



# **BUILD YOUR FUTURE: CROSSWALK**

**AIR FORCE EQUIVALENCY ALIGNMENT**

**THEY'VE DEFENDED AMERICA, NOW LET'S HELP THEM BUILD IT.**



# AIR FORCE EQUIVALENCY ALIGNMENT

GETTING STARTED AND DEFINITIONS



## INTRODUCTION

Did you know that nearly 200,000 soldiers are transitioning each year and have a difficult time translating their acquired skills and experience into marketable civilian jobs/careers? Do you receive quite a few military applications, but are challenged by the language and skill set that individuals possess? Hard Hat Heroes has created a task-based alignment that will close that communication gap between employers and veterans. This document will help construction industry hiring representatives identify the knowledge and skills candidates possess, focus on the specific training they need and ultimately place soldiers more effectively.

## PURPOSE

NCCER wants to give credit to military members for the training they received while in the service. Transitioning military and veterans are able to go to [veterans.byf.org](http://veterans.byf.org) and submit their existing training to receive NCCER credentials and view the areas where they need additional training.

This alignment is provided to assist hiring managers in identifying the existing knowledge and skills a veteran has and to outline the training he or she needs to be fully competent.

## WHAT THIS ALIGNMENT IS ABOUT

Hard Hat Heroes has identified Air Force Specialty Codes (AFSC) that have training that align directly with NCCER craft training. These codes are organized into sections and a table is provided for each one defining NCCER's crafts, levels and modules that align to that specific military specialty code. If the training in the military is equivalent to NCCER training, an X will appear under the credit column. If an X does not appear under the credit column then additional training is required for a craft level completion. Each module builds upon one another to accomplish a level completion and this information is tracked in NCCER's Registry System. An industry-recognized credential is awarded with level completions and each craft usually has three to four levels.

## NCCER DEFINITIONS

NCCER Curriculum is broken down by craft/discipline, is competency-based, modular in format and compliant with Department of Labor Office of Apprenticeship requirements.

### CRAFT:

Another name for a trade (i.e. carpentry, masonry and welding). NCCER refers to individuals working in a trade as being a craft professional.

### MODULE:

This is an instructional unit which makes up NCCER's curriculum levels. These units are generally referred to as chapters in textbooks. Module completions require successful completion of both a written test and performance test when available.

### LEVEL:

A number of modules designed and sequenced to form approximately one year of training and/or a minimum of 144 hours of instruction.

### CREDENTIAL:

A document or certificate with NCCER's stamp of approval stating an individual has completed training in specific craft areas.

visit [veterans.byf.org](http://veterans.byf.org) for more information.

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**3E032 ELECTRICAL POWER PRODUCTION APPRENTICE**



# CORE CURRICULUM: 3E032

**CRAFT DESCRIPTION:** NCCER's Core curriculum is a prerequisite to all other Level 1 craft curriculum and gives the trainee the basic skills needed to continue education in any craft area he or she chooses.

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| CRAFT           | LEVEL | MODULE   | MODULE TITLE                             | CREDIT |
|-----------------|-------|----------|--|--------|
| CORE CURRICULUM |       | 00101-15 | Basic Safety                             |        |
|                 |       | 00102-15 | Introduction to Construction Math        | X      |
|                 |       | 00103-15 | Introduction to Hand Tools               | X      |
|                 |       | 00104-15 | Introduction to Power Tools              |        |
|                 |       | 00105-15 | Introduction to Construction Drawings    | X      |
|                 |       | 00106-15 | Introduction to Basic Rigging (elective) |        |
|                 |       | 00107-15 | Basic Communication Skills               | X      |
|                 |       | 00108-15 | Basic Employability Skills               | X      |
|                 |       | 00109-15 | Introduction to Material Handling        | X      |

# ELECTRICAL: 3E032

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**CRAFT DESCRIPTION:** To prepare trainees for a career in the electrical field, NCCER offers a comprehensive, four-level Electrical curriculum that complies with DOL time-based standards for apprenticeship.

| CRAFT      | LEVEL | MODULE   | MODULE TITLE                                  | CREDIT |
|------------|-------|----------|---|--------|
| ELECTRICAL | 1     | 26101-14 | Orientation to the Electrical Trade           | X      |
|            |       | 26102-14 | Electrical Safety                             |        |
|            |       | 26103-14 | Introduction to Electrical Circuits           | X      |
|            |       | 26104-14 | Electrical Theory                             | X      |
|            |       | 26205-14 | Introduction to the National Electrical Code® |        |
|            |       | 26106-14 | Device Boxes                                  |        |
|            |       | 26107-14 | Hand Bending                                  |        |
|            |       | 26108-14 | Raceways and Fittings                         |        |
|            |       | 26109-14 | Conductors and Cables                         |        |
|            |       | 26110-14 | Basic Electrical Construction Drawings        | X      |
|            |       | 26111-14 | Residential Electrical Systems                |        |
|            |       | 26112-14 | Electrical Test Equipment                     | X      |
| ELECTRICAL | 2     | 26201-14 | Alternating Current                           |        |
|            |       | 26202-14 | Motors: Theory and Application                |        |
|            |       | 26203-14 | Electric Lighting                             |        |
|            |       | 26204-14 | Conduit Bending                               |        |
|            |       | 26205-14 | Pull and Junction Boxes                       |        |
|            |       | 26206-14 | Conductor Installations                       |        |
|            |       | 26207-14 | Cable Tray                                    |        |
|            |       | 26208-14 | Conductor Terminations and Splices            |        |
|            |       | 26209-14 | Grounding and Bonding                         |        |
|            |       | 26210-14 | Circuit Breakers and Fuses                    |        |
|            |       | 26211-14 | Control Systems and Fundamental Concepts      |        |

# ELECTRICAL: 3E032

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**CRAFT DESCRIPTION:** To prepare trainees for a career in the electrical field, NCCER offers a comprehensive, four-level Electrical curriculum that complies with DOL time-based standards for apprenticeship.

| CRAFT      | LEVEL | MODULE   | MODULE TITLE                                   | CREDIT |
|------------|-------|----------|--|--------|
| ELECTRICAL | 3     | 26301-14 | Load Calculations - Branch and Feeder Circuits |        |
|            |       | 26302-14 | Conductor Selection and Calculations           |        |
|            |       | 26303-14 | Practical Applications of Lighting             |        |
|            |       | 26304-14 | Hazardous Locations                            |        |
|            |       | 26305-14 | Overcurrent Protection                         |        |
|            |       | 26306-14 | Distribution Equipment                         |        |
|            |       | 26307-14 | Transformers                                   |        |
|            |       | 26308-14 | Commercial Electrical Services                 |        |
|            |       | 26309-14 | Motor Calculations                             |        |
|            |       | 26310-14 | Voice, Data, and Video                         |        |
|            |       | 26311-14 | Motor Controls                                 |        |
| ELECTRICAL | 4     | 26401-14 | Load Calculations - Feeders and Services       |        |
|            |       | 26402-14 | Health Care Facilities                         |        |
|            |       | 26403-14 | Standby and Emergency Systems                  |        |
|            |       | 26404-14 | Basic Electronic Theory                        |        |
|            |       | 26405-14 | Fire Alarm Systems                             |        |
|            |       | 26406-14 | Specialty Transformers                         |        |
|            |       | 26407-14 | Advanced Controls                              |        |
|            |       | 26408-14 | HVAC Controls                                  |        |
|            |       | 26409-14 | Heat Tracing and Freeze Protection             |        |
|            |       | 26410-14 | Motor Operation and Maintenance                |        |
|            |       | 26411-14 | Medium-Voltage Terminations/Splices            |        |
|            |       | 26412-14 | Special Locations                              |        |
|            |       | 46101-11 | Fundamentals of Crew Leadership                |        |

# INDUSTRIAL MAINTENANCE ELECTRICIAN & INSTRUMENTATION TECHNICIAN: 3E032

**CRAFT DESCRIPTION:** NCCER's four-level curriculum covers topics such as Oxyfuel Cutting, Introduction to Piping Components, and Laser Alignment.

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| CRAFT   | LEVEL                              | MODULE   | MODULE TITLE                                     | CREDIT |
|---|------------------------------------|----------|--|--------|
| INDUSTRIAL MAINTENANCE ELECTRICIAN & INSTRUMENTATION TECHNICIAN | 1                                  | 40101-07 | Orientation to the Trade                         |        |
|   |                                    | 40102-02 | Tools of the Trade                               | X      |
|   |                                    | 40103-07 | Fasteners and Anchors                            |        |
|   |                                    | 40104-07 | Oxyfuel Cutting                                  |        |
|   |                                    | 40105-07 | Gaskets and Packing                              |        |
|   |                                    | 40106-07 | Craft-Related Mathematics                        |        |
|   |                                    | 40107-07 | Construction Drawings                            |        |
|   |                                    | 40108-07 | Pumps and Drivers                                |        |
|   |                                    | 40109-07 | Valves   | X      |
|   |                                    | 40110-07 | Introduction to Test Instruments                 | X      |
|   |                                    | 40111-07 | Material Handling and Hand Rigging               |        |
|   |                                    | 40112-07 | Mobile and Support Equipment                     |        |
|   |                                    | 40113-07 | Lubrication                                      | X      |
| INDUSTRIAL MAINTENANCE ELECTRICIAN & INSTRUMENTATION TECHNICIAN | 2                                  | 40201-08 | Industrial Safety for E & I Technicians          |        |
|   |                                    | 40202-08 | Introduction to the National and Electrical Code |        |
|   |                                    | 40203-08 | Electrical Theory                                |        |
|   |                                    | 40204-08 | Alternating Current                              |        |
|   |                                    | 40205-08 | E & I Test Equipment                             | X      |
|   |                                    | 40206-08 | Flow, Pressure, Level and Temperature            | X      |
|   |                                    | 40207-08 | Process Mathematics                              |        |
|   |                                    | 40208-08 | Hand Bending                                     |        |
|   |                                    | 40209-08 | Tubing   |        |
|   |                                    | 40210-08 | Clean, Purge and Test Tubing and Piping Systems  |        |
|   |                                    | 40211-08 | Instrument Drawing and Documents, Part One       |        |
|   |                                    | 40212-08 | Conductors and Cables                            |        |
| 40213-08  | Conductor Terminations and Splices |          |  |        |



# INDUSTRIAL MAINTENANCE ELECTRICIAN & INSTRUMENTATION TECHNICIAN: 3E032

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| CRAFT   | LEVEL                      | MODULE   | MODULE TITLE   | CREDIT |
|---|----------------------------|----------|--|--------|
| INDUSTRIAL MAINTENANCE ELECTRICIAN & INSTRUMENTATION TECHNICIAN | 3                          | 40301-09 | Hazardous Locations                                  |        |
|   |                            | 40302-09 | Electronic Components                                |        |
|   |                            | 40303-09 | E & I Drawings                                       |        |
|   |                            | 40304-09 | Motor Controls                                       |        |
|   |                            | 40305-09 | Distribution Equipment                               | x      |
|   |                            | 40306-09 | Transformer Applications                             | x      |
|   |                            | 40307-09 | Conductor Selection and Calculations                 | x      |
|   |                            | 40308-09 | Temporary Grounding                                  |        |
|   |                            | 40309-09 | Layout and Installation of Tubing and Piping Systems |        |
|   |                            | 40310-09 | Machine Bending of Conduit                           |        |
|   |                            | 40311-09 | Hydraulic Controls                                   | x      |
|   |                            | 40312-09 | Pneumatic Controls                                   |        |
|   |                            | 40313-09 | Motor-Operated Valves                                |        |
| INDUSTRIAL MAINTENANCE ELECTRICIAN & INSTRUMENTATION TECHNICIAN | 4                          | 40401-09 | Standby and Emergency Systems                        |        |
|   |                            | 40402-09 | Basic Process Control Elements, Transducers          |        |
|   |                            | 40403-09 | Instrumentation Calibration and Configuration        |        |
|   |                            | 40404-09 | Pneumatic Control Valve, Actuators and Positioners   |        |
|   |                            | 40405-09 | Performing Loop Checks                               |        |
|   |                            | 40406-09 | Troubleshooting and Commissioning a Loop             |        |
|   |                            | 40407-09 | Data Network   |        |
|   |                            | 40408-09 | Programmable Logic Controllers                       |        |
| 40409-09  | Distributed Control System |          |  |        |

# ADDITIONAL TOPICS: 3E032

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Module credit can be earned within these different topics. Some of these modules are related to craft levels while others are standalone credentials..

| CRAFT/TOPIC  | LEVEL | MODULE   | MODULE TITLE                       | CREDIT |
|--|-------|----------|------------------------------------|--------|
| Additional credit given for modules from the following craft titles. |       |          |                                    |        |
| SUSTAINABLE CONSTRUCTION   |       | 70101-15 | Your Role In the Green Environment | X      |
| SAFETY TECHNOLOGY  | V5    | 75218-03 | Environmental Awareness            | X      |

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**3E052 ELECTRICAL POWER PRODUCTION JOURNEYMAN**



# CORE CURRICULUM: 3E052

**CRAFT DESCRIPTION:** NCCER's Core curriculum is a prerequisite to all other Level 1 craft curriculum and gives the trainee the basic skills needed to continue education in any craft area he or she chooses.

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| CRAFT           | LEVEL | MODULE   | MODULE TITLE                             | CREDIT |
|-----------------|-------|----------|--|--------|
| CORE CURRICULUM |       | 00101-15 | Basic Safety                             |        |
|                 |       | 00102-15 | Introduction to Construction Math        |        |
|                 |       | 00103-15 | Introduction to Hand Tools               |        |
|                 |       | 00104-15 | Introduction to Power Tools              | x      |
|                 |       | 00105-15 | Introduction to Construction Drawings    |        |
|                 |       | 00106-15 | Introduction to Basic Rigging (elective) |        |
|                 |       | 00107-15 | Basic Communication Skills               |        |
|                 |       | 00108-15 | Basic Employability Skills               |        |
|                 |       | 00109-15 | Introduction to Material Handling        |        |

# ELECTRICAL: 3E052

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**CRAFT DESCRIPTION:** To prepare trainees for a career in the electrical field, NCCER offers a comprehensive, four-level Electrical curriculum that complies with DOL time-based standards for apprenticeship.

| CRAFT      | LEVEL | MODULE   | MODULE TITLE                                  | CREDIT |
|------------|-------|----------|---|--------|
| ELECTRICAL | 1     | 26101-14 | Orientation to the Electrical Trade           |        |
|            |       | 26102-14 | Electrical Safety                             |        |
|            |       | 26103-14 | Introduction to Electrical Circuits           |        |
|            |       | 26104-14 | Electrical Theory                             |        |
|            |       | 26205-14 | Introduction to the National Electrical Code® | x      |
|            |       | 26106-14 | Device Boxes                                  |        |
|            |       | 26107-14 | Hand Bending                                  |        |
|            |       | 26108-14 | Raceways and Fittings                         |        |
|            |       | 26109-14 | Conductors and Cables                         |        |
|            |       | 26110-14 | Basic Electrical Construction Drawings        | x      |
|            |       | 26111-14 | Residential Electrical Systems                |        |
|            |       | 26112-14 | Electrical Test Equipment                     |        |
| ELECTRICAL | 2     | 26201-14 | Alternating Current                           |        |
|            |       | 26202-14 | Motors: Theory and Application                |        |
|            |       | 26203-14 | Electric Lighting                             |        |
|            |       | 26204-14 | Conduit Bending                               |        |
|            |       | 26205-14 | Pull and Junction Boxes                       |        |
|            |       | 26206-14 | Conductor Installations                       |        |
|            |       | 26207-14 | Cable Tray                                    |        |
|            |       | 26208-14 | Conductor Terminations and Splices            | x      |
|            |       | 26209-14 | Grounding and Bonding                         | x      |
|            |       | 26210-14 | Circuit Breakers and Fuses                    | x      |
|            |       | 26211-14 | Control Systems and Fundamental Concepts      | x      |

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**CRAFT DESCRIPTION:** To prepare trainees for a career in the electrical field, NCCER offers a comprehensive, four-level Electrical curriculum that complies with DOL time-based standards for apprenticeship.

| CRAFT      | LEVEL                           | MODULE   | MODULE TITLE                                   | CREDIT |
|------------|---------------------------------|----------|--|--------|
| ELECTRICAL | 3                               | 26301-14 | Load Calculations - Branch and Feeder Circuits |        |
|            |                                 | 26302-14 | Conductor Selection and Calculations           | x      |
|            |                                 | 26303-14 | Practical Applications of Lighting             |        |
|            |                                 | 26304-14 | Hazardous Locations                            |        |
|            |                                 | 26305-14 | Overcurrent Protection                         |        |
|            |                                 | 26306-14 | Distribution Equipment                         | x      |
|            |                                 | 26307-14 | Transformers                                   |        |
|            |                                 | 26308-14 | Commercial Electrical Services                 |        |
|            |                                 | 26309-14 | Motor Calculations                             |        |
|            |                                 | 26310-14 | Voice, Data, and Video                         |        |
|            |                                 | 26311-14 | Motor Controls                                 |        |
| ELECTRICAL | 4                               | 26401-14 | Load Calculations - Feeders and Services       |        |
|            |                                 | 26402-14 | Health Care Facilities                         |        |
|            |                                 | 26403-14 | Standby and Emergency Systems                  |        |
|            |                                 | 26404-14 | Basic Electronic Theory                        |        |
|            |                                 | 26405-14 | Fire Alarm Systems                             |        |
|            |                                 | 26406-14 | Specialty Transformers                         |        |
|            |                                 | 26407-14 | Advanced Controls                              |        |
|            |                                 | 26408-14 | HVAC Controls                                  |        |
|            |                                 | 26409-14 | Heat Tracing and Freeze Protection             |        |
|            |                                 | 26410-14 | Motor Operation and Maintenance                |        |
|            |                                 | 26411-14 | Medium-Voltage Terminations/Splices            |        |
|            |                                 | 26412-14 | Special Locations                              |        |
| 46101-11   | Fundamentals of Crew Leadership |          |  |        |

# POWER GENERATION MAINTENANCE ELECTRICIAN: 3E052

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**CRAFT DESCRIPTION:** NCCER's four-level curriculum covers topics such as Oxyfuel Cutting, Introduction to Piping Components, and Laser Alignment.

| CRAFT                                    | LEVEL                          | MODULE   | MODULE TITLE                                 | CREDIT |
|--|--------------------------------|----------|--|--------|
| POWER GENERATION MAINTENANCE ELECTRICIAN | 1                              | 40102-07 | Tools of the Trade                           |        |
|  |                                | 40103-07 | Fasteners and Anchors                        |        |
|  |                                | 40104-07 | Oxyfuel Cutting                              |        |
|  |                                | 40105-07 | Gasket and Packing                           |        |
|  |                                | 40106-07 | Craft-Related Mathematics                    |        |
|  |                                | 40107-07 | Construction Drawings                        |        |
|  |                                | 40108-07 | Pumps and Drivers                            |        |
|  |                                | 40109-07 | Valves                                       |        |
|  |                                | 40110-07 | Introduction to Test Instruments             |        |
|  |                                | 40111-07 | Material Handling and Hand Rigging           |        |
|  |                                | 40112-07 | Mobile and Support Equipment                 |        |
|  |                                | 40113-07 | Lubrication                                  |        |
|  |                                | 29107-09 | SMAW Equipment and Setup                     |        |
| POWER GENERATION MAINTENANCE ELECTRICIAN | 2                              | 40201-08 | Industrial Safety E & I Technicians          |        |
|  |                                | 26501-09 | Managing Electrical Hazards                  | x      |
|  |                                | 40202-08 | Introduction to the National Electrical Code |        |
|  |                                | 40203-08 | Electrical Theory                            |        |
|  |                                | 40204-08 | Alternating Current                          |        |
|  |                                | 40303-09 | E & I Drawings                               |        |
|  |                                | 40205-08 | E & I Test Equipment                         |        |
|  |                                | 40212-08 | Conductors and Cables                        |        |
|  |                                | 40213-08 | Conductor Terminations and Splices           |        |
|  |                                | 40304-09 | Motor Controls                               |        |
|  |                                | 40311-09 | Hydraulic Controls                           |        |
|  |                                | 40312-09 | Pneumatic Controls                           |        |
| 40409-09                                 | Programmable Logic Controllers |          |  |        |

# POWER GENERATION MAINTENANCE ELECTRICIAN: 3E052

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**CRAFT DESCRIPTION:** NCCER's four-level curriculum covers topics such as Oxyfuel Cutting, Introduction to Piping Components, and Laser Alignment.

| CRAFT                                    | LEVEL                         | MODULE   | MODULE TITLE                                  | CREDIT |
|--|-------------------------------|----------|---|--------|
| POWER GENERATION MAINTENANCE ELECTRICIAN | 3                             | 26206-08 | Conductor Installations                       |        |
|  |                               | 26207-08 | Cable Tray                                    |        |
|  |                               | 26209-08 | Grounding and Bonding                         |        |
|  |                               | 40280-08 | Hand Bending                                  |        |
|  |                               | 40310-09 | Machine Bending of Conduit                    |        |
|  |                               | 26203-08 | Electric Lighting                             |        |
|  |                               | 26303-08 | Practical Applications of Lighting            |        |
|  |                               | 40301-09 | Hazardous Locations                           |        |
|  |                               | 26210-08 | Circuit Breakers and Fuses                    |        |
|  |                               | 40306-09 | Transformer Applications                      |        |
|  |                               | 40305-09 | Distribution Equipment                        |        |
|  |                               | 50301-11 | Power Plant Electrical Systems                | x      |
|  |                               | 40307-09 | Conductor Selection and Calculations          |        |
|  |                               | 26202-08 | Motors: Theory and Application                |        |
|  |                               | 40313-09 | Motor-Operated Valves                         |        |
|  |                               | 26211-08 | Control Systems and Fundamental Concepts      |        |
| POWER GENERATION MAINTENANCE ELECTRICIAN | 4                             | 40308-09 | Temporary Grounding                           |        |
|  |                               | 26301-08 | Load Calculations- Branch and Feeder Circuits |        |
|  |                               | 26309-08 | Motor Calculations                            |        |
|  |                               | 26305-08 | Overcurrent Protection                        |        |
|  |                               | 26406-08 | Specialty Transformers                        |        |
|  |                               | 26407-08 | Advanced Controls                             |        |
|  |                               | 26410-08 | Motor Operation and Maintenance               |        |
|  |                               | 50401-10 | Generator Maintenance                         | x      |
|  |                               | 50402-11 | Switchgear and Breaker Maintenance            |        |
|  |                               | 32401-09 | Preventive and Predictive Maintenance         |        |
|  |                               | 26411-08 | Medium Voltage Terminations/Splices           |        |
|  |                               | 26405-08 | Fire Alarm Systems                            |        |
|  |                               | 26409-08 | Heat Tracing and Freeze Protection            |        |
| 40401-09                                 | Standby and Emergency Systems |          |   |        |



# INDUSTRIAL MAINTENANCE ELECTRICIAN & INSTRUMENTATION TECHNICIAN: 3E052

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**CRAFT DESCRIPTION:** NCCER's four-level curriculum covers topics such as Oxyfuel Cutting, Introduction to Piping Components, and Laser Alignment.

| CRAFT   | LEVEL                              | MODULE   | MODULE TITLE                                     | CREDIT |
|---|------------------------------------|----------|--|--------|
| INDUSTRIAL MAINTENANCE ELECTRICIAN & INSTRUMENTATION TECHNICIAN | 1                                  | 40101-07 | Orientation to the Trade                         |        |
|   |                                    | 40102-02 | Tools of the Trade                               |        |
|   |                                    | 40103-07 | Fasteners and Anchors                            | X      |
|   |                                    | 40104-07 | Oxyfuel Cutting                                  |        |
|   |                                    | 40105-07 | Gaskets and Packing                              | X      |
|   |                                    | 40106-07 | Craft-Related Mathematics                        | X      |
|   |                                    | 40107-07 | Construction Drawings                            | X      |
|   |                                    | 40108-07 | Pumps and Drivers                                |        |
|   |                                    | 40109-07 | Valves   |        |
|   |                                    | 40110-07 | Introduction to Test Instruments                 |        |
|   |                                    | 40111-07 | Material Handling and Hand Rigging               |        |
|   |                                    | 40112-07 | Mobile and Support Equipment                     | X      |
|   |                                    | 40113-07 | Lubrication                                      |        |
| INDUSTRIAL MAINTENANCE ELECTRICIAN & INSTRUMENTATION TECHNICIAN | 2                                  | 40201-08 | Industrial Safety for E & I Technicians          |        |
|   |                                    | 40202-08 | Introduction to the National and Electrical Code | X      |
|   |                                    | 40203-08 | Electrical Theory                                | X      |
|   |                                    | 40204-08 | Alternating Current                              | X      |
|   |                                    | 40205-08 | E & I Test Equipment                             |        |
|   |                                    | 40206-08 | Flow, Pressure, Level and Temperature            |        |
|   |                                    | 40207-08 | Process Mathematics                              |        |
|   |                                    | 40208-08 | Hand Bending                                     |        |
|   |                                    | 40209-08 | Tubing   |        |
|   |                                    | 40210-08 | Clean, Purge and Test Tubing and Piping Systems  |        |
|   |                                    | 40211-08 | Instrument Drawing and Documents, Part One       |        |
|   |                                    | 40212-08 | Conductors and Cables                            | X      |
| 40213-08  | Conductor Terminations and Splices | X        |  |        |

# INDUSTRIAL MAINTENANCE ELECTRICIAN & INSTRUMENTATION TECHNICIAN: 3E052

**CRAFT DESCRIPTION:** NCCER's four-level curriculum covers topics such as Oxyfuel Cutting, Introduction to Piping Components, and Laser Alignment.

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| CRAFT   | LEVEL                          | MODULE   | MODULE TITLE   | CREDIT |
|---|--------------------------------|----------|--|--------|
| INDUSTRIAL MAINTENANCE ELECTRICIAN & INSTRUMENTATION TECHNICIAN | 3                              | 40301-09 | Hazardous Locations                                  |        |
|   |                                | 40302-09 | Electronic Components                                |        |
|   |                                | 40303-09 | E & I Drawings                                       |        |
|   |                                | 40304-09 | Motor Controls                                       |        |
|   |                                | 40305-09 | Distribution Equipment                               |        |
|   |                                | 40306-09 | Transformer Applications                             |        |
|   |                                | 40307-09 | Conductor Selection and Calculations                 |        |
|   |                                | 40308-09 | Temporary Grounding                                  |        |
|   |                                | 40309-09 | Layout and Installation of Tubing and Piping Systems |        |
|   |                                | 40310-09 | Machine Bending of Conduit                           |        |
|   |                                | 40311-09 | Hydraulic Controls                                   |        |
|   |                                | 40312-09 | Pneumatic Controls                                   | X      |
| INDUSTRIAL MAINTENANCE ELECTRICIAN & INSTRUMENTATION TECHNICIAN | 4                              | 40313-09 | Motor-Operated Valves                                |        |
|   |                                | 40401-09 | Standby and Emergency Systems                        | X      |
|   |                                | 40402-09 | Basic Process Control Elements, Transducers          |        |
|   |                                | 40403-09 | Instrumentation Calibration and Configuration        |        |
|   |                                | 40404-09 | Pneumatic Control Valve, Actuators and Positioners   |        |
|   |                                | 40405-09 | Performing Loop Checks                               |        |
|   |                                | 40406-09 | Troubleshooting and Commissioning a Loop             |        |
|   |                                | 40407-09 | Data Network   |        |
| 40408-09  | Programmable Logic Controllers |          |  |        |
| 40409-09  | Distributed Control System     |          |  |        |

# FUNDAMENTALS OF CREW LEADERSHIP: 3E052

**CRAFT DESCRIPTION:** This is a one-module curriculum teaches the skills needed to be an effective leader including the ability to communicate effectively, provide direction to a crew and effectively plan and schedule the work of a crew.

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| CRAFT                           | LEVEL | MODULE   | MODULE TITLE                    | CREDIT |
|---------------------------------|-------|----------|---------------------------------|--------|
| FUNDAMENTALS OF CREW LEADERSHIP | 1     | 46101-11 | Fundamentals of Crew Leadership | x      |

## ADDITIONAL TOPICS: 3E052

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Module credit can be earned within these different topics. Some of these modules are related to craft levels while others are standalone credentials.

| CRAFT/TOPIC  | LEVEL     | MODULE   | MODULE TITLE                       | CREDIT |
|--|-----------|----------|------------------------------------|--------|
| Additional credit given for modules from the following craft titles. |           |          |                                    |        |
| SUSTAINABLE CONSTRUCTION   |           | 70101-15 | Your Role In the Green Environment | X      |
| SAFETY TECHNOLOGY  | <b>V5</b> | 75218-03 | Environmental Awareness            | X      |

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**3E072 ELECTRICAL POWER PRODUCTION CRAFTSMAN**



# ELECTRICAL: 3E072

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**CRAFT DESCRIPTION:** To prepare trainees for a career in the electrical field, NCCER offers a comprehensive, four-level Electrical curriculum that complies with DOL time-based standards for apprenticeship.

| CRAFT      | LEVEL | MODULE   | MODULE TITLE                                  | CREDIT |
|------------|-------|----------|---|--------|
| ELECTRICAL | 1     | 26101-14 | Orientation to the Electrical Trade           |        |
|            |       | 26102-14 | Electrical Safety                             |        |
|            |       | 26103-14 | Introduction to Electrical Circuits           |        |
|            |       | 26104-14 | Electrical Theory                             |        |
|            |       | 26205-14 | Introduction to the National Electrical Code® |        |
|            |       | 26106-14 | Device Boxes                                  |        |
|            |       | 26107-14 | Hand Bending                                  |        |
|            |       | 26108-14 | Raceways and Fittings                         |        |
|            |       | 26109-14 | Conductors and Cables                         |        |
|            |       | 26110-14 | Basic Electrical Construction Drawings        |        |
|            |       | 26111-14 | Residential Electrical Systems                |        |
|            |       | 26112-14 | Electrical Test Equipment                     |        |
| ELECTRICAL | 2     | 26201-14 | Alternating Current                           |        |
|            |       | 26202-14 | Motors: Theory and Application                |        |
|            |       | 26203-14 | Electric Lighting                             |        |
|            |       | 26204-14 | Conduit Bending                               |        |
|            |       | 26205-14 | Pull and Junction Boxes                       |        |
|            |       | 26206-14 | Conductor Installations                       |        |
|            |       | 26207-14 | Cable Tray                                    |        |
|            |       | 26208-14 | Conductor Terminations and Splices            |        |
|            |       | 26209-14 | Grounding and Bonding                         |        |
|            |       | 26210-14 | Circuit Breakers and Fuses                    |        |
|            |       | 26211-14 | Control Systems and Fundamental Concepts      |        |

# ELECTRICAL: 3E072

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**CRAFT DESCRIPTION:** To prepare trainees for a career in the electrical field, NCCER offers a comprehensive, four-level Electrical curriculum that complies with DOL time-based standards for apprenticeship.

| CRAFT      | LEVEL                           | MODULE   | MODULE TITLE                                   | CREDIT |
|------------|---------------------------------|----------|--|--------|
| ELECTRICAL | 3                               | 26301-14 | Load Calculations - Branch and Feeder Circuits |        |
|            |                                 | 26302-14 | Conductor Selection and Calculations           |        |
|            |                                 | 26303-14 | Practical Applications of Lighting             |        |
|            |                                 | 26304-14 | Hazardous Locations                            |        |
|            |                                 | 26305-14 | Overcurrent Protection                         |        |
|            |                                 | 26306-14 | Distribution Equipment                         |        |
|            |                                 | 26307-14 | Transformers                                   |        |
|            |                                 | 26308-14 | Commercial Electrical Services                 |        |
|            |                                 | 26309-14 | Motor Calculations                             |        |
|            |                                 | 26310-14 | Voice, Data, and Video                         |        |
|            |                                 | 26311-14 | Motor Controls                                 |        |
| ELECTRICAL | 4                               | 26401-14 | Load Calculations - Feeders and Services       | x      |
|            |                                 | 26402-14 | Health Care Facilities                         |        |
|            |                                 | 26403-14 | Standby and Emergency Systems                  | x      |
|            |                                 | 26404-14 | Basic Electronic Theory                        |        |
|            |                                 | 26405-14 | Fire Alarm Systems                             |        |
|            |                                 | 26406-14 | Specialty Transformers                         |        |
|            |                                 | 26407-14 | Advanced Controls                              |        |
|            |                                 | 26408-14 | HVAC Controls                                  |        |
|            |                                 | 26409-14 | Heat Tracing and Freeze Protection             |        |
|            |                                 | 26410-14 | Motor Operation and Maintenance                |        |
|            |                                 | 26411-14 | Medium-Voltage Terminations/Splices            |        |
|            |                                 | 26412-14 | Special Locations                              |        |
| 46101-11   | Fundamentals of Crew Leadership |          |  |        |

# PROJECT MANAGEMENT: 3E072

**CRAFT DESCRIPTION:** This one-level curriculum covers topics such as Construction Documents, Resource Control and Continuous Improvement.

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| CRAFT              | LEVEL | MODULE   | MODULE TITLE                       | CREDIT |
|--------------------|-------|----------|------------------------------------|--------|
| PROJECT MANAGEMENT | 1     | 44101-08 | Introduction to Project Management | X      |
|                    |       | 44102-08 | Safety                             | X      |
|                    |       | 44103-08 | Interpersonal Skills               | X      |
|                    |       | 44104-08 | Issues and Resolutions             | X      |
|                    |       | 44105-08 | Construction Documents             | X      |
|                    |       | 44106-08 | Construction Planning              | X      |
|                    |       | 44107-08 | Estimating and Cost Control        | X      |
|                    |       | 44108-08 | Scheduling                         | X      |
|                    |       | 44109-08 | Resource Control                   | X      |
|                    |       | 44110-08 | Quality Control and Assurance      | X      |
|                    |       | 44111-08 | Continuous Improvement             | X      |



# PROJECT SUPERVISION: 3E072

**CRAFT DESCRIPTION:** As a one-level curriculum, Project Supervision covers topics such as Human Relations and Problem Solving, Safety and Quality Control.

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| CRAFT               | LEVEL | MODULE   | MODULE TITLE                        | CREDIT |
|---------------------|-------|----------|-------------------------------------|--------|
| PROJECT SUPERVISION | 1     | MT201-01 | Orientation to the Job              | X      |
|                     |       | MT202-01 | Human Relations and Problem Solving | X      |
|                     |       | MT203-01 | Safety                              | X      |
|                     |       | MT204-01 | Quality Control                     | X      |
|                     |       | MT205-01 | Contract and Construction Documents | X      |
|                     |       | MT206-01 | Document Control and Estimating     | X      |
|                     |       | MT207-01 | Planning and Scheduling             | X      |
|                     |       | MT208-01 | Resource Control and Cost Awareness | X      |

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**3E231 PAVEMENTS AND CONSTRUCTION EQUIPMENT APPRENTICE**



# CORE CURRICULUM: 3E231

**CRAFT DESCRIPTION:** NCCER's Core curriculum is a prerequisite to all other Level 1 craft curriculum and gives the trainee the basic skills needed to continue education in any craft area he or she chooses.

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| CRAFT           | LEVEL | MODULE   | MODULE TITLE                             | CREDIT |
|-----------------|-------|----------|--|--------|
| CORE CURRICULUM |       | 00101-15 | Basic Safety                             | X      |
|                 |       | 00102-15 | Introduction to Construction Math        | X      |
|                 |       | 00103-15 | Introduction to Hand Tools               | X      |
|                 |       | 00104-15 | Introduction to Power Tools              | X      |
|                 |       | 00105-15 | Introduction to Construction Drawings    | X      |
|                 |       | 00106-15 | Introduction to Basic Rigging (elective) | X      |
|                 |       | 00107-15 | Basic Communication Skills               | X      |
|                 |       | 00108-15 | Basic Employability Skills               | X      |
|                 |       | 00109-15 | Introduction to Material Handling        | X      |

# HEAVY EQUIPMENT OPERATIONS: 3E231

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**CRAFT DESCRIPTION:** NCCER offers a three-level curriculum which will guide the trainee through modules covering each major piece of heavy equipment, as well as topics such as Civil Blueprint Reading, Soils and Paving.

| CRAFT                      | LEVEL         | MODULE   | MODULE TITLE                      | CREDIT |
|----------------------------|---------------|----------|-----------------------------------|--------|
| HEAVY EQUIPMENT OPERATIONS | 1             | 22101-12 | Orientation to the Trade          | X      |
|                            |               | 22102-12 | Heavy Equipment Safety            | X      |
|                            |               | 22103-12 | Identification to Heavy Equipment | X      |
|                            |               | 22014-12 | Basic Operational Techniques      | X      |
|                            |               | 22105-12 | Utility Tractors                  | X      |
|                            |               | 22201-12 | Introduction to Earthmoving       |        |
|                            |               | 22106-12 | Grades, Part One                  |        |
| HEAVY EQUIPMENT OPERATIONS | 2             | 22202-13 | On-Road Dump Trucks               | X      |
|                            |               | 22204-13 | Scrapers                          |        |
|                            |               | 22205-13 | Loaders                           | X      |
|                            |               | 22206-13 | Rough Terrain Forklifts           | X      |
|                            |               | 22207-13 | Excavation Math                   | X      |
|                            |               | 22209-13 | Interpreting Civil Drawings       |        |
|                            |               | 22210-13 | Site Work                         |        |
|                            |               | 22212-13 | Skid Steers                       | X      |
| HEAVY EQUIPMENT OPERATIONS | 3             | 22308-13 | Soils                             |        |
|                            |               | 22307-14 | Finishing and Grading             |        |
|                            |               | 22203-14 | Compaction Equipment              |        |
|                            |               | 22303-14 | Backhoes                          | X      |
|                            |               | 22310-14 | Off-Road Dump Trucks              |        |
|                            |               | 22302-14 | Dozers                            | X      |
|                            |               | 22304-14 | Excavators                        |        |
| 22305-14                   | Motor Graders | X        |                                   |        |

# CONCRETE FINISHING: 3E231

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**CRAFT DESCRIPTION:** This two-level curriculum covers a range of specific content such as the characteristics of concrete, using concrete as a building material and the process of curing concrete.

| CRAFT              | LEVEL | MODULE | MODULE TITLE  | CREDIT |
|--------------------|-------|--------|---|--------|
| CONCRETE FINISHING | 1     | 23101  | Introduction to Concrete Construction and Finishing | X      |
|                    |       | 23102  | Safety Requirements                                 | X      |
|                    |       | 23103  | Properties of Concrete                              | X      |
|                    |       | 23104  | Tools and Equipment                                 | X      |
|                    |       | 23105  | Preparing for Placement                             | X      |
|                    |       | 23106  | Placing Concrete                                    | X      |
|                    |       | 23107  | Finishing, Part One                                 | X      |
|                    |       | 23108  | Curing and Protecting Concrete                      | X      |
|                    |       | 23109  | Introduction to Troubleshooting                     | X      |
| CONCRETE FINISHING | 2     | 23201  | Properties of Concrete, Part Two                    | X      |
|                    |       | 23202  | Estimating Concrete Quantities                      |        |
|                    |       | 23203  | Forming   |        |
|                    |       | 23204  | Site Concrete                                       |        |
|                    |       | 23205  | Architectural Finishes                              |        |
|                    |       | 23206  | Industrial Floors                                   |        |
|                    |       | 23207  | Superflat Floors                                    |        |
|                    |       | 23208  | Surface Treatments                                  |        |
|                    |       | 23209  | Quality Control                                     |        |
|                    |       | 23210  | Making Repairs                                      | X      |

# ADDITIONAL TOPICS: 3E231

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Module credit can be earned within these different topics. Some of these modules are related to craft levels while others are standalone credentials..

| CRAFT/TOPIC  | LEVEL | MODULE   | MODULE TITLE                       | CREDIT |
|--|-------|----------|------------------------------------|--------|
| Additional credit given for modules from the following craft titles. |       |          |                                    |        |
| SUSTAINABLE CONSTRUCTION   |       | 70101-15 | Your Role In the Green Environment | X      |
| SAFETY TECHNOLOGY  | V5    | 75218-03 | Environmental Awareness            | X      |

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**3E251 PAVEMENTS AND CONSTRUCTION EQUIPMENT JOURNEYMAN**



# HEAVY EQUIPMENT OPERATIONS: 3E251

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**CRAFT DESCRIPTION:** NCCER offers a three-level curriculum which will guide the trainee through modules covering each major piece of heavy equipment, as well as topics such as Civil Blueprint Reading, Soils and Paving.

| CRAFT                      | LEVEL | MODULE   | MODULE TITLE                      | CREDIT |
|----------------------------|-------|----------|-----------------------------------|--------|
| HEAVY EQUIPMENT OPERATIONS | 1     | 22101-12 | Orientation to the Trade          |        |
|                            |       | 22102-12 | Heavy Equipment Safety            |        |
|                            |       | 22103-12 | Identification to Heavy Equipment |        |
|                            |       | 22014-12 | Basic Operational Techniques      |        |
|                            |       | 22105-12 | Utility Tractors                  |        |
|                            |       | 22201-12 | Introduction to Earthmoving       | X      |
|                            |       | 22106-12 | Grades, Part One                  | X      |
| HEAVY EQUIPMENT OPERATIONS | 2     | 22202-13 | On-Road Dump Trucks               |        |
|                            |       | 22204-13 | Scrapers                          | X      |
|                            |       | 22205-13 | Loaders                           |        |
|                            |       | 22206-13 | Rough Terrain Forklifts           |        |
|                            |       | 22207-13 | Excavation Math                   |        |
|                            |       | 22209-13 | Interpreting Civil Drawings       | X      |
|                            |       | 22210-13 | Site Work                         | X      |
|                            |       | 22212-13 | Skid Steers                       |        |
|                            |       | 22308-13 | Soils                             | X      |
| HEAVY EQUIPMENT OPERATIONS | 3     | 22307-14 | Finishing and Grading             | X      |
|                            |       | 22203-14 | Compaction Equipment              | X      |
|                            |       | 22303-14 | Backhoes                          |        |
|                            |       | 22310-14 | Off-Road Dump Trucks              | X      |
|                            |       | 22302-14 | Dozers                            |        |
|                            |       | 22304-14 | Excavators                        | X      |
|                            |       | 22305-14 | Motor Graders                     |        |



# CONCRETE FINISHING: 3E251

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**CRAFT DESCRIPTION:** This two-level curriculum covers a range of specific content such as the characteristics of concrete, using concrete as a building material and the process of curing concrete.

| CRAFT              | LEVEL | MODULE | MODULE TITLE  | CREDIT |
|--------------------|-------|--------|---|--------|
| CONCRETE FINISHING | 1     | 23101  | Introduction to Concrete Construction and Finishing |        |
|                    |       | 23102  | Safety Requirements                                 |        |
|                    |       | 23103  | Properties of Concrete                              |        |
|                    |       | 23104  | Tools and Equipment                                 |        |
|                    |       | 23105  | Preparing for Placement                             |        |
|                    |       | 23106  | Placing Concrete                                    |        |
|                    |       | 23107  | Finishing, Part One                                 |        |
|                    |       | 23108  | Curing and Protecting Concrete                      |        |
|                    |       | 23109  | Introduction to Troubleshooting                     |        |
| CONCRETE FINISHING | 2     | 23201  | Properties of Concrete, Part Two                    |        |
|                    |       | 23202  | Estimating Concrete Quantities                      | X      |
|                    |       | 23203  | Forming   | X      |
|                    |       | 23204  | Site Concrete                                       | X      |
|                    |       | 23205  | Architectural Finishes                              |        |
|                    |       | 23206  | Industrial Floors                                   | X      |
|                    |       | 23207  | Superflat Floors                                    |        |
|                    |       | 23208  | Surface Treatments                                  | X      |
|                    |       | 23209  | Quality Control                                     | X      |
|                    |       | 23210  | Making Repairs                                      |        |

# FUNDAMENTALS OF CREW LEADERSHIP: 3E251

**CRAFT DESCRIPTION:** This is a one-module curriculum teaches the skills needed to be an effective leader including the ability to communicate effectively, provide direction to a crew and effectively plan and schedule the work of a crew.

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| CRAFT                           | LEVEL | MODULE   | MODULE TITLE                    | CREDIT |
|---------------------------------|-------|----------|---------------------------------|--------|
| FUNDAMENTALS OF CREW LEADERSHIP | 1     | 46101-11 | Fundamentals of Crew Leadership | x      |

# ADDITIONAL TOPICS: 3E251

Module credit can be earned within these different topics. Some of these modules are related to craft levels while others are standalone credentials..

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| CRAFT/TOPIC  | LEVEL | MODULE   | MODULE TITLE                       | CREDIT |
|--|-------|----------|------------------------------------|--------|
| Additional credit given for modules from the following craft titles. |       |          |                                    |        |
| SUSTAINABLE CONSTRUCTION   |       | 70101-15 | Your Role In the Green Environment | X      |
| SAFETY TECHNOLOGY  | V5    | 75218-03 | Environmental Awareness            | X      |

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**3E271 PAVEMENTS AND CONSTRUCTION EQUIPMENT CRAFTSMAN**



# PROJECT MANAGEMENT: 3E271

**CRAFT DESCRIPTION:** This one-level curriculum covers topics such as Construction Documents, Resource Control and Continuous Improvement.

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| CRAFT              | LEVEL | MODULE   | MODULE TITLE                       | CREDIT |
|--------------------|-------|----------|------------------------------------|--------|
| PROJECT MANAGEMENT | 1     | 44101-08 | Introduction to Project Management | X      |
|                    |       | 44102-08 | Safety                             | X      |
|                    |       | 44103-08 | Interpersonal Skills               | X      |
|                    |       | 44104-08 | Issues and Resolutions             | X      |
|                    |       | 44105-08 | Construction Documents             | X      |
|                    |       | 44106-08 | Construction Planning              | X      |
|                    |       | 44107-08 | Estimating and Cost Control        | X      |
|                    |       | 44108-08 | Scheduling                         | X      |
|                    |       | 44109-08 | Resource Control                   | X      |
|                    |       | 44110-08 | Quality Control and Assurance      | X      |
|                    |       | 44111-08 | Continuous Improvement             | X      |

# PROJECT SUPERVISION: 3E271

**CRAFT DESCRIPTION:** As a one-level curriculum, Project Supervision covers topics such as Human Relations and Problem Solving, Safety and Quality Control.

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| CRAFT               | LEVEL | MODULE   | MODULE TITLE                        | CREDIT |
|---------------------|-------|----------|-------------------------------------|--------|
| PROJECT SUPERVISION | 1     | MT201-01 | Orientation to the Job              | X      |
|                     |       | MT202-01 | Human Relations and Problem Solving | X      |
|                     |       | MT203-01 | Safety                              | X      |
|                     |       | MT204-01 | Quality Control                     | X      |
|                     |       | MT205-01 | Contract and Construction Documents | X      |
|                     |       | MT206-01 | Document Control and Estimating     | X      |
|                     |       | MT207-01 | Planning and Scheduling             | X      |
|                     |       | MT208-01 | Resource Control and Cost Awareness | X      |

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**3E331 STRUCTURAL APPRENTICE**



# CORE CURRICULUM: 3E331

**CRAFT DESCRIPTION:** NCCER's Core curriculum is a prerequisite to all other Level 1 craft curriculum and gives the trainee the basic skills needed to continue education in any craft area he or she chooses.

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| CRAFT           | LEVEL | MODULE   | MODULE TITLE                             | CREDIT   |
|-----------------|-------|----------|--|----------|
| CORE CURRICULUM |       | 00101-15 | Basic Safety                             | X        |
|                 |       | 00102-15 | Introduction to Construction Math        | X        |
|                 |       | 00103-15 | Introduction to Hand Tools               | X        |
|                 |       | 00104-15 | Introduction to Power Tools              | X        |
|                 |       | 00105-15 | Introduction to Construction Drawings    | X        |
|                 |       | 00106-15 | Introduction to Basic Rigging (elective) | Optional |
|                 |       | 00107-15 | Basic Communication Skills               | X        |
|                 |       | 00108-15 | Basic Employability Skills               | X        |
|                 |       | 00109-15 | Introduction to Material Handling        | X        |



# CONCRETE FINISHING: 3E331

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**CRAFT DESCRIPTION:** This two-level curriculum covers a range of specific content such as the characteristics of concrete, using concrete as a building material and the process of curing concrete.

| CRAFT              | LEVEL | MODULE | MODULE TITLE  | CREDIT |
|--------------------|-------|--------|---|--------|
| CONCRETE FINISHING | 1     | 23101  | Introduction to Concrete Construction and Finishing |        |
|                    |       | 23102  | Safety Requirements                                 |        |
|                    |       | 23103  | Properties of Concrete                              |        |
|                    |       | 23104  | Tools and Equipment                                 | x      |
|                    |       | 23105  | Preparing for Placement                             |        |
|                    |       | 23106  | Placing Concrete                                    |        |
|                    |       | 23107  | Finishing, Part One                                 |        |
|                    |       | 23108  | Curing and Protecting Concrete                      |        |
|                    |       | 23109  | Introduction to Troubleshooting                     |        |
| CONCRETE FINISHING | 2     | 23201  | Properties of Concrete, Part Two                    |        |
|                    |       | 23202  | Estimating Concrete Quantities                      |        |
|                    |       | 23203  | Forming   |        |
|                    |       | 23204  | Site Concrete                                       |        |
|                    |       | 23205  | Architectural Finishes                              |        |
|                    |       | 23206  | Industrial Floors                                   |        |
|                    |       | 23207  | Superflat Floors                                    |        |
|                    |       | 23208  | Surface Treatments                                  |        |
|                    |       | 23209  | Quality Control                                     |        |
|                    |       | 23210  | Making Repairs                                      |        |

# SHEET METAL: 3E331

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**CRAFT DESCRIPTION:** This four-level curriculum is designed to prepare the trainee for a large range of possibilities, covering topics such as Installation of Ductwork, Bend Allowances, and Advanced Architectural Sheet Metal.

| CRAFT       | LEVEL | MODULE   | MODULE TITLE                                     | CREDIT |
|-------------|-------|----------|--|--------|
| SHEET METAL | 1     | 04101-08 | Introduction to Sheet Metal Trade                | X      |
|             |       | 04102-08 | Tools of the Trade                               | X      |
|             |       | 04103-08 | Introduction to Sheet Metal Layout and Processes | X      |
|             |       | 04104-08 | Trade Math One                                   | X      |
|             |       | 04105-08 | Fabrication One- Parallel Line Development       | X      |
|             |       | 04106-08 | Installation of Ductwork                         |        |
|             |       | 04107-08 | Installation of Air Distribution Accessories     |        |
|             |       | 04108-08 | Insulation                                       |        |
|             |       | 04109-08 | Architectural Sheet Metal                        |        |
| SHEET METAL | 2     | 04201-08 | Trade Math Two                                   |        |
|             |       | 04202-08 | Plans and Specifications                         |        |
|             |       | 04203-08 | Fabrication Two- Radial Line Development         |        |
|             |       | 04204-08 | Sheet Metal Duct Fabrication Standards           |        |
|             |       | 04205-08 | Air Properties and Distribution                  |        |
|             |       | 04206-08 | Bend Allowances                                  |        |
|             |       | 04207-08 | Soldering  |        |
|             |       | 04208-08 | Basic Piping Practices                           |        |
|             |       | 04209-08 | Fiberglass Duct                                  |        |

# SHEET METAL: 3E331

**BUILD YOUR FUTURE.  
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**CRAFT DESCRIPTION:** This four-level curriculum is designed to prepare the trainee for a large range of possibilities, covering topics such as Installation of Ductwork, Bend Allowances, and Advanced Architectural Sheet Metal.

| CRAFT       | LEVEL | MODULE   | MODULE TITLE                                  | CREDIT |
|-------------|-------|----------|---|--------|
| SHEET METAL | 3     | 04301-09 | Trade Math Three- Field Measuring and Fitting |        |
|             |       | 04302-09 | Air Systems                                   |        |
|             |       | 04303-09 | Principles of Airflow                         |        |
|             |       | 04304-09 | Louvers, Dampers and Access Doors             |        |
|             |       | 04305-09 | Comprehensive Plan and Specification Reading  |        |
|             |       | 04306-09 | Fabrication Three- Triangulation              |        |
|             |       | 04307-09 | Advanced Architectural Sheet Metal            |        |
| SHEET METAL | 4     | 04401-09 | Shop Production and Organization              |        |
|             |       | 04402-09 | Air Testing and Balancing                     |        |
|             |       | 04403-09 | Introduction to Welding, Brazing and Cutting  |        |
|             |       | 04404-09 | Fume and Exhaust System Design                |        |
|             |       | 04405-09 | Fabrication Four- Comprehensive Review        |        |
|             |       | 04406-09 | Introductory Supervisory Skills               |        |

# CARPENTRY: 3E331

BUILD YOUR FUTURE.  
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**CRAFT DESCRIPTION:** This four-level curriculum covers content such as Building Materials, Cabinet Fabrication and Advanced Wall Systems.

| CRAFT     | LEVEL | MODULE   | MODULE TITLE  | CREDIT |
|-----------|-------|----------|---|--------|
| CARPENTRY | 1     | 27101-13 | Orientation to the Trade  |        |
|           |       | 27102-13 | Building Materials, Fasteners, and Adhesives                      |        |
|           |       | 27103-13 | Hand and Power Tools  |        |
|           |       | 27104-13 | Introduction to Construction Drawings, Specifications, and Layout |        |
|           |       | 27105-13 | Floor Systems   |        |
|           |       | 27111-13 | Wall Systems  |        |
|           |       | 27112-13 | Ceiling Joist and Roof Framing                                    |        |
|           |       | 27110-13 | Basic Stair Layout  | x      |
|           |       | 27109-13 | Introduction to Building Envelope Systems                         |        |
| CARPENTRY | 2     | 27202-13 | Roofing Applications  |        |
|           |       | 27203-13 | Thermal and Moisture Protection                                   |        |
|           |       | 27204-13 | Exterior Finishing  |        |
|           |       | 27205-13 | Cold-Formed Steel Framing   |        |
|           |       | 27206-13 | Drywall Installation  |        |
|           |       | 27207-13 | Drywall Finishing   |        |
|           |       | 27208-13 | Doors and Door Hardware   |        |
|           |       | 27209-13 | Suspended Ceilings  |        |
|           |       | 27210-13 | Window, Door, Floor, and Ceiling Trim                             |        |
|           |       | 27211-13 | Cabinet Installation  |        |

# CARPENTRY: 12W10

BUILD YOUR FUTURE.  
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**CRAFT DESCRIPTION:** This four-level curriculum covers content such as Building Materials, Cabinet Fabrication and Advanced Wall Systems.

| CRAFT     | LEVEL | MODULE   | MODULE TITLE  | CREDIT |
|-----------|-------|----------|---|--------|
| CARPENTRY | 3     | 27303-14 | Properties of Concrete                              |        |
|           |       | 38101-11 | Rigging Equipment                                   |        |
|           |       | 38102-11 | Rigging Practices                                   |        |
|           |       | 27306-14 | Trenching and Excavating                            |        |
|           |       | 27304-14 | Reinforcing Concrete                                | x      |
|           |       | 27307-14 | Foundations and Slab-on-Grade                       |        |
|           |       | 27308-14 | Vertical Formwork                                   |        |
|           |       | 27309-14 | Horizontal Formwork                                 |        |
|           |       | 27305-14 | Handling and Placing Concrete                       |        |
|           |       | 27310-14 | Tilt-up Wall Panels                                 |        |
| CARPENTRY | 4     | 27401-14 | Site Layout One - Differential Leveling             |        |
|           |       | 27402-14 | Site Layout Two - Angular and Distance Measurements |        |
|           |       | 27403-14 | Advanced Roof Systems                               |        |
|           |       | 27404-14 | Advanced Wall Systems                               |        |
|           |       | 27405-14 | Advanced Stair Systems                              |        |
|           |       | 27406-14 | Introduction to Construction Equipment              |        |
|           |       | 27407-14 | Introduction to Oxyfuel Cutting and Arc Welding     |        |
|           |       | 27409-14 | Site Preparation                                    |        |
|           |       | 46101-11 | Fundamentals of Crew Leadership                     |        |

# MASONRY: 3E331

**BUILD YOUR FUTURE.  
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**CRAFT DESCRIPTION:** This three-level curriculum encompasses modules such as Mortar, Metalwork in Masonry and Estimating.

| CRAFT   | LEVEL | MODULE   | MODULE TITLE                                    | CREDIT |
|---------|-------|----------|---|--------|
| MASONRY | 1     | 28101-13 | Introduction to Masonry                         | X      |
|         |       | 28106-13 | Masonry Safety                                  | X      |
|         |       | 28102-13 | Masonry Tools & Equipment                       |        |
|         |       | 28103-13 | Measurements, Drawings, and Specifications      |        |
|         |       | 28104-13 | Mortar  |        |
|         |       | 28105-13 | Masonry Units and Installation Techniques       |        |
| MASONRY | 2     | 28201-14 | Residential Plans and Drawing Interpretation    |        |
|         |       | 28202-14 | Residential Masonry                             |        |
|         |       | 28203-14 | Reinforced Masonry                              |        |
|         |       | 28204-14 | Masonry Openings and Metalwork                  |        |
|         |       | 28205-14 | Advanced Laying Techniques                      |        |
|         |       | 28206-14 | Effect of Climate on Masonry                    |        |
|         |       | 28207-14 | Construction Inspection and Quality Control     |        |
| MASONRY | 3     | 28301-14 | Elevated Masonry                                |        |
|         |       | 28302-14 | Specialized Materials and Techniques            |        |
|         |       | 28303-14 | Repair and Restoration                          |        |
|         |       | 28304-14 | Commercial Drawings                             |        |
|         |       | 28305-14 | Estimating                                      |        |
|         |       | 28306-14 | Site Layout - Distance Measurement and Leveling |        |
|         |       | 28308-14 | Stone Masonry                                   |        |
|         |       | 46101-11 | Fundamentals of Crew Leadership                 |        |

# PAINTING: 3E331

BUILD YOUR FUTURE.  
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**CRAFT DESCRIPTION:** This three-level curriculum encompasses modules such as Mortar, Metalwork in Masonry and Estimating.

| CRAFT    | LEVEL | MODULE | MODULE TITLE  | CREDIT |
|----------|-------|--------|---|--------|
| PAINTING | 1     | 7101   | Careers in the Painting Trade                           |        |
|          |       | 7102   | Safety  |        |
|          |       | 7103   | Ladders, Scaffolds, Lifts and Fall Protection           |        |
|          |       | 7104   | Identifying Surface/ Substrate Materials and Conditions | x      |
|          |       | 7105   | Protecting Adjacent Surfaces                            |        |
|          |       | 7106   | Basic Surface Preparation                               |        |
|          |       | 7107   | Sealants and Repair/ Fillers                            |        |
|          |       | 7108   | Introduction to Paints                                  |        |
|          |       | 7109   | Brushing and Rolling Paints and Coatings                |        |
| PAINTING | 2     | 7201   | Painting Failures and Remedies                          |        |
|          |       | 7202   | Job Planning and Completion                             |        |
|          |       | 7203   | Chemical Cleaning and Stripping                         |        |
|          |       | 7204   | Low-Pressure Water Cleaning                             |        |
|          |       | 7205   | Abrasive Blasting                                       |        |
|          |       | 7206   | Drywall Finishing and Patching                          |        |
|          |       | 7207   | Stains  |        |
|          |       | 7208   | Clear Finishes  |        |
|          |       | 7209   | Wood Finishing  |        |
|          |       | 7210   | Coatings Two  |        |
|          |       | 7211   | Spray Painting  |        |

# PAINTING: 3E331

BUILD YOUR FUTURE.  
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**CRAFT DESCRIPTION:** This three-level curriculum encompasses modules such as Mortar, Metalwork in Masonry and Estimating.

| CRAFT    | LEVEL | MODULE | MODULE TITLE                          | CREDIT |
|----------|-------|--------|---------------------------------------|--------|
| PAINTING | 3     | 7301   | Painting Failures and Remedies Two    |        |
|          |       | 7302   | Job Supervision, Planning and Control |        |
|          |       | 7303   | Coatings Three                        |        |
|          |       | 7304   | Coating and Tinting                   |        |
|          |       | 7305   | Decorative (Faux) Finishes            |        |
|          |       | 7306   | Wallcovering                          |        |
|          |       | 7307   | Graphics                              |        |
|          |       | 7308   | Texturing                             |        |
|          |       | 7309   | Spraying and Special Devices          |        |



# WELDING: 3E331

BUILD YOUR FUTURE.  
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**CRAFT DESCRIPTION:** This four-level curriculum covers content such as Building Materials, Cabinet Fabrication and Advanced Wall Systems.

| CRAFT    | LEVEL       | MODULE   | MODULE TITLE  | CREDIT |
|----------|-------------|----------|---|--------|
| WELDING  | 1           | 29101-15 | Welding Safety  |        |
|          |             | 29102-15 | Oxyfuel Cutting   |        |
|          |             | 29103-15 | Plasma Arc Cutting  |        |
|          |             | 29104-15 | Air-Carbon Arc Cutting and Gouging                          |        |
|          |             | 29105-15 | Base Metal Preparation                                      |        |
|          |             | 29106-15 | Weld Quality  |        |
|          |             | 29107-15 | SMAW- Equipment and Setup                                   | x      |
|          |             | 29108-15 | SMAW Electrodes   |        |
|          |             | 29109-15 | SMAW- Beads and Fillet Welds                                |        |
|          |             | 29110-15 | Joint Fit-Up and Alignment                                  |        |
|          |             | 29111-15 | SMAW- Groove Welds and Backing                              |        |
|          |             | 29112-15 | SMAW- Open-Root Groove Welds- Plate                         |        |
| WELDING  | 2           | 29201-15 | Welding Symbols   |        |
|          |             | 29202-15 | Reading Welding Detail Drawings                             |        |
|          |             | 29203-15 | Physical Characteristics and Mechanical Properties of Metal | x      |
|          |             | 29204-15 | Preheating and Postheating of Metals                        |        |
|          |             | 29205-15 | GMAW abd FCAW- Equipment and Filler Metals                  |        |
|          |             | 29209-15 | GMAW- Plate   |        |
|          |             | 29210-15 | FCAW- Plate   |        |
|          |             | 29207-15 | GTAW_ Equipment and Filler Metals                           |        |
| 29208-15 | GTAW- Plate |          |   |        |

# WELDING: 3E331

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**CRAFT DESCRIPTION:** This four-level curriculum covers content such as Building Materials, Cabinet Fabrication and Advanced Wall Systems.

| CRAFT   | LEVEL | MODULE   | MODULE TITLE                                      | CREDIT |
|---------|-------|----------|---|--------|
| WELDING | 3     | 29301-16 | SMAW- Open-Root Pipe Welds                        |        |
|         |       | 29302-16 | GMAW- Pipe  |        |
|         |       | 29303-16 | FCAW_ Pipe  |        |
|         |       | 29304-16 | GTAW- Carbon Steel Pipe                           |        |
|         |       | 29305-16 | GTAW- Low Alloy and Stainless Steel Pipe          |        |
|         |       | 29306-16 | SMAW- Stainless Steel Plate and Pipe Groove Welds |        |
| WELDING | 4     | 29401-16 | GMAW- Aluminum Plate                              |        |
|         |       | 29402-16 | GTAW- Aluminum Plate                              |        |
|         |       | 29403-16 | GTAW- Aluminum Pipe                               |        |
|         |       | 29404-16 | GMAW- Aluminum Pipe                               |        |
|         |       | 29405-16 | Soldering and Blazing                             |        |

# IRONWORKING: 3E331

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**CRAFT DESCRIPTION:** This four-level curriculum covers content such as Building Materials, Cabinet Fabrication and Advanced Wall Systems.

| CRAFT       | LEVEL                             | MODULE   | MODULE TITLE                     | CREDIT |
|-------------|-----------------------------------|----------|----------------------------------|--------|
| IRONWORKING | 1                                 | 30101-11 | Introduction to the Trade        |        |
|             |                                   | 30102-11 | Trade Safety                     |        |
|             |                                   | 30103-11 | Tools and Equipment of the Trade | X      |
|             |                                   | 30104-11 | Fastening                        |        |
|             |                                   | 30105-11 | Mobile Construction Cranes       |        |
|             |                                   | 30106-11 | Rigging Equipment                |        |
|             |                                   | 30107-11 | Rigging Practices                |        |
|             |                                   | 30108-11 | Trade Drawings One               |        |
|             |                                   | 30109-11 | Structural Ironworking One       |        |
|             |                                   | 30110-11 | Plumbing, Aligning and Guying    |        |
|             |                                   | 29102-09 | Oxyfuel Cutting                  |        |
|             |                                   | 30112-11 | Introduction to Arc Welding      |        |
|             |                                   | 30113-11 | Bar Joists and Girders           |        |
|             |                                   | 30114-11 | Metal Decking                    |        |
| 30115-11    | Field Fabrication                 |          |                                  |        |
| IRONWORKING | 2                                 | 30201-11 | Trade Math                       |        |
|             |                                   | 29106-09 | Weld Quality                     |        |
|             |                                   | 30202-11 | Position Arc Welding             | X      |
|             |                                   | 30203-11 | Forklifts                        |        |
|             |                                   | 30204-11 | Trade Drawings Two               | X      |
|             |                                   | 38201-11 | Intermediate Rigging             |        |
|             |                                   | 30205-11 | Structural Ironworking Two       |        |
|             |                                   | 30206-11 | Steel Joists and Joists Girders  |        |
|             |                                   | 30207-11 | Tower Cranes                     |        |
| 30208-11    | Survey Equipment Use and Care One |          |                                  |        |

# IRONWORKING: 3E331

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**CRAFT DESCRIPTION:** This four-level curriculum covers content such as Building Materials, Cabinet Fabrication and Advanced Wall Systems.

| CRAFT       | LEVEL      | MODULE   | MODULE TITLE                          | CREDIT |
|-------------|------------|----------|---------------------------------------|--------|
| IRONWORKING | 3          | 30313-12 | Applied Trade Math                    |        |
|             |            | 30314-12 | Flux Core for Ironworking             |        |
|             |            | 30304-12 | Stud Welding                          |        |
|             |            | 30312-12 | Structural Welding Three              |        |
|             |            | 38301-11 | Advanced Rigging                      |        |
|             |            | 30311-12 | Precast/Tilt-Up Erection              |        |
|             |            | 30307-12 | Special Application Hoisting Devices  |        |
|             |            | 30315-12 | Survey Equipment and Care Two         |        |
|             |            | 30302-12 | Pre-Engineered Systems                |        |
|             |            | 30303-12 | Miscellaneous/ Ornamental Ironworking |        |
|             |            | 30316-12 | Grading and Checkered Plate           |        |
|             |            | 29104-09 | Air Carbon Arc Cutting and Gouging    |        |
| 30310-12    | Demolition |          |                                       |        |

# REINFORCING IRONWORK: 3E331

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**CRAFT DESCRIPTION:** This two-level curriculum covers a range of specific content such as the characteristics of concrete, using concrete as a building material and the process of curing concrete.

| CRAFT                | LEVEL | MODULE   | MODULE TITLE                            | CREDIT |
|----------------------|-------|----------|---|--------|
| REINFORCING IRONWORK | 1     | 39101-05 | Concrete Reinforcement                  |        |
|                      |       | 39102-05 | Concrete Reinforcement Safety           |        |
|                      |       | 39103-05 | Rigging Equipment                       |        |
|                      |       | 39104-05 | Rigging Practices                       |        |
|                      |       | 39105-05 | Commercial Blueprints                   |        |
|                      |       | 39106-05 | Oxyfuel Cutting                         | x      |
| REINFORCING IRONWORK | 2     | 27204-01 | Foundations and Flatwork                |        |
|                      |       | 27205-01 | Concrete Forms                          |        |
|                      |       | 27207-01 | Handling and Placing Concrete           | x      |
|                      |       | 27208-01 | Manufactured Forms                      |        |
|                      |       | 30116    | Metal Decking                           |        |
|                      |       | MT101    | Introductory Skills for the Crew Leader |        |

# ADDITIONAL TOPICS: 3E331

Module credit can be earned within these different topics. Some of these modules are related to craft levels while others are standalone credentials.

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| CRAFT/TOPIC  | LEVEL | MODULE   | MODULE TITLE                       | CREDIT |
|--|-------|----------|------------------------------------|--------|
| Additional credit given for modules from the following craft titles. |       |          |                                    |        |
| SUSTAINABLE CONSTRUCTION   |       | 70101-15 | Your Role In the Green Environment | X      |
| SAFETY TECHNOLOGY  | V5    | 75218-03 | Environmental Awareness            | X      |

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**3E371 STRUCTURAL CRAFTSMAN**



# SHEET METAL: 3E371

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**CRAFT DESCRIPTION:** This four-level curriculum is designed to prepare the trainee for a large range of possibilities, covering topics such as Installation of Ductwork, Bend Allowances, and Advanced Architectural Sheet Metal.

| CRAFT       | LEVEL | MODULE   | MODULE TITLE                                     | CREDIT |
|-------------|-------|----------|--|--------|
| SHEET METAL | 1     | 04101-08 | Introduction to Sheet Metal Trade                |        |
|             |       | 04102-08 | Tools of the Trade                               |        |
|             |       | 04103-08 | Introduction to Sheet Metal Layout and Processes |        |
|             |       | 04104-08 | Trade Math One                                   |        |
|             |       | 04105-08 | Fabrication One- Parallel Line Development       |        |
|             |       | 04106-08 | Installation of Ductwork                         |        |
|             |       | 04107-08 | Installation of Air Distribution Accessories     |        |
|             |       | 04108-08 | Insulation                                       |        |
|             |       | 04109-08 | Architectural Sheet Metal                        |        |
| SHEET METAL | 2     | 04201-08 | Trade Math Two                                   |        |
|             |       | 04202-08 | Plans and Specifications                         |        |
|             |       | 04203-08 | Fabrication Two- Radial Line Development         |        |
|             |       | 04204-08 | Sheet Metal Duct Fabrication Standards           |        |
|             |       | 04205-08 | Air Properties and Distribution                  |        |
|             |       | 04206-08 | Bend Allowances                                  |        |
|             |       | 04207-08 | Soldering  |        |
|             |       | 04208-08 | Basic Piping Practices                           |        |
|             |       | 04209-08 | Fiberglass Duct                                  |        |



# SHEET METAL: 3E371

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**CRAFT DESCRIPTION:** This four-level curriculum is designed to prepare the trainee for a large range of possibilities, covering topics such as Installation of Ductwork, Bend Allowances, and Advanced Architectural Sheet Metal.

| CRAFT       | LEVEL | MODULE   | MODULE TITLE                                  | CREDIT |
|-------------|-------|----------|---|--------|
| SHEET METAL | 3     | 04301-09 | Trade Math Three- Field Measuring and Fitting |        |
|             |       | 04302-09 | Air Systems                                   |        |
|             |       | 04303-09 | Principles of Airflow                         |        |
|             |       | 04304-09 | Louvers, Dampers and Access Doors             |        |
|             |       | 04305-09 | Comprehensive Plan and Specification Reading  |        |
|             |       | 04306-09 | Fabrication Three- Triangulation              |        |
|             |       | 04307-09 | Advanced Architectural Sheet Metal            |        |
| SHEET METAL | 4     | 04401-09 | Shop Production and Organization              | X      |
|             |       | 04402-09 | Air Testing and Balancing                     |        |
|             |       | 04403-09 | Introduction to Welding, Brazing and Cutting  |        |
|             |       | 04404-09 | Fume and Exhaust System Design                |        |
|             |       | 04405-09 | Fabrication Four- Comprehensive Review        |        |
|             |       | 04406-09 | Introductory Supervisory Skills               |        |

# CARPENTRY: 3E371

BUILD YOUR FUTURE.  
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**CRAFT DESCRIPTION:** This four-level curriculum covers content such as Building Materials, Cabinet Fabrication and Advanced Wall Systems.

| CRAFT     | LEVEL | MODULE   | MODULE TITLE  | CREDIT |
|-----------|-------|----------|---|--------|
| CARPENTRY | 1     | 27101-13 | Orientation to the Trade  |        |
|           |       | 27102-13 | Building Materials, Fasteners, and Adhesives                      | x      |
|           |       | 27103-13 | Hand and Power Tools  |        |
|           |       | 27104-13 | Introduction to Construction Drawings, Specifications, and Layout |        |
|           |       | 27105-13 | Floor Systems   |        |
|           |       | 27111-13 | Wall Systems  |        |
|           |       | 27112-13 | Ceiling Joist and Roof Framing                                    | x      |
|           |       | 27110-13 | Basic Stair Layout  |        |
|           |       | 27109-13 | Introduction to Building Envelope Systems                         |        |
| CARPENTRY | 2     | 27202-13 | Roofing Applications  |        |
|           |       | 27203-13 | Thermal and Moisture Protection                                   |        |
|           |       | 27204-13 | Exterior Finishing  |        |
|           |       | 27205-13 | Cold-Formed Steel Framing   |        |
|           |       | 27206-13 | Drywall Installation  |        |
|           |       | 27207-13 | Drywall Finishing   |        |
|           |       | 27208-13 | Doors and Door Hardware   |        |
|           |       | 27209-13 | Suspended Ceilings  |        |
|           |       | 27210-13 | Window, Door, Floor, and Ceiling Trim                             |        |
|           |       | 27211-13 | Cabinet Installation  |        |

# CARPENTRY: 3E371

BUILD YOUR FUTURE.  
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**CRAFT DESCRIPTION:** This four-level curriculum covers content such as Building Materials, Cabinet Fabrication and Advanced Wall Systems.

| CRAFT     | LEVEL    | MODULE                          | MODULE TITLE  | CREDIT |
|-----------|----------|---------------------------------|---|--------|
| CARPENTRY | 3        | 27303-14                        | Properties of Concrete                              |        |
|           |          | 38101-11                        | Rigging Equipment                                   |        |
|           |          | 38102-11                        | Rigging Practices                                   |        |
|           |          | 27306-14                        | Trenching and Excavating                            |        |
|           |          | 27304-14                        | Reinforcing Concrete                                | X      |
|           |          | 27307-14                        | Foundations and Slab-on-Grade                       |        |
|           |          | 27308-14                        | Vertical Formwork                                   |        |
|           |          | 27309-14                        | Horizontal Formwork                                 |        |
|           |          | 27305-14                        | Handling and Placing Concrete                       |        |
|           |          | 27310-14                        | Tilt-up Wall Panels                                 |        |
| CARPENTRY | 4        | 27401-14                        | Site Layout One - Differential Leveling             |        |
|           |          | 27402-14                        | Site Layout Two - Angular and Distance Measurements |        |
|           |          | 27403-14                        | Advanced Roof Systems                               |        |
|           |          | 27404-14                        | Advanced Wall Systems                               |        |
|           |          | 27405-14                        | Advanced Stair Systems                              |        |
|           |          | 27406-14                        | Introduction to Construction Equipment              |        |
|           |          | 27407-14                        | Introduction to Oxyfuel Cutting and Arc Welding     |        |
|           |          | 27409-14                        | Site Preparation                                    |        |
|           | 46101-11 | Fundamentals of Crew Leadership |   |        |

# MASONRY: 3E371

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**CRAFT DESCRIPTION:** This three-level curriculum encompasses modules such as Mortar, Metalwork in Masonry and Estimating.

| CRAFT   | LEVEL | MODULE   | MODULE TITLE                                    | CREDIT |
|---------|-------|----------|---|--------|
| MASONRY | 1     | 28101-13 | Introduction to Masonry                         |        |
|         |       | 28106-13 | Masonry Safety                                  |        |
|         |       | 28102-13 | Masonry Tools & Equipment                       |        |
|         |       | 28103-13 | Measurements, Drawings, and Specifications      |        |
|         |       | 28104-13 | Mortar  |        |
|         |       | 28105-13 | Masonry Units and Installation Techniques       |        |
| MASONRY | 2     | 28201-14 | Residential Plans and Drawing Interpretation    |        |
|         |       | 28202-14 | Residential Masonry                             |        |
|         |       | 28203-14 | Reinforced Masonry                              |        |
|         |       | 28204-14 | Masonry Openings and Metalwork                  |        |
|         |       | 28205-14 | Advanced Laying Techniques                      |        |
|         |       | 28206-14 | Effect of Climate on Masonry                    |        |
|         |       | 28207-14 | Construction Inspection and Quality Control     |        |
| MASONRY | 3     | 28301-14 | Elevated Masonry                                |        |
|         |       | 28302-14 | Specialized Materials and Techniques            |        |
|         |       | 28303-14 | Repair and Restoration                          |        |
|         |       | 28304-14 | Commercial Drawings                             | x      |
|         |       | 28305-14 | Estimating                                      |        |
|         |       | 28306-14 | Site Layout - Distance Measurement and Leveling |        |
|         |       | 28308-14 | Stone Masonry                                   |        |
|         |       | 46101-11 | Fundamentals of Crew Leadership                 |        |

# PAINTING: 3E371

**CRAFT DESCRIPTION:** This three-level curriculum encompasses modules such as Mortar, Metalwork in Masonry and Estimating.

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| CRAFT    | LEVEL | MODULE | MODULE TITLE  | CREDIT |
|----------|-------|--------|---|--------|
| PAINTING | 1     | 7101   | Careers in the Painting Trade                           |        |
|          |       | 7102   | Safety  |        |
|          |       | 7103   | Ladders, Scaffolds, Lifts and Fall Protection           |        |
|          |       | 7104   | Identifying Surface/ Substrate Materials and Conditions |        |
|          |       | 7105   | Protecting Adjacent Surfaces                            |        |
|          |       | 7106   | Basic Surface Preparation                               |        |
|          |       | 7107   | Sealants and Repair/ Fillers                            |        |
|          |       | 7108   | Introduction to Paints                                  |        |
|          |       | 7109   | Brushing and Rolling Paints and Coatings                |        |
| PAINTING | 2     | 7201   | Painting Failures and Remedies                          |        |
|          |       | 7202   | Job Planning and Completion                             |        |
|          |       | 7203   | Chemical Cleaning and Stripping                         | X      |
|          |       | 7204   | Low-Pressure Water Cleaning                             |        |
|          |       | 7205   | Abrasive Blasting                                       |        |
|          |       | 7206   | Drywall Finishing and Patching                          |        |
|          |       | 7207   | Stains  |        |
|          |       | 7208   | Clear Finishes  |        |
|          |       | 7209   | Wood Finishing  |        |
|          |       | 7210   | Coatings Two  |        |
|          |       | 7211   | Spray Painting  |        |

# PAINTING: 3E371

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**CRAFT DESCRIPTION:** This three-level curriculum encompasses modules such as Mortar, Metalwork in Masonry and Estimating.

| CRAFT    | LEVEL | MODULE | MODULE TITLE                          | CREDIT |
|----------|-------|--------|---------------------------------------|--------|
| PAINTING | 3     | 7301   | Painting Failures and Remedies Two    |        |
|          |       | 7302   | Job Supervision, Planning and Control |        |
|          |       | 7303   | Coatings Three                        |        |
|          |       | 7304   | Coating and Tinting                   |        |
|          |       | 7305   | Decorative (Faux) Finishes            |        |
|          |       | 7306   | Wallcovering                          |        |
|          |       | 7307   | Graphics                              |        |
|          |       | 7308   | Texturing                             |        |
|          |       | 7309   | Spraying and Special Devices          |        |

# PROJECT MANAGEMENT: 3E371

**CRAFT DESCRIPTION:** This one-level curriculum covers topics such as Construction Documents, Resource Control and Continuous Improvement.

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| CRAFT              | LEVEL | MODULE   | MODULE TITLE                       | CREDIT |
|--------------------|-------|----------|------------------------------------|--------|
| PROJECT MANAGEMENT | 1     | 44101-08 | Introduction to Project Management | X      |
|                    |       | 44102-08 | Safety                             | X      |
|                    |       | 44103-08 | Interpersonal Skills               | X      |
|                    |       | 44104-08 | Issues and Resolutions             | X      |
|                    |       | 44105-08 | Construction Documents             | X      |
|                    |       | 44106-08 | Construction Planning              | X      |
|                    |       | 44107-08 | Estimating and Cost Control        | X      |
|                    |       | 44108-08 | Scheduling                         | X      |
|                    |       | 44109-08 | Resource Control                   | X      |
|                    |       | 44110-08 | Quality Control and Assurance      | X      |
|                    |       | 44111-08 | Continuous Improvement             | X      |

# PROJECT SUPERVISION: 3E371

**CRAFT DESCRIPTION:** As a one-level curriculum, Project Supervision covers topics such as Human Relations and Problem Solving, Safety and Quality Control.

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| CRAFT               | LEVEL | MODULE   | MODULE TITLE                        | CREDIT |
|---------------------|-------|----------|-------------------------------------|--------|
| PROJECT SUPERVISION | 1     | MT201-01 | Orientation to the Job              | X      |
|                     |       | MT202-01 | Human Relations and Problem Solving | X      |
|                     |       | MT203-01 | Safety                              | X      |
|                     |       | MT204-01 | Quality Control                     | X      |
|                     |       | MT205-01 | Contract and Construction Documents | X      |
|                     |       | MT206-01 | Document Control and Estimating     | X      |
|                     |       | MT207-01 | Planning and Scheduling             | X      |
|                     |       | MT208-01 | Resource Control and Cost Awareness | X      |



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**3E431**



# CORE CURRICULUM: 3E431

**CRAFT DESCRIPTION:** NCCER's Core curriculum is a prerequisite to all other Level 1 craft curriculum and gives the trainee the basic skills needed to continue education in any craft area he or she chooses.

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| CRAFT           | LEVEL | MODULE   | MODULE TITLE                          | CREDIT     |
|-----------------|-------|----------|---------------------------------------|------------|
| CORE CURRICULUM |       | 00101-15 | Basic Safety                          |            |
|                 |       | 00102-15 | Introduction to Construction Math     | x          |
|                 |       | 00103-15 | Introduction to Hand Tools            | x          |
|                 |       | 00104-15 | Introduction to Power Tools           | x          |
|                 |       | 00105-15 | Introduction to Construction Drawings |            |
|                 |       | 00106-15 | Introduction to Basic Rigging         | (optional) |
|                 |       | 00107-15 | Basic Communication Skills            | x          |
|                 |       | 00108-15 | Basic Employability Skills            | x          |
|                 |       | 00109-15 | Introduction to Material Handling     | x          |

# PLUMBING: 3E431

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**CRAFT DESCRIPTION:** NCCER's four-level curriculum covers topics such as Plumbing Tools, Types of Valves and Potable Water Treatment.

| CRAFT    | LEVEL            | MODULE   | MODULE TITLE   | CREDIT |
|----------|------------------|----------|--|--------|
| PLUMBING | 1                | 02101-12 | Introduction to the Plumbing Profession                | X      |
|          |                  | 02102-12 | Plumbing Safety  | X      |
|          |                  | 02103-12 | Tools of the Plumbing Trade                            | X      |
|          |                  | 02104-12 | Introduction to Plumbing Math                          | X      |
|          |                  | 02105-12 | Introduction to Plumbing Drawings                      |        |
|          |                  | 02106-12 | Plastic Pipe and Fittings                              | X      |
|          |                  | 02107-12 | Copper Pipe and Fittings                               | X      |
|          |                  | 02108-12 | Cast-Iron Pipe and Fittings                            |        |
|          |                  | 02109-12 | Carbon Steel Pipe and Fittings                         | X      |
|          |                  | 02110-12 | Introduction to Plumbing Fixtures                      | X      |
|          |                  | 02111-12 | Introduction to Drain, Waste, and Vent (DWV) Systems   |        |
|          |                  | 02112-12 | Introduction to Water Distribution Systems             | X      |
| PLUMBING | 2                | 02201-13 | Plumbing Math Two                                      |        |
|          |                  | 02202-13 | Reading Commercial Drawings                            |        |
|          |                  | 02203-13 | Structural Penetrations, Insulation, and Fire-Stopping |        |
|          |                  | 02204-13 | Installing and Testing DWV Piping                      |        |
|          |                  | 02205-13 | Installing Roof, Floor, and Area Drains                |        |
|          |                  | 02207-13 | Types of Valves  |        |
|          |                  | 02206-13 | Installing and Testing Water Supply Piping             |        |
|          |                  | 02208-13 | Installing Fixtures and Valves                         |        |
|          |                  | 02210-13 | Basic Electricity                                      | X      |
|          |                  | 02209-13 | Installing Water Heaters                               |        |
| 02211-13 | Fuel Gas Systems |          |  |        |

# PLUMBING: 3E431

BUILD YOUR FUTURE.  
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**CRAFT DESCRIPTION:** NCCER's four-level curriculum covers topics such as Plumbing Tools, Types of Valves and Potable Water Treatment.

| CRAFT    | LEVEL  | MODULE   | MODULE TITLE                                     | CREDIT |
|----------|--|----------|--|--------|
| PLUMBING | 3  | 02301-14 | Applied Math                                     | X      |
|          |  | 02312-14 | Sizing and Protecting the Water Supply System    |        |
|          |  | 02303-14 | Potable Water Supply Treatment                   |        |
|          |  | 02305-14 | Types of Venting                                 | X      |
|          |  | 02306-14 | Sizing DWV and Storm Systems                     |        |
|          |  | 02307-14 | Sewage Pumps and Sump Pumps                      |        |
|          |  | 02308-14 | Corrosive-Resistant Waste Piping                 |        |
|          |  | 02309-14 | Compressed Air                                   |        |
|          |  | 02311-14 | Service Plumbing                                 | X      |
| PLUMBING | 4  | 02401-14 | Business Principles for Plumbers                 |        |
|          |  | 46101-11 | Fundamentals of Crew Leadership                  |        |
|          |  | 02403-14 | Water Pressure Booster and Recirculation Systems |        |
|          |  | 02404-14 | Indirect and Special Waste                       |        |
|          |  | 02405-14 | Hydronic and Solar Heating Systems               |        |
|          |  | 02406-14 | Codes  |        |
|          |  | 02408-14 | Private Water Supply Systems                     |        |
|          |  | 02049-14 | Private Waste-Disposal Systems                   |        |
|          |  | 02410-14 | Swimming Pools and Hot Tubs                      |        |
|          |  | 02411-14 | Plumbing for Mobile Homes and Travel Trailers    |        |
| 02412-14 | Introduction to Medical Gas and Vacuum Systems |          |  |        |

# SPRINKLER FITTING: 3E431

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**CRAFT DESCRIPTION:** NCCER's four-level covers topics such as Copper Tube Systems, Stand Pipes and Fire Pumps.

| CRAFT             | LEVEL | MODULE   | MODULE TITLE                                | CREDIT |
|-------------------|-------|----------|---|--------|
| SPRINKLER FITTING | 1     | 18101-13 | Orientation to the Trade                    | X      |
|                   |       | 18102-13 | Introduction to Components and Systems      |        |
|                   |       | 18103-13 | Steel Pipe                                  |        |
|                   |       | 18104-13 | CPVC Pipe and Fittings                      | X      |
|                   |       | 18105-13 | Copper Tube Systems                         | X      |
|                   |       | 18106-13 | Underground Pipe                            | X      |
| SPRINKLER FITTING | 2     | 18201-13 | Hangers, Supports, Restraints and Guides    |        |
|                   |       | 18202-13 | General Purpose Valves                      |        |
|                   |       | 18203-13 | General Trade Math                          |        |
|                   |       | 18204-13 | Shop Drawings                               | X      |
|                   |       | 18205-13 | Standard Spray Fire Sprinklers              |        |
|                   |       | 18206-13 | Wet Fire Sprinkler Systems                  |        |
|                   |       | 18207-13 | Dry-Pipe Systems                            |        |
| SPRINKLER FITTING | 3     | 18301-13 | Deluge/Preaction Systems                    |        |
|                   |       | 18302-13 | Standpipes                                  |        |
|                   |       | 18303-13 | Water Supplies                              |        |
|                   |       | 18304-13 | Fire Pumps                                  |        |
|                   |       | 18305-13 | Application-Specific Sprinklers and Nozzles |        |
| SPRINKLER FITTING | 4     | 18401-13 | System Layout                               |        |
|                   |       | 18402-13 | Inspection, Testing and Maintenance         |        |
|                   |       | 18403-13 | Special Extinguishing Systems               |        |
|                   |       | 18404-13 | Introductory Skills for the Foreman         |        |
|                   |       | 18405-13 | Procedures and Documentation                |        |

# ADDITIONAL TOPICS: 3E431

Module credit can be earned within these different topics. Some of these modules are related to craft levels while others are standalone credentials.

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| CRAFT/TOPIC  | LEVEL     | MODULE   | MODULE TITLE                       | CREDIT |
|--|-----------|----------|------------------------------------|--------|
| Additional credit given for modules from the following craft titles. |           |          |                                    |        |
| SUSTAINABLE CONSTRUCTION   |           | 70101-15 | Your Role In the Green Environment | X      |
| SAFETY TECHNOLOGY  | <b>V5</b> | 75218-03 | Environmental Awareness            | X      |

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**3E451**



# CORE CURRICULUM: 3E451

**CRAFT DESCRIPTION:** NCCER's Core curriculum is a prerequisite to all other Level 1 craft curriculum and gives the trainee the basic skills needed to continue education in any craft area he or she chooses.

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| CRAFT           | LEVEL | MODULE   | MODULE TITLE                          | CREDIT     |
|-----------------|-------|----------|---------------------------------------|------------|
| CORE CURRICULUM |       | 00101-15 | Basic Safety                          |            |
|                 |       | 00102-15 | Introduction to Construction Math     | x          |
|                 |       | 00103-15 | Introduction to Hand Tools            |            |
|                 |       | 00104-15 | Introduction to Power Tools           |            |
|                 |       | 00105-15 | Introduction to Construction Drawings |            |
|                 |       | 00106-15 | Introduction to Basic Rigging         | (optional) |
|                 |       | 00107-15 | Basic Communication Skills            | x          |
|                 |       | 00108-15 | Basic Employability Skills            | x          |
|                 |       | 00109-15 | Introduction to Material Handling     | x          |



# PLUMBING: 3E451

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**CRAFT DESCRIPTION:** NCCER's four-level curriculum covers topics such as Plumbing Tools, Types of Valves and Potable Water Treatment.

| CRAFT    | LEVEL            | MODULE   | MODULE TITLE   | CREDIT |
|----------|------------------|----------|--|--------|
| PLUMBING | 1                | 02101-12 | Introduction to the Plumbing Profession                | X      |
|          |                  | 02102-12 | Plumbing Safety  | X      |
|          |                  | 02103-12 | Tools of the Plumbing Trade                            | X      |
|          |                  | 02104-12 | Introduction to Plumbing Math                          | X      |
|          |                  | 02105-12 | Introduction to Plumbing Drawings                      | X      |
|          |                  | 02106-12 | Plastic Pipe and Fittings                              | X      |
|          |                  | 02107-12 | Copper Pipe and Fittings                               | X      |
|          |                  | 02108-12 | Cast-Iron Pipe and Fittings                            |        |
|          |                  | 02109-12 | Carbon Steel Pipe and Fittings                         | X      |
|          |                  | 02110-12 | Introduction to Plumbing Fixtures                      | X      |
|          |                  | 02111-12 | Introduction to Drain, Waste, and Vent (DWV) Systems   | X      |
|          |                  | 02112-12 | Introduction to Water Distribution Systems             | X      |
| PLUMBING | 2                | 02201-13 | Plumbing Math Two                                      |        |
|          |                  | 02202-13 | Reading Commercial Drawings                            | X      |
|          |                  | 02203-13 | Structural Penetrations, Insulation, and Fire-Stopping | X      |
|          |                  | 02204-13 | Installing and Testing DWV Piping                      | X      |
|          |                  | 02205-13 | Installing Roof, Floor, and Area Drains                | X      |
|          |                  | 02207-13 | Types of Valves  | X      |
|          |                  | 02206-13 | Installing and Testing Water Supply Piping             | X      |
|          |                  | 02208-13 | Installing Fixtures and Valves                         | X      |
|          |                  | 02210-13 | Basic Electricity                                      | X      |
|          |                  | 02209-13 | Installing Water Heaters                               | X      |
| 02211-13 | Fuel Gas Systems | X        |  |        |

# PLUMBING: 3E451

BUILD YOUR FUTURE.  
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**CRAFT DESCRIPTION:** NCCER's four-level curriculum covers topics such as Plumbing Tools, Types of Valves and Potable Water Treatment.

| CRAFT    | LEVEL  | MODULE   | MODULE TITLE                                     | X |
|----------|--|----------|--|---|
| PLUMBING | 3  | 02301-14 | Applied Math                                     | X |
|          |  | 02312-14 | Sizing and Protecting the Water Supply System    |   |
|          |  | 02303-14 | Potable Water Supply Treatment                   |   |
|          |  | 02305-14 | Types of Venting                                 | X |
|          |  | 02306-14 | Sizing DWV and Storm Systems                     |   |
|          |  | 02307-14 | Sewage Pumps and Sump Pumps                      |   |
|          |  | 02308-14 | Corrosive-Resistant Waste Piping                 |   |
|          |  | 02309-14 | Compressed Air                                   |   |
|          |  | 02311-14 | Service Plumbing                                 | X |
| PLUMBING | 4  | 02401-14 | Business Principles for Plumbers                 |   |
|          |  | 46101-11 | Fundamentals of Crew Leadership                  | X |
|          |  | 02403-14 | Water Pressure Booster and Recirculation Systems |   |
|          |  | 02404-14 | Indirect and Special Waste                       |   |
|          |  | 02405-14 | Hydronic and Solar Heating Systems               |   |
|          |  | 02406-14 | Codes  |   |
|          |  | 02408-14 | Private Water Supply Systems                     | X |
|          |  | 02049-14 | Private Waste-Disposal Systems                   |   |
|          |  | 02410-14 | Swimming Pools and Hot Tubs                      |   |
|          |  | 02411-14 | Plumbing for Mobile Homes and Travel Trailers    |   |
| 02412-14 | Introduction to Medical Gas and Vacuum Systems |          |  |   |

# SPRINKLER FITTING: 3E451

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**CRAFT DESCRIPTION:** NCCER's four-level covers topics such as Copper Tube Systems, Stand Pipes and Fire Pumps.

| CRAFT             | LEVEL | MODULE   | MODULE TITLE                                | CREDIT |
|-------------------|-------|----------|---|--------|
| SPRINKLER FITTING | 1     | 18101-13 | Orientation to the Trade                    | X      |
|                   |       | 18102-13 | Introduction to Components and Systems      |        |
|                   |       | 18103-13 | Steel Pipe                                  |        |
|                   |       | 18104-13 | CPVC Pipe and Fittings                      | X      |
|                   |       | 18105-13 | Copper Tube Systems                         | X      |
|                   |       | 18106-13 | Underground Pipe                            | X      |
| SPRINKLER FITTING | 2     | 18201-13 | Hangers, Supports, Restraints and Guides    |        |
|                   |       | 18202-13 | General Purpose Valves                      |        |
|                   |       | 18203-13 | General Trade Math                          |        |
|                   |       | 18204-13 | Shop Drawings                               | X      |
|                   |       | 18205-13 | Standard Spray Fire Sprinklers              |        |
|                   |       | 18206-13 | Wet Fire Sprinkler Systems                  |        |
|                   |       | 18207-13 | Dry-Pipe Systems                            |        |
| SPRINKLER FITTING | 3     | 18301-13 | Deluge/Preaction Systems                    |        |
|                   |       | 18302-13 | Standpipes                                  |        |
|                   |       | 18303-13 | Water Supplies                              |        |
|                   |       | 18304-13 | Fire Pumps                                  |        |
|                   |       | 18305-13 | Application-Specific Sprinklers and Nozzles |        |
| SPRINKLER FITTING | 4     | 18401-13 | System Layout                               |        |
|                   |       | 18402-13 | Inspection, Testing and Maintenance         |        |
|                   |       | 18403-13 | Special Extinguishing Systems               |        |
|                   |       | 18404-13 | Introductory Skills for the Foreman         |        |
|                   |       | 18405-13 | Procedures and Documentation                |        |

# ADDITIONAL TOPICS: 3E451

Module credit can be earned within these different topics. Some of these modules are related to craft levels while others are standalone credentials.

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| CRAFT/TOPIC  | LEVEL | MODULE   | MODULE TITLE                       | CREDIT |
|--|-------|----------|------------------------------------|--------|
| Additional credit given for modules from the following craft titles. |       |          |                                    |        |
| SUSTAINABLE CONSTRUCTION   |       | 70101-15 | Your Role In the Green Environment | X      |
| SAFETY TECHNOLOGY  | V5    | 75218-03 | Environmental Awareness            | X      |

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**3E471**



# CORE CURRICULUM: 3E451

**CRAFT DESCRIPTION:** NCCER's Core curriculum is a prerequisite to all other Level 1 craft curriculum and gives the trainee the basic skills needed to continue education in any craft area he or she chooses.

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| CRAFT           | LEVEL | MODULE   | MODULE TITLE                          | CREDIT     |
|-----------------|-------|----------|---------------------------------------|------------|
| CORE CURRICULUM |       | 00101-15 | Basic Safety                          |            |
|                 |       | 00102-15 | Introduction to Construction Math     | x          |
|                 |       | 00103-15 | Introduction to Hand Tools            |            |
|                 |       | 00104-15 | Introduction to Power Tools           |            |
|                 |       | 00105-15 | Introduction to Construction Drawings |            |
|                 |       | 00106-15 | Introduction to Basic Rigging         | (optional) |
|                 |       | 00107-15 | Basic Communication Skills            | x          |
|                 |       | 00108-15 | Basic Employability Skills            | x          |
|                 |       | 00109-15 | Introduction to Material Handling     | x          |

# PLUMBING: 3E471

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**CRAFT DESCRIPTION:** NCCER's four-level curriculum covers topics such as Plumbing Tools, Types of Valves and Potable Water Treatment.

| CRAFT    | LEVEL            | MODULE   | MODULE TITLE   | CREDIT |
|----------|------------------|----------|--|--------|
| PLUMBING | 1                | 02101-12 | Introduction to the Plumbing Profession                | X      |
|          |                  | 02102-12 | Plumbing Safety  | X      |
|          |                  | 02103-12 | Tools of the Plumbing Trade                            | X      |
|          |                  | 02104-12 | Introduction to Plumbing Math                          | X      |
|          |                  | 02105-12 | Introduction to Plumbing Drawings                      |        |
|          |                  | 02106-12 | Plastic Pipe and Fittings                              | X      |
|          |                  | 02107-12 | Copper Pipe and Fittings                               | X      |
|          |                  | 02108-12 | Cast-Iron Pipe and Fittings                            |        |
|          |                  | 02109-12 | Carbon Steel Pipe and Fittings                         | X      |
|          |                  | 02110-12 | Introduction to Plumbing Fixtures                      | X      |
|          |                  | 02111-12 | Introduction to Drain, Waste, and Vent (DWV) Systems   |        |
|          |                  | 02112-12 | Introduction to Water Distribution Systems             | X      |
| PLUMBING | 2                | 02201-13 | Plumbing Math Two                                      |        |
|          |                  | 02202-13 | Reading Commercial Drawings                            | X      |
|          |                  | 02203-13 | Structural Penetrations, Insulation, and Fire-Stopping | X      |
|          |                  | 02204-13 | Installing and Testing DWV Piping                      | X      |
|          |                  | 02205-13 | Installing Roof, Floor, and Area Drains                | X      |
|          |                  | 02207-13 | Types of Valves  | X      |
|          |                  | 02206-13 | Installing and Testing Water Supply Piping             | X      |
|          |                  | 02208-13 | Installing Fixtures and Valves                         | X      |
|          |                  | 02210-13 | Basic Electricity                                      | X      |
|          |                  | 02209-13 | Installing Water Heaters                               | X      |
| 02211-13 | Fuel Gas Systems | X        |  |        |

# PLUMBING: 3E471

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**CRAFT DESCRIPTION:** NCCER's four-level curriculum covers topics such as Plumbing Tools, Types of Valves and Potable Water Treatment.

| CRAFT    | LEVEL  | MODULE   | MODULE TITLE                                     | X |
|----------|--|----------|--|---|
| PLUMBING | 3  | 02301-14 | Applied Math                                     | X |
|          |  | 02312-14 | Sizing and Protecting the Water Supply System    | X |
|          |  | 02303-14 | Potable Water Supply Treatment                   |   |
|          |  | 02305-14 | Types of Venting                                 | X |
|          |  | 02306-14 | Sizing DWV and Storm Systems                     |   |
|          |  | 02307-14 | Sewage Pumps and Sump Pumps                      |   |
|          |  | 02308-14 | Corrosive-Resistant Waste Piping                 |   |
|          |  | 02309-14 | Compressed Air                                   |   |
|          |  | 02311-14 | Service Plumbing                                 | X |
| PLUMBING | 4  | 02401-14 | Business Principles for Plumbers                 |   |
|          |  | 46101-11 | Fundamentals of Crew Leadership                  | X |
|          |  | 02403-14 | Water Pressure Booster and Recirculation Systems |   |
|          |  | 02404-14 | Indirect and Special Waste                       |   |
|          |  | 02405-14 | Hydronic and Solar Heating Systems               |   |
|          |  | 02406-14 | Codes  |   |
|          |  | 02408-14 | Private Water Supply Systems                     | X |
|          |  | 02049-14 | Private Waste-Disposal Systems                   |   |
|          |  | 02410-14 | Swimming Pools and Hot Tubs                      |   |
|          |  | 02411-14 | Plumbing for Mobile Homes and Travel Trailers    |   |
| 02412-14 | Introduction to Medical Gas and Vacuum Systems |          |  |   |



# SPRINKLER FITTING: 3E471

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**CRAFT DESCRIPTION:** NCCER's four-level covers topics such as Copper Tube Systems, Stand Pipes and Fire Pumps.

| CRAFT             | LEVEL | MODULE   | MODULE TITLE                                | CREDIT |
|-------------------|-------|----------|---|--------|
| SPRINKLER FITTING | 1     | 18101-13 | Orientation to the Trade                    | X      |
|                   |       | 18102-13 | Introduction to Components and Systems      |        |
|                   |       | 18103-13 | Steel Pipe                                  |        |
|                   |       | 18104-13 | CPVC Pipe and Fittings                      | X      |
|                   |       | 18105-13 | Copper Tube Systems                         | X      |
|                   |       | 18106-13 | Underground Pipe                            | X      |
| SPRINKLER FITTING | 2     | 18201-13 | Hangers, Supports, Restraints and Guides    |        |
|                   |       | 18202-13 | General Purpose Valves                      |        |
|                   |       | 18203-13 | General Trade Math                          |        |
|                   |       | 18204-13 | Shop Drawings                               | X      |
|                   |       | 18205-13 | Standard Spray Fire Sprinklers              |        |
|                   |       | 18206-13 | Wet Fire Sprinkler Systems                  |        |
|                   |       | 18207-13 | Dry-Pipe Systems                            |        |
| SPRINKLER FITTING | 3     | 18301-13 | Deluge/Preaction Systems                    |        |
|                   |       | 18302-13 | Standpipes                                  |        |
|                   |       | 18303-13 | Water Supplies                              | X      |
|                   |       | 18304-13 | Fire Pumps                                  |        |
|                   |       | 18305-13 | Application-Specific Sprinklers and Nozzles |        |
| SPRINKLER FITTING | 4     | 18401-13 | System Layout                               |        |
|                   |       | 18402-13 | Inspection, Testing and Maintenance         |        |
|                   |       | 18403-13 | Special Extinguishing Systems               |        |
|                   |       | 18404-13 | Introductory Skills for the Foreman         | X      |
|                   |       | 18405-13 | Procedures and Documentation                | X      |

# ADDITIONAL TOPICS: 3E471

Module credit can be earned within these different topics. Some of these modules are related to craft levels while others are standalone credentials.

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| CRAFT/TOPIC  | LEVEL | MODULE   | MODULE TITLE                       | CREDIT |
|--|-------|----------|------------------------------------|--------|
| Additional credit given for modules from the following craft titles. |       |          |                                    |        |
| SUSTAINABLE CONSTRUCTION   |       | 70101-15 | Your Role In the Green Environment | X      |
| SAFETY TECHNOLOGY  | V5    | 75218-03 | Environmental Awareness            | X      |



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