	3		
<b>Second Semester</b>			
MAIR 1449 Refrigerators, Freezers & W/U -----	4		
HART 2442 Commercial Refrigeration -----	4		
HART 1473 Industrial Refrigeration -----	4		
*PHYS 1305 Intro to Physics I -----	3		
<b>Third Semester</b>			
ITSC 1301 Introduction to Computers -----	3		
HART 2434 Advanced Controls -----	4		
<b>YEAR 2</b>			
<b>First Semester</b>			
HART 2401 AC & Refrigeration Codes -----	4		
HART 2436 Troubleshooting -----	4		
ELECTIVE CNBT, ELPT, PFPB, WDWK -----	4		
*GOVT 2301 American/Texas -----	3		

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	Major	Gen. Educ.	Elective
<b>Second Semester</b>			
HART 2457 Advanced Commercial Ref. -----	4		
HART 2268 Practicum -----	2		
*ENGL 1301 Freshman Composition I -----		3	
*MATH 1373 College Mathematics -----		3	
<b>TOTAL CREDIT HOURS: -----</b>	<b>42</b>	<b>18</b>	<b>4</b>

\*This is part of the General Academic Core Requirement, all substitutions must be approved prior to enrollment by a department advisor. Students wishing to transfer academic credits to other institutions or students transferring credits to St. Philip's College must also see a department advisor. See pages 99-100 for transferable courses.

**CERTIFICATE OF COMPLETION  
REFRIGERATION (2690)**

TOTAL CREDIT HOURS REQUIRED: 32

	Major	Gen. Educ.	Elective
<b>First Semester</b>			
HART 1403 AC Control Principles -----	4		
HART 1407 Refrigeration Principles I -----	4		
HART 1471 Refrigeration Principles II -----	4		
<b>Second Semester</b>			
MAIR 1449 Refrigerators, Freezers, W/U -----	4		
HART 2442 Commercial Refrigeration -----	4		
HART 2457 Advanced Commercial Ref. -----	4		
<b>1st Summer Session</b>			
HART 1473 Industrial Refrigeration -----	4		
<b>2nd Summer Session</b>			
HART 2434 Advanced Controls -----	4		
<b>TOTAL CREDIT HOURS: -----</b>	<b>32</b>		