



32-601-1 HEATING, VENTILATION, AND AIR CONDITIONING/REFRIGERATION (HVAC/R)
31-601-2 HVAC INSTALLATION TECHNICIAN
30-601-1 REFRIGERATION ESSENTIALS
2022-23 PROGRAM CURRICULUM CHECKLIST
NORTHWOOD TECHNICAL COLLEGE
FALL 2022 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> |
|-------------------------------|---|-------------------|-----------|---|---|--|
| FIRST TERM (Fall 2022) | | | | | | |
| 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 | 6 hours per week | 3 credits | Refrigeration Essentials | HVAC Installation Technician | Heating, Ventilation, and 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, and Air Conditioning/Refrigeration (HVAC/R) |



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| SECOND TERM (Spring 2023) | | | | | | |
| 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 | 4 hours per week | 2 credits | | HVAC Installation Technician | Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R) |
| | SECOND TERM TOTAL | 28 hours per week | | | 13 Credits HVAC Installation Technician | 13 Credits Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R) |



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|-------------------------------|--|-------------------|-----------|--|---|--|
| THIRD TERM (Fall 2023) | | | | | | |
| 32150302 | Applied IT Basics | 2 hours per week | 1 credit | | | Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R) |
| 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) |
| | THIRD TERM TOTAL | 26 hours per week | | | | 13 Credits 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 10/12/2021



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| FOURTH TERM (Spring 2024) | | | | | | |
| 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) |
| | 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, and 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 <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) |
| | FOURTH TERM TOTAL | 28 hours per week | | | | 14 Credits Heating, Ventilation, and Air Conditioning/Refrigeration (HVAC/R) |
| | PROGRAM REQUIREMENTS | | | 14 Credits Refrigeration Essentials | 27 Credits HVAC Installation Technician | 54 Credits 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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