



BUILD YOUR FUTURE: CROSSWALK

EQUIVALENCY ALIGNMENT FOR THE MARINES

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



INTRODUCTION

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 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 ten Army MOS codes 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 for more information.



FIND YOUR CROSSWALK:

HEAVY EQUIPMENT MECHANIC

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HEAVY EQUIPMENT OPERATOR

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ENGINEER ASSISTANT

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1341 BASIC ENGINEER EQUIPMENT MECHANIC



CORE CURRICULUM: 1341 BASIC ENGINEER EQUIPMENT MECHANIC

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	X
		00107-15	Basic Communication Skills	X
		00108-15	Basic Employability Skills	X
		00109-15	Introduction to Material Handling	X

HVAC: 1341 BASIC ENGINEER EQUIPMENT MECHANIC

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CRAFT DESCRIPTION: NCCER's four-level curriculum, North American Technician Excellence (NATE) recognized, presents theoretical and practical skills essential for success as an HVAC installer or technician.

CRAFT	LEVEL	MODULE	MODULE TITLE	CREDIT
HVAC	1	03101-13	Introduction to HVAC	
		03102-13	Trade Math	
		03106-13	Basic Electricity	X
		03108-13	Introduction to Heating	
		03107-13	Introduction to Cooling	
		03109-13	Introduction to Air Distribution Systems	
		03103-13	Basic Copper and Plastic Piping Practices	X
		03104-13	Soldering and Brazing	
		03105-13	Basic Carbon Steel Piping Practices	
HVAC	2	03206-13	Alternating Current	
		03302-13	Compressors	
		03301-13	Refrigerants and Oils	
		03205-13	Leak Detection, Evacuation, Recovery and Charging	
		03303-13	Metering Devices	
		03211-13	Heat Pumps	
		03215-13	Basic Maintenance	X
		03202-13	Chimneys, Vents and Flues	
		03213-13	Sheet Metal Duct Systems	
		03214-13	Fiberglass and Flexible Duct Systems	
		03201-13	Commercial Airside Systems	
		03204-13	Air Quality Equipment	
		03203-13	Introduction to Hydronic Systems	

HVAC: 1341 BASIC ENGINEER EQUIPMENT MECHANIC

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CRAFT DESCRIPTION: NCCER's four-level curriculum, North American Technician Excellence (NATE) recognized, presents theoretical and practical skills essential for success as an HVAC installer or technician.

CRAFT	LEVEL	MODULE	MODULE TITLE	CREDIT
HVAC	3	03313-13	Fasteners, Hardware and Wiring Terminations	X
		03314-13	Control Circuit and Motor Troubleshooting	
		03210-13	Troubleshooting Cooling	
		03311-13	Troubleshooting Heat Pumps	
		03209-13	Troubleshooting Gas Heating	
		03310-13	Troubleshooting Oil Heating	
		03312-13	Troubleshooting Accessories	
		03315-13	Zoning, Ductless and Variable Refrigerant Flow Systems	
		03305-13	Commercial Hydronic Systems	
		03306-13	Steam Systems	
		03304-13	Retail Refrigeration System	
		03316-13	Customer Service	X
HVAC	4	03308-13	Water Treatment	
		03403-13	Indoor Air Quality	X
		03404-13	Energy Conservation Equipment	
		03405-13	Building Management Systems	
		03402-13	System Air Balancing	
		03406-13	System Startup and Shutdown	
		03401-13	Construction Drawings and Specifications	X
		03407-13	Heating and Cooling System Design	
		03408-13	Commercial/ Industrial Refrigeration Systems	
		03409-13	Alternative and Specialized Heating and Cooling Systems	
		46101-11	Fundamentals of Crew Leadership	

INSTRUMENTATION: 1341 BASIC ENGINEER EQUIPMENT MECHANIC

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CRAFT DESCRIPTION: NCCER's four-level curriculum, North American Technician Excellence (NATE) recognized, presents theoretical and practical skills essential for success as an HVAC installer or technician.

CRAFT	LEVEL	MODULE	MODULE TITLE	CREDIT
INSTRUMENTATION	1	12115-14	Instrumentation Safety Practices	X
		12114-14	Hand and Power Tools for Instrumentation	
		12119-14	Craft-Related Mathematics	
		12107-14	Instrument Drawing and Documents Part One	X
		12304-14	Inspect, Handle and Store Instrumentation Materials	X
		12116-14	Electrical Systems for Instrumentation	X
		12106-14	Fasteners	
		12108-14	Gaskets, O-Rings and Packing	X
		12109-14	Lubricants, Sealants and Cleaners	X
		12111-14	Tubing	X
		12117-14	Steel Piping Practices	
		12113-14	Hoses	X
INSTRUMENTATION	2	12110-15	Temperature, Pressure, Level and Flow	X
		12301-15	Instrument Fitter's Math	
		12202-15	Instrument Drawings and Documents Part Two	
		33205-10	Test Equipment	
		12212-15	Panel-Mounted Instruments	
		12213-15	Installing Field-Mounted Instruments	
		12214-15	Raceways for Instrumentation	
		12303-15	Clean, Purge and Test Tubing and Piping Systems	X
		12308-15	Protective Measures for Instrumentation	
		12302-15	Layout and Installation of Tubing and Piping Systems	
12210-15	Instrument Air Filters, Regulators and Dryers	X		

INSTRUMENTATION: 1341 BASIC ENGINEER EQUIPMENT MECHANIC

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CRAFT DESCRIPTION: NCCER's four-level curriculum, North American Technician Excellence (NATE) recognized, presents theoretical and practical skills essential for success as an HVAC installer or technician.

CRAFT	LEVEL	MODULE	MODULE TITLE	CREDIT
INSTRUMENTATION	3	12207-16	Control, View, Actuators and Positioners	
		12205-16	Detectors, Secondary Elements, Transducers and Transmitters	
		12305-16	Instrumentation Electrical Circuitry	
		12208-16	Relays and Timers	
		12209-16	Switches and Photoelectric Devices	
		12307-16	Terminating Conductors	
		12306-16	Grounding and Shielding of Instrumentation Wiring	
		12204-16	Process Control Theory	
		12206-16	Controllers	
INSTRUMENTATION	4	12402-16	Instrument Calibration and Configuration	
		12410-16	Proving, Commissioning and Troubleshooting a Loop	
		12405-16	Tuning Loops	
		12401-16	Digital Logic Circuits	
		12406-16	Programmable Logic Controllers	
		12407-16	Distributed Control Systems	
		12409-16	Analyzers and Monitors	

INDUSTRIAL MAINTENANCE MECHANIC: 1341 BASIC ENGINEER EQUIPMENT MECHANIC

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CRAFT DESCRIPTION: NCCER's four-level curriculum, North American Technician Excellence (NATE) recognized, presents theoretical and practical skills essential for success as an HVAC installer or technician.

CRAFT	LEVEL	MODULE	MODULE TITLE	CREDIT
INDUSTRIAL MAINTENANCE MECHANIC	1	32101-07	Orientation to the Trade	X
		32102-07	Tools of the Trade	X
		32103-07	Fasteners and Anchors	X
		32104-07	Oxyfuel Cutting	
		32105-07	Gaskets and Packing	X
		32106-07	Craft-Related Mathematics	
		32107-07	Construction Drawings	
		32108-07	Pumps and Drivers	X
		32109-07	Valves	X
		32110-07	Introduction to Test Equipment	
		32111-07	Material Handling and Hand Rigging	X
		32112-07	Mobile and Support Equipment	X
		32113-07	Lubrication	X
INDUSTRIAL MAINTENANCE MECHANIC	2	32201-07	Basic Layout	
		32202-07	Introduction to Piping Components	
		32203-07	Copper and Plastic Piping Practices	X
		32204-07	Introduction to Ferrous Metal Piping Practices	
		32205-07	Identify, Install and Maintain Valves	X
		32206-07	Hydrostatic and Pneumatic Testing	
		32207-07	Introductions to Bearings	X
		32208-07	Low-Pressure Steam Systems	
		32209-07	High-Pressure Steam Systems and Auxiliaries	
		32210-07	Distillation Towers and Vessels	
		32211-07	Heaters, Furnaces, Heat Exchangers, Cooling Towers and Fin Fans	
		32212-07	Introduction to Tube Work	

INDUSTRIAL MAINTENANCE MECHANIC: 1341 BASIC ENGINEER EQUIPMENT MECHANIC

CRAFT DESCRIPTION: NCCER's four-level curriculum, North American Technician Excellence (NATE) recognized, presents theoretical and practical skills essential for success as an HVAC installer or technician.

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CRAFT	LEVEL	MODULE	MODULE TITLE	CREDIT
INDUSTRIAL MAINTENANCE MECHANIC	3	32301-08	Advanced Trade Math	
		32302-08	Precision Measuring Tools	X
		32303-08	Installing Bearings	X
		32304-08	Installing Couplings	X
		32305-08	Setting Baseplates and Prealignment	
		32306-08	Conventional Alignment	
		32307-08	Installing Belt and Chain Drives	X
		32308-08	Installing Mechanical Seals	X
INDUSTRIAL MAINTENANCE MECHANIC	4	32401-09	Preventive and Predictive Maintenance	
		32402-09	Advanced Blueprint Reading	X
		32403-09	Compressors and Pneumatic Systems	X
		32404-09	Reverse Alignment	
		32405-09	Laser Alignment	
		32406-09	Introduction to Supervisory Skills	
		32407-09	Troubleshooting and Repairing Pumps	X
		32408-09	Troubleshooting and Repairing Gearboxes	

BASIC RIGGER: 1341 BASIC ENGINEER EQUIPMENT MECHANIC

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
BASIC RIGGER	1	00106-09	Basic Rigging	
		38101-11	Rigging Equipment	x
		38102-11	Rigging Practices	

ADDITIONAL TOPICS: 1341 BASIC ENGINEER EQUIPMENT MECHANIC

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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1341 NCO ENGINEER EQUIPMENT MECHANIC



CORE CURRICULUM: 1341 NCO ENGINEER EQUIPMENT MECHANIC

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	X
		00107-15	Basic Communication Skills	X
		00108-15	Basic Employability Skills	X
		00109-15	Introduction to Material Handling	X

HVAC: 1341 NCO ENGINEER EQUIPMENT MECHANIC

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CRAFT DESCRIPTION: NCCER's four-level curriculum, North American Technician Excellence (NATE) recognized, presents theoretical and practical skills essential for success as an HVAC installer or technician.

CRAFT	LEVEL	MODULE	MODULE TITLE	CREDIT
HVAC	1	03101-13	Introduction to HVAC	X
		03102-13	Trade Math	
		03106-13	Basic Electricity	X
		03108-13	Introduction to Heating	
		03107-13	Introduction to Cooling	
		03109-13	Introduction to Air Distribution Systems	
		03103-13	Basic Copper and Plastic Piping Practices	X
		03104-13	Soldering and Brazing	
		03105-13	Basic Carbon Steel Piping Practices	
HVAC	2	03206-13	Alternating Current	
		03302-13	Compressors	
		03301-13	Refrigerants and Oils	X
		03205-13	Leak Detection, Evacuation, Recovery and Charging	X
		03303-13	Metering Devices	X
		03211-13	Heat Pumps	
		03215-13	Basic Maintenance	X
		03202-13	Chimneys, Vents and Flues	
		03213-13	Sheet Metal Duct Systems	
		03214-13	Fiberglass and Flexible Duct Systems	
		03201-13	Commercial Airside Systems	
		03204-13	Air Quality Equipment	
		03203-13	Introduction to Hydronic Systems	

HVAC: 1341 NCO ENGINEER EQUIPMENT MECHANIC

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CRAFT	LEVEL	MODULE	MODULE TITLE	CREDIT
HVAC	3	03313-13	Fasteners, Hardware and Wiring Terminations	X
		03314-13	Control Circuit and Motor Troubleshooting	
		03210-13	Troubleshooting Cooling	X
		03311-13	Troubleshooting Heat Pumps	
		03209-13	Troubleshooting Gas Heating	
		03310-13	Troubleshooting Oil Heating	
		03312-13	Troubleshooting Accessories	
		03315-13	Zoning, Ductless and Variable Refrigerant Flow Systems	
		03305-13	Commercial Hydronic Systems	
		03306-13	Steam Systems	
		03304-13	Retail Refrigeration System	
		03316-13	Customer Service	X
HVAC	4	03308-13	Water Treatment	
		03403-13	Indoor Air Quality	X
		03404-13	Energy Conservation Equipment	
		03405-13	Building Management Systems	
		03402-13	System Air Balancing	
		03406-13	System Startup and Shutdown	
		03401-13	Construction Drawings and Specifications	X
		03407-13	Heating and Cooling System Design	
		03408-13	Commercial/ Industrial Refrigeration Systems	
		03409-13	Alternative and Specialized Heating and Cooling Systems	
		46101-11	Fundamentals of Crew Leadership	X

INSTRUMENTATION: 1341 NCO ENGINEER EQUIPMENT MECHANIC

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CRAFT DESCRIPTION: NCCER's four-level curriculum, North American Technician Excellence (NATE) recognized, presents theoretical and practical skills essential for success as an HVAC installer or technician.

CRAFT	LEVEL	MODULE	MODULE TITLE	CREDIT
INSTRUMENTATION	1	12115-14	Instrumentation Safety Practices	X
		12114-14	Hand and Power Tools for Instrumentation	
		12119-14	Craft-Related Mathematics	
		12107-14	Instrument Drawing and Documents Part One	X
		12304-14	Inspect, Handle and Store Instrumentation Materials	X
		12116-14	Electrical Systems for Instrumentation	X
		12106-14	Fasteners	X
		12108-14	Gaskets, O-Rings and Packing	X
		12109-14	Lubricants, Sealants and Cleaners	X
		12111-14	Tubing	X
		12117-14	Steel Piping Practices	
		12113-14	Hoses	X
INSTRUMENTATION	2	12110-15	Temperature, Pressure, Level and Flow	X
		12301-15	Instrument Fitter's Math	
		12202-15	Instrument Drawings and Documents Part Two	
		33205-10	Test Equipment	
		12212-15	Panel-Mounted Instruments	
		12213-15	Installing Field-Mounted Instruments	
		12214-15	Raceways for Instrumentation	
		12303-15	Clean, Purge and Test Tubing and Piping Systems	X
		12308-15	Protective Measures for Instrumentation	
		12302-15	Layout and Installation of Tubing and Piping Systems	
12210-15	Instrument Air Filters, Regulators and Dryers	X		

INSTRUMENTATION: 1341 NCO ENGINEER EQUIPMENT MECHANIC

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CRAFT DESCRIPTION: NCCER's four-level curriculum, North American Technician Excellence (NATE) recognized, presents theoretical and practical skills essential for success as an HVAC installer or technician.

CRAFT	LEVEL	MODULE	MODULE TITLE	CREDIT
INSTRUMENTATION	3	12207-16	Control, View, Actuators and Positioners	
		12205-16	Detectors, Secondary Elements, Transducers and Transmitters	
		12305-16	Instrumentation Electrical Circuitry	
		12208-16	Relays and Timers	
		12209-16	Switches and Photoelectric Devices	
		12307-16	Terminating Conductors	
		12306-16	Grounding and Shielding of Instrumentation Wiring	
		12204-16	Process Control Theory	
INSTRUMENTATION	4	12206-16	Controllers	
		12402-16	Instrument Calibration and Configuration	
		12410-16	Proving, Commissioning and Troubleshooting a Loop	
		12405-16	Tuning Loops	
		12401-16	Digital Logic Circuits	
		12406-16	Programmable Logic Controllers	
		12407-16	Distributed Control Systems	
12409-16	Analyzers and Monitors			

INDUSTRIAL MAINTENANCE MECHANIC: 1341 NCO ENGINEER EQUIPMENT MECHANIC

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CRAFT	LEVEL	MODULE	MODULE TITLE	CREDIT
INDUSTRIAL MAINTENANCE MECHANIC	1	32101-07	Orientation to the Trade	x
		32102-07	Tools of the Trade	x
		32103-07	Fasteners and Anchors	x
		32104-07	Oxyfuel Cutting	
		32105-07	Gaskets and Packing	x
		32106-07	Craft-Related Mathematics	
		32107-07	Construction Drawings	
		32108-07	Pumps and Drivers	x
		32109-07	Valves	x
		32110-07	Introduction to Test Equipment	
		32111-07	Material Handling and Hand Rigging	x
		32112-07	Mobile and Support Equipment	x
		32113-07	Lubrication	x
INDUSTRIAL MAINTENANCE MECHANIC	2	32201-07	Basic Layout	
		32202-07	Introduction to Piping Components	
		32203-07	Copper and Plastic Piping Practices	x
		32204-07	Introduction to Ferrous Metal Piping Practices	
		32205-07	Identify, Install and Maintain Valves	x
		32206-07	Hydrostatic and Pneumatic Testing	
		32207-07	Introductions to Bearings	x
		32208-07	Low-Pressure Steam Systems	
		32209-07	High-Pressure Steam Systems and Auxiliaries	
		32210-07	Distillation Towers and Vessels	
		32211-07	Heaters, Furnaces, Heat Exchangers, Cooling Towers and Fin Fans	
		32212-07	Introduction to Tube Work	

INDUSTRIAL MAINTENANCE MECHANIC: 1341 NCO ENGINEER EQUIPMENT MECHANIC

CRAFT DESCRIPTION: NCCER's four-level curriculum, North American Technician Excellence (NATE) recognized, presents theoretical and practical skills essential for success as an HVAC installer or technician.

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CRAFT	LEVEL	MODULE	MODULE TITLE	CREDIT
INDUSTRIAL MAINTENANCE MECHANIC	3	32301-08	Advanced Trade Math	
		32302-08	Precision Measuring Tools	X
		32303-08	Installing Bearings	X
		32304-08	Installing Couplings	X
		32305-08	Setting Baseplates and Prealignment	
		32306-08	Conventional Alignment	
		32307-08	Installing Belt and Chain Drives	X
		32308-08	Installing Mechanical Seals	X
INDUSTRIAL MAINTENANCE MECHANIC	4	32401-09	Preventive and Predictive Maintenance	
		32402-09	Advanced Blueprint Reading	X
		32403-09	Compressors and Pneumatic Systems	X
		32404-09	Reverse Alignment	
		32405-09	Laser Alignment	
		32406-09	Introduction to Supervisory Skills	X
		32407-09	Troubleshooting and Repairing Pumps	X
		32408-09	Troubleshooting and Repairing Gearboxes	X

BASIC RIGGER: 1341 NCO ENGINEER EQUIPMENT MECHANIC

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
BASIC RIGGER	1	00106-09	Basic Rigging	
		38101-11	Rigging Equipment	X
		38102-11	Rigging Practices	X

ADDITIONAL TOPICS: 1341 NCO ENGINEER EQUIPMENT MECHANIC

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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1349 CHIEF HEAVY EQUIPMENT OPERATIONS



PROJECT SUPERVISION: 1349 CHIEF HEAVY EQUIPMENT OPERATOR

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	
		MT202-01	Human Relations and Problem Solving	X
		MT203-01	Safety	X
		MT204-01	Quality Control	
		MT205-01	Contract and Construction Documents	
		MT206-01	Document Control and Estimating	
		MT207-01	Planning and Scheduling	X
		MT208-01	Resource Control and Cost Awareness	

PROJECT MANAGEMENT: 1349 CHIEF HEAVY EQUIPMENT OPERATOR

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	
		44102-08	Safety	
		44103-08	Interpersonal Skills	X
		44104-08	Issues and Resolutions	
		44105-08	Construction Documents	
		44106-08	Construction Planning	X
		44107-08	Estimating and Cost Control	
		44108-08	Scheduling	X
		44109-08	Resource Control	X
		44110-08	Quality Control and Assurance	
		44111-08	Continuous Improvement	X

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1345 BASIC HEAVY EQUIPMENT OPERATIONS



CORE CURRICULUM: 1345 BASIC HEAVY EQUIPMENT OPERATOR

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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.

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	
		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

HEAVY EQUIPMENT OPERATIONS: 1345 BASIC HEAVY EQUIPMENT OPERATOR

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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	
		22103-12	Identification to Heavy Equipment	X
		22014-12	Basic Operational Techniques	X
		22105-12	Utility Tractors	
		22201-12	Introduction to Earthmoving	X
		22106-12	Grades, Part One	
HEAVY EQUIPMENT OPERATIONS	2	22202-13	On-Road Dump Trucks	
		22204-13	Scrapers	
		22205-13	Loaders	X
		22206-13	Rough Terrain Forklifts	X
		22207-13	Excavation Math	
		22209-13	Interpreting Civil Drawings	
		22210-13	Site Work	
		22212-13	Skid Steers	
		22308-13	Soils	
HEAVY EQUIPMENT OPERATIONS	3	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

HIGHWAY/HEAVY CONSTRUCTION: 1345 BASIC HEAVY EQUIPMENT OPERATOR

CRAFT DESCRIPTION: This is a one-level curriculum that encompasses math skills and understanding of heavy equipment operations, safety, earthmoving, hand tools, and traffic regulations.

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CRAFT	LEVEL	MODULE	MODULE TITLE	CREDIT
HIGHWAY/HEAVY CONSTRUCTION	1	36101-01	Introduction to the Trade	
		36102-01	Trucks	
		36103-01	Heavy Equipment	x
		36104-01	Cranes	
		36105-01	Below-Grade Construction	
		36106-01	Earthmoving	x
		36107-01	Plant Operations	
		36108-01	Paving	
		36109-01	Structures	

ADDITIONAL TOPICS: 1345 BASIC HEAVY EQUIPMENT OPERATOR

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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1345 NCO HEAVY EQUIPMENT OPERATIONS



CORE CURRICULUM: 1345 NCO HEAVY EQUIPMENT OPERATOR

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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.

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	
		00105-15	Introduction to Construction Drawings	
		00106-15	Introduction to Basic Rigging	x
		00107-15	Basic Communication Skills	
		00108-15	Basic Employability Skills	
		00109-15	Introduction to Material Handling	

HEAVY EQUIPMENT OPERATIONS: 1345 NCO HEAVY EQUIPMENT OPERATOR

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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	
		22106-12	Grades, Part One	
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	X
		22209-13	Interpreting Civil Drawings	
		22210-13	Site Work	
		22212-13	Skid Steers	
		22308-13	Soils	
HEAVY EQUIPMENT OPERATIONS	3	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

HIGHWAY/HEAVY CONSTRUCTION: 1345 NCO HEAVY EQUIPMENT OPERATOR

CRAFT DESCRIPTION: This is a one-level curriculum that encompasses math skills and understanding of heavy equipment operations, safety, earthmoving, hand tools, and traffic regulations.

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CRAFT	LEVEL	MODULE	MODULE TITLE	CREDIT
HIGHWAY/HEAVY CONSTRUCTION	1	36101-01	Introduction to the Trade	
		36102-01	Trucks	
		36103-01	Heavy Equipment	
		36104-01	Cranes	x
		36105-01	Below-Grade Construction	
		36106-01	Earthmoving	
		36107-01	Plant Operations	
		36108-01	Paving	
		36109-01	Structures	

MOBILE CRANE: 1345 NCO HEAVY EQUIPMENT OPERATOR

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CRAFT DESCRIPTION: This is a three-level curriculum covering topics such as Crane Safety, Load Charts and Emergency Procedures.

CRAFT	LEVEL	MODULE	MODULE TITLE	CREDIT
MOBILE CRANE	1	21101-04	Orientation to the Trade	X
		21102-04	Basic Principles of Cranes	X
		21103-04	Rigging Practices	X
		21104-04	Crane Safety	X
		21105-04	Operating a Crane	X
MOBILE CRANE	2	21201-04	Communcations	X
		21202-04	Machine Power Flow	X
		21203-04	Preventative Maintenance	X
		21204-04	Wire Rope	X
		21205-04	Computer Aids/ Operator Aids	X
		21206-04	Load Dynamics	
		21207-04	On-Site Equipment Movement	X
MOBILE CRANE	3	21301-05	Load Charts	X
		21302-05	Telescopic Boom Attachment Assembly and Disassembly	
		21303-05	Advance Operational Techniques	
		21304-05	Lift Planning	
		21305-05	Hoisting Personnel	
		21306-05	Lattice Boom Assembly and Disassembly	
		21307-05	Emergency Procedures	
		21308-05	Transporting Requirements	X

SIGNAL PERSON: 1345 NCO HEAVY EQUIPMENT OPERATOR

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CRAFT DESCRIPTION: Topics covered in this curriculum include Communication, Basic Principles of Cranes and Crane Safety.

CRAFT	LEVEL	MODULE	MODULE TITLE	CREDIT
SIGNAL PERSON	1	53101-11	Communication	x
		38204-11	Basic Principles of Cranes	x
		21104-04	Crane Safety	x

FUNDAMENTALS OF CREW LEADERSHIP: 1345 NCO HEAVY EQUIPMENT OPERATOR

CRAFT DESCRIPTION: This is a one-level curriculum that encompasses math skills and understanding of heavy equipment operations, safety, earthmoving, hand tools, and traffic regulations.

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

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1349 CHIEF HEAVY EQUIPMENT OPERATIONS



PROJECT SUPERVISION: 1349 CHIEF HEAVY EQUIPMENT OPERATOR

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	
		MT202-01	Human Relations and Problem Solving	X
		MT203-01	Safety	X
		MT204-01	Quality Control	
		MT205-01	Contract and Construction Documents	
		MT206-01	Document Control and Estimating	
		MT207-01	Planning and Scheduling	X
		MT208-01	Resource Control and Cost Awareness	

PROJECT MANAGEMENT: 1349 CHIEF HEAVY EQUIPMENT OPERATOR

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	
		44102-08	Safety	
		44103-08	Interpersonal Skills	X
		44104-08	Issues and Resolutions	
		44105-08	Construction Documents	
		44106-08	Construction Planning	X
		44107-08	Estimating and Cost Control	
		44108-08	Scheduling	X
		44109-08	Resource Control	X
		44110-08	Quality Control and Assurance	
		44111-08	Continuous Improvement	X

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1361 BASIC ENGINEER ASSISTANT



CORE CURRICULUM: 1361 BASIC ENGINEER ASSISTANT

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	(optional)
		00107-15	Basic Communication Skills	x
		00108-15	Basic Employability Skills	x
		00109-15	Introduction to Material Handling	x

HEAVY EQUIPMENT OPERATIONS: 1361 BASIC ENGINEER ASSISTANT

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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	
		22106-12	Grades, Part One	x
HEAVY EQUIPMENT OPERATIONS	2	22202-13	On-Road Dump Trucks	
		22204-13	Scrapers	
		22205-13	Loaders	
		22206-13	Rough Terrain Forklifts	
		22207-13	Excavation Math	
		22209-13	Interpreting Civil Drawings	
		22210-13	Site Work	
		22212-13	Skid Steers	
		22308-13	Soils	
HEAVY EQUIPMENT OPERATIONS	3	22307-14	Finishing and Grading	
		22203-14	Compaction Equipment	
		22303-14	Backhoes	
		22310-14	Off-Road Dump Trucks	
		22302-14	Dozers	
		22304-14	Excavators	
		22305-14	Motor Graders	

HIGHWAY/HEAVY CONSTRUCTION: 1361 BASIC ENGINEER ASSISTANT

CRAFT DESCRIPTION: This is a one-level curriculum that encompasses math skills and understanding of heavy equipment operations, safety, earthmoving, hand tools, and traffic regulations.

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CRAFT	LEVEL	MODULE	MODULE TITLE	CREDIT
HIGHWAY/HEAVY CONSTRUCTION	1	36101-01	Introduction to the Trade	x
		36102-01	Trucks	
		36103-01	Heavy Equipment	
		36104-01	Cranes	
		36105-01	Below-Grade Construction	
		36106-01	Earthmoving	
		36107-01	Plant Operations	
		36108-01	Paving	
		36109-01	Structures	

SITE LAYOUT: 1361 BASIC ENGINEER ASSISTANT

CRAFT DESCRIPTION: NCCER's four-level curriculum, North American Technician Excellence (NATE) recognized, presents theoretical and practical skills essential for success as an HVAC installer or technician.

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CRAFT	LEVEL	MODULE	MODULE TITLE	CREDIT
SITE LAYOUT	1	78101-04	Introduction to Site Layout	X
		78102-04	Surveying Math	
		78103-04	Survey Equipment Use and Care One	X
		78104-04	Blueprint Reading for Surveyors	X
SITE LAYOUT	2	78201-04	Advanced Surveying Math	
		78202-04	Survey Equipment Use and Care Two, EDMs and Total Stations	X
		78203-04	Control Setup	X
		78204-04	Boundary and Topography Surveys	
		78205-04	Data Collection and Basic Computer Skills	X
		78206-04	Concrete Properties and Quality Control	
		78207-04	Means and Methods	X

ADDITIONAL TOPICS: 1361 BASIC ENGINEER ASSISTANT

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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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1349 CHIEF HEAVY EQUIPMENT OPERATIONS



PROJECT SUPERVISION: 1349 CHIEF HEAVY EQUIPMENT OPERATOR

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	
		MT202-01	Human Relations and Problem Solving	X
		MT203-01	Safety	X
		MT204-01	Quality Control	
		MT205-01	Contract and Construction Documents	
		MT206-01	Document Control and Estimating	
		MT207-01	Planning and Scheduling	X
		MT208-01	Resource Control and Cost Awareness	

PROJECT MANAGEMENT: 1349 CHIEF HEAVY EQUIPMENT OPERATOR

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	
		44102-08	Safety	
		44103-08	Interpersonal Skills	X
		44104-08	Issues and Resolutions	
		44105-08	Construction Documents	
		44106-08	Construction Planning	X
		44107-08	Estimating and Cost Control	
		44108-08	Scheduling	X
		44109-08	Resource Control	X
		44110-08	Quality Control and Assurance	
		44111-08	Continuous Improvement	X



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