

# KELLOGG COMMUNITY COLLEGE

## INDUSTRIAL HEATING, VENTILATION, AIR CONDITIONING AND REFRIGERATION COURSE OPTIONS

Certificate: 25 credits

Associate in Applied Science: 60 credits (combination of industrial HVAC-R, technical electives, and general education credit requirements)

All costs are subject to change without notice. Please call 269-965-4137 to verify.

Module Subject Code and Number	Module Title	Credit	Contact Hours
<input type="checkbox"/> INHR C910-7201	HVAC-R ORIENTATION		2
<p>The orientation must be completed at the RMTC in Battle Creek prior to registration. Please call 269.965.4137 to verify available orientation times.</p>			
<b>UNIT 05 REFRIGERATION TOOLS/PLANT SAFETY</b>			
<input type="checkbox"/> INHR 05011-7201	HVAC-R SAFETY	0.83	20
<input type="checkbox"/> INHR 05021-7201	HVAC-R TOOLS	0.08	2
<b>UNIT TOTAL</b>		<b>0.91</b>	<b>22</b>
<b>UNIT 10 REFRIGERATION FUNDAMENTALS</b>			
<input type="checkbox"/> INHR 10011-7201	INTRODUCTION TO HVAC-R	0.33	8
<input type="checkbox"/> INHR 10021-7201	TRADE MATHEMATICS	0.42	10
<input type="checkbox"/> INHR 10031-7201	COPPER PLASTIC PIPING PRACTICE	0.21	5
<input type="checkbox"/> INHR 10041-7201	SOLDERING AND BRAZING	0.33	8
<input type="checkbox"/> INHR 10051-7201	FERROUS METAL PIPING PRACTICES	0.63	15
<b>UNIT TOTAL</b>		<b>1.92</b>	<b>46</b>
<b>UNIT 12 ELECTRICAL FUNDAMENTALS FOR HVAC/R</b>			
<input type="checkbox"/> INHR 12011-7201	ELEC SAFETY & HAZARD AWARENES	0.33	8
<input type="checkbox"/> INHR 12021-7201	BASIC ELEC THEORY & TERMINOLGY	0.67	16
<input type="checkbox"/> INHR 12031-7201	BASIC ELECTRICAL CIRCUITS	0.50	12
<input type="checkbox"/> INHR 12041-7201	ELECTRICAL MEASUREMENT	0.50	12
<input type="checkbox"/> INHR 12051-7201	CIRCUIT ANALYSIS	1.00	24
<input type="checkbox"/> INHR 12061-7201	INDUCTANCE & CAPACITANCE	0.67	16
<input type="checkbox"/> INHR 12071-7201	COMBINATION CIRCUITS	0.50	12
<input type="checkbox"/> INHR 12081-7201	TRANSFORMERS	0.50	12
<input type="checkbox"/> INHR 12091-7201	FUSES & CIRCUIT BREAKERS	0.25	6
<input type="checkbox"/> INHR 12101-7201	RELAYS & CONTACTORS	0.25	6
<input type="checkbox"/> INHR 12111-7201	MAGNETISM AND AC FUNDAMENTALS	0.50	12
<input type="checkbox"/> INHR 12121-7201	ELECTRIC MOTORS & CONTROLS	0.50	12
<input type="checkbox"/> INHR 12131-7201	SYMBOLS AND WIRING DIAGRAMS	0.50	12
<b>UNIT TOTAL</b>		<b>6.67</b>	<b>160</b>
<b>UNIT 15 REFRIGERATION SYSTEMS &amp; COMPONENTS</b>			
<input type="checkbox"/> INHR 15011-7201	INTRODUCTION TO COOLING	1.25	30
<input type="checkbox"/> INHR 15021-7201	COMPRESSORS	0.63	15
<input type="checkbox"/> INHR 15031-7201	REFRIGERANTS AND OILS	0.42	10
<input type="checkbox"/> INHR 15041-7201	METERING DEVICES	0.33	8
<input type="checkbox"/> INHR 15051-7201	LEAK EVAC RECOVERY CHARGING	0.83	20
<input type="checkbox"/> INHR 15061-7201	TROUBLESHOOTING COOLING	0.83	20
<input type="checkbox"/> INHR 15071-7201	RETAIL REFRIGERATION SYSTEMS	0.83	20
<input type="checkbox"/> INHR 15081-7201	COMMERCIAL INDUSTRIAL REFRIG	1.00	24
<b>UNIT TOTAL</b>		<b>6.12</b>	<b>147</b>

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<input type="checkbox"/> *INHR C410-7201	EPA CERTIFICATION (STUDENT MUST ARRANGE DATE/TIME WITH INSTRUCTOR.)		3
<b>UNIT 20 HEATING SYSTEMS &amp; TROUBLESHOOTING</b>			
<input type="checkbox"/> INHR 20011-7201	INTRODUCTION TO HEATING	0.63	15
<input type="checkbox"/> INHR 20021-7201	TROUBLESHOOTING GAS HEATING	0.54	13
<input type="checkbox"/> INHR 20031-7201	TROUBLESHOOTING OIL HEAT SYS	0.42	10
<input type="checkbox"/> INHR 20041-7201	CHIMNEYS, VENTS AND FLUES	0.21	5
<input type="checkbox"/> INHR 20051-7201	TROUBLESHOOTING ACCESSORIES	0.42	10
<b>UNIT TOTAL</b>		<b>2.22</b>	<b>53</b>
<b>UNIT 25 HYDRONIC SYSTEMS</b>			
<input type="checkbox"/> INHR 25011-7201	INTRODUCTION HYDRONIC SYSTEMS	0.42	10
<input type="checkbox"/> INHR 25021-7201	COMMERCIAL HYDRONIC SYSTEMS	0.54	13
<b>UNIT TOTAL</b>		<b>0.96</b>	<b>23</b>
<b>UNIT 30 STEAM SYSTEMS</b>			
<input type="checkbox"/> INHR 30011-7201	STEAM SYSTEMS	0.63	15
<b>UNIT TOTAL</b>		<b>0.63</b>	<b>15</b>
<b>UNIT 35 HEAT PUMPS &amp; TROUBLESHOOTING</b>			
<input type="checkbox"/> INHR 35011-7201	HEAT PUMPS	0.83	20
<input type="checkbox"/> INHR 35021-7201	TROUBLESHOOTING HEAT PUMPS	0.54	13
<b>UNIT TOTAL</b>		<b>1.37</b>	<b>33</b>
<b>UNIT 40 AIR DISTRIBUTION &amp; INDOOR AIR QUALITY</b>			
<input type="checkbox"/> INHR 40011-7201	INDOOR AIR QUALITY	0.63	15
<input type="checkbox"/> INHR 40021-7201	AIR DISTRIBUTION SYSTEMS	0.63	15
<input type="checkbox"/> INHR 40031-7201	COMMERCIAL AIRSIDE SYSTEMS	0.54	13
<input type="checkbox"/> INHR 40041-7201	AIR QUALITY EQUIPMENT	0.33	8
<input type="checkbox"/> INHR 40051-7201	SYSTEM BALANCING	0.83	20
<b>UNIT TOTAL</b>		<b>2.96</b>	<b>71</b>
<b>UNIT 45 HVAC-R AUTOMATION CONTROLS</b>			
<input type="checkbox"/> INHR 45011-7201	DIGITAL CONTROLS HVAC TECHS	0.21	5
<input type="checkbox"/> INHR 45021-7201	BUILDING MANAGEMENT SYSTEMS	0.75	18
<b>UNIT TOTAL</b>		<b>0.96</b>	<b>23</b>
<b>UNIT 50 HVAC-R DUCT SYSTEMS</b>			
<input type="checkbox"/> INHR 50011-7201	SHEET METAL DUCT SYSTEMS	0.42	10

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<input type="checkbox"/> INHR 50021-7201	FIBERGLASS FLEXIBLE DUCT SYS	0.21	5
<b>UNIT TOTAL</b>		<b>0.63</b>	<b>15</b>
<b>UNIT 55 HVAC-R PREVENTATIVE MAINTENANCE</b>			
<input type="checkbox"/> INHR 55011-7201	INSTALLATION AND MAINTENANCE	0.92	22
<input type="checkbox"/> INHR 55021-7201	PLANNED MAINTENANCE	0.83	20
<input type="checkbox"/> INHR 55031-7201	CONSTRUCTION DRAWINGS SPECIFI	1.04	25
<b>UNIT TOTAL</b>		<b>2.79</b>	<b>67</b>
<b>UNIT 60 HVAC-R COMMISSIONING &amp; CONSERVATION</b>			
<input type="checkbox"/> INHR 60011-7201	SYSTEM STARTUP AND SHUTDOWN	0.96	23
<input type="checkbox"/> INHR 60021-7201	HEATING COOLING SYSTEM DESIGN	1.04	25
<input type="checkbox"/> INHR 60031-7201	ENERGY CONSERVATION EQUIPMENT	0.42	10
<input type="checkbox"/> INHR 60041-7201	ALTERNATIVE HEAT COOL SYSTEMS	0.42	10
<b>UNIT TOTAL</b>		<b>2.84</b>	<b>68</b>
<b>UNIT 65 WATER TREATMENT</b>			
<input type="checkbox"/> INHR 65011-7201	WATER TREATMENT	0.42	10
<b>UNIT TOTAL</b>		<b>0.42</b>	<b>10</b>
<b>UNIT 70 SUPERVISORY SKILLS</b>			
<input type="checkbox"/> INHR 70011-7201	INTRO TO SUPERVISORY SKILLS	0.63	15
<b>UNIT TOTAL</b>		<b>0.63</b>	<b>15</b>
<b>UNIT 75 WRITING FOR EMPLOYMENT</b>			
<input type="checkbox"/> INHR 75011-7201	WRITING FOR EMPLOYMENT	0.50	12
<b>UNIT TOTAL</b>		<b>0.50</b>	<b>12</b>
<b>TOTAL</b>		<b>32.53</b>	<b>785</b>

\*Module(s) cannot be paid for using certain types of financial aid. Please direct all inquiries to the staff at the RMTC registration desk.

<b>FOR OFFICE USE ONLY</b>		
Instructor Approval _____	Date _____	
Total Credit _____	Total Contact _____	Total Cost _____