



Name/ID _____

Date _____

CATALOG NUMBER	COURSE TITLE	HOURS PER WEEK	CREDITS	REFRIGERATION ESSENTIALS TECHNICAL DIPLOMA	HVAC INSTALLATION TECHNICIAN TECHNICAL DIPLOMA (Financial Aid Eligible)	HEATING, VENTILATION, & AIR CONDITIONING / REFRIGERATION (HVAC/R) TECHNICAL DIPLOMA (Financial Aid Eligible)
FIRST TERM (Fall 2023)						
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/Trane: Residential – Air Flow AND NC3: Building Performance Instruments (BPI) – Indoor Air Quality certifications)</i>	4 hours per week	2 credits	Refrigeration Essentials	HVAC Installation Technician	Heating, Ventilation, & 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 Instruments (BPI) – Leak Detection certification)</i>	6 hours per week	3 credits	Refrigeration Essentials	HVAC Installation Technician	Heating, Ventilation, & 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 EPA Section 608 Technician Certification AND NC3/Trane: Residential – Refrigeration Diagnostics certification)</i>	7 hours per week	3 credits	Refrigeration Essentials	HVAC Installation Technician	Heating, Ventilation, & 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/Snap-On: 575 Multimeter Certification)</i>	6 hours per week	3 credits	Refrigeration Essentials	HVAC Installation Technician	Heating, Ventilation, & Air Conditioning / Refrigeration (HVAC/R)
32804325	Applied Technical Math 1	6 hours per week	3 credits	Refrigeration Essentials	HVAC Installation Technician	Heating, Ventilation, & Air Conditioning / Refrigeration (HVAC/R)
	FIRST TERM TOTAL	29 hours per week		14 Credits Refrigeration Essentials	14 Credits HVAC Installation Technician	14 Credits Heating, Ventilation, & Air Conditioning / Refrigeration (HVAC/R)

32-601-1 HEATING, VENTILATION, & AIR CONDITIONING / REFRIGERATION (HVAC/R)
31-601-2 HVAC INSTALLATION TECHNICIAN
30-601-1 REFRIGERATION ESSENTIALS
2024-25 REQUIRED COURSES
NORTHWOOD TECHNICAL COLLEGE
FALL 2024 START
SUPERIOR



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	SECOND TERM (Spring 2024)					
32601304	Heating Systems Prerequisite: Admission to HVAC/R Plan or HVAC Installation Technician Plan <i>(This course will prepare you to take the NC3: Building Performance Instruments (BPI) – Flue Gas Analysis certification)</i>	4 hours per week	2 credits		HVAC Installation Technician	Heating, Ventilation, & Air Conditioning / Refrigeration (HVAC/R)
32601305	Electrical Controls & Systems	6 hours per week	3 credits		HVAC Installation Technician	Heating, Ventilation, & 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, & 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, & 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, & Air Conditioning / Refrigeration (HVAC/R)
32801361	Applied Communications	4 hours per week	2 credits		HVAC Installation Technician	Heating, Ventilation, & Air Conditioning / Refrigeration (HVAC/R)
	SECOND TERM TOTAL	26 hours per week			13 Credits HVAC Installation Technician	13 Credits Heating, Ventilation, & Air Conditioning / Refrigeration (HVAC/R)

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	THIRD TERM (Fall 2024)					
32150302	Applied IT Basics	2 hours per week	1 credit			Heating, Ventilation, & Air Conditioning / Refrigeration (HVAC/R)
32601316	Building Automation Systems Prerequisite: 32601305 Electrical Controls and Systems (This course will prepare you to take the NC3/Trane: Building Automation Systems (BAS) 1 – Intro to HVAC Systems and Building Controls certification)	4 hours per week	2 credits			Heating, Ventilation, & Air Conditioning / Refrigeration (HVAC/R)
32601307	Heating System Applications Prerequisites: 32601301 Basic Mechanical Fundamentals and 32601304 Heating Systems (This course will prepare you to take the NC3/Trane: Residential Variable Speed Motors, NC3/Trane: Residential – Air-to-Air Heat Pumps AND NC3: Building Performance Instruments (BPI) – Installation & Diagnostics certifications)	6 hours per week	3 credits			Heating, Ventilation, & Air Conditioning / Refrigeration (HVAC/R)
32601309	Control Circuit Applications Prerequisite: 32601305 Electrical Controls and Systems	6 hours per week	3 credits			Heating, Ventilation, & Air Conditioning / Refrigeration (HVAC/R)
32809380	Applied Interpersonal Skills	4 hours per week	2 credits			Heating, Ventilation, & Air Conditioning / Refrigeration (HVAC/R)
32801362	Advanced Communication Skills Prerequisite: 32801361 Applied Communications	4 hours per week	2 credits			Heating, Ventilation, & Air Conditioning / Refrigeration (HVAC/R)
	THIRD TERM TOTAL	26 hours per week				13 Credits Heating, Ventilation, & Air Conditioning / Refrigeration (HVAC/R)



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FOURTH TERM (Spring 2025)						
32601308	Electronic Energy Management Prerequisite: 32601309 Control Circuit Applications	6 hours per week	3 credits			Heating, Ventilation, & 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 NC3: Building Performance Instruments (BPI) – Fluid Integrity certification)</i>	6 hours per week	3 credits			Heating, Ventilation, & Air Conditioning / Refrigeration (HVAC/R)
32601312	Refrigeration Applications Prerequisites: 32601300 Air Conditioning Fundamentals, 32601301 Basic Mechanical Fundamentals and, 32601317 Refrigeration Fundamentals (This course will prepare you to take the ACCA A2L Refrigerant Training certification)	6 hours per week	3 credits			Heating, Ventilation, & Air Conditioning / Refrigeration (HVAC/R)
32601314	Heat Load Estimation Prerequisite: Admission to HVAC/R Plan	2 hours per week	1 credit			Heating, Ventilation, & Air Conditioning / Refrigeration (HVAC/R)
	1st 8 weeks					
32601315	Geothermal Systems Prerequisites: 32601301 Basic Mechanical Fundamentals, 32601317 Refrigeration Fundamentals, 32601305 Electrical Controls and Systems	8 hours per week	2 credits			Heating, Ventilation, & Air Conditioning / Refrigeration (HVAC/R)
FOURTH TERM CONTINUED ON NEXT PAGE						

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	FOURTH TERM CONTINUED					
	2nd 8 weeks					
32601313	HVAC/R Electronic Troubleshooting/Repair (WBL) Prerequisite: 32601309 Control Circuit Applications (This course will prepare you to take the NC3: Building Performance Instruments (BPI) – RPM and Vibration Testing certification)	8 hours per week	2 credits			Heating, Ventilation, & Air Conditioning / Refrigeration (HVAC/R)
	FOURTH TERM TOTAL	28 hours per week				14 Credits Heating, Ventilation, & Air Conditioning / Refrigeration (HVAC/R)
	TOTAL CREDITS			14 Credits Refrigeration Essentials	27 Credits HVAC Installation Technician	54 Credits Heating, Ventilation, & Air Conditioning / Refrigeration (HVAC/R)

Please be advised that low enrollment class sections may be canceled. 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:
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