



**32-601-1 HEATING, VENTILATION, AND AIR CONDITIONING/REFRIGERATION (HVAC/R)**  
**31-601-2 HVAC INSTALLATION TECHNICIAN**  
**30-601-1 REFRIGERATION ESSENTIALS**  
**2020-21 PROGRAM CURRICULUM CHECKLIST**  
**NORTHWOOD TECHNICAL COLLEGE**  
**FALL 2020 START**  
**SUPERIOR**



Name/ID \_\_\_\_\_

Date \_\_\_\_\_

CATALOG NUMBER	COURSE TITLE	HOURS PER WEEK	CREDITS	REFRIGERATION ESSENTIALS TECHNICAL DIPLOMA	HVAC INSTALLATION TECHNICIAN TECHNICAL DIPLOMA <i>(Financial Aid Eligible)</i>	HEATING, VENTILATION, AND AIR CONDITIONING/REFRIGERATION (HVAC/R) TECHNICAL DIPLOMA <i>(Financial Aid Eligible)</i>
<b>FIRST TERM</b>						
32601300	Air Conditioning Fundamentals Prerequisite: Admission to HVAC/R Plan, Refrigeration Essentials Plan, or HVAC Installation Technician Plan <i>(This course will prepare you to take the NC3 Residential Air Flow AND NC3 Building Performance Indoor Air Quality)</i>	4 hours per week	2 credits	Refrigeration Essentials	HVAC Installation Technician	Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R)
32601301	Basic Mechanical Fundamentals Prerequisite: Admission to HVAC/R Plan, Refrigeration Essentials Plan, or HVAC Installation Technician Plan <i>(This course will prepare you to take the NC3 Building Performance Leak Detection Certification)</i>	6 hours per week	3 credits	Refrigeration Essentials	HVAC Installation Technician	Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R)
32601317	Refrigeration Fundamentals Prerequisite: Admission to HVAC/R Plan, Refrigeration Essentials Plan, or HVAC Installation Technician Plan <i>(This course will prepare you to take the Section 608 EPA Technician Certification AND NC3 Refrigeration Diagnostics Certification)</i>	7 hours per week	3 credits	Refrigeration Essentials	HVAC Installation Technician	Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R)
32601303	Principles of AC/DC Corequisite: 32804325 Applied Technical Math 1 <i>(This course will prepare you to take the NC3 Test meter 575 Certification)</i>	6 hours per week	3 credits	Refrigeration Essentials	HVAC Installation Technician	Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R)
32804325	Applied Technical Math 1	5 hours per week	3 credits	Refrigeration Essentials	HVAC Installation Technician	Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R)
	<b>FIRST TERM TOTAL</b>	28 hours per week		<b>14 Credits</b> Refrigeration Essentials	<b>14 Credits</b> HVAC Installation Technician	<b>14 Credits</b> Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R)

All prerequisite/corequisite courses must be completed with a grade point of 2.0 or better.

Revised 7/31/2020



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<b>SECOND TERM</b>						
32601304	Heating Systems Prerequisite: Admission to HVAC/R Plan or HVAC Installation Technician Plan <i>(This course will prepare you to take the Flue Gas Analysis Building Performance Instruments (BPI))</i>	4 hours per week	2 credits		HVAC Installation Technician	Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R)
32601305	Electrical Controls & Systems <i>(This course will prepare you to take the NC3 Residential Variable Speed Motors)</i>	6 hours per week	3 credits		HVAC Installation Technician	Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R)
32601306	HVAC/R Print Reading Prerequisite: Admission to HVAC/R Plan or HVAC Installation Technician Plan	4 hours per week	2 credits		HVAC Installation Technician	Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R)
32601310	Sheet Metal Fabrication Prerequisite: 32601301 Basic Mechanical Fundamentals	4 hours per week	2 credits		HVAC Installation Technician	Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R)
32804334	Applied Technical Math 2 Prerequisite: 32804325 Applied Technical Math 1	4 hours per week	2 credits		HVAC Installation Technician	Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R)
32801361	Applied Communications	3 hours per week	2 credits		HVAC Installation Technician	Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R)
32890305	Applied Information Resources	3 hours per week	2 credits			Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R)
	<b>SECOND TERM TOTAL</b>	28 hours per week			<b>13 Credits</b> HVAC Installation Technician	<b>15 Credits</b> Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R)

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<b>THIRD TERM</b>						
32601316	Building Automation Systems Prerequisite: 32601305 Electrical Controls and Systems <i>(This course will prepare you to take the NC3 Building Automation Systems (Beginning Fall 2020))</i>	4 hours per week	2 credits			Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R)
32601307	Heating System Applications Prerequisites: 32601301 Basic Mechanical Fundamentals and 32601304 Heating Systems <i>(This course will prepare you to take the NC3 Building Performance Instruments (BPI) Installation and Diagnostics AND NC3 Air-to-Air Heat Pumps)</i>	6 hours per week	3 credits			Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R)
32601309	Control Circuit Applications Prerequisite: 32601305 Electrical Controls and Systems	6 hours per week	3 credits			Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R)
32809380	Applied Interpersonal Skills	4 hours per week	2 credits			Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R)
32801362	Advanced Communication Skills Prerequisite: 32801361 Applied Communications	4 hours per week	2 credits			Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R)
	<b>THIRD TERM TOTAL</b>	24 hours per week				<b>12 Credits</b> Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R)

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<b>FOURTH TERM</b>						
32601308	Electronic Energy Management Prerequisite: 32601309 Control Circuit Applications	6 hours per week	3 credits			Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R)
32601311	Hydronic Heating Prerequisites: 32601301 Basic Mechanical Fundamentals and 32601304 Heating Systems <i>(This course will prepare you to take the Building Performance Instruments (BPI) Fluid Integrity)</i>	6 hours per week	3 credits			Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R)
32601312	Refrigeration Applications Prerequisites: 32601300 Air Conditioning Fundamentals, 32601301 Basic Mechanical Fundamentals and, 32601317 Refrigeration Fundamentals <i>(This course will prepare you to take the Building Performance Instruments (BPI) RPM and Vibration Testing)</i>	6 hours per week	3 credits			Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R)
32601314	Heat Load Estimation Prerequisite: Admission to HVAC/R Plan	2 hours per week	1 credit			Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R)
	<b>1st 8 weeks</b>					
32601315	Geothermal Systems Prerequisites: 32601301 Basic Mechanical Fundamentals, 32601317 Refrigeration Fundamentals, 32601305 Electrical Controls and Systems	8 hours per week	2 credits			Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R)
<b>FOURTH TERM CONTINUED ON NEXT PAGE</b>						

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	<b>FOURTH TERM CONTINUED</b>					
	<b>2nd 8 weeks</b>					
32601313	HVAC/R Electronic Troubleshooting/ Repair (WBL) Prerequisite: 32601309 Control Circuit Applications <i>(This course will prepare you to take the NC3 Building Automations Systems)</i>	8 hours per week	2 credits			Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R)
	<b>FOURTH TERM TOTAL</b>	28 hours per week				<b>14 Credits</b> Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R)
	<b>PROGRAM REQUIREMENTS</b>			<b>14 Credits</b> Refrigeration Essentials	<b>27 Credits</b> HVAC Installation Technician	<b>55 Credits</b> Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R)

*Please be advised that low enrollment class sections may be cancelled. You will be contacted by Student Services with information on other class sections available in alternate formats.*

*GRADUATION REQUIREMENTS: Although your academic advisor can provide guidance, you are ultimately responsible for selecting courses that meet a program's graduation requirements. If you do not take courses in the recommended sequence above, it may delay your completion of graduation requirements. A program plan GPA of 2.0 in a 4.0 grade system is required to graduate.*

**EARN CREDIT FOR WHAT YOU ALREADY KNOW:** Visit <https://www.NorthwoodTech.edu/admissions/preparing-for-college/credit-for-prior-learning> for more information

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